

# DEPARTMENT OF PEDIATRICS

ANNUAL REPORT 2010-2011



Rady  
Children's  
Hospital  
San Diego



UC San Diego  
SCHOOL OF MEDICINE



## Mission and Vision Statements for the Department of Pediatrics, UC San Diego, Rady Children's Hospital-San Diego and Rady Children's Specialists of San Diego

### **DEPARTMENT OF PEDIATRICS, UC SAN DIEGO**

We will dedicate ourselves to: Providing the highest quality clinical care; conducting cutting-edge biomedical research targeting diseases that impact infants, children and adolescents; and training the next generation of pediatricians by fostering education at all levels and by integrating the latest scientific and medical advances into the curriculum.

### **RADY CHILDREN'S HOSPITAL-SAN DIEGO**

To restore, sustain and enhance the health and developmental potential of children through excellence in care, education, research and advocacy.

We will be a leader, recognized nationally and internationally for excellence in patient care, education, research and advocacy.

### **RADY CHILDREN'S SPECIALISTS OF SAN DIEGO**

To provide specialty services that are state-of-the-art, comprehensive, and family centered in order to improve the health and well-being of infants, children, adolescents and mothers with high risk pregnancies.

To be the premier provider of healthcare to infants, children, adolescents and mothers with high-risk pregnancies, through excellence in clinical care, research, teaching and advocacy.

## DEAR COLLEAGUES AND FRIENDS

The past two years have been a time of great achievement and advancement for the Department of Pediatrics at the University of California, San Diego (UC San Diego) and Rady Children's Hospital-San Diego (RCHSD). We are pleased to share with you the details of these milestones and celebrate the meaningful contributions of our physicians, physician-scientists and scientists in this 2010-2011 report.

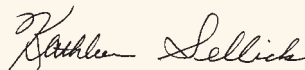
For years, the Department of Pediatrics at UC San Diego and RCHSD have shared a commitment to the health and well-being of children in San Diego County and beyond. The collaboration among physicians, Rady Children's and UC San Diego unified patient care, research, education, community service programs, and advocacy. It has opened the door for the two organizations to achieve national recognition for world-class pediatric care and research and the potential to change the course of pediatric medicine everywhere. This exciting work is highlighted in the report.

With the October 2010 opening of its Acute Care Pavilion, RCHSD became the largest children's hospital in California and the sixth largest in the country. The Hospital followed that celebration with the acquisition in December 2010 of the buildings at 7910 and 7920 Frost Street, which will provide much-needed space for research and medical offices. In February 2011, RCHSD and UC San Diego opened the only child and adolescent medical/psychiatric inpatient unit in San Diego. In May 2011 (and again in 2012), the Hospital was ranked in all 10 pediatric specialties surveyed by *U.S. News & World Report*. Those rankings place the Hospital among the nation's elite children's hospitals, and are even more remarkable considering the relative youth of RCHSD compared to other children's hospitals that have built their reputations over many more decades. Together, we are committed to delivering excellence in care through research that is recognized nationally and around the world.

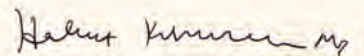
Sincerely,



**Gabriel G. Haddad, MD**  
Distinguished Professor of  
Pediatrics and Neurosciences  
Chairman, Department of Pediatrics,  
University of California, San Diego  
Physician-In-Chief and  
Chief Scientific Officer,  
Rady Children's Hospital-San Diego



**Kathleen A. Sellick**  
President and CEO  
Rady Children's Hospital-San Diego



**Herbert C. Kimmons, MD, MMM**  
Executive Director  
Rady Children's Specialists  
Medical Foundation  
President  
Children's Specialists of San Diego  
Dean, Children's Clinical Services  
University of California, San Diego

# TABLE OF CONTENTS

Introduction	3
<b>Divisional Reports:</b>	
Adolescent Medicine and General Academic Pediatrics	10
Allergy and Immunologic Diseases / Rheumatology	16
CASRC (Child and Adolescent Services Research Center)	28
Chadwick Center for Children and Families	50
Child Development and Community Health	58
Critical Care and Anesthesia	74
Dermatology	82
Dysmorphology and Teratology	98
Emergency Medicine	106
Endocrinology	116
Gastroenterology, Hepatology and Nutrition	128
Genetics	144
Genome Sciences	160
The Heart Institute (Cardiology and Cardiovascular Surgery)	166
Hematology/Oncology	182
Hospital Medicine	192
Infectious Diseases	202
Neonatology-Rady Children's Hospital-San Diego	214
Neonatology-UC San Diego	224
Nephrology	240
Neurology	248
Pathology	260
Pharmacology and Drug Discovery	266
Psychiatry	284
Residency Program	296
Respiratory Medicine	304



## RADY CHILDREN'S HOSPITAL-SAN DIEGO: COLLABORATING AND GROWING IN THE COMMUNITY



Following is a summary of achievements for the past two academic years. This has been a terrific period of growth in terms of recruitments, appointments, and development plans for the clinical and academic missions of the departmental faculty and Hospital.

Allergy/Immunology and Rheumatology have expanded their clinical programs. Major research accomplishments have been made in the genetics and inflammatory pathways of urticarial and other allergic diseases, such as Eosinophilic Eosophagitis. Two new faculty have joined the Division from Stanford and Mount Sinai. A major search has been recently launched to recruit an internationally recognized physician-scientist to be the Division Chief. The nationally recognized Kawasaki Program is housed within this division, and Dr. Jane Burns and her colleagues have made important contributions to this field in terms of genotype-phenotype appreciation.

The Division of Cardiology, under the leadership of Dr. John Moore, moved into the Acute Care Pavilion in October 2010. The Division was recognized by *U.S. News & World Report* to be among the top 30 pediatric cardiovascular programs in the United States this year. Expansion of the clinical programs includes Electrophysiology, Cardiac Transplantation, Cardiac NICU and

Outreach. Research into the genetics of congenital heart and valvular diseases continues to make progress.

Critical Care has continued to exemplify excellent critical care for the infant, child and adolescent under the leadership of Dr. Bradley Peterson.

Expansion of its research portfolio continues by the recruitment of a physician-scientist into the Division.

Other faculty with major research interest are also being considered.

General Pediatrics/Adolescent Medicine has been combined into the Division of Child Development and Community Health and has moved to a new location near RCHSD. Dr. Sheila Gahagan is now the Chief of the entire Division, one of the largest in the Department. Additional faculty are being recruited and research programs are being strengthened in various ways.

Dermatology, under the leadership of Dr. Lawrence Eichenfield, has continued to be eminent in pediatric dermatology and has opened the Eczema Center at RCHSD. The clinical service continues to grow, with a rate of more than 17,000 ambulatory visits a year at the Rady Campus office as well as the Encinitas, Escondido and Murrieta satellites, with more than 600 surgical and laser procedures. Two new faculty with research programs have joined the Division recently.

Dysmorphismology/Teratology continues active participation in clinical activities at birthing hospitals throughout San Diego County and at a twice-weekly clinic at RCHSD. The Division continues to work actively on fetal alcohol spectrum disorders research throughout the world. The Division leads the National Children's Study site for San Diego County and at the end of 2010 received NIH authority to launch recruitment for this



landmark study. The Center for the Promotion of Maternal Health and Infant Development has moved onto the RCHSD campus and occupies part of the Clinical and Translational Discovery Center at RCHSD. The Division is currently recruiting a nationally recognized individual in Epigenetics.

Emergency Medicine, under the interim leadership of Dr. Jim Harley, has further developed a system to decrease its ER wait time remarkably and to decrease the percentage of children who leave without being seen to below 2 percent of children who seek ER care. Dr. Bema Bonsu has joined us recently as the Division Chief of Emergency Medicine. This Division continues to grow clinically and will grow academically in the near future.

The Endocrine Division has seen an important expansion in its clinical and research activities in the past two years under the leadership of Dr. Michael Gottschalk. Recently, a diabetes high-risk clinic was started to assist those patients with very poor diabetes control. A number of clinical trials have also started in the past few years. Drs. Maike Sander and Michael Gottschalk have also assumed their new responsibility of being Director and Associate Director, respectively, of the Pediatric Research Diabetes Center, focusing mostly on childhood diabetes.

Gastroenterology has also expanded its clinical service and research portfolio with the recruitment of additional faculty during this past year. Dr. Ariel Feldstein joined the Department of Pediatrics from the Cleveland Clinic as Division Chief. Under Dr. Feldstein's leadership, the Division will continue to expand its clinical services including the development of two new Centers of Excellence: a Motility Center and an Inflammatory Bowel Disease Center. Research in this Division will continue to grow in various areas, including NASH, IBD, luminal and other GI and nutritional diseases.

In the Division of Genetics, we are recruiting major geneticists/genomics investigators, as well as to the Genomics ORU at UC San Diego using FTEs from the Department of Pediatrics. Under the leadership of Al La Spada, this Division will also grow academically and in training and teaching. The clinical activity of the Genetics Division has made it one of the most popular electives for rotating residents. Dr. La Spada, along with Dr. Gabriel Haddad, organize and lead the teaching of the Medical Genetics course for medical and pharmacy students.

The Division of Genome Information Sciences was recently established under the leadership of Dr. Kelly Frazer. Major recruitments into this Division in Bioinformatics are presently taking place. In addition, a major effort is underway to establish a clinical sequencing program and a Bioinformatics Center aimed at delivering personalized medical care to patients at RCHSD.

In Hematology/Oncology, we have entered into an alliance with St. Jude Children's Research Hospital that has boosted our clinical trials capacity, assuring cutting-edge care of cancer patients. Three new pediatric hematology/oncology faculty members started in August and September 2011. Dr. Durden, a physician-scientist, is leading the research endeavors in this Division and also serves as Vice Chair of Research in the Department of Pediatrics.

The Hospitalist Division has also expanded its research programs and has assumed responsibilities in outlying hospitals for its inpatient care. They have one of the first fellowship programs in the country in Hospital Medicine. Child abuse and maltreatment activities are also part of this Division.

The Infectious Disease Division, under the leadership of Drs. John Bradley and Stephen Spector, continues to be a first-rate division at RCHSD with clinical and research activities spanning medical care, molecular bio-

## RCHSD HAS DEVELOPED FORMAL AFFILIATIONS WITH VIRTUALLY EVERY OTHER HOSPITAL AND MEDICAL GROUP IN THE REGION

These partnerships include: facility joint ventures, specialty physician coverage, transfer agreements and community health affiliations.



logical research, population research and CDC clinical research. A national search is also underway to recruit a physician-scientist in this area.

The Divisions of Neonatology at RCHSD and UC San Diego, under the leadership of Drs. Gail Knight and Neil Finer, form a large division collaborating on clinical and research activities. In anticipation of Dr. Finer's retirement, a major national search is underway to recruit a Chief for the combined Neonatology program and enhance the clinical, teaching and research activities.

Nephrology, under the leadership of Drs. Robert Mak and Peter Yorgin, has witnessed a large expansion. In April 2011, the Division took a major step towards the development of the Comprehensive Kidney Care Center by moving into their new clinical space adjacent to the planned hemodialysis and apheresis center. Dr. Liz Ingulli has reorganized the medical/surgical transplantation program at RCHSD. She is also the new fellowship Director in the Division. Major recruitments are underway for clinical and physician-scientists fac-



ulty. This Division has also been ranked in the top 20 in the *U.S. News & World Report*.

Neurology, under the leadership of Drs. William Lewis and Doris Trauner, has also recruited first-rate individuals and, with the large clinical need, is recruiting additional clinicians and researchers. A separate neonatal neurology service has been created, providing coverage for three major NICUs in San Diego. This division has also been ranked in the past two years in the *U.S. News & World Report*.

Under the leadership of Dr. Victor Nizet, the Division of Pharmacology and Drug Discovery is increasing its research activities and recruiting faculty, in collaboration with the School of Pharmacy and the Scripps Institute of Oceanography. In addition, Dr. Nizet heads a new center at UC San Diego, I3 or Immunology, Inflammation

and Infection, and will be housed in the new research building next to the School of Pharmacy.

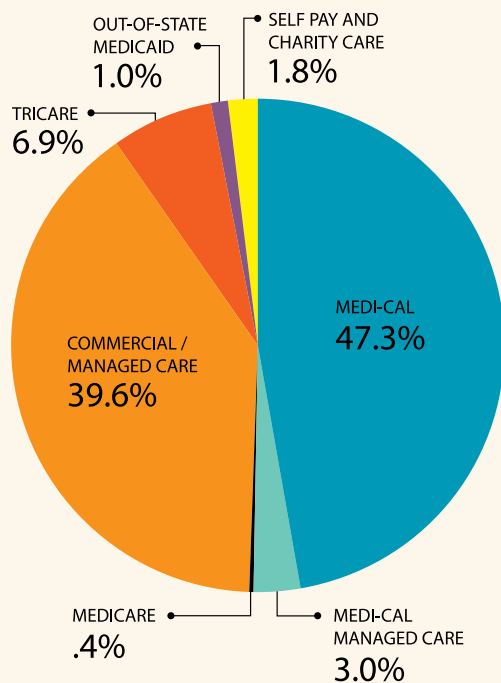
Dr. Andrew Skalsky heads the Division of Rehabilitative Medicine. Due to overwhelming demand for patient services, the Division anticipates adding additional faculty members.

The Division of Respiratory Medicine has been ranked in the *U.S. News & World Report* for the third year in a row. Dr. Jim Hagood, the Division Chief, is launching a new Diffuse/Interstitial Lung Disease Referral Program beginning in 2011. RCHSD will be among the first U.S. sites to participate in a national data registry for childhood interstitial lung disease (chILD). Clinical and research activities are also being strengthened in various ways.

The Department of Pediatrics continues to expand the clinical, teaching and research activities. We are fully committed to improving care for the children of tomorrow through research and teaching today. Indeed, RCHSD is the only hospital in the San Diego area dedicated exclusively to pediatric healthcare and the region's only designated pediatric trauma center. In fiscal year 2011, RCHSD cared for more than 154,000 children.

With the addition of the Acute Care Pavilion, RCHSD became the largest children's hospital in California (440 beds) and the sixth largest hospital in the country. This state-of-the-art facility, which includes the Peckham Center for Cancer and Blood Disorders, the Warren Family Surgical Suites, and a family-centered neonatal intensive care unit, helps to ensure that RCHSD will always be able to admit a child in need of hospitalization.

Until recently, San Diego has not had a medical psychiatric inpatient program for children, adolescents and young adults (up to age 30). RCHSD and UC San Diego have joined forces to open the only child and



**INSURANCE PROVIDER BREAKDOWN**



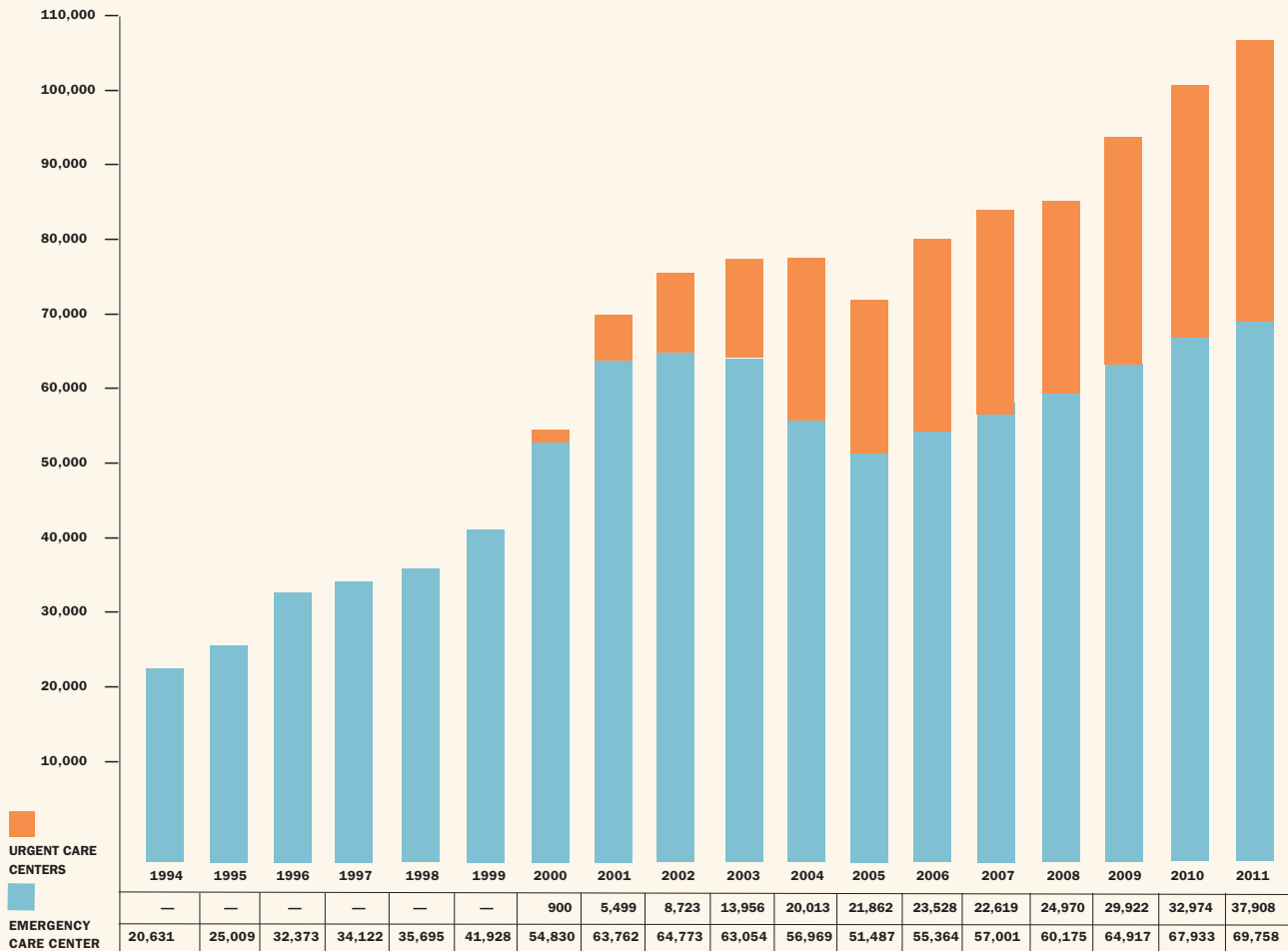
# RCHSD PROVIDES THE MAJORITY OF ACUTE AND SPECIALTY CARE FOR CHILDREN IN SAN DIEGO COUNTY

County	Age Group	RCHSD Pediatric market share
SAN DIEGO COUNTY	0-5	88.2%
SAN DIEGO COUNTY	0-14	86.8%
SOUTH RIVERSIDE COUNTY**†	0-14	49.5%
IMPERIAL COUNTY**	0-14	33.8%

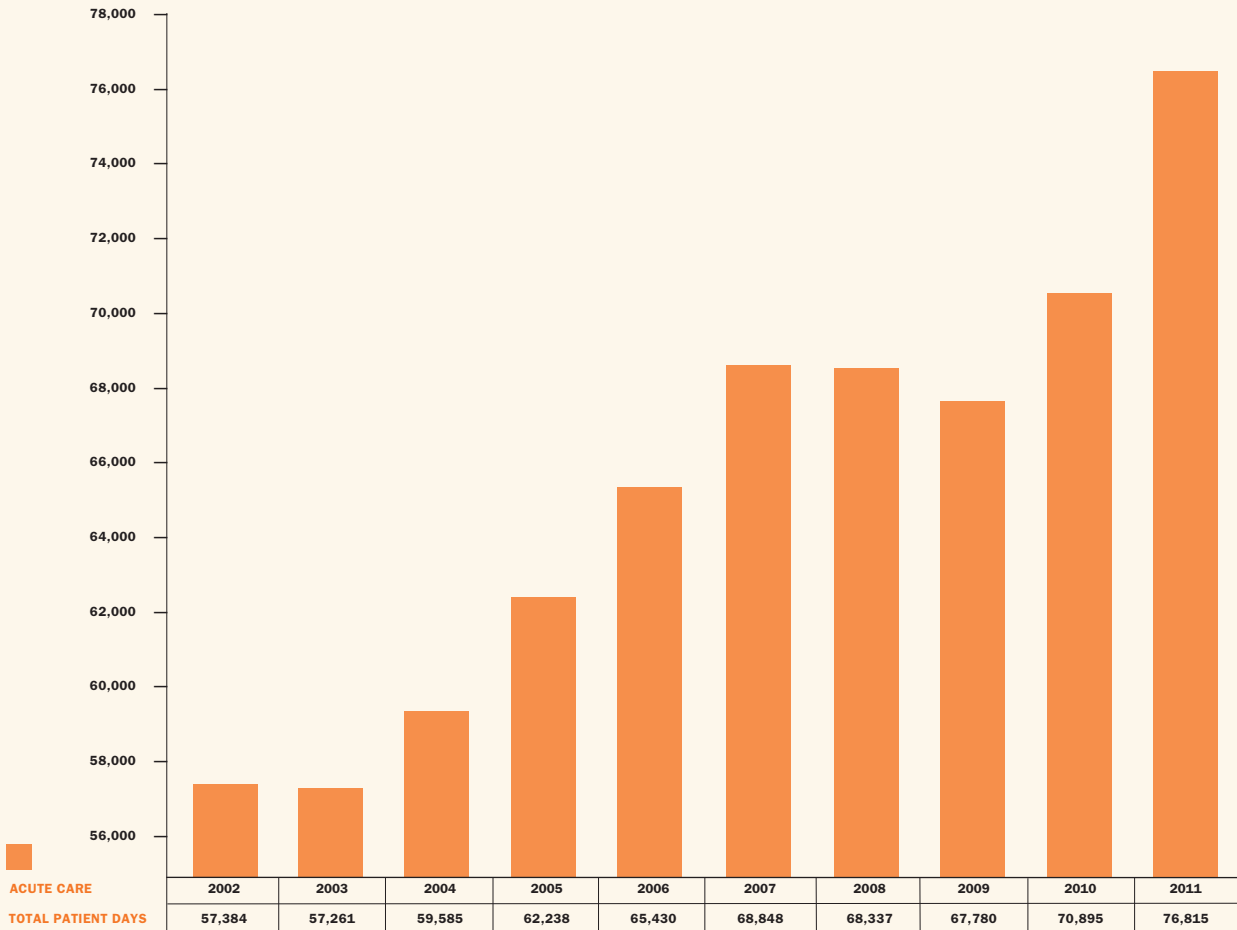
\*\* RCHSD is a major out-of-region referral recipient.

† Includes Temecula, Murrieta, Lake Elsinore, Menifee & Wildomar.

Source: Office of Statewide Health Planning and Development hospital discharge data



EMERGENCY SERVICES VOLUME 1994 THROUGH 2011



## ACUTE CARE HOSPITAL PATIENT DAYS 2002 THROUGH 2011

adolescent medical/psychiatric inpatient unit in San Diego. The primary purpose of this unit is to provide multidisciplinary treatment to children and adolescents with co-morbid medical and psychiatric conditions. Medical West at RCHSD is staffed by professionals with medical expertise and mental health and behavioral experience, including specialized experience with eating disorders. Its staff includes nurses, social workers, licensed psychiatric technicians, dietitians and physicians from the hospital, adolescent medicine and child psychiatry services.

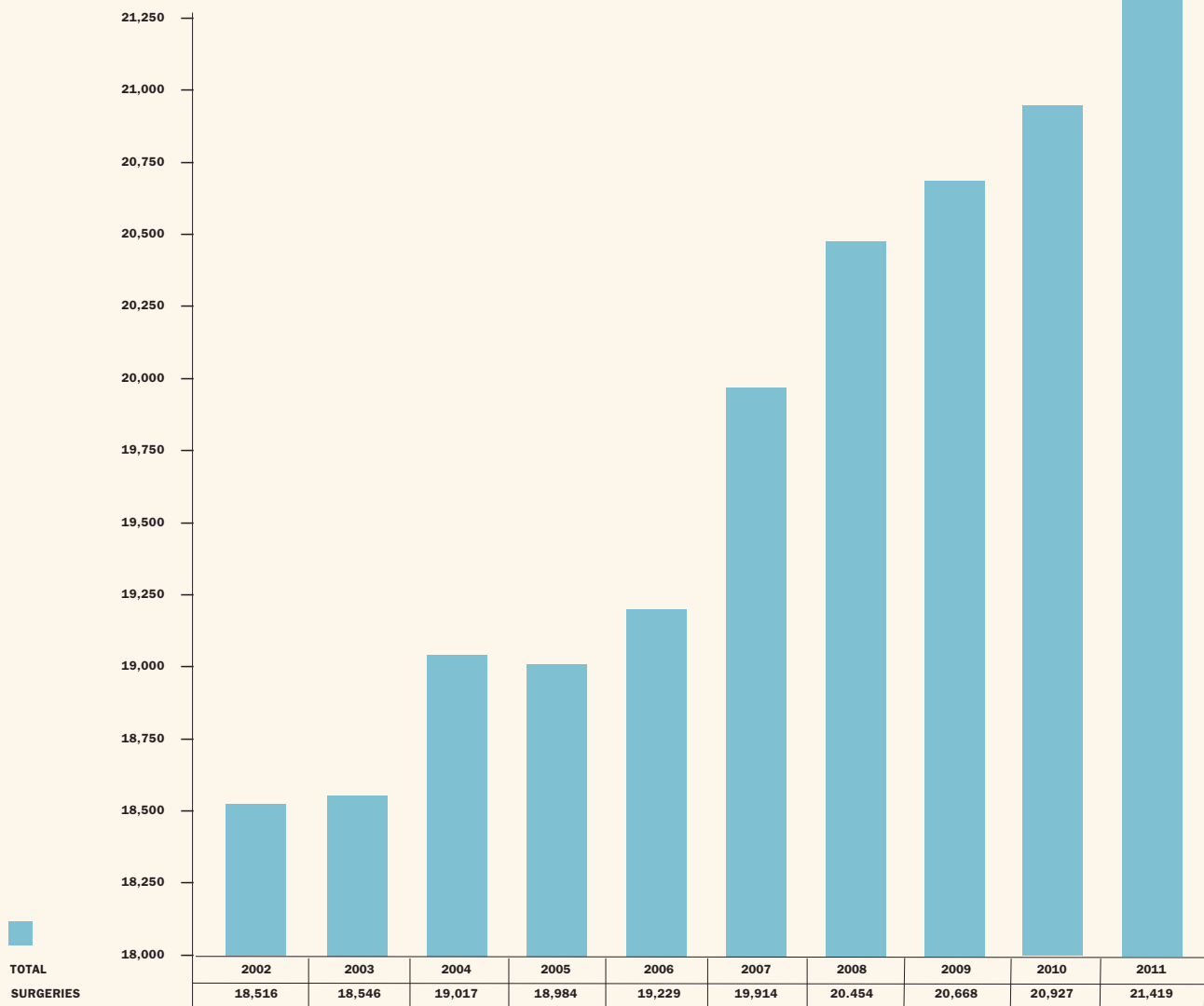
The new patient care facility in Oceanside, a partnership between RCHSD and Sanford Health, enables RCHSD to serve more children and families in the North County coastal area. The variety of services offered, including developmental evaluations, occupational therapy, urgent care, trauma counseling from the Chadwick Center for Children and Families, and various medical specialties, provides parents and children living in these communities with vitally needed care.

Through its collaboration with UC San Diego, RCHSD continues to strengthen its reputation as an

academic medical center. For the first time, RCHSD was ranked in all 10 pediatric specialties surveyed by *U.S. News & World Report*. This is a tremendous achievement, as many of the top-ranked children's hospitals are more than 100 years old and have built their reputation over generations.

Through the purchase of the 7910 Frost Street building, home of RCHSD's and UC San Diego's new

Clinical and Translational Research Center, RCHSD will usher in a new era of pediatric medicine. The Center will focus on Genomics (Systems Medicine) and Epigenomics research and bring together top physician-scientists, clinical investigators, scientists, and bioinformaticists. We believe that these areas will be crucial for our continuous quest to further improve patient quality care and innovation.



SURGICAL VOLUME 2002 THROUGH 2011



# Adolescent Medicine and General Academic Pediatrics

The General Academic Pediatrics/Adolescent Medicine Division staffs the only academic primary care pediatric office for children residing in San Diego County and provides the main clinical general pediatric teaching site for UC San Diego (UCSD) medical students and pediatric residents.

The UCSD Adolescent Medicine health care team recognizes that adolescence is a special time that brings about particular concerns in young men, women, and their parents. Teenagers are often confronted with certain medical needs and emotional stresses that require the expertise of specially trained professionals. The physicians in the Adolescent Medicine Program are distinguished by their

specialty interest and training. All faculty are adolescent medicine experts with several years of specialty adolescent medicine training beyond general pediatrics.

Left to right: Kim Houkom, Lindia Willies-Jacobo, Nancy Graff, Joyce Adams, Michelle Leff, Eyla Boies, Leah Kern, Janet Crow, Brett Pickering



## FACULTY

**Bretten D. Pickering, MD**, *Interim Chief*, Division of General Academic Pediatrics/Adolescent Medicine; Clinical Professor of Pediatrics

**Joyce A. Adams, MD**, Professor of Clinical Pediatrics/Adolescent Medicine

**Eyla Boies, MD**, Clinical Professor of Pediatrics

**Janet Crow, MD**, Associate Clinical Professor of Pediatrics

**Nancy Graff, MD**, Clinical Professor of Pediatrics; Medical Director, Polinsky Children's Center Clinic

**Kim Houkom, MD**, Assistant Clinical Professor of Pediatrics

**Leah Kern, MD**, Assistant Clinical Professor of Pediatrics

**Michelle Leff, MD**, Assistant Clinical Professor of Pediatrics

**Karen S. Loper, MD**, Associate Clinical Professor of Pediatrics; Medical Director, Adolescent Medicine

**Lori Wan, MD**, Associate Clinical Professor of Pediatrics; Medicine-Pediatrics Residency Director

**Lindia J. Willies-Jacobo, MD**, Assistant Dean for Diversity and Community Partnerships; Clinical Professor of Pediatrics

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The General Academic Pediatrics Division is responsible for the primary health care of all children seen at the UCSD Pediatric Clinic. The Pediatric Clinic is combined with Adolescent Medicine at an office across the street from Rady Children's Hospital-San Diego (RCHSD). With over 20,000 visits from children residing throughout San Diego, Riverside and Imperial Counties, the division strives to provide all patients with a medical home that is accessible, continuous, comprehensive, culturally effective, compassionate, and family-centered.

The clinical services offered include: primary care and sports physicals; immunizations; assessment for behavioral

problems, learning difficulties and eating disorders; pregnancy prevention/family planning; domestic/interpersonal violence; STD/HIV testing and counseling; evaluation and intervention with drug/alcohol problems; depression/suicide interventions; and referrals to specialists and community services.

The Adolescent Medicine Program founded the Teen Mobile Van, which provides medical services to homeless and runaway youth. The van is a collaborative effort with the San Diego Health Department, San Diego Youth and Community Services and Family Health Centers of San Diego.

### Joyce A. Adams, MD

- Attends in the UCSD Adolescent Medicine Office
- Medical attending for RCHSD inpatient eating disorder unit
- Attends at the Chadwick Center, RCHSD, providing medical evaluations for children who are referred with suspected sexual or physical abuse
- Participates in monthly abuse-related peer review sessions at the RCHSD Chadwick Center and Palomar Hospital

### Eyla Boies, MD

- Attends in the UCSD General Academic Pediatrics Office
- Directs and attends the Premature Infant Nutrition Clinic
- Integrates medical student and resident education, as well as clinical research on breastfeeding
- Course Coordinator for PEDS 431 Ambulatory Pediatric Sub-internship

### Janet Crow, MD

- Attends in the UCSD General Academic Pediatrics Office
- Attends in the UCSD Medical Center, Newborn Nursery
- Continuity Clinic Director for UCSD Pediatric Clinic
- Clinic Co-coordinator for EMR Conversion

### Nancy Graff, MD

- Attends in the UCSD General Academic Pediatrics Office
- Medical Director at Polinsky Children's Center, San Diego County's emergency shelter facility for abused and neglected children

- Child abuse consultant to the UCSD Regional Burn Center
- Course Coordinator for Community Pediatrics Block Rotation

#### **Kim Houkom, MD**

- Attends in the UCSD General Academic Pediatrics Office and Adolescent Clinic
- Pediatric Resident Supervising Coordinator

#### **Leah Kern, MD**

- Attends in the UCSD General Academic Pediatrics Office
- Third-Year Medical Student Clinic Coordinator

#### **Karen S. Loper, MD**

- Attends at the UCSD Adolescent Medicine Office
- Medical attending for RCHSD inpatient eating disorder unit
- Medical Director, UCSD Adolescent Medicine Office
- Participates in a multidisciplinary clinic for adolescents and young adults living with HIV infection
- Pediatric consultant for CAPS, UCSD's inpatient child and adolescent psychiatry service
- Provides care at Mid City Community clinic, an ethnically diverse clinic serving patients from low socioeconomic households. In conjunction with the clinic, she supervises a nurse practitioner and provides direct patient care at Rosa Parks Elementary School in City Heights

#### **Bretten D. Pickering, MD**

- Interim Division Chief, General Academic Pediatrics/Adolescent Medicine
- Medical Director and Attending/UCSD General Academic Pediatrics Office
- Medical Director, Special Needs Clinic at RCHSD
- Attends at Helen Bernardy Center for Medically Fragile Children, providing long-term sub-acute and skilled nursing care

#### **Lori Wan, MD**

- Director, UCSD Medicine-Pediatrics Residency Program
- Attends in the General Academic Pediatrics Office

#### **Lindia Willies-Jacobo, MD**

- Attends in the UCSD General Academic Pediatrics Office

## RESEARCH ACTIVITIES

**Joyce A. Adams, MD** is primarily focused on sexual abuse and eating disorders and has a large population of these patients. In collaboration with faculty in the Department of Psychiatry, Dr. Adams is developing a pilot study to assess acceptability of otherwise “unpalatable” foods among patients with anorexia nervosa.

For the past several years, Dr. Adams has also been involved in a follow-up study evaluating normative anogenital anatomy in preschool children. The research has been partially funded by National Technological University of Norway. She and her collaborators will follow up children examined at age 5-6 to document normal anatomic variations in the appearance of genital and anal tissues. Thirty girls agreed to return for follow-up examinations at age 10-13 to document developmental changes.

**Eyla Boies, MD** is actively involved in breastfeeding clinical research. Dr. Boies works in conjunction with the UCSD Neonatology and Newborn Service SPIN program. Her Premature Infant Nutrition Clinic (PINC) provides nutritional, medical, and lactation follow-up for breastfed premature infants.

**Leah Kern, MD** works with and is supported by the UCSD Adult Infectious Disease Program providing pediatric program development services on their PEPFAR grant to Ethiopia.

**Michelle Leff, MD** is actively involved in the UCSD Study Center as part of the National Children's Study.

**Karen S. Loper, MD** is a member of the UCSD Adolescent HIV team and is actively involved in several clinical trials through this program.

## TEACHING ACTIVITIES

#### **Joyce A. Adams, MD**

- Teaches in the UCSD Adolescent Medicine Clinic (residents and medical students), Teen Mobile Van, and Journal Club
- Teaches Introduction to Adolescent Medicine
- Moderated simulated patient encounters in her Introduction to Clinical Medicine for MS-2 students
- Teaches medical students and residents at RCHSD

## Major Goals and Plans

### General Academic Pediatrics

- Continue search for a new Division Chief in General Academic Pediatrics.
- Recruit faculty at RCHSD to develop programs in all areas of teaching, clinical care and research.
- Continue collaborating with University of San Diego Department of Marriage and Family Therapy to provide marriage and family therapy to patients and families referred by the faculty and trainees. It is hoped this collaboration will facilitate communication between physical and mental health providers to improve patient's health.
- Continue to be at the forefront of breastfeeding promotion, not only in application, but in teaching and clinical research.
- Offer training experiences for students and residents in caring for medically fragile, technology-dependent children at Rady Children's Hospital-Helen Bernardy Center for Medically Fragile Children.
- Continue working with the Community Pediatrics Section to offer residents opportunities to engage in cross-cultural projects, including visits to Tijuana, Mexico, where they learn about their health care needs and opportunities for involvement.

### Adolescent Medicine

- Continue focusing on current areas of expertise: general adolescent health and preventive care; eating disorders; abuse; behavioral and adjustment disorders; and HIV/AIDS.
- Pursue clinical, teaching and research excellence while working closely with colleagues in general and community pediatrics.
- Adjust the curriculum and clinical experiences to maximize the teaching experience.
- Work collaboratively with the Department of Psychiatry to establish a medical component of an outpatient eating disorder program – both clinical and research. This is a project of Dr. Joyce Adams.
- Help develop research projects at the Chadwick Center, including plans to study examiner agreement on interpreting medical findings from photographic images (Dr. Joyce Adams.)

- Lectures locally, nationally, and internationally on topics in adolescent medicine and child abuse

### Eyla Boies, MD

- Teaches general pediatric residents, continuity clinic residents and medical students in the General Academic Pediatrics office with emphasis in breastfeeding
- Course Coordinator, MS-4 Pediatric Ambulatory Sub-internship, Peds 431
- Small group leader, MS-4 course Principles to Practice
- Pediatric resident CPC lecture supervisor

### Janet Crow, MD

- Teaches in the UCSD General Academic Pediatrics Office supervising medical students, general and continuity clinic residents in direct patient care, journal club and small discussion groups

- Regular Lecturer, UCSD/San Ysidro Family Medicine Residency
- Continuity Clinic Co-Director and Director of Curriculum Development

### Nancy Graff, MD

- Teaches courses in the classroom and clinically on medically evaluating the abused child
- Teaches medical students, residents and continuity clinic residents in the UCSD General Academic Pediatrics office
- Participates in the MS-2 course Introduction to Clinical Medicine
- Small group leader for MS-4 course Principles to Practice

## Research Support

Grant/Contract #

Annual Budget

Total Direct Dollars/Duration of Grant

**Nancy Graff, MD**

Community Pediatrics and Advocacy Training in California

\$20,193

Stanford University

June 2008-May 2013



### **Leah Kern, MD**

- MS-3 coordinator for UCSD General Academic Pediatrics office
- Teaches medical students, residents and continuity clinic residents in the UCSD General Academic Pediatrics office

### **Karen S. Loper, MD**

- Director of the Adolescent Medicine Training program, where all pediatric interns and medicine-pediatric residents are required to do a rotation. Periodically, the program serves internal medicine and family medicine residents, as well as women's health fellows from the VA San Diego training program
- Coordinates a popular Adolescent Medicine MS-4 elective
- Provides the introductory lecture in Adolescent Health for Pediatrics, the core rotation for MS-3s
- Small group facilitator for Primary Care, a year-long core course for MS-3s and a small group facilitator in the Violence prevention seminar for MS-4s
- ISP Chair and trainee advisor
- Teaches in the Teen Mobile Van
- Lectures locally and regionally
- UCSD School of Medicine Problem-Based Learning Faculty
- Pediatric resident CPC lecture supervisor

### **Bretten D. Pickering, MD**

- Teaches students and residents pediatric primary care of medically fragile children in the office and in institutional settings
- Participates in the MS-2 Introduction to Clinical Medicine course



- Faculty supervisor, UCSD School of Medicine MSTP OSCE Program
- UCSD PACE Program, Pediatric Coordinator
- San Diego Hospice Fellowship Pediatric course supervisor
- Pediatric resident CPC lecture supervisor

#### **Lori Wan, MD**

- UCSD Medicine-Pediatrics Residency Director
- Attends in the UCSD General Academic Pediatric Continuity Clinic
- Serves as faculty supervisor to medicine-pediatric residents

#### **Lindia J. Willies-Jacobo, MD**

- Assistant Dean for Diversity and Community Partnerships
- Interests are in teaching culturally competent pediatric health care
- Teaches clinical pediatrics to medical students, residents and continuity residents in the General Academic Pediatrics office
- UCSD PRIME curriculum development and course director
- Currently directs the following five courses:
  - SOMI 233 Influences on Health: From Genes to Communities
  - SOMI 234 Beyond the Bench and Bedside: Partnering with Communities
  - SOMI 235 Healthy Minds, Healthy Bodies
  - PEDS 229 Cognitive Strategies
  - SOMI 230 DOC-for-a-Day
- Small group leader, MS-4 course Principles to Practice

## **AWARDS, HONORS AND MAJOR PRESENTATIONS**

#### **Joyce Adams, MD**

UCSD Academy of Clinician Scholars  
 Board Certified Child Abuse Pediatrics  
 Board of Directors and immediate past-president, San Diego County Breastfeeding Coalition  
 President, San Diego County Breastfeeding Coalition, 2009, 2010

#### **Eyla Boies, MD**

UCSD Academy of Clinician Scholars  
 San Diego Top Doctors 2010  
 Poster Presentation: Postdischarge Lactation Support for High-Risk Preterm Infants, Academy of Breastfeeding Medicine 2009  
 Poster Presentation: Breastfeeding Premature Multiples After NICU Discharge, Academy of Breastfeeding Medicine 2010  
 Poster Presentation: Breastfeeding Preterm Multiples: What Are Realistic Expectations? PAS 2011

#### **Bretten D. Pickering, MD**

UCSD Academy of Clinician Scholars  
 San Diego Top Doctors, 2010

#### **Lindia Willies-Jacobo, MD**

Nominee Kaiser Excellence in Teaching Award, 2009, 2010, 2011  
 Lifetime Achievement Award– UCSD Pediatric Residency, 2009

## **PUBLICATIONS**

East PL, Chien NC, Adams JA, Hokoda A, Maier A. Links between sisters' sexual and dating victimization: The roles of neighborhood crime and parental controls. *J Fam Psychol*, 24(6):698-708, 2010.  
 Myhre AK, Myklestad K, Adams JA. Changes in genital anatomy and microbiology in girls between age 6 and age 12 years: A longitudinal study. *J Pediatr Adolesc Gynecol*, Apr;23(2):77-85, 2010; Epub 2009 Jul 29.



# Allergy and Immunologic Diseases/Rheumatology

The Division of Allergy and Immunologic Diseases provides comprehensive clinical services for children with allergic, immunologic, rheumatologic diseases, and Kawasaki disease in outpatient and inpatient settings at a variety of venues throughout San Diego County. The division also maintains an internationally recognized research program in the areas of translational and clinical research in autoinflammatory disorders, genetics of rare inherited diseases, Kawasaki disease, the genesis and treatment of allergic diseases, and basic research in T cell immunology.

The Pediatric Rheumatology Program began in 1994 with the establishment of a multidisciplinary team trained to care for children with chronic, disabling rheumatic conditions. In addition to three experienced physicians, the division includes a pediatric clinical nurse specialist, a

pediatric physical and occupational therapist, a social worker, a nutritionist, and a parent consultant. The team is the only provider recognized by California Children's Services in San Diego County.

Left to right: Robert Sheets, Ilona Szer, Karin Peterson, Seema Aceves, Jane Burns, Chisato Shimizu, Hal Hoffman, Alessandra Franco, John Bastian

## FACULTY

**Jane C. Burns, MD**, *Co-Director*, Professor of Pediatrics in Residence

**John F. Bastian, MD**, *Co-Director*, Clinical Professor of Pediatrics

**Seema S. Aceves, MD, PhD**, Assistant Adjunct Professor of Pediatrics

**Alessandra I. Franco, MD, PhD**, Assistant Adjunct Professor of Pediatrics

**Hal M. Hoffman, MD**, Associate Professor of Pediatrics

**Anthony A. Horner, MD**, Associate Adjunct Professor of Medicine and Pediatrics

**Karin Peterson, MD**, Associate Clinical Professor of Pediatrics

**Robert M. Sheets, MD**, Assistant Clinical Professor of Pediatrics

**Chisato Shimizu, MD**, Associate Project Scientist

**Ilona S. Szer, MD**, Clinical Professor of Pediatrics

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

### Seema S. Aceves, MD, PhD

- Directs a weekly combined pediatric allergy, immunology- gastroenterology clinic for the evaluation, treatment and research of patients with eosinophilic gastrointestinal disease (EGID), evaluating approximately 70 new patients per year
- Directs a food allergy clinic once weekly
- Conducts three half-day allergy clinics every other week in Murrieta and Rady Children's Hospital-San Diego (RCHSD)

### John F. Bastian, MD

- Conducts six half-day clinics per week, (approximately 250 patients a month) for the care of children with a wide variety of allergic and immunologic diseases and asthma

### Jane C. Burns, MD

- Directs the Kawasaki Disease Research Center at RCHSD that provides comprehensive inpatient and

outpatient care for approximately 90 new inpatients per year. The dedicated Kawasaki Disease Clinic, directed by Dr. Burns, provides outpatient follow-up care for over 1,200 children who have recovered from Kawasaki disease

### Hal M. Hoffman, MD

- Conducts pediatric allergy and immunology clinics in Encinitas and at RCHSD (over 400 patients per year)
- Special interest in periodic fever disorders
- Consults and acts as teaching attending

### Anthony A. Horner, MD

- Conducts pediatric allergy and immunology clinics in Encinitas, Oceanside, Murrieta, and at RCHSD (over 700 patients per year)
- Consults and acts as teaching attending for 6-10 weeks a year

### Karin Peterson, MD

- Conducts biweekly rheumatology clinic in Encinitas and several weekly allergy/immunology clinics at both RCHSD and in Encinitas

### Robert M. Sheets, MD

- Conducts pediatric rheumatology clinics 3 times per week in the RCHSD campus, and weekly outreach clinics in Murrieta, Escondido, and El Centro

### Ilona Szer, MD

- Conducts four clinics at RCHSD and four clinics at Encinitas providing care to children from Orange County and North San Diego County

## RESEARCH ACTIVITIES

### Seema S. Aceves, MD, PhD

- NIH funded study (R01) on the mechanisms of tissue remodeling in eosinophilic esophagitis (EoE) (the role of pro-inflammatory and pro-fibrotic molecules), diagnosis (biomarker discovery), and treatment options and their effects on disease complications such as esophageal remodeling

- DOD funded study of the genetics of food allergic EoE
- Multi-center clinical trial on the use of anti-IL-5 in pediatric eosinophilic esophagitis
- Principal investigator, San Diego County study of the clinical characteristics of eosinophilic esophagitis
- Executive Council member, The International Gastrointestinal Eosinophil Research network
- Editorial Board of *Journal of Allergy and Clinical Immunology*

#### **John F. Bastian, MD**

- Difficult asthma
- Immunodeficiency disorders
- Kawasaki disease

#### **Jane C. Burns, MD**

- The pathophysiology, immunology, diagnosis, etiology, treatment, genetics, epidemiology and history of Kawasaki disease
- A multicenter, randomized placebo-controlled clinical trial of infliximab plus IVIG for primary treatment of Kawasaki disease
- Call-back study of adolescents and young adults with a history of Kawasaki disease in childhood

#### **Alessandra M. Franco, MD, PhD**

- Cytotoxic T cell biology
- Carbohydrate T cell recognition
- Designer glycopeptides containing tumor-associated carbohydrate antigens as vaccines for prevention/treatment of epithelial cancer
- Epitope glycosylation to bypass the effects of viral mutations (HIV and HBV as models) in antiviral vaccines
- T-cell repertoire in Kawasaki disease

#### **Hal M. Hoffman, MD**

- Role of innate immunity in autoinflammatory disorders
- Genetic basis of familial cold autoinflammatory syndrome (FCAS) and other cryopyrinopathies
- Role of IL-1 targeted therapy in cryopyrinopathy patients (has resulted in an effective new therapy for these patients)
- Characterization of cryopyrin function using a number of experimental models, including in vitro cell lines, ex vivo monocytes and genetically modified mice

- Primary consultant, a multicenter, phase III trial of IL-1 TRAP, a novel IL-1 blocker in 40-50 FCAS patients in North America
- Genetic basis of rare inherited disorders including congenital diarrheas, rare urticarial disorders, and autoinflammatory disorders
- Inflammatory mechanisms involved in periodic fever disorders of childhood

#### **Anthony A. Horner, MD**

- Characterization of the molecular content and immunological activities of sterile house dust extracts to better define the immunomodulatory role living environments have on the genesis of allergic diseases
- Translational studies to determine if house dust extract bioactivities are predictive of the intrinsic allergic risk associated with being raised in their homes of origin
- Treatment of allergic diseases with toll-like receptor ligands and other immune-modulatory molecules

#### **Robert M. Sheets, MD**

- Clinical trials of new treatments for pediatric rheumatologic diseases, currently involved in the TREAT study

#### **Chisato Shimizu, MD**

- Genetics and molecular pathogenesis of Kawasaki disease

#### **Iлона S. Szer, MD**

- Conducts several clinical trials of new treatments for juvenile arthritis and pediatric rheumatologic diseases
- As member of CARRA, Dr. Szer participates in the evaluation and implementation of multicenter studies in Pediatric Rheumatology
- Chair of DSMB for two current trials

## **TEACHING ACTIVITIES**

#### **Seema S. Aceves, MD, PhD**

- Director of the pediatric allergy, immunology, rheumatology specialty rotation (for allergy/immunology fellows from UCSD and Scripps Clinic, and pediatric residents from UCSD)

- Teaches UCSD and Scripps allergy fellows, UCSD medicine and pediatric residents in allergy, EGID clinics three half-days per week
- Mentors UCSD undergraduate, medical students, and residents in laboratory studies on eosinophilic esophagitis

#### **John F. Bastian, MD**

- Teaches UCSD and US Navy residents in allergy and immunology clinics
- Teaches allergy fellows from UCSD and Scripps Clinic

#### **Jane C. Burns, MD**

- Mentors junior faculty in the development of clinical and translational research careers
- Mentors high school students, undergraduates, medical students, graduate students and postdoctoral fellows in projects on the epidemiology, treatment, and pathophysiology of Kawasaki disease
- Supervises residents and medical students in the care of Kawasaki disease patients

#### **Hal M. Hoffman, MD**

- Teaches and mentors allergy/immunology fellows
- Supervises and teaches medical students and residents in the pediatric allergy and immunology clinics concerning appropriate diagnosis and treatment of allergic and immunologic disorders
- Teaches medical students and residents in the hospital as teaching attending every year on the general pediatric inpatient service at RCHSD, and lectures regularly at resident conferences
- Teaches medical students and graduate students in Immunology and Genetics classes
- Proctors the Objective Structured Clinical Examinations (OSCE) and participates in the pediatric section of the Principles to Practice course
- Supervises undergraduates who work in the lab, Independent Study Projects (ISP) students, and supervises medical students

#### **Anthony A. Horner, MD**

- Provides clinical training at RCHSD and its affiliated clinics for medical students, pediatric residents, and allergy/immunology fellows

- Provides mentorship for ISP projects, a Master's student, and a UCSD medical student in the CREST program
- Teaches noon conference to the UCSD pediatric house staff each year
- Directs a basic science journal club that presently has 23 members, including undergraduates, MD and PhD students, postdoctoral fellows and UCSD faculty members
- Co-directs and lectures for the Gene Therapy and Molecular Medicine course at UCSD Medical School each year

#### **Robert M. Sheets, MD**

- Supervises AIR lecture series on the third Wednesday of every month for pediatrics residents, and lectures every other month
- Teaches a monthly elective course in rheumatology for UCSD pediatric residents
- Presents a monthly noon conference for UCSD pediatric residents

#### **Chisato Shimizu, MD**

- Supervises undergraduate and medical students in the laboratory in projects related to molecular pathogenesis of Kawasaki disease

#### **Ilona S. Szer, MD**

- Teaches a monthly elective course in rheumatology for UCSD and Balboa pediatric residents
- Participates in several annual AAP CME meetings
- Conducts a weekly subspecialty clinic for senior pediatric residents
- Provides twelve-month training for second-year fellows completing adult rheumatology programs at Scripps Clinic and UCSD
- Attends monthly SRS adult rheumatology departmental meetings
- Mentor to Johanna Chang, who will be starting her UCSD faculty position in the Division in September 2011



## Major Goals and Plans

### Seema S. Aceves, MD, PhD

- Understand the mechanisms of TGFb1 effects on smooth muscle contraction in EoE
- Conduct studies to elucidate a gene-environment interaction between food and TGFb1
- Find new biomarkers in EoE
- Understand the effects of mepolizumab on esophageal remodeling in EoE
- Continue to expand the EGID clinic
- Oversee the patient education and research meeting for the 2012 American Partnership for Eosinophilic Disorders meeting
- Help to develop and design multi-center, NIH funded clinical trials in collaboration with The International Gastrointestinal Researchers and the Registry for Eosinophilic Gastrointestinal Disorders
- Participate in trials that validate pediatric quality of life and symptom activity indexes in EoE

### John F. Bastian, MD

- Establish a food allergy clinic
- Conduct eosinophilic esophagitis trials with anti-IL5 and topical budesonide
- Obtain exhaled NO device for allergy clinic

### Jane C. Burns, MD. and Chisato Shimizu, MD

- Define panel of protein biomarkers as a diagnostic test for KD
- Complete family-based linkage analysis
- Define role of microRNAs in KD pathogenesis
- Devise new therapies to prevent progression of coronary artery damage
- Understand mechanisms of action of IVIG

### Alessandra I. Franco, MD, PhD

- Better characterize the events involved in the cross-talk between B cells and dendritic cells, aiming at the optimization of cytotoxic T cell priming in vivo
- Define a panel of carbohydrate-peptide conjugate that binds with high affinity to MHC class I molecules and has an appropriate structure to induce a T cell response skewed toward the recognition of the sugar moiety
- Explore (and compare) TACA conjugation natural viral sequences, sequences derived from environmental pathogens as the flu viruses and known cancer epitopes (i.e., MUC1 peptides, etc.) in preparation for pre-clinical trials.
- Complete studies on T-cell activation in Kawasaki disease

### Hal M. Hoffman, MD

- Continue focus on cryopyrin function using a number of novel mouse models designed to reproduce human disease in mice
- Continue to study the mechanism of cold-induced inflammation using cell lines, human monocytes and mice
- Study the role of cryopyrin in more common diseases such as gout, rheumatoid arthritis, infection, otitis, and asthma by collaborating with other UCSD investigators
- Continue to identify families with rare inherited human diseases and search for the genetic basis of these disorders.
- Continue to evaluate pediatric patients with allergic and immunologic disease (approximately 400 patients a year)
- Pursue clinical interest in autoinflammatory diseases, including the periodic fever disorders, and expand clinic to meet the needs of these patients

#### Anthony A. Horner, MD

- Continue clinical and teaching responsibilities
- Continue research focusing on characterizing the cellular and molecular basis for the Th2 adjuvant and tolerogenic activities of house dust extracts (HDEs)
- Continue translational research studies to determine if HDE bioactivity measures predict allergic and respiratory status in clinical practice HDEs
- Continue collaborative studies to better understand the molecular basis for the immunostimulatory activities of HDEs
- Seek new sources of funding for our research

#### Robert M. Sheets, MD

- Consolidate practice in San Diego
- Continue involvement in the local Arthritis Foundation branch and its activities for children.

#### Ilona S. Szer, MD

- Cutting back to half time, mostly in Encinitas – patient care to be assumed by Dr. Johanna Chang who starts in September, 2011
- To accomplish the Second Edition of Arthritis in Children and Adolescents
- Continue to deliver the highest quality of care to children with RD in SD and surrounding catchment area
- Continue to work with the Search Committee for a Chief of AIR and Sr. Scientist

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Seema S. Aceves MD, PhD

NIH/NIAID R01

American Academy of Allergy, Asthma, Immunology,

Junior Women in Allergy Faculty Research Grant

Invited speaker, American Academy of Allergy and Immunology, 2009-2011

Invited speaker, International Eosinophil Society 2011

Invited speaker, American Gastroenterology Association Digestive Diseases Week, 2011

Invited speaker, World Allergy Organization, 2011

Invited speaker, Massachusetts General Hospital, Harvard Medical School, Medical Grand Rounds, 2011

### Jane C. Burns, MD

Member, AHA Committee on Rheumatic Fever, Endocarditis and Kawasaki Disease, 2006-present

Speaker, Asian Pacific Cardiology Society Meeting, Chiba, Japan, July 2010

Speaker, International Kawasaki Disease Genetics Consortium, Amsterdam, Holland, September 2010

Speaker, Dept. of Pediatrics, Sant Joan de Deu, Barcelona, Spain, September 2010

Speaker, iC3 Institute for Climate Studies, Barcelona, Spain, September 2010

Speaker, Maui Cardiovascular Symposium, Maui, Hawaii, November 2010

Speaker, National Cardiovascular Physician Assistants Meeting, San Diego, CA, January 2011

Speaker, Dept. of Dermatology Grand Rounds, Univ. of Dijon, Dijon, France, January 2011

Speaker, National Academy of Dermatology, Paris, France, January 2011

Visiting Professor, Depts. of Medicine and Pediatrics, Emory University, Atlanta, GA, March 2011

Speaker, Illumina, San Diego, CA, April 2011

Speaker, Society for Pediatric Research, Denver, CO, April 2011

Speaker, Dermatology Grand Rounds, UCSD, San Diego, CA, June 2011

Speaker, Siberian Pediatric Congress, Irkutsk, Siberia, June 2011



**Hal M. Hoffman, MD**

Speaker, University of Toronto Symposium, Toronto, Canada, July 2010  
Speaker, McMaster University Research Conference. Hamilton, Canada, July 2010  
Speaker, International Autoinflammatory Diseases Meeting, Amsterdam, September 2010  
Speaker, Symposium on CAPS, Tübingen, Germany, October 2010  
Speaker, Japanese Society of Investigative Dermatology, Wakayama, Japan, December 2010  
Speaker, McGill University Immunity and Genetics Seminar, Montreal, Canada, April 2011  
Editorial Board, *The Journal of Clinical Immunology*, 2010-present

**Anthony A. Horner, MD**

Member, Editorial Board, *ISRN Allergy*, 2010-present  
Speaker, UCSD Rheumatology Grand Rounds, San Diego, CA, July 2010  
Invited Speaker, American Academy of Asthma, Allergy, and Immunology International Meeting, San Francisco, CA, March 2011

**Ilona S. Szer, MD**

Lunch with the Professor Series, ACR National Meetings, October 2010  
Earl Brewer Leadership in Pediatric Rheumatology Award, AJAO, July 2010  
Juvenile Arthritis Regional Leadership Award, AF, July 2010

Member, Childhood Arthritis and Rheumatology and Research Alliance, Finance and Pain Committees  
Senior Editor, *Arthritis in Children and Adolescents*; in discussions with OUP regarding Second Edition; last edition March, 2006  
Chair, DSMB, Teens Taking Charge – multicenter observational study using the latest hand held technology

## PUBLICATIONS

- Aceves SS, Newbury RO, Dohil M, Bastian JF, Dohil R. A symptom scoring tool identifies pediatric eosinophilic esophagitis patients and correlates with tissue inflammation. *Ann Allergy Asthma Immunol*, 103(5):401-6. 2009.
- Aceves SS, Chen D, Newbury RO, Dohil R, Bastian J, Broide DH. Mast cells infiltrate the esophageal smooth muscle in eosinophilic esophagitis, express TGF $\beta$ 1, and increase esophageal smooth muscle contraction. *J Allergy Clinical Immunol*, 126:1198-204. 2010.
- Aceves SS, Newbury RO, Chen D, Dohil R, Mueller J, Hoffman H, Bastian JF, Broide DH. Resolution of remodeling in eosinophilic esophagitis correlates with epithelial response to topical corticosteroids. *Allergy*, 65:109-16. 2010. PMC2807896.
- Assa'ad AH, Gupta SK, Collin MH, Thomson M, Heath AT, Smith DA, Perschy TL, Jurgensen CH, Ortega HG, Aceves SS. Treatment of pediatric eosinophilic esophagitis with mepolizumab: a randomized, double blind, controlled clinical trial. In press, 2011.
- Broderick L, Tremoulet AH, Burns JC, Bastian JF, Hoffman HM. Recurrent Fever Syndromes in Patients After Recovery From Kawasaki Syndrome. *Pediatrics*, 127(2):e489-93, 2011.
- Broderick L, Tremoulet AH, Burns JC, Bastian JF, Hoffman HM. Recurrent fever syndromes in patients after recovery from Kawasaki syndrome. *Pediatrics*, 127(2):e489-93, 2011.
- Brydges SD, Mueller JL, McGeough MD, Pena CA, Misaghi A, Gandhi C, Putnam CD, Boyle DL, Firestein GS, Horner AA, Soroosh P, Watford WT, O'Shea JJ, Kastner DL, Foeldvari I, Szer IS, Zemel LS. A comparison of the efficacy and safety of Celecoxib versus Naproxen in children with juvenile rheumatoid arthritis. *J Rheumatol*, 2009.
- Caldwell JM, Blanchard C, Collins MH, Putnam PE, Kaul A, Aceves SS, Bouska CA, Rothenberg ME. Glucocorticoid regulated genes in eosinophilic esophagitis: a role for FKBP51. *J Allergy Clin Immunol*, 125:879-88. 2010.
- Doherty TA, Brydges SD, Hoffman HM. Autoinflammation: translating mechanism to therapy. *Journal of Leukocyte Biology*, Epub 2011.
- Dohil R, Newbury R, Fox L, Bastian J, Aceves S. Oral viscous budesonide is effective in children with eosinophilic esophagitis in a randomized placebo controlled trial. *Gastroenterology*, 139:418-29, 2010.
- Fury W, Tremoulet AH, Watson VE, Best BA, Shimizu C, Hamilton J, Kanegaye JT, Wei Y, Kao C, Burns JC. Transcript abundance patterns in Kawasaki disease patients with IVIG-resistance. *Human Immunology*, 7:865-873, 2010.
- Gandhi C, Healy C, Wanderer AA, Hoffman HM. Familial atypical cold urticaria: description of a new hereditary disease. *Journal of Allergy and Clinical Immunology*, 124(6):1245-50, 2009.
- González-Navajas JM, Law J, Nguyen KP, Bhargava M, Corr MP, Varki N, Eckmann L, Hoffman HM, Lee J, Raz E. Interleukin 1 receptor signaling regulates DUBA expression and facilitates toll-like receptor 9-driven antiinflammatory cytokine production. *Journal of Experimental Medicine*, 207:13:2799-807, 2010.
- Hoffman HM, Scott P, Mueller JL, Misaghi A, Stevens S, Yancopoulos GD, Murphy A, Valenzuela DM, Liu-Bryan R. Role of the leucine-rich repeat (LRR) domain of cryopyrin/NALP3 in monosodium urate crystal-induced inflammation. *Arthritis and Rheumatism*, 62:7:2170-9, 2010.
- Hoffman HM, Brydges SD. The genetic and molecular basis of inflammasome-mediated disease. *Journal of Biologic Chemistry*, 286(13):10889-96 2011.
- Hoffman HM, Wanderer AA. Inflammasome and IL-1beta-mediated disorders. *Current Allergy Asthma Reports*, 10:4: 229-35, 2010.
- Hoffman, HM. Management of cryopyrin associated periodic syndromes. *U.S. Musculoskeletal Diseases*, 4:1:28-31, 2010.
- Hoffman HM, Therapy of autoinflammatory syndromes.

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Seema S. Aceves MD, PhD</b>		
Registry of Eosinophilic Gastrointestinal Diseases (REGID) 20110124/Children's Hospital Medical Center	\$21,825	\$27,500 July 2010 - July 2011
Mechanisms of Chronic Tissue Damage in Allergic Eosinophilic Esophagitis 1 R01 AI092135-01/NIH (NIAID) Natl Inst Of Allergy &	\$250,000	\$1,798,750 July 2011-June 2016
TGF-beta Gene Polymorphisms in Food Allergic vs. Non-Food Allergic Eosinophilic Esophagitis W81XWH-11-1-0741/DA Army Medical Research And Materi	\$299,839	\$464,375 Sept. 2011-Oct. 2014
The Effects of Anti-IL-5 on Esophageal Remodeling in Pediatric Eosinophilic Esophagitis Glaxosmithkline (Merge:Glaxo Wellco)		\$40,000 2011-2014
The Role of miRNAs in Pediatric Eosinophilic Esophagitis University of California, Department of Pediatrics		\$50,000 2011-current
A Novel Molecular Diagnostic Platform for Eosinophilic Esophagitis Tigers		\$70,000 2010-current
<b>Jane C. Burns, MD</b>		
iDASH: Integrating Data for Analysis, Anonymization, and Sharing 1 U54 HL108460-01/NIH (NHLBI) Natl Heart, Lung & Blood	\$2,314,179	\$20,104,600 Sept. 2010-June 2015
Gene Expression and Genetic Influence in Kawasaki Disease HL69413/NIH (NHLBI) Natl Heart, Lung & Blood	\$460,075	\$5,450,553 Dec. 2001-Jan. 2012
Impact of TNF $\alpha$ Blockade on Immune Function in Acute Kawasaki Disease 1 R01 HL103536-01/NIH (NHLBI) Natl Heart, Lung & Blood	\$250,000	\$1,531,375 April 2010-Feb. 2014
Phase III Infliximab for Primary Therapy of Kawasaki Disease 1 R01 FD003514-01/PHS (FDA) Food And Drug Administrat	\$260,849	\$1,440,944 Sept. 2008-July 2013
The Adult KD Collaborative 20100199/Gordon And Marilyn Macklin Foundation	\$200,000	\$600,000 Sept. 2009-Aug 2012
Role of Matrix Metalloproteinases in Kawasaki Disease 1 K24 HL074864-01A1/NIH (NHLBI) Natl Heart, Lung & Blood	\$93,119	\$525,586 July 2004-May 2010
Genetic influences and T-cell activation in Kawasaki Disease 1 R21 HL091494-01/NIH (NHLBI) Natl Heart, Lung & Blood	\$150,000	\$424,875 Jan. 2008-Dec. 2010



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Patient-Specific Simulatns. for Quantatv. Risk Assessmt in Kawasaki Disease 1 R21 HL102596-01/NIH (NHLBI) Natl Heart, Lung & Blood	\$150,000	\$404,737 Apr. 2010-Mar. 2012
Biomarker Panel Development to Aid in the Early Detection of Kawasaki Disease 20093187/The David Gordon Louis Foundation	\$22,724	\$26,132 Apr. 2009-Dec. 2010
Kawasaki Disease: Disentangling the Role of Climate in the Outbreaks 20105253/Institut Catala De Ciencies Del CLI	\$14,007.93	\$21,642.25 June 2010-Mar. 2012
<b>Hal M. Hoffman, MD</b>		
The Role of Cryopyrin in Autoinflammatory Diseases 5 R01 AI052430-02/NIH (NIAID) Natl Inst Of Allergy &	\$200,000	\$3,415,907 Aug. 2001-July 2012
Mechanisms Involved in Cold Activation of the Mutant Cryopyrin Inflammasome 20093127/Glaxosmithkline (Merge:Glaxo Wellco)	\$97,088	\$150,001 Oct. 2009-Sept. 2011
Targeting Inflammasome Mediated Disorders with Green Tea 1 R21 AI090487-01/NIH (NIAID) Natl Inst Of Allergy &	\$150,000	\$424,875 June 2010-May 2012
Genetic and Molecular Basis of Familial Atypical cold Urticaria UCSD CTRI Pilot Project		\$25,000 Jan. 2011-Dec. 2011
<b>Anthony Horner, MD</b>		
Analysis of the Role of Airway Epithelial Cells in Mediating the Adjuvant and Tolerogenic Activities of LPS UCSD Bridge Award		\$25,000 Jan. 2010-Jan. 2011
Ambient TLR Ligand Exposures and the Genesis of Asthma R01 AI61772/NIH (NIAID) Natl Inst Of Allergy		\$1,500,000 Feb. 2004-Feb. 2010



- Journal of Allergy and Clinical Immunology*, 124(6): 1129-38, 2009.
- Hong DK, Tremoulet AH, Burns JC, Lewis DB. Cross-reactive neutralizing antibody against pandemic 2009 H1N1 influenza A virus in intravenous immunoglobulin preparations. *Ped Inf Dis J*, 30(1):67-9, 2011.
- Horner AA. Regulation of aeroallergen immunity by the innate immune system: Laboratory evidence for a new paradigm. *J Innat Immunity*, 2:107-113, 2010.
- Hügler B, Hoffman H, Bird LM, Gebauer C, Suchowerskyj P, Sack U, Kohlhase J, Schuster V. Hoffman syndrome: New patients, new insights. *American Journal of Medical Genetics*, 155:1:149-53, 2011.
- Khor CC, Davila S, Shimizu C, Sheng S, Matsubara T, Suzuki Y, Newburger JW, Baker A, Burgner D, Breunis W, Kuijpers T, Wright VJ, Levin M, Hibberd ML, Burns JC. Genome wide linkage and association mapping identify susceptibility alleles in ABCC4 for Kawasaki disease. *Journal of Medical Genetics*, 48:467-472, 2011.
- Kottek A, Shimizu C, Burns JC. Kawasaki disease in monozygotic twins. *Ped Inf Dis J*, in press.
- Lamkanfi M, Mueller JL, Vitari AC, Misaghi S, Fedorova A, Deshayes K, Lee WP, Hoffman HM, Dixit VM. Glyburide inhibits the Cryopyrin/Nalp3 inflammasome. *Journal of Cell Biology*, 5;187(1):61-70, 2009.
- Lee S, Batzer G, Ng, N, Lam D, Patter SS, Patel ND, Horner AA. Regulatory T cells contribute to allergen tolerance induced by daily airway immunostimulant exposures. *Am J Respir Cell Mol Bio*, 44: 341-349, 2011.
- Liacouras CA, Furuta GT, Hirano I, Atkins D, Attwood SE, Bonis PA, Burks AW, Chehade M, Collins MH, Dellon ES, Dohil R, Falk GW, Gonsalves N, Gupta SK, Katzka DA, Lucendo AJ, Markowitz JE, Noel RJ, Odze RD, Putnam PE, Richter JE, Romero Y, Ruchelli E, Sampson HA, Schoepfer A, Shaheen NJ, Sicherer SH, Spechler S, Spergel JM, Straumann A, Wershil BK, Rothenberg ME, Aceves SS. Eosinophilic esophagitis: Updated consensus recommendations for children and adults. *J Allergy Clin Immunol*, 128:3-20. 2011.
- Ling XB, Lau K, Deshpande C, Park JL, Milojevic D, Xiao C, Lopez-Avila V, Burns JC, Cohen H, Schilling J, Mellins ED. Urine peptidomic and targeted plasma protein analyses suggest SJIA urine peptide biomarkers an outcome of inflammation-driven effects on catabolic pathways operating at multiple sites. *Clin Proteomics*, 6(4):175-193, 2010.

- Mamtani M, Matsubara T, Shimizu C, Weijing He, Furukawa S, Akagi T, Onouchi Y, Hata A, Fujino A, Ahuja SK, Burns J. Association of CCR2-CCR5 haplotypes and CCL3L1 copy number with Kawasaki disease, coronary artery disease, and therapy responses in Japanese children. *PLoS One*, 5:e11458, 2010.
- Onouchi Y, Ozaki K, Burns JC, Shimizu C, Hamada H, Honda T, Terai M, Honda A, Takeuchi T, Shibuta S, Suenaga T, Suzuki H, Higashi K, Yasukawa K, Suzuki Y, Sasago K, Kemmostu Y, Takatsuki S, Saji T, Yoshikawa T, Nagai T, Hamamoto K, Kishi F, Ouchi K, Sato Y, Yashiro M, Nakaumura Y, Wakui K, Fukuchima Y, Fujino A, Tsunoda T, Kawasaki T, Hata A, Nakamura Y, Tanaka T. Common variants in CASP3 confer susceptibility to Kawasaki disease. *Hum Mol Genet.* 15;19(14):2898-906, 2010.
- Park JL, Ling XB, Nguyen KD, Carroll T, Milojevic D, Lau K Macaubas C, Lee T, Sandborg C, Kanegaye JT, Burns JC, Schilling J, Mellins ED. Plasma protein profiles distinguish systemic juvenile idiopathic arthritis from other inflammatory conditions. *Proteomics*, 10(24):4415-30, 2010.
- Rothenberg ME, Spergel JM, Sherrill JD, Anniah K, Martin LJ, Cianferoni A, Gober L, Kim C, Glessner J, Frackelton E, Thomas K, Blanchard C, Liacouras C, Verma R, Aceves S, Collins MH, Brown-Whitehorn T, Putnam PE, Franciosi JP, Chiavacci RM, Grant SFA, Abonia JP, Sleiman PMA, Hokonarson H. Common variants at 5q22 associate with pediatric eosinophilic esophagitis. *Nat Genet.* 42:289-91, 2010.
- Sato YZ, Molkara DP, Tremoulet AH, Daniels LB, Shimizu C, Kanegaye JT, Watson VE, Best BM, Snider JV, Frazer JR, Maisel A, Burns JC. Cardiovascular biomarkers in acute Kawasaki disease. *Int J Cardiol*, in press, 2011.
- Shigeoka AA, Mueller JL, Kambo A, Mathison JC, King AJ, Hall WF, da Silva Correia J, Ulevitch RJ, Hoffman HM, McKay DB. An inflammasome-independent role for epithelial-expressed Nlrp3 in renal ischemia-reperfusion injury. *Journal of Immunology*, 185:10:6277-85: 2010.
- Singh S, Aulakh R, Bhalla AK, Suri D, Manojkumar R, Narula N, Burns JC. Is Kawasaki disease incidence rising in Chandigarh, North India? *Arch Dis Child*, 96(2):137-40, 2011.
- Shimizu C, Matsubara T, Onouchi Y, Jain S, Sun S, Nievergelt CM, Shike H, Takegawa T, Furukawa, Akagi T, Newburger JW, Baker AL, Burgner D, Hibberd ML, Davila S, Levin M, Mamtani M, He W, Ahuja SK, Burns JC. Matrix metalloproteinases haplotypes are associated with coronary artery aneurysm formation in patients with Kawasaki disease. *J Human Genetics*, 55(12):779-84, 2010.
- Shimizu C, Jain S, Lin K, Molkara D, Frazer J, Sun S, Baker A, Newburger J, Rowley A, Shulman S, Davila S, Hibberd M, Burgner D, Breunis W, Kuijpers T, Wright V, Levin M, Popper S, Relman D, Fury W, Lin C, Mellis S, Tremoulet A, Burns J. Transforming growth factor- $\beta$  signaling pathway in patients with Kawasaki disease. *Cardiovascular Genetics*, 4:16-25, 2011.
- Swanson C, Burns JC, Peterson B. Low plasma d-dimer concentration predicts the absence of traumatic brain injury in children. *J Trauma*, 68(5):1072-7, 2010.
- Tremoulet AH, Devera G, Best BM, Jimenez-Fernandez S, Sun X, Jain S, Burns JC. Increased incidence and severity of Kawasaki disease among Filipino-Americans in San Diego County. *Pediatr Inf Dis J*, May 5, 2011 (Epub ahead of print).
- Wingender G, P Rogers, Batzer G, Lee MS, Bai D, Pei B, Khurana A, Kronenberg M, Horner AA. Invariant NKT cells are required for airway inflammation induced by environmental antigens. *J Exp Med*, in press.
- Yamasaki K, Muto J, Taylor KR, Cogen AL, Audish D, Bertin J, Grant EP, Coyle AJ, Misaghi A, Hoffman HM, Gallo RL. NLRP3/cryopyrin is necessary for IL-1 $\beta$  release in response to hyaluronan, an endogenous trigger of inflammation in response to injury. *J Biol Chem*, 284(19):12762-71, 2009.
- Yellen E, Gauvreau K, Takahashi M, Burns JC, Shulman S, Baker AL, Innocentini N, Zambetti C, Pancheri J, Ostrow A, Frazer JR, Sundel RP, Fulton DR, Newburger JW. Performance of 2004 American Heart Association recommendations for treatment of Kawasaki disease: A multi-center retrospective review of patients with coronary artery aneurysms. *Pediatrics*, 125(2):e234-41, 2010.
- Zanetti M, Burns JC, Franco A. Endoplasmic reticulum stress drives regulatory T-cell differentiation in Kawasaki disease. *Cellular Immunology*, 266(1):1-6, 2010.





# Child and Adolescent Services Research Center

The Child and Adolescent Services Research Center (CASRC) at Rady Children's Hospital-San Diego (RCHSD) is a consortium of over 100 investigators and staff from multiple research organizations in San Diego County, including RCHSD, UC San Diego (UCSD), San Diego State University (SDSU), University of San Diego (USD), University of Southern California (USC) and California State University San Marcos (CSUSM).

CASRC has a strategic focus on improving public pediatric mental health care through a program of mental health services research that includes clinical epidemiology studies linked to evidence-based practice, effectiveness and quality of care studies, and implementation studies that include organizational, financing, policy, and practice factors. CASRC research is conducted within a cultural

exchange model that emphasizes the value of partnership between researchers, policy makers, providers, and consumers in youth mental health care across the public sectors of mental health, child welfare, juvenile justice, substance abuse services, and education. The CASRC mission is to improve mental health care for children in the public mental health and child welfare service sectors. CASRC works to achieve this mission by conducting research, training researchers, advancing research methods, and promoting research-community collaborations.

Left to right: Don Slymen, Joe Price, Andrea Hazen, Scott Roesch, Mary Baker-Ericzen, Fernando Soriano, Lauren Brookman-Fraee, Greg Aarons, Inger Davis, Mike Hurlburt, Robin Weersing, Denise Chavira, Rachel Haine, Helen Hayden-Wade, Aubyn Stahmer,



## FACULTY

**John Landsverk, PhD**, *CASRC Director*, Senior Scholar at George Warren Brown School of Social Work, Washington University in St. Louis; Research Professor at the School of Social Work, USC; Professor Emeritus, SDSU's School of Social Work

**Gregory A. Aarons, PhD**, Associate Professor of Psychiatry, UCSD

**Natacha Akshoomoff, PhD**, Associate Professor of Psychiatry, UCSD

**Mary J. Baker-Ericzen, PhD**, Research Scientist, Rady Children's Hospital

**Concepcion Barrio, PhD**, Associate Professor, School of Social Work, USC

**Lauren Brookman-Frazee, PhD**, Assistant Professor of Psychiatry, UCSD

**Denise Chavira, PhD**, Assistant Professor of Psychiatry, UCSD

Natacha Akshoomoff, Sawssan Ahmed, Katina Lambros, John Landsverk, Kristen McCabe, May Yeh, Ann Garland, Larry Palinkas, Al Litrownik, Cynthia Connelly

**Cynthia D. Connelly, PhD, RN, FAAN**, Professor and Director of Research, USD, Hahn School of Nursing and Health Science

**Inger Davis, PhD**, Professor Emeritus, School of Social Work, SDSU

**Ann F. Garland, PhD**, CASRC Deputy Director; Professor of Psychiatry, UCSD

**Rachel Haine-Schlagel, PhD**, Research Scientist; Adjunct Assistant Professor, Department of Psychology, SDSU

**Helen Hayden-Wade, PhD**, Research Scientist, RCHSD



**Andrea Hazen, PhD**, Research Scientist, RCHSD  
**Richard Hough, PhD**, Research Professor of  
Psychiatry and Family and Community Medicine  
Department of Psychiatry Center for Rural &  
Community Behavioral Health (CRCBH),  
University of New Mexico School of Medicine

**Michael S. Hurlburt, PhD**, Research Scientist;  
Assistant Professor, School of Social Work, USC

**Sigrid James, PhD**, Associate Professor, Department  
of Social Work and Social Ecology, Loma Linda  
University

**Katina M. Lambros, PhD**, Research Scientist;  
Assistant Professor of School Psychology, SDSU

**Laurel K. Leslie, MD**, Assistant Professor in  
Medicine (secondary appointment in Pediatrics),  
Associate Director, Center on Child and Family  
Outcomes, Tufts-New England Medical Center

**Alan Litrownik, PhD**, Professor of Psychology, SDSU  
**Kristen M. McCabe, PhD**, Associate Professor, USC  
and UCSD

**Rae Newton, PhD**, Professor of Sociology,  
California State University, Fullerton

**Lawrence A. Palinkas, PhD**, Professor of Social  
Work, Anthropology, and Preventive Medicine,  
Feldman Professor of Social Policy and Health,  
USC

**Joseph Price, PhD**, Professor of Psychology, SDSU

**Laura Proctor, PhD**, Adjunct Assistant Professor,  
Department of Psychology, SDSU

**Scott Roesch, PhD**, Associate Professor of  
Psychology, SDSU

**Donald Slymen, PhD**, Professor, Public Health,  
SDSU

**Fernando Soriano, PhD**, Associate Professor,  
Department of Human Development, CSUSM

**Aubyn C. Stahmer, PhD**, Research Scientist, Rady  
Children's Hospital, UCSD

**Robin Weersing, PhD**, Assistant Professor of  
Psychology, SDSU

**May Yeh, PhD**, Associate Professor of Psychology,  
SDSU

## POSTDOCTORAL FELLOWS

**Sawssan Ahmed, PhD**

**Rachel Askew, PhD**

**Guy Cafri, PhD**

**Amy Drahota, PhD**

**Cecilia Dueñas, PsyD**

**Kya Fawley-King, PhD**

**Danielle Fettes, PhD**

**Anthony Garcia, PhD**

**Amy Green, PhD**

**Ember Lee, PhD**

**David Sommerfeld, PhD**

**Jessica Suhrheinrich, PhD**

**Emily Trask, PhD**

**Katherine Nguyen Williams, PhD**

## RESEARCH ACTIVITIES

CASRC researchers have made important discoveries in multiple areas affecting children's behavior and mental health, with research findings published in many internationally renowned journals and presented at numerous conferences around the world. For the fiscal year period, 2009-2010, \$8.5million in research grants and contracts were awarded to CASRC investigators, with 17 research proposals totaling \$20.5million submitted. Highlights of CASRC research accomplishments in the past year include:

- Developing and testing a successful parent-training program that reduces child behavior problems and placement failures for children in foster care
- Identifying reasons for unmet need for treatment, and developing and testing more culturally appropriate mental health treatments for children and families
- Identifying critical challenges in the detection and effective treatment of autism in community settings
- Establishing the linkage between leadership and organizational culture and climate of mental health clinics and staff turnover rates, as well as openness to the use of best practices and quality improvement

## Major Goals and Plans

CASRC's principle research focus is directed toward improvement of public pediatric mental health care, primarily in the mental health and child welfare service sectors, through improved integration of evidence-based practice and usual care. CASRC is committed to improving knowledge about effective strategies to implement evidence-based practices in community-based settings, thus bridging the science to practice gap.

- Examining how evidence-based practice implementation influences organizational culture and climate, working alliance between provider and client, and client outcomes
  - Developing a leadership training program to improve the ability of mental health agencies to effectively implement and sustain evidence-based practices in real-world community settings, ultimately improving service effectiveness
  - Facilitating implementation of an evidence-based practice to prevent child maltreatment in the child welfare systems of San Diego and several other California counties, as well as statewide in Oklahoma
  - Developing and testing efficient and effective methods for identifying emotional and behavioral problems such as ADHD and anxiety disorders in primary care offices
  - Developing a model to screen for and assist mothers with maternal depression in obstetric settings during the perinatal period
  - Identifying various parent and family contextual factors associated with child well-being
  - Identifying the significant impact of exposure to domestic and community violence on children's emotional and behavioral well-being
  - Examining the social consequences of and treatment ideas for childhood obesity within ethnically diverse families
  - Identifying student preferences for prevention and treatment of substance abuse and other mental health services in high schools
  - Demonstrating the effectiveness of voluntary intervention for alcohol reduction among high school students
  - Identifying common elements of evidence-based practice for common disorders such as autism and conduct problems
  - Translating empirically-supported interventions into community settings for childhood disorders such as autism
  - Identifying discrepancies between evidence-based treatment and community-based usual care for children with behavior problems
  - Developing and testing improved methods of tracking mental health practice and outcomes in community-based clinics and child welfare agencies
  - Developing strategies to support parent active participation in public sector child outpatient mental health treatment
- Studies by individual CASRC researchers are highlighted below.
- Gregory Aarons, PhD** has NIMH and CDC-funded research that focuses on organizational and provider factors that impact uptake of evidence-based practices in community and hospital settings. His research program examines the impact of organizational culture, climate and leadership on quality and outcomes of services, the workforce, service delivery, and evidence-based practice. He is nationally and internationally known for his studies of provider attitudes towards adopting evidence-based practice and the effect of provider attitudes on adoption and use of evidence-based practices. His recent publications document system and organizational benefits of evidence-based practice implementation. Dr. Aarons is developing organizational interventions to improve evidence-based practice implementation and organizational change.
- Natacha Akshoomoff, PhD** focuses her studies on services for children with autism spectrum disorders. She is specifically interested in diagnostic and assessment practices used by community service agencies, community clinicians, and school providers. She also studies neuropsychological development of attention and visuospatial

processes in normal and atypical development and the impact of deficits in these areas on academic achievement.

**Mary J. Baker-Ericzen, PhD** conducts research in the areas of children/adolescent mental health services, parent and family issues including parent stress and maternal depression, clinician decision-making and cognitive decision-making models, and developmental disabilities as autism spectrum disorders.

**Concepcion Barrio, PhD** studies ethnocultural factors in serious mental illness and the cultural relevance of psychosocial rehabilitative services. She is also developing culturally-based interventions for individuals and families dealing with severe mental illness.

**Lauren Brookman-Frazee, PhD** researches mental health services for children with autism spectrum disorders, community-based psychotherapy process and outcomes, research-practice partnerships and collaboration, parent training, early intervention and clinician training/supervision.

**Denise Chavira, PhD** conducts research in collaborative care studies for treating children with anxiety disorders in pediatric primary care settings, genetic and family history studies to understand the etiology of anxiety disorders, specifically in OCD, ADHD, and selective mutism, studies examining cross-cultural variations in the expression of anxiety disorders and studies examining patterns of mental health service utilization and barriers to care among children with anxiety disorders and ethnic minority populations.

**Cynthia D. Connelly, PhD, RN, FAAN** studies the co-occurrence of substance abuse, domestic violence, and mental health issues for women of childbearing age, and is working to improve the identification of and intervention for these co-occurring problems in community maternal-child health settings using culturally appropriate early identification and intervention strategies.

**Inger Davis, PhD** focuses on foster care and reunification of children from out-of-home placement, and the delivery of social and clinical services and case management of children with mental disorders.

**Ann Garland, PhD** studies treatment processes and outcomes in community-based psychotherapy services for youth, identifying gaps between evidence-based care and usual care; and psychiatric epidemiology of youth in public systems of care. Dr. Garland is collaborating with other

investigators to develop improved models for training mental health care providers and tracking their practices to improve the effectiveness of mental health care.

**Rachel Haine-Schlagel, PhD** studies the role of family in child mental health service utilization and effectiveness, interventions to enhance parent and family involvement in treatment, and community-based psychotherapy process and outcomes.

**Helen Hayden-Wade, PhD** examines early interventions for mild- to moderate-developmental delays in children, as well as early prevention and intervention regarding pediatric/early childhood obesity and its psychosocial ramifications.

**Andrea Hazen, PhD** conducts research on domestic violence, child maltreatment and trauma, and studies the use of mental health services by adults and children who are impacted by these problems. She oversees the Chadwick Center for Children and Families Treatment Outcome office.

**Richard Hough, PhD** looks at how behavioral health care organizational systems affect the delivery of services to children and adolescents, and studies behavioral health care interventions for minority children and adolescents.

**Michael S. Hurlburt, PhD** studies policies that affect access to mental health services among youth with emotional and behavioral disorders, and factors that affect the translation of tested mental health interventions for children and adolescents to community treatment settings.

**Sigrid James, PhD** conducts research in the areas of residential and inpatient psychiatric care youth with emotional and behavioral disorders, mental health needs and outcomes of children in child welfare, mental health service utilization of children in child welfare, placement stability in out-of-home care, and risk factors and behaviors of adolescents in out-of-home care.

**Katina M. Lambros, PhD** focuses her research on best practices in the assessment and intervention for high incidence disabilities including Learning Disabilities (LD), Attention Deficit Hyperactivity Disorder (ADHD), and Emotional and Behavioral Disorders (EBD), general and special education teacher training in evidence-based academic and behavioral interventions, and the interface between treatment efforts for disabilities across service sectors (i.e., school-based, mental health, child welfare, primary care).

**John Landsverk, PhD** studies child maltreatment, children's mental health and mental health services, research

on implementing and maintaining evidence-based, parent mediated interventions in child welfare settings for treating disruptive behavior disorders, and externalizing behavior problems in children and adolescents.

**Laurel K. Leslie, MD** looks at the interface between primary care and subspecialty care, effective methods of identifying and treating developmental and behavioral problems of children in community settings, children in foster care, and the impact of Medicaid managed care on access to care.

**Alan Litrownik, PhD** examines risk and protective factors as they relate to both adaptive and maladaptive development, with specific focus on the longitudinal effects of child maltreatment. He also evaluates community preventive interventions (e.g., substance use), especially in adolescent Latino populations.

**Kristen M. McCabe, PhD** studies cultural factors that affect treatment access and outcomes for children, culturally responsive treatments for children and psychosocial risk and protective factors for child psychopathology.

**Rae Newton, PhD** conducts statistical analysis, particularly structural equation modeling and qualitative data analysis, and studies health services delivery and family violence.

**Lawrence A. Palinkas, PhD** conducts research in psychiatric epidemiology and psychoneuroendocrinology, cross-cultural medicine with a focus on cultural epidemiology, ethnopsychiatry, and health services. His current research is focused on studies of implementation of evidence-based practices in child welfare and child mental health.

**Joseph Price, PhD** studies the emotional and social development of maltreated children, and the behavioral and social problems of children within the child welfare system.

**Laura J. Proctor, PhD** conducts longitudinal research on pathways from multiple forms of early maltreatment and co-occurring childhood adversity to subsequent onset and trajectories of substance use, delinquency, and sexual risk behavior in adolescence.

**Scott C. Roesch, PhD** conducts latent variable and structural equation modeling and mental health services research.

**Donald J. Slymen, PhD** analyzes cluster randomization trials, clinical and community intervention trials and longitudinal data and survival.

**Fernando Soriano, PhD** studies community intervention programs to deal with the effects of violence, and the effects of acculturation status on behavioral health problems.

**Aubyn C. Stahmer, PhD** studies autism in the areas of community use of evidence-based practices and translation of evidence-based practices to community environments for young children with autism, patient-treatment matching, early interventions and early intervention outcomes in autism, developmental disabilities, family-focused interventions, and policy issues in serving children with autism.

**V. Robin Weersing, PhD** focuses on the development, implementation, and evaluation of effective and efficient interventions for anxiety and depression in children and adolescents in both specialty mental health and primary care service settings.

**May Yeh, PhD** focuses her research on cultural issues and cultural competence in mental health services for youth, multiple party involvement in care and school-based mental health services.

## TEACHING ACTIVITIES

Many of the CASRC investigators teach courses at all the affiliated academic institutions: UC San Diego, SDSU, USD, and USC. Over the past 17 years, CASRC investigators provided training to approximately 170 individuals, with detailed data available on 89% of the trainees. Key successes include:

(a) The following are NIH grants obtained by trainees:

- Two dissertation awards
- Ten predoctoral training awards
- Two postdoctoral NRSA's
- 16 K01 Mentored Career Awards
- Six R01 type awards for K-award graduates (Garland, Yeh, Stahmer, Aarons, Hurlburt, and Connelly)

(b) Minority trainees and research on cultural issues. 35% of CASRC trainees self-identify as members of an ethnic minority group. Grants specifically focused on cultural issues include:

- Four NIMH postdoctoral training awards
- Five K01 awards
- Two R34s and an R01

CASRC has also had five NIMH ethnic minority predoctoral fellowships, one minority supplement award and one disability supplement award.





110 15-5-2011

103 15-1-2011

97 7-6-2010

91 20-2-2010

84 8-8-2009

(c) Trainees at multiple levels across multiple disciplines:

- Trainees have included undergraduates/post baccalaureates (36%), master's students (17%), doctoral students (22%), postdoctoral fellows/junior faculty (24%), and medical students (1%) from the disciplines of psychology, sociology, social work, public health, medicine, and anthropology. At any given time, CASRC accommodates approximately 30 volunteer interns seeking research experience. CASRC has a reputation in local academic departments for providing rich research training.

(d) Advancement to higher levels of training:

- Many undergraduates have successfully entered graduate programs in medicine, public health, clinical and developmental psychology, sociology, counseling, social work, and education. At least 20 doctoral students have gone on to postdoctoral fellowships or junior faculty positions, and 30 post-doctoral trainees have become independently-funded researchers.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Natacha Akshoomoff, PhD

Editorial Board, *Developmental Neuropsychology and Child Neuropsychology*

Ad Hoc Reviewer, *Autism Research, Biological Psychiatry, Child Development, Journal of Autism and Developmental Disorders, Journal of Child Psychology and Psychiatry, Journal of the International Neuropsychological Society*

Special Panel NIMH Grant Reviewer, 2010, 2011

### Mary J. Baker-Ericzen, PhD

Ad Hoc Reviewer, *Journal of Clinical Psychology, Journal of Positive Behavioral Interventions, Journal of Autism and Developmental Disabilities, Medical Decision Making, Administration and Policy in Mental Health and Mental*



*Health Services Research, Child and Youth Care Forum, Journal of Behavioral Health Services and Research*

Invited Grant Reviewer for National Foundation for Autism Research (NFAR), Invited Grant Reviewer for Alberta Centre for Child, Family and Community Research

### **Lauren Brookman-Fraze, PhD**

UC San Diego National Center for Leadership in Academic Medicine (NCLAM) Fellowship, 2008

Associate Editor, *Journal of Positive Behavior Interventions, Journal of Early Childhood Services, Administration and Policy in Mental Health and Mental Health Services Research, Journal of Autism and Developmental Disorders, Child and Youth Care Forum*

Ad Hoc Member, NIMH Mental Health Services in Non-Specialty Settings committee, 2008, 2009

Ad Hoc Grant Reviewer, U.S. Department of Education, National Institute on Disability and Rehabilitation Research, Field Initiated Projects, 2009

### **Denise Chavira, PhD**

Editorial Board, *Depression and Anxiety*

Ad Hoc Reviewer, *Abnormal Psychology, Acta Psychiatrica Scandinavica, American Journal of Psychiatry, Behavior Research and Therapy, Cognitive Therapy and Research, Psychological Medicine, Journal of Child and Adolescent Mental Health, Journal of Clinical Psychiatry, Journal of Psychiatric Research, Journal of Consulting and Clinical Psychology, Journal of Behavioral Health Services Research, Journal of Affective Disorders, Journal of Anxiety Disorders, Journal of the American Academy of Child and Adolescent Psychiatry, Journal of European Child and Adolescent Psychiatry, Psychological Medicine*

### **Cynthia D. Connelly, PhD**

USD-University Professorship (one of five awarded) 2009

The Association of Women's Health, Obstetrics and Neonatal Nurses Outstanding Research Paper Award 2009

Merit Scholar Research Mentor USD Hahn School of Nursing and Health Science, 2009-present

Presidential Scholars and Deans Scholars Professor, USD Hahn School of Nursing and Health Sciences

Reviewer, *Pediatrics, Journal of Family Nursing, Western Journal of Nursing Research, Research in Clinical Nursing Practice, Women and Health, Prevention Science*

Grant Reviewer, National Institute of Mental Health, 2009

### **Ann Garland, PhD**

2010 Excellence in Teaching Award from the Department of Psychiatry, UCSD (voted on by trainees)

Associate Editor, Administration and Policy in Mental Health and Mental Health Services Research

Member of Ad Hoc NIH Review Committees

Member, Research Network on Youth Mental Health, John D. and Catherine T. MacArthur Foundation

Ad Hoc Reviewer, *Archives of General Psychiatry, Journal of Abnormal Child Psychology, Journal of the American Academy of Child and Adolescent Psychiatry, Child Abuse and Neglect, Child Maltreatment, Children and Youth Services Review, Psychiatric Services, Journal of Community Psychology, American Journal of Psychiatry, Journal of Behavioral Health Services and Research*

### **Rachel Haine-Schlagel, PhD**

National Institutes of Health (NIH) Loan Repayment Renewal Award, 2009-2010

Ad Hoc Reviewer, *Child Abuse and Neglect, Community Mental Health Journal, IRB: Ethics & Human Research*, Association for Behavioral and Cognitive Therapies Annual Conference

### **Helen Hayden-Wade, PhD**

Elected Member of National Children's Study, San Diego, Advisory Board, 2008-present

Elected Member of First 5 Commission, San Diego Evaluation Leadership Team, 2002-2009

Reviewer, *Obesity Research, Cognitive Therapy and Research, Comprehensive Research*

Center in Health Disparities (CRCHD) UCSD

### **Andrea Hazen, PhD**

Ad Hoc Reviewer, *Pediatrics, Violence Against Women, Journal of Interpersonal Violence, Child Abuse and Neglect, Trauma, Violence, and Abuse*

### **John Landsverk, PhD**

Member, NIMH National Advisory Mental Health Council Workgroup on Services and Clinical Epidemiology

Chair, member of several NIH IRG Research Committees

Editorial Board, *Child Maltreatment, Journal of Mental Health Services Research*

Ad Hoc Reviewer, *Child Abuse and Neglect, Child Maltreatment, Children and Youth Services Review, Psychiatric Services, Medical Care, Journal of Community Psychology, American Journal of Psychiatry, Pediatrics, Mental Health Services Research, Journal of Behavioral Health Services and Research*

Chair, Braam Oversight Panel, State of Washington Department of Health and Social Services

### **Alan J. Litrownik, PhD**

Senior Associate Editor, *Child Abuse and Neglect*

### **Lawrence A. Palinkas, PhD**

Sterling C. Franklin Award for Distinguished USC School of Social Work Faculty Member, National Institute of Mental Health Services Research Non-Specialty Services Panel 2006-2010

Member, National Institute of Health Fogarty International Center Special Emphasis Panel, Frameworks in Global Health, June 2010

Member, National Institute of Mental Health NRSA Institutional Research Training (T32) Special Emphasis Panel, November, 2010

Chair, National Institute of Mental Health Global Mental Health Collaborative Hubs, April 2011

Chair, Scientific Review Panel, Millennium Cohort Family Study

Member, Committee to Review the Federal Response to the Health Effects Associated with the Gulf of Mexico Oil Spill, Institute of Medicine

Consultant, Committee on Psychiatric Dimensions of Disasters, American Psychiatric Association

Member, Human Behavior and Mental Health Panel of the Decadal Survey on Physical and Biological Sciences in Space, Space Studies Board, National Research Council/National Academy of Sciences

Member, Research Network on Youth Mental Health, John D. and Catherine T. MacArthur Foundation

Member, Scientific Steering and Advisory Committee, Millennium Cohort Study, Department of Defense Center for Deployment Health Research

Ad Hoc Reviewer, *Research on Social Work Practice, Child Abuse and Neglect, Diabetes Care, Journal of Traumatic*

*Stress, British Medical Journal, Social Science and Medicine, Medical Anthropology Quarterly, Academic Pediatrics, Environment and Behavior, General Hospital Psychiatry, American Journal of Geriatric Psychiatry, International Journal of Social Work, Health Psychology, Implementation Science, Community Mental Health Journal, Journal of Environmental Psychology, Journal of Health Care for the Poor and Underserved*

### **Laura Proctor, PhD**

Reviewer, *Child Abuse and Neglect, Journal of Research on Adolescence*

### **Aubyn C. Stahmer, PhD**

Member, California Autism Spectrum Disorders Advisory Committee Department of Developmental Services, 2005-2009

Associate Editor, *Journal of Positive Behavior Interventions*

Member, South Counties Autism Regional Taskforce (SCART) of the Senate Select Committee on Autism and Related Disorders

### **V. Robin Weersing, PhD**

Editorial Board, *Journal of Consulting and Clinical Psychology, Behavior Research and Therapy*

### **May Yeh, PhD**

SDSU/UCSD Joint Doctoral Program in Clinical Psychology Experimental Psychopathology Co-Track Leader

SDSU/UCSD Joint Doctoral Program in Clinical Psychology Curriculum Committee Member

Ad Hoc Reviewer, *Asian American Journal of Psychology, Administration and Policy in Mental Health and Mental Health Services Research, Social Science and Medicine, Journal of Cross-Cultural Psychology, Journal of Clinical Child and Adolescent Psychology*

## **PUBLICATIONS**

Aarons GA, Fettes DL, Flores L, Sommerfeld D. Evidence-based practice implementation and staff emotional exhaustion in children's services. *Behavior Research and Therapy*, 47(11):954-960, 2009.

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Gregory A. Aarons, PhD</b>		
Cascading Diffusion of an Evidence-Based Child Maltreatment Intervention		\$621,290
R18-CE001334/CDC		Sept. 2007-Sept. 2010
ACISIR for Older People with Schizophrenia and Other Psychoses		\$123,027
P30-MH066248/NIH		Sept. 2007-Aug. 2012
Dynamic Adaptation to Implement an Evidence-Based Child Maltreatment Intervention		\$1,195,595
R01-CE001556/CDC		Sept. 2009-Aug. 2012
Evaluation of Pregnant and Parenting Women Program		\$232,893
T1018361/SAMHSA		July 2007-June 2010
Leadership Development for Evidence Based Practice Implementation		\$232,167
R21-MH082731/NIH		Jan. 2009-Nov. 2010
Mixed Methods Study of a Statewide EBP Implementation		\$1,677,439
R01-072961/NIH MH		Sept. 2005-June 2010
(Mixed Methods Study of a Statewide EBP Implementation, Mental Health Systems Contract Evaluation		\$87,723
Substance Abuse Recovery Management System (SARMS)/NIH		July 2008-June 2009
<b>Natacha Akshoomoff, PhD</b>		
Evaluation of Diagnostic and Services Practice in Autism		\$784,143
K23-MH71796/NIH		July 2004-June 2010
<b>Mary J. Baker-Ericzen, PhD</b>		
Examining Parent and Family Factors in Child Mental Health		\$747,983
K01-MH069665/NIH		July 2004-Mar. 2011
Evidence Based Practice Training on Clinician Decision Making (Pilot Study)		\$10,000
1 P30-MH074678-01/NIH		2009-2010
Evaluation of the Family Empowerment Center		\$68,250
California Department of Education SDSU/SDSU Contract		Mar. 2009-Mar. 2011
Evaluation of Resolution for Student Success		\$10,000
SDSU/SDSU Contract		June 2009-May 2011

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Family Guidance Program		\$48,000
California Endowment Foundation COMPASS contract		Apr. 2008-Mar. 2010
<b>Lauren Brookman-Fraze, PhD</b>		
Translating Autism Interventions for Mental Health Services via Knowledge Exchange		\$780,384
K23-MH077584/NIH		May 2007-Mar. 2012
<b>Denise Chavira, PhD</b>		
Improving Care for Anxiety in Pediatric Settings		\$740,000
K01-MH07295-2-01A1/NIH/NIMH		June 2006-June 2011
Multimedia Based Enhancements for Cognitive Behavior Therapy		\$10,000
Academic Senate Research Grant/UCSD		Jan. 2011-Dec. 2011
Feasible Delivery of CBT for Rural Latino Youth with Anxiety		\$650,000
National Institute of Mental Health/NIH/NIMH		July 2010-Mar. 2013
National Institute of Neurological Disorders and Stroke		\$40,000
An affected sib pair study of ADHD in Costa Rica		Feb. 2005-Jan. 2010
1 R01-NS048376-01A1 (Chavira, sub, Mathews, PI)/UCSD subcontract		
Developing clinical subtypes for genetic studies of Tourette Syndrome		\$15,000
Tourette Syndrome Association (Chavira, sub, Mathews, PI)/UCSD subcontract		Apr. 2005-Dec.2011
<b>Cynthia D. Connelly, PhD</b>		
Collaborative Model Addressing Mental Health in the Perinatal Period		\$3,100,000
R01-MH075788/NIH		Sept. 2008-Aug. 2013
<b>Ann Garland, PhD</b>		
Research Services for Children's Mental Health Care in San Diego/System of Care Evaluation (SOCE)		\$800,000
County of San Diego, Department of Health Services		Sept. 2010-Aug. 2011
Building Collaborations to Address Disparities in Psychoactive Medication Use		\$10,000
UCSD Division of Child Development and Community Health Planning Grant/UCSD		Jan. 2011-Dec. 2011
<b>Rachel Haine-Schlagel, PhD</b>		
Promoting Parent Participatory Engagement in Youth Mental Health Services		\$724,969
K23-MH80149/NIH/NIMH		Apr. 2010-Mar. 2015



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Helen Hayden-Wade, PhD</b>		
C3 Evaluation Contract		\$1,318,955 2006-2010
C3 Evaluation Contract		\$1,075,290 2010-2015
<b>Andrea Hazen, PhD</b>		
Engaging Victims of Partner Violence in Services K01-MH065454/NIH		\$815,142 Aug. 2005-July 2011
<b>Richard Hough, PhD</b>		
Multi-Method Ethnographic Assessment of Behavioral Health Reform in New Mexico R01-MH076084/NIMH		\$435,000 Dec. 2005-Nov. 2010
The Natural History of ADHD in a Population-Based Sample R01-MH071563/NIMH		\$432,000 Sept. 2006-Aug. 2011
<b>Michael S. Hurlburt, PhD</b>		
Improving Therapist Fidelity During EBP Implementation (Subcontract) R01-MH074497/NIH		\$1,285,742 Nov. 2005-June 2010
<b>Sigrid James, PhD</b>		
Treating EBD Children in Foster Care-The Role of Residential Group Care Mentored Research Scientist Development Award K01-MH077732-01A1/NIMH		\$737,756 June 2008-May 2013
<b>John Landsverk, PhD</b>		
Advanced Center to Improve Pediatric Mental Health Care (ACIPMHC) 1 P30-MH074678-01/NIH/NIMH		\$8,114,501 May 2008-Apr. 2013
Annie E Casey Technical Report Annie E Casey Foundation		\$75,000 June 2008-Sept. 2009
Child Trauma Stress Initiative Evaluation Chadwick Center		\$43,800 Sept. 2008-Sept. 2009
Clearinghouse for Evidence Based Treatment Evaluation Chadwick Center		\$55,620 July 2008-June 2009

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Dimensions of Early Stress and Child Welfare Involvement (Subcontract)		\$639,712
R01-HD045894/NIH		June 2005-May 2010
<b>Alan Litrownik, PhD</b>		
Longitudinal Studies of Child Abuse and Neglect-San Diego Site		\$1,250,000
DHHS		Oct. 2005-Sept. 2010
<b>Lawrence A. Palinkas, PhD</b>		
Innovation and the Use of Research Evidence in Public Youth-Serving Systems		\$434,381
W.T. Grant Foundation 10648		Jan. 2009-June 2012
<b>Joseph Price, PhD</b>		
Community Implementation of KEEP: Fidelity and generalization of parenting effects National Institutes of Health		\$3,212,800
R01-MH060195/NIH/NIMH		Aug. 2009-Apr. 2014
Evaluation of the Countywide Foster Youth Services (FYS) Program		\$60,000
San Diego County Office of Education		Aug. 2007-Aug. 2010
Community Implementation of KEEP: Fidelity and generalization of parenting effects		\$3,212,800
R01-MH060195/NIMH		Aug. 2009-Apr. 2014
<b>Laura J. Proctor, PhD</b>		
Trajectories of Adverse Childhood Experiences and Adolescent Substance Abuse		\$708,556
1 K01-DA021674/NIH		May 2007-Apr. 2012
<b>Aubyn C. Stahmer, PhD</b>		
Research on Infant/Toddler Mental Health: Building a Community Partnership		\$480,342
1 R21-MH083893-01A1/NIMH		2009-2011
Translating Pivotal Response Training into Classroom Environments		\$1,964,143
R32-4B070027/U.S. Department of Education Grant		2007-2011
Randomized Clinical Trial of the STAR program		\$101,168
R01-MH83717-01A1/RCHSD Subcontract/NIMH Grant		2008-2009
U.S. Department of Education Grant Efficacy and Sustainability of the STAR Programs		\$328,000
32-4A080195/RCHSD Subcontract/U.S.P.H.S.		2008-2012
Interstate Variation In Healthcare Utilization Among Children With ASD		\$110,755
R01-MH-077000-01A1/U.S.P.H.S./RCHSD NIMH Research Grant		2007-2012

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Discovering Biological and Behavioral Indicators of Autism, Developmental Delay, and Typical Development: Core C: Clinical Phenotype: Treatment Response Core NIH Autism Center for Excellence Award (Stahmer, Co-Investigator)/UCSD		\$792,166 2007-2012
<b>Robin Weersing, PhD</b>		
Developing and Disseminating Effective Interventions for Depression and Anxiety in Youth William T. Grant Foundation Scholars Program		\$320,000 2004-2009
Brief CBT for Pediatric Abdominal Pain and Anxiety R34-MH073769/NIH (Subcontract)		\$26,695 2007-2009
Prevention of Depression: Impact on the Transition to Early Adulthood R01-MH064735/NIH (Subcontract)		\$57,784 2009-2012
Cross-Cultural Comparison of Youth Outcome in Families with Anxious Mothers R24-MH065515-06/NIH (Subproject)		\$32,259 2008-2009
<b>May Yeh, PhD</b>		
Cognitive Consensus in Cross-Cultural Competency R01-MH071483/NIH		\$2,138,317 Sept. 2004-May 2011

Aarons GA, Sommerfeld D, Hecht DB, Silovsky JF, Chaffin MJ. The impact of evidence-based practice implementation and fidelity monitoring on staff turnover: Evidence for a protective effect. *Journal of Consulting and Clinical Psychology*, 77(2):270-280, 2009.

Aarons GA, Sommerfeld DH, Walrath-Greene C. Evidence-based practice implementation: The impact of private versus public sector organizations on organizational support, provider attitudes, and adoption of evidence-based practice. *Implementation Science*, 4:83, 2009.

Aarons GA, Wells RS, Zagursky K, Fettes DL, Palinkas LA. Implementing evidence-based practice in community mental health agencies: A multiple stakeholder analysis. *American Journal of Public Health*, 99(11):2087-2095, 2009.

Aarons GA, James S, Monn AR, Raghavan R, Wells R, Leslie LK. Behavior problems and placement change in a national child welfare sample: A prospective study. *Journal*

*of the American Academy of Child and Adolescent Psychiatry*, 49(1):70-80, 2009.

Aarons GA, Glisson C, Hoagwood K, Kelleher K, Landsverk J, Cafri G, The Research Network on Children's Mental Health. Psychometric properties and United States national norms of the Evidence-Based Practice Attitude Scale (EBPAS). *Psychological Assessment*, 22(2):356-365, 2010.

Aarons GA, Covert J, Skriner LC, Green A, Marto D, Garland AF, Landsverk JA. The eye of the beholder: Youths and parents differ on what matters in mental health services. *Administration and Policy in Mental Health and Mental Health Services*, 37(6):459-467, 2010.

Aarons GA, Hurlburt M, Horwitz SM. Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, 38:4-23, 2011.

- Aarons GA, Cafri G, Lugo L, Sawitzky A. Expanding the domains of attitudes towards evidence-based practice: The Evidence Based Practice Attitude Scale-50 (EBPAS-50). *Administration and Policy in Mental Health and Mental Health Services Research* (in press).
- Aarons GA, Green A, Miller E. Researching readiness for implementation of evidence-based practice: A comprehensive review of the Evidence-Based Practice Attitude Scale (EBPAS). In: *Cambridge Handbook of Implementation Science for Psychology in Education*, edited by B Kelly, D Perkins. Cambridge University Press (in press).
- Aarons GA, Horowitz J, Dlugosz L, Ehrhart M. The role of organizational process in dissemination and implementation. In: *Dissemination and Implementation Research in Health: Translating Science to Practice*, edited by R Brownson, G Colditz, E Proctor. Oxford University Press (in press).
- Accurso EC, Taylor RM, Garland AF. Evidence-based practices addressed in community-based children's mental health clinical supervision. *Training and Education in Professional Psychology* (in press).
- Akshoomoff N, Stahmer AC, Corsello C, Mahrer NE. What happens next? Follow-up from the Children's Toddler School Program. *Journal of Positive Behavioral Interventions*, 12:245-253, 2010.
- Aldridge AA, Roesch SC. Developing coping typologies of minority adolescents: A latent profile analysis. *Journal of Adolescence* (in press).
- Baker-Ericzén MJ, Mueggenborg MG, Shea M. Impact of trainings on child care providers' attitudes and knowledge on inclusion: What factors are associated with change? *Topics in Early Childhood Special Education*, 28:196-208, 2009.
- Baker-Ericzén MJ, Jenkins M, Brookman-Frazee L. Clinician and parent perspectives on parent and family contextual factors that impact community mental health services for children with behavior problems. *Child and Youth Care Forum*, 39(6):397-419, 2010.
- Baker-Ericzén M, Hurlburt M, Brookman-Frazee L, Jenkins M, Hough RL. Comparing child, parent and family characteristics in usual care and EST research samples for children with disruptive behavior disorders. *Journal of Emotional and Behavioral Disorders*, 18:82-99, 2010.
- Banks D, Hazen AL, Coben JH, Wang K, Griffith JD. Collaboration between child welfare agencies and domestic violence service providers: Relationship with child welfare policies and practices. *Children and Youth Services Review*, 31:497-505, 2009.
- Berger LM, Bruch SK, Johnson EI, James S, Rubin D. Estimating the "impact" of out-of-home placement on child well-being: Approaching the problem of selection bias. *Child Development*, 80(6):1856-1876, 2009.
- Brookman-Frazee L, Garland AF, Taylor R, Zoffness R. Therapists' attitudes towards psychotherapeutic strategies in community-based psychotherapy with children with disruptive behavior problems. *Administration and Policy in Mental Health and Mental Health Services*, 36:1-12, 2009.
- Brookman-Frazee L, Baker-Ericzén MJ, Stahmer A, Mandell D, Hough RL. Involvement of youths with developmental disabilities in multiple public service systems. *Journal of Mental Health Research in Intellectual Disabilities*, 2:210-219, 2009.
- Brookman-Frazee L, Haine RA, Baker-Ericzén M, Zoffness R, Garland AF. Factors associated with use of evidence-based practice strategies in usual care youth psychotherapy. *Administration and Policy in Mental Health and Mental Health Services Research*, 37:254-269, 2010.
- Brookman-Frazee L, Baker-Ericzen M, Stadnick N, Taylor R. Parent perspectives on community mental health services for children with autism spectrum disorders. *Journal of Child and Family Studies* (in press).
- Brookman-Frazee L, Drahotka A, Stadnick N, Palinkas LA. Therapist perspectives on community mental health services for children with autism spectrum disorders. *Administration and Policy in Mental Health* (in press).
- Camacho A, Ng B, Bejarano A, Simmons A, Chavira DA. Crisis visits and psychiatric hospitalizations among patients attending a community clinic in rural Southern California. *Journal of Community Mental Health*, 2010.
- Campbell-Sills L, Norman SB, Craske MG, Sullivan G, Lang AJ, Chavira DA, Sherbourne C, Roy-Byrne P, Stein MB. The Overall Anxiety Severity and Impairment Scale (OASIS). *Psychological Medicine*, 112:92-101, 2009.
- Chamberlain P, Price JM, Reid JB, Landsverk JA. Cascading implementation of a foster parent intervention: partnerships, logistics, transportability, and sustainability. *Child Welfare* (in press).



- Chavira DA, Roy-Byrne P, Stein MB. Managing anxiety in primary care. In: *Oxford Handbook of Anxiety and Related Disorders*, Antony M and Stein MB, eds., Oxford University Press, New York, 2009, p. 512-522.
- Chavira DA, Stein MB, Golinelli D, Sherbourne C, Craske M, Sullivan G, Bystritsky A, Roy-Byrne P. Predictors of clinical improvement in a randomized effectiveness trial for primary care patients with panic disorder. *Journal of Nervous and Mental Disease*, 197:715-721, 2009.
- Chavira DA, Garland AF, Yeh M, McCabe KM, Hough RL. Child anxiety disorders in public systems of care: Comorbidity and service utilization. *Journal of Behavioral Health Services and Research*, 36:492-504, 2009.
- Chavira DA. Anxiety: From fears and worries to anxiety disorder. In: *Rudolph's Pediatrics*, 22nd edition, edited by C Rudolph, G Lister, A Gershon, L First, A Rudolph. McGraw Hill Companies, 2010.
- Chavira DA, Arnold E, Garland A, Hough RL. Suicidal behavior among youth in five public sectors of care. *Child and Adolescent Mental Health*, 15:44-51, 2010.
- Connelly C, Baker-Ericzén MJ, Hazen A, Landsverk J, Horwitz SM. A community-based comprehensive collaborative care model for maternal depression, *Journal of Women's Health*, 19(9):1747-1757, 2010.
- Davis CC, Kauten MC, Leslie LK, Palinkas LA. Families' perspectives on decision-making and implications for family-centered ADHD care. *Journal of Attention Disorders* (in press).
- Degarmo D, Chamberlain P, Leve L, Price JM. Foster parent intervention engagement moderating child behavior problems and placement disruption. *Research on Social Work Practice* (in press).
- Dirks MA, Treat TA, Weersing VR. The judge specificity of evaluations of youth social behavior: The case of peer provocation. *Social Development* (in press).
- Everson MD, Smith J, Hussey JM, English D, Litrownik AJ, Dubowitz H, Thompson R, Dawes-Knight E, Runyan DK. Concordance between adolescent reports of childhood abuse and child protective service determinations in an at-risk sample of young adolescents. *Child Maltreatment* (in press).
- Ell K, Vourlekis B, Xie B, Nedjat-Haiem FR, Lee PJ, Muderspach L, Russell C, Palinkas LA. Cancer treatment among low-income women with breast or gynecologic cancer: A randomized controlled trial of patient navigation. *Cancer*, 115:4606-4611, 2009.
- Faller M, Gates M, Georges J, Connelly C. Work-related burnout, job satisfaction, intent to leave, and nurse-assessed quality of care among travel nurses. *Journal of Nursing Administration*, 41(2):71-77, 2011.
- Fettes DL, Aarons GA. Smoking behavior of youths in the USA: A comparison between child welfare system and community populations. *American Journal of Public Health* (in press).
- Fontaine R, Dodge K, Burk G, Price JM. The role of loneliness in the relation between child peer rejection and adolescent depression. *Development and Psychopathology* (in press).
- Garber J, Clarke GN, Weersing VR. Prevention of depression in at-risk adolescents and their parents: Reply. *Journal of the American Medical Association*, 302:1167-1168, 2009.
- Garber J, Clarke GN, Weersing VR, Beardslee WR, Brent DA, Gladstone TRG, Debar LL, Lynch FL, D'Angelo E, Hollon SD, Shamseddeen W, Iyengar S. Prevention of depression in at-risk adolescents: A randomized controlled trial. *Journal of the American Medical Association*, 301:2215-2224, 2009.
- Garland AF, Bickman L, Chorpita BF. Change what? Identifying quality improvement targets by investigating usual mental health care. *Administration and Policy in Mental Health and Mental Health Services*, 37:15-26, 2010.
- Garland AF, Hurlburt MS, Brookman-Frazee L, Taylor RM, Accurso EC. Methodological challenges of characterizing usual care psychotherapeutic practice. *Administration and Policy in Mental Health and Mental Health Services*, 37(3):208-220, 2010.
- Garland AF, Brookman-Frazee L, Hurlburt MS, Accurso EC, Zoffness R, Haine RA, Ganger W. Mental health care for children with disruptive behavior problems: A view inside therapists' offices. *Psychiatric Services*, 61:788-795, 2010.
- Garland AF, Brookman-Frazee L, Chavira DA. Are we doing our homework? Commentary on Kazantzis, Whittington, & Dattilio. Meta-analyses of homework effect. *Clinical Psychology: Science and Practice*, 17: 162-165, 2010.
- Gonzalez A, Weersing VR. Childhood depression: Treatment, In: *Child and Adolescent Psychopathology and*



- International Encyclopedia of Depression*, edited by R Ingram. Springer, 2009.
- Graham JC, English DJ, Litrownik AJ, Thompson R, Briggs EC, Bangdiwala SI. Maltreatment chronicity defined with reference to development: Extension of the social adaptation outcomes findings to peer relations. *Journal of Family Violence*, 25:311-324, 2010.
- Green AE, Bekman NM, Miller EA, Perrott JA, Brown SA, Aarons GA. Parental awareness of substance use among youth in public service sectors. *Journal of Studies on Alcohol and Drugs*, 72(1):44-52, 2011.
- Green AE, Aarons GA. A comparison of mental health policy and direct practice stakeholder perceptions of factors impacting evidence-based practice implementation. *Implementation Science* (in press).
- Guo M, Chow NWS, Palinkas LA. Circular migration and life course of female domestic workers in Beijing. *Asian Population Studies* (in press).
- Hazen AL, Connelly C, Roesch SC, Hough RL, Landsverk JA. Child maltreatment profiles and adjustment problems in high risk adolescents. *Journal of Interpersonal Violence*, 24(2):361-378, 2009.
- Hitchcock C, Chavira DA, Stein MB. Recent findings in social phobia among children and adolescents. *The Israel Journal of Psychiatry and Related Sciences*, 46:34-44, 2009.
- Horwitz SM, Hurlburt MS, Farmer EMZ, Zhang J. The patterns and predictors of mental health services use by children in contact with the child welfare system, In: *Child Welfare and Child Wellbeing: New perspectives from the National Survey of Child and Adolescent Well-Being*, edited by MB Webb, K Dowd, BJ Harden, J Landsverk, MF Testa, Oxford University Press (in press).
- Huefner JC, James S, Ringle J, Thompson RW, Daly DL. Patterns of movement for youth within an integrated continuum of residential services. *Children & Youth Services Review*, 32(6):857-864, 2010.
- Hurlburt MS, Garland AF, Nguyen K, Brookman-Frazee L. Child and family therapy process: Concordance of therapist and observational reports. *Administration and Policy in Mental Health and Mental Health Services*, 37(3):230-244, 2010.
- Hurlburt MS, Hazen AL, Hough RL. Accuracy of caregivers' reports of children's mental health and substance use treatment episodes over one year. *Journal of Emotional and Behavioral Disorders* (in press).
- Hurlburt MS, Leslie LK, Barth RP, Landsverk JA, Kolko D, Rolls J. National variation in efforts to train child welfare workers and foster caregivers on children's mental health and development. *Journal of Social Service Research* (in press).

- Ingram R, Price JM. (Eds.) *Handbook of Vulnerability to Psychopathology Across the Life-Span*, 2nd edition. Guilford Publishing, Inc. (in press).
- James K, Connelly C, Gracia L, Mareno N. Ways to enhance children's activity and nutrition [WE CAN]. A pilot project with Latino women. *Journal for Specialists in Pediatric Nursing*, 15(4):292-300, 2010.
- James S, Charlemagne SJ, Gilman A, Qais A, Smith RL, Tharayil PR, Freeman K. Post-discharge services and psychiatric rehospitalization among children and youth. *Administration and Policy in Mental Health and Mental Health Services Research*, 37(5):433-445, 2010.
- James S. What works in group care? A structured review of treatment models for group home and residential care. *Children & Youth Services Review*, 33:308-321, 2011.
- James S, Roesch SC, Zhang J. Behavioral outcomes of youth with episodes in group care—a propensity score matching approach using national data. *Journal of Emotional and Behavioral Disorders* (in press).
- Jones DJ, Runyan D, Lewis T, Litrownik A, Black M, Wiley T, English D, Proctor L, Jones BL, Nagin D. Trajectories of childhood sexual abuse and early adolescent HIV/AIDS risk behaviors: The role of other maltreatment, witnessed violence, and child gender. *Journal of Clinical Child and Adolescent Psychology*, 39(5):667-680, 2010.
- Keil V, Price JM. Social information-processing patterns of maltreated children in two social domains. *Journal of Applied Developmental Psychology* (in press).
- Kennard BD, Clarke GN, Weersing VR, Asarnow JR, Shamseddeen W, Porta G, Berk M, Hughes JL, Spirito A, Emslie GJ, Brent DA. Effective components of cognitive behavioral therapy for adolescent depression: Results from the TORDIA study. *Journal of Consulting and Clinical Psychology*, 77:1033-1041, 2009.
- Kim HK, Pears KA, Fisher PA, Connelly CD, Landsverk JA. Trajectories of maternal harsh parenting in the first 3 years of life. *Child Abuse & Neglect*, 34(12):897-906, 2010.
- Lambros KM, Hurley M, Hurlburt M, Zhang J, Leslie LK. Special education services for children involved with child welfare/child protective services. *School Mental Health*, 2(4):177-191, 2010.
- Landrine H, Klonoff EA, Corral I, Fernandez S, Roesch SC. Conceptualizing and measuring ethnic discrimination in health research. *Journal of Behavioral Medicine* (in press).
- Landsverk JA, Burns BJ, Stambaugh LF, Rolls-Reutz JA. Psychosocial interventions for children and adolescents in foster care: Review of research literature. *Child Welfare Journal of Policy, Practice and Program*, 88(1):49-69, 2009.
- Landsverk J, Brown CH, Rolls Reutz J, Palinkas L, Horwitz SMC. Design elements in implementation research: A structured review of child welfare and child mental health studies. *Administration and Policy in Mental Health and Mental Health Services Research*, 38:54-63, 2011.
- Landsverk J, Garland A, Rolls Reutz J, Davis I. Bridging science and practice in child welfare and children's mental health service systems through a two-decade research center trajectory. *Journal of Social Work*, 11(1):80-98, 2011.
- Landsverk J, Brown CH, Chamberlain P, Palinkas L, Ogiwara M, Czaja S, Horwitz SM. Design and analysis in dissemination research, In: *Dissemination and Implementation Research in Health: Translating Science to Practice*, edited by R Brownson, G Colditz, E Proctor, Oxford University Press (in press).
- Landsverk JA, Kelleher KJ, Burns BJ, Leslie LK, Hurlburt MS, Slymen DJ, Rolls JA, Barth R, Fairbank J, Kolko D. Overview, design, and field experience of "Caring for Children in Child Welfare," a national study of the impact of organization and financing policy on mental health service provision. *Journal of Social Service Research* (in press).
- Lau AS, Gudino O, Yeh M, Garland AF, McCabe KM, Hough RL. Understanding racial disparities in youth mental health services: Do disparities vary by problem type? *Journal of Emotional and Behavioral Disorders* (in press).
- Leslie LK, James S, Monn A, Doerfer M, Zhang J, Aarons GA. Health-risk behaviors in young adolescents in child welfare. *Journal of Adolescent Health*, 47(1):26-34, 2010.
- Leslie LK, Raghavan R, Zhang J, Aarons GA. Rates of psychotropic medication use over time among youth in child welfare/child protective services. *Journal of Child and Adolescent Psychopharmacology*, 20(2):135-143, 2010.
- Leslie LK, Plemmons D, Monn A, Palinkas LA. Investigating ADHD treatment trajectories: Listening to families' stories about medication use. *Journal of Developmental and Behavioral Pediatrics* (in press).
- Leslie LK, Raghavan R, Hurley M, Zhang J, Landsverk J, Aarons GA. Investigating geographic variation in use



- of psychotropic medications among youth in child welfare. *Child Abuse and Neglect* (in press).
- Letamendi A, Chavira DA, Stein MB. Issues in the assessment of social phobia: A review. *The Israel Journal of Psychiatry and Related Sciences*, 46:13-24, 2009.
- Lewis T, Kotch J, Thompson R, Litrownik AJ, English DJ, Proctor LJ, Runyan DK, Dubowitz H. Witnessed violence and youth behavior problems: A multi-informant study. *American Journal of Orthopsychiatry*, 80(4):443-450, 2010.
- Lim S, Yeh M, Liang J, Lau AS, McCabe KM. Acculturation gap, intergenerational conflict, parenting style, and youth distress in immigrant Chinese American families. *Marriage and Family Review*, 45(1):84-106, 2009.
- Lindamer LA, Liu L, Sommerfeld D, Folsom DP, Hawthorne W, Garcia P, Aarons GA, Jeste DV. Predisposing, Enabling, and Need Factors Associated with High Service Use in a Public Mental Health System. *Administration and Policy in Mental Health and Mental Health Services Research* (in press).
- Loredo JS, Soler X, Bardwell W, Ancoli-Israel S, Dimsdale JE, Palinkas LA. Sleep health in the U.S. Hispanic population. *Sleep*, 33(7):962-967, 2010.
- McCleery JP, Akshoomoff N, Dobkins KR, Carver LJ. Atypical face processing in 10-month-old infants at risk for autism. *Biological Psychiatry*, 66:950-957, 2009.
- McGee E, Valentine C, Schulte MT, Brown SA. Peer victimization and alcohol involvement among adolescents self-selecting into school based alcohol intervention. *Journal of Child and Adolescent Substance Abuse* (in press).
- Merrick MT, Litrownik AJ, Everson MD, Cox CE. Beyond sexual abuse: The impact of other maltreatment experiences on sexualized behaviors. *Child Maltreatment* (in press).
- Miller E, Green AE, Aarons GA. Prevalence of Maltreatment among Youths in Public Sectors of Care. *Child Maltreatment* (in press).
- Nooner KB, Litrownik AJ, Thompson R, Margolis B, English D, Knight, ED, Everson MD, Roesch S. Youth self-report of physical and sexual abuse: A latent class analysis. *Child Abuse & Neglect*, 34:146-154, 2010.
- Novins DK, Aarons GA, Conti SG, Dahlke C, Daw R, Fickenscher A, Fleming C, Love C, Massis K, Spicer, P. Use of the evidence base in substance abuse treatment programs for American Indians and Alaska Natives: Pursuing quality in the crucible of practice and policy. *Implementation Science* (in press).
- Ojeda V, Robertson A, Hiller S, Lozada R, Cornelius W, Palinkas L, Magis-Rodriguez C, Strathdee SA. A qualitative view of drug use behaviors of Mexican male injection drug users deported from the United States. *Journal of Urban Health*, 88(1):104-117, 2011.
- Osofsky HJ, Palinkas LA, Galloway JM. Mental health effects of the Gulf oil spill. *Disaster Medicine and Public Health Preparedness*, 4:273-276, 2010.
- Palinkas LA, Aarons GA. A view from the top: Executive and management challenges in a statewide implementation of an evidence-based practice to reduce child neglect. *International Journal of Child Health and Human Development*, 2(1):47-55, 2009.
- Palinkas LA, Aarons GA, Chorpita B, Hoagwood K, Landsverk JA, Weisz JR. Cultural exchange and the implementation of evidence-based practice: Two case studies. *Research on Social Work Practice*, 19:602-612, 2009.
- Palinkas LA. Qualitative approaches to studying the effects of disasters. In: *Methods for Disaster Mental Health Research*, edited by FH Norris, S Galea, MJ Friedman, PJ Watson. Guilford Press, 2009.
- Palinkas LA, Ell K, Hansen M, Cabassa LJ, Wells, AA. Sustainability of collaborative care interventions in primary care settings. *Journal of Social Work*, 11:99-117, 2010.
- Palinkas LA. Coming out of the cold and stepping into the light: Human adaptation in high latitude environments. *International Journal of Circumpolar Health*, 69(3):2-4, 2010.
- Palinkas LA, Reedy KR, Shepanek M, Reeves D, Case HS, Dol NV, Reed HL. A randomized placebo-controlled clinical trial of the effectiveness of thyroxine and triiodothyronine and short-term exposure to bright light in prevention of decrements in cognitive performance and mood during prolonged Antarctic residence. *Clinical Endocrinology*, 72(4):543-550, 2010.
- Palinkas LA. Nutritional interventions for treatment of seasonal affective disorder. *CNS Neuroscience and Therapeutics*, 16(1):3-5, 2010.
- Palinkas LA. Commentary: Cultural adaptation, collaboration and exchange. *Research on Social Work Practice*, 20:544-546, 2010.
- Palinkas LA, Edelman SV. Ethnic differences in complementary and alternative medicine use among patients

- with diabetes. *Complementary Therapies in Medicine*, 18:241-248, 2010.
- Palinkas LA, Aarons GA, Horwitz SM, Chamberlain P, Hurlburt M, Landsverk J. Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 38:44-53, 2011.
- Palinkas LA, Soydan H. New horizons of translational research and research translation in social work. *Research in Social Work Practice* (in press).
- Palinkas LA. A conceptual framework for understanding and mitigating the mental health impacts of oil spills: Lessons from the Exxon Valdez oil spill. *Psychiatry: Interpersonal and Biological Processes* (in press).
- Pollini RA, Lozada R, Gallardo M, Rosen R, Vera A, Macias A, Palinkas L, Strathdee SA. Barriers to pharmacy-based syringe purchase among injection drug users in Tijuana, Mexico: A mixed methods study. *AIDS and Behavior*, 14(3):679-687, 2010.
- Price JM, Chamberlain P, Landsverk J, Reid J. KEEP foster parent training intervention: Model description and effectiveness, *Journal of Child and Family Social Work*, 14:233-242, 2009.
- Price JM, Ingram R. Future directions in the study of vulnerability to disorder, In: *Handbook of Vulnerability Across the Life Span*, 2nd edition, edited by R Ingram, J Price. Guilford Publishing, Inc., 2009.
- Price JM, Zwolinski J. The nature of child vulnerability: History, traditions, and definitions, In: *Handbook of Vulnerability Across the Life Span*, 2nd edition, edited by R Ingram, J Price. Guilford Publishing, Inc., 2009.
- Proctor E, Landsverk JA, Aarons GA, Chambers D, Glisson CA, Mittman B. Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research*, 46:24-34, 2009.
- Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons GA, Bunger A, Griffey R, Hensley M. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research questions. *Administration and Policy in Mental Health and Mental Health Services Research*, 47:1-10, 2011.
- Proctor LJ, Skinner LC, Roesch S, Litrownik AJ. Trajectories of behavioral adjustment following early placement in foster care: Predicting stability and change over 8 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(5):464-473, 2010.
- Raghavan R, Shi JS, Aarons GA, Roesch SC, Leslie LK. Effects of placement changes on health insurance stability among a national sample of children in the child welfare system. *Journal of Social Service Research*, 35:352-363, 2009.
- Raghavan R, Shi P, Aarons GA, Roesch SC, McMillen JC. Health insurance discontinuities among adolescents leaving the foster care. *Journal of Adolescent Health*, 44:41-47, 2009.
- Ramo DE, Myers MG, Brown SA. Psychometric properties of a revised form of the Drug-Taking Confidence Questionnaire for use with adolescents. *Journal of Child and Adolescent Substance Abuse*, 18(1):24-42, 2009.
- Ramo DE, Brown SA. Classes of substance abuse relapse situation: A comparison of adolescents and adults. *Psychology of Addictive Behaviors* (in press).
- Ramsawh H, Chavira DA, Stein MB. The burden of anxiety disorders in pediatric medical settings: Prevalence, phenomenology, and a research agenda. *Archives of Pediatrics and Adolescent Medicine*, 164:965-72, 2010.
- Ramsawh H, Chavira DA, Stein MB. Phenomenology and epidemiology of social phobia, In: *The American Psychiatric Publishing Textbook of Anxiety Disorders*, 2nd edition, edited by DJ Stein, E Hollander, BO Rothbaum. American Psychiatric Press (in press).
- Reichstadt J, Sengupta G, Depp CA, Palinkas LA, Jeste DJ. Older adults' perspective on successful aging: Qualitative interviews. *American Journal of Geriatric Psychiatry*, 18:567-575, 2010.
- Robertson AM, Lozada R, Vera A, Palinkas LA, Burgos JL, Magis-Rodriguez C, Rangel G, Ojeda VD. Deportation experiences of women who inject drugs in Tijuana, Mexico. *Qualitative Health Research* (in press).
- Rose R, Lang A, Welch S, Campbell-Sills L, Chavira DA, Sullivan G, Sherbourne C, Bystritsky A, Stein MB, Roy-Byrne P, Craske MG. Training primary care staff to deliver a computer-assisted cognitive-behavioral therapy program for anxiety disorders. *General Hospital Psychiatry* (in press).
- Roy-Byrne PP, Craske MG, Sullivan G, Rose R, Edlund M, Lang AJ, Bystritsky A, Welch S, Chavira D, Golinelli D, Campbell-Sills L, Sherbourne CD, Stein MB. Delivery of evidence based treatment for multiple anxiety disorders in



- primary care: A randomized effectiveness trial. *Journal of the American Medical Association*, 303:1921-1928, 2010.
- Ruble LA, Akshoomoff N. Autism spectrum disorders: Identification and diagnosis. *National Association of School Psychologists Communique Handout*, 38, 1-4, 2010.
- Rutkowski E, Connelly C. Obesity risk knowledge and physical activity in families of adolescents. *Journal of Pediatric Nursing*, 26:51-57, 2011.
- Schoenfelder EH, Haine-Schlagel R. Parental bereavement. In: *Encyclopedia of Adolescence*, edited by RJR Levesque, Springer (in press).
- Schoenwald SK, Garland AF, Chapman JE, Frazier SL, Sheidow AJ, Southam-Gerow, MA. Toward the effective and efficient measurement of implementation fidelity. *Administration and Policy in Mental Health and Mental Health Services*, 38:32-43, 2011.
- Schreibman LE, Stahmer AC, Dufek S, Barlett VS. Brief report: Toward refinement of a predictive behavioral profile for treatment outcome in children with autism. *Research in Autism Spectrum Disorders*, 3:163-172, 2009.
- Schreibman LE, Stahmer AC, Suhrheinrich J. Enhancing generalization of treatment effects via pivotal response training and the individualization of treatment protocols. In: *Real Life, Real Progress for Children with Autism Spectrum Disorders: Generalization Strategies and Treatment*, edited by C Whalen, 2009.
- Schreibman LE, Suhrheinrich J, Stahmer AC, Reed S. Translating evidence-based practice from the laboratory to the classroom: The development of classroom pivotal response teaching. In: *Empirically Supported Educational Interventions for School Age Children with Autism*, edited by P Mundy, A Mastergeorge. Jossey-Bass/Wiley (in press).
- Schuler J, Weiss NT, Chavira DA, McGough JJ, Berrocal M, Sheppard B, Vaglio E, Herrera LD, Mathews CA. Characteristics and co-morbidity of ADHD sib pairs in the Central Valley of Costa Rica. *Comprehensive Psychiatry* (in press).
- Schulte MT, Ramo D, Brown SA. Gender differences in factors influencing alcohol use and drinking progression among adolescents. *Clinical Psychology Review*, 29:535-547, 2009.
- Schulte MT, Monreal TK, Kia-Keating M, Brown SA. Influencing adolescent social perceptions of alcohol use to facilitate change through a school-based intervention. *Journal of Child and Adolescent Substance Abuse* (in press).
- Shepherd S, Depp CA, Harris G, Halpain M, Palinkas LA, Jeste DV. Perspectives on the long-term course of schizophrenia: A qualitative study. *Schizophrenia Bulletin* (in press).
- Sheppard B, Chavira D, Azzam A, Grados MA, Umana P, Garrido H, Mathews CA. ADHD prevalence and association with hoarding behaviors in childhood-onset OCD. *Depression and Anxiety*, 27:667-74, 2010.
- Sherbourne C, Sullivan G, Craske MG, Roy-Byrne PP, Golinelli D, Rose RD, Chavira DA, Bystritsky A, Stein MB. Functioning and disability levels in primary care outpatients with one or more anxiety disorders. *Psychological Medicine*, 40(12):2059-2068, 2010.
- Seidman E, Chorpita BF, Reay WE, Stelk W, Garland AF, Kutash K, Mullican C, Ringeisen H. A framework for measurement feedback to improve decision-making in mental health. *Administration and Policy in Mental Health and Mental Health Services*, 37(1-2), 2010.
- Stahmer AC, Hurlburt MS, Horwitz SM, Landsverk JA, Zhang J, Leslie LK. Associations between placement and child development among young children in child welfare. *Child Abuse and Neglect*, 33:598-611, 2009.
- Stahmer AC, Aarons GA. Attitudes toward adoption of evidence-based practices: A comparison of autism early intervention providers and children's mental health providers. *Psychological Services*, 6:223-234, 2009.
- Stahmer AC, Suhrheinrich J, Reed S, Bolduc C, Schreibman LE. Pivotal response teaching in the classroom setting. *Preventing School Failure*, 54:265-274, 2010.
- Stahmer, AC, Schreibman, L, Cunningham, AB. Towards a technology of treatment individualization for young children with autism spectrum disorders. *Brain Research*, 1380:229-239, 2011.
- Stahmer, AC, Akshoomoff, NA, Cunningham, AB. Inclusion for toddlers with autism spectrum disorders: The first ten years of a community program. *Autism: International Journal of Research and Practice*, 1-17, 2011.
- Stein MB, Yang BA, Chavira DA, Hitchcock C, Sung SC, Shipon-Blum, E, Gelernter J. A common genetic variant in the neurexin superfamily member CNTNAP2 is associated with increased risk for selective mutism and social anxiety-related traits. *Biological Psychiatry* (in press).

- Thompson R, Litrownik AJ, Weisbart C, Kotch JB, English DJ, Everson MD. Adolescent outcomes associated with early maltreatment and exposure to violence: The role of early suicidal ideation. *International Journal of Child and Adolescent Health*, 3:55-66, 2010.
- Trask E, Walsh K, DiLillo D. Treatment effects for common outcomes of child sexual abuse: A current meta-analysis. *Aggression and Violent Behavior*, 16:6-19, 2011.
- Trask E, Garland A. Are children improving? Results from outcome measurement in a large mental health system. *Administration and Policy in Mental Health and Mental Health Services Research* (in press).
- Troester M, Haine-Schlagel R, Ng Y, Chapman K, Chung S, Drees C, Prenger E, Rekate H, Kerrigan JF. EEG and video-EEG seizure monitoring has limited utility in patients with hypothalamic hamartoma and epilepsy. *Epilepsia* (in press).
- Villa-Caballero L, Morello CM, Chynoweth ME, Prieto-Rosinol A, Polonsky WH, Villagrana M, Palinkas LA. Caregivers' endorsement of barriers to mental health services for children and youth in child welfare. *Journal of Family Social Work* (in press).
- Vismara LA, Young GS, Stahmer AC, Griffith EM, Rogers SJ. Dissemination of evidence based practice. Can we train therapists from a distance. *Journal of Autism and Developmental Disorders*, 39:1636, 2009.
- Wagner KD, Lankenau SE, Palinkas LA, Richardson JL, Chou CP, Unger JB. The perceived consequences of safer injection: An exploration of qualitative findings and gender differences. *Psychology, Health & Medicine*, 15(5):560-573, 2010.
- Wagner KD, Lankenau SE, Palinkas LA, Richardson JL, Chou CP, Unger JB. The influence of the perceived consequences of refusing to share injection equipment among injection drug users: Balancing competing risks. *Addictive Behaviors*, 36(8):835-842, 2011.
- Wagner K, Davidson PJ, Pollini RA, Strathdee SA, Palinkas LA. Reconciling incongruous qualitative and quantitative findings in mixed methods research: Exemplars from research with drug using populations. *International Journal of Drug Policy* (in press).
- Warnick EM, Weersing VR, Scahill L, Woolston J. Selecting measures for use in child mental health services: A scorecard approach. *Mental Health Services Research*, 36:112-122, 2009.
- Weersing VR, Gonzalez A. Effectiveness of interventions for adolescent depression: Reason for hope or cause for concern? In: *Handbook of Depression in Adolescents*, edited by S Nolen-Hoeksema, L Hilt, Routledge, 2009.
- Weersing VR, Rozenman M, Gonzalez A. Core components of therapy in youth: Do we know what to disseminate? *Behavior Modification*, 33:24-47, 2009.
- Weersing VR, Brent DA. Treating adolescent depression with individual CBT. In: *Evidence-based Psychotherapies for Children and Adolescents*, 2nd edition, edited by AE Kazdin, JR Weisz, New York, Guilford Press (in press).
- Weersing VR, Walker PN. Review: Cognitive-behavioural therapy for adolescents with depression. Evidence-based mental health. *British Medical Journal* (in press).
- Wu Q, Palinkas LA, He X. An ecological examination of social capital effects on the academic achievement of Chinese migrant children. *British Journal of Social Work*, 40(8):2578-2597, 2010.
- Wu Q, Palinkas LA, He X. Social capital in promoting the psychosocial adjustment of Chinese migrant children: Interaction across contexts. *Journal of Community Psychology* (in press).
- Zoffness R, Garland AF, Brookman-Frazee L, Roesch SC. Case management in usual care psychotherapy. *Child and Youth Care Forum: Research and Practice in Children's Services*, 38:185-200, 2009.
- Zúñiga ML, Blanco E, Palinkas LA, Strathdee SA, Gifford, AL. Cross-cultural considerations in the recruitment of Latinos of Mexican-Origin into HIV/AIDS clinical trials in the U.S.-Mexico border region: Clinician and patient perspectives. *Journal of Immigrant and Refugee Studies*, 8:241-260, 2010.



# Chadwick Center for Children and Families

The Chadwick Center for Children and Families is Rady Children's Hospital-San Diego (RCHSD)'s response to child abuse and neglect, domestic violence, and post-traumatic stress in children. The staff is composed of a variety of professionals in disciplines ranging from medicine and nursing to child development, social work, and psychology. In addition to the main hospital campus, the Chadwick Center has satellite offices throughout San Diego County from Oceanside to Chula Vista, including the San Diego Family Justice Center downtown, and a wide variety of community agencies.

Left to right: Leilani Stuck, Robyn Igelman, Cindy Huddock, Tom Jung, Lisa Quinn, Cambria Rose, Chris Perkins, Marisol Olguin, Katherine Wilder, Jennifer Daemarii, Charles Wilson, Dr. Marilyn Kaufhold

## FACULTY/STAFF

**Charles Wilson, MSSW, *Senior Director***  
**Virginia Agcayab, MFT**  
**Laine Alexandra, LCSW**  
**Julie Alley, PhD**  
**Esperanza Applestein, MFT**  
**Chad Arnold, LCSW**  
**Lorena Avitea, MSW**  
**Susanna Beaudieu, MSW, MA**  
**Virginia Bial, LCSW**  
**David Bond, LCSW**  
**Gloria Chavez, ASW**  
**Pilar Clark, ASW, MSW**  
**Lisa Conradi, PsyD**





Lisa Conradi, Alexia Hobson, Rica Law,  
Laurie Fortin, Cat Celis, Nicole Taus,  
Linda Wong Kerberg

Judi Cox, LCSW  
Mauricio CruzyCelis, MFT  
Joan Diccianni, MHA  
Jackie Dietz, LCSW  
Roquette Dungan, LCSW  
Fabiola Figueroa, MFT  
Laurie Fortin, LCSW  
Noelia Galvez-Nelson, ASW, MSW  
Alicia Gilbert, PhD  
Guillermo Gonzalez, MFT  
Margaret Gonzalez, LCSW  
Susan Gordon, LCSW  
Tanya Grame, PhD  
Lynne Guzman, ASW  
Rebecca Harvey, Psy.D.

Alison Hendricks, LCSW  
Jesus Herrera, PsyD  
Robyn Igelman, PhD  
Thomas Jung, BS, Administrative Director  
Iby Kantor, PhD  
Marisa Kaprow, LCSW  
Marilyn Kaufhold, MD, Clinical Instructor  
of Pediatrics  
Carol Kesten-Selhay, LCSW  
Daniel Keyser, ASW  
Heather Kiffe, ASW  
Al Killen-Harvey, LCSW  
Cynthia Kuelbs, MD, Clinical Professor  
of Pediatrics  
Blanca Lugo, MFT  
Lisa McCulloch, LCSW  
Megan McKellogg, PsyD  
Clorinda Merino, MEd  
Azita Mirin, PsyD  
Marisol Olguin, MS  
Janay Osantowski, PhD  
Clarence Perry, MD  
Leslie Peterson, MSW  
Lisa Quinn, RN  
Ashley Rambeau, ASW  
Dana Roloff, LCSW  
Cambria Rose, LCSW  
Sheri Rouse, MFT  
Heidi Stern-Ellis, LCSW  
Leilani Stuck, MA  
Louie Subido, MFT  
Nicole Taylor, PhD  
Armida Valencia, MFT  
Robin Vanderlaan, LCSW  
Elias Villafana, LCSW  
Katherine Wilder, RN  
Miranda Williams, PhD  
Linda Wong Kerberg, MFT, Clinical Director  
Blake Zimmet, ASW

## PEDIATRIC FELLOWS

Premi Suresh, MD  
Sarah Villarroel, MD

# CHADWICK RESEARCH

**John Landsverk, PhD**, Scientific Director

**Andrea Hazen, PhD**, Outcomes Office

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Chadwick Center serves over 8,336 children and families per year through two clinical programs: Forensic and Medical Services and Trauma Counseling. The following sections describe the activities of each program.

### Forensic and Medical Services

- 2,589 children received expert medical assessment and/or a forensic interview for abuse. This does not include the children assessed at the US Navy, Riverside County or Polinsky Center for Children, which RCHSD's Chadwick Center continues to support. The program also expanded its services to include Extended Forensic Examinations for children and families that may need more than a single interview and facilitate the trauma/healing process.
- The Center conducts a bimonthly multidisciplinary Failure to Thrive Clinic for young children who are not gaining weight due to parental behavior. Most referrals for this clinic come from community physicians.
- The Chadwick Center facilitates the weekly San Diego County Child Protection Team meeting to discuss complex child abuse cases. 2011 marked the Team's 35th anniversary, making it one of the longest running multidisciplinary child abuse team meetings in the world. Attendees include hospital professionals, law enforcement, child protection professionals, and district attorneys.

### Trauma Counseling

- As the Center's largest component, the Trauma Counseling Program provides services on the hospital campus, as well as in satellites throughout the county. Working in five teams, 39 therapists specialize in treating acute traumatic stress and related disorders, using up

to 26 clinical outcome measures to assess clients' clinical needs and to track their progress in therapy.

- The Trauma Counseling Program reached almost 4,915 children and parents through individual, group and family sessions resulting in nearly 52,686 units of service with 93.7% of the clients reporting being "very satisfied" with the therapy services they received. Most of these children were victims of child abuse or witnesses to extreme domestic violence. The program also served children with post-traumatic responses to other events such as shootings and wild fires, and helped pain patients served by Children's Pain Clinic.
- The Center is leading the community in the use of structured research-based trauma treatment protocols such as Parent Child Interaction Therapy (PCIT) and Trauma Focused Cognitive Behavioral Therapy (TF-CBT) and Child Parent Psychotherapy. The use of evidence-based protocols in the treatment of childhood trauma is still relatively rare across the nation. With organized training and consultative support, the Chadwick Center has emerged as the largest specialized evidence-based trauma treatment program in California, and perhaps the world.
- Chadwick Center connected its extensive use of clinical assessment measures and its repertoire of evidence-based practices with RCHSD's experience in developing clinical pathways to create the "Trauma Assessment Pathway" (TAP). The TAP model has now emerged as a nation-wide model for linking assessment to clinical practice. Chadwick trained professionals in TAP in various locations in the United States and Canada.
- The Kids in Court Program works with the District Attorney's office and Juvenile Court to prepare children and their families for the emotional stress of facing their abuser in court. There were 832 children prepared to testify in court.
- The Psychology teams at all Chadwick Centers are members of the California Psychology Internship Council (CAPIC). Membership is necessary in order for the Center to continue to accept doctoral students in its Trauma Counseling Program. Having CAPIC membership ensures that a program has met a level of quality that is annually reviewed and updated. CAPIC member internships adhere to a standardized timeline for receiving students' applications, a uniform notification day and a clearinghouse process.



## Major Goals and Plans

The Chadwick Center began developing a Business Plan in 2007-08 to guide its work for the next five years. Among the key recommendations for future action were:

- The Chadwick Center should build upon its experience and reputation for quality and continue to expand the quality of service delivery, add new evidence-based practices, empirically test those practices, and then teach others locally, nationally, and internationally to deliver similar level quality services.
- The Chadwick Center should expand its leadership role locally and nationally in advocating for the best evidence-based or supported practice, teaching others to build their capacity, and assisting them to actually implement the practices in real-world settings.
- The Chadwick Center should further build the engagement of its staff and focus on equipping its workforce with the knowledge, skills, tools, and resources they need to do extraordinary work.
- The Chadwick Center should work closely with CASRC to develop a strong world-class research program testing clinical relevant to those suffering from serious childhood traumatic stress.
- While RCHSD's Chadwick Center will never be able to serve all the children in need in San Diego, it should remain the safety net provider that brings the highest level of expertise to the most severely affected children and their families, while training others to deliver high quality services to less severely affected children.
- Chadwick and CASRC should research the impact of professional education and advocacy on service delivery systems and learn and disseminate the best ways to teach and implement evidence-based practices.
- The Chadwick Center should expand the evidence-based SafeCare® model of home visitation/family support in California.
- The Chadwick Center should develop or learn the best practices, deliver the best practice, and teach others the best practice.

## RESEARCH ACTIVITIES

**Greg Aarons, PhD** and **Cambria Rose Walsh, LCSW**-Dynamic Adaptation to Implement an Evidence-Based Child Maltreatment Intervention (ADAPTS) is a three year program funded by the CDC. ADAPTS tests the Evidence-Based SafeCare home visitation model to modify SafeCare training and ongoing consultation to support adaptation of SafeCare in practice. It also uses qualitative methods to examine the process, feasibility acceptability and utility of ADAPTS.

**Lisa Conradi, PsyD** continued working with the National Child Traumatic Stress Network on the Cross-Site Evaluation of child trauma treatment programs across the country and involving over 40 sites. Provided information on Chadwick Center programs as part of the national evaluation efforts of the National Child Traumatic Stress

Initiative. This includes entering data into the Transformation Accountability (TRAC) system and completing the required quarterly and annual reports.

**Lisa Conradi, PsyD** worked with CTISP staff member Alison Hendricks to create the Trauma Systems Readiness Tool. This tool is designed to assess the trauma-informed nature of various child welfare systems. The tool was finalized and administered via the online system to individuals at our Oklahoma laboratory site. Based on information gathered in this initial pilot and future administrations of the tool to the other laboratory sites (San Diego and New Hampshire), we will conduct statistical analyses on the tool's validity and delete/modify questions as needed.

**Lisa Conradi, PsyD** worked with the assessment subcommittee of the NCTSN's Child Welfare Committee and other Child Welfare communities to refine the existing Child Welfare Trauma Referral Tool. She has conducted a

preliminary review of existing tools and had preliminary conversations with researchers from the Child and Adolescent Services Research Center to discuss the possibility of “mapping” various questions posed on the CWT with the National Survey of Child and Adolescent Well-Being data to determine if some questions are more heavily weighted to outcomes than others.

**Cynthia L. Kuelbs, MD** is studying the prevalence of strangulation in teen sexual assault victims, whether activation of the emergency response system differentiates between serious non-accidental trauma and accidental trauma and what predicts follow up after adolescent sexual assault.

**Jennifer Rolls Reutz, MPH** in cooperation with **Cambria Rose Walsh, LCSW**, is conducting an evaluation of the California Evidence-Based Clearinghouse for Child Welfare.

**Jennifer Rolls Reutz, MPH** in cooperation with **Blake Zimmet, LCSW** and **Charles Wilson, MSSW**, is conducting an assessment of the service systems in Brevard County, Florida to improve evidence-based practice utilization in the county.

**Sarah Villarroel, MD** is studying the frequency of medical follow-up of adolescent victims after an acute sexual assault and if certain characteristics of the patient, exam, and/or assault were related with better follow-up rates.

**Charles Wilson, MSSW** is the Director of the California Evidence-Based Clearinghouse for Child Welfare (CEBC), from the State of California. The Center is working with CASRC and a national scientific panel on the project. CASRC’s John Landsverk, PhD is the Scientific Director, and the Chadwick Center’s **Cambria Rose Walsh, LCSW** serves as the Project Manager. The project receives day-to-day support from CASRC’s Jennifer Rolls-Reutz. The CEBC brings up-to-date research reviews and careful analysis and ratings of common practices related to abused and neglected children and their families. There are currently 32 Topic Areas with over 205 programs and 14 Screening and Assessment Tools reviewed, rated and posted. The CEBC has been visited by over 150,000 individuals from over 180 nations. The website is [www.cebc4cw.org](http://www.cebc4cw.org).

## TEACHING ACTIVITIES

The Chadwick Center has a long tradition of sponsoring nationally and internationally-recognized professional edu-

cation opportunities. In 2011, the 25th Annual San Diego International Child and Family Maltreatment Conference featured Cordelia Anderson, Consultant, Trainer, Sensibilities, Inc. and James Beasley, Supervisory Special Agent, Critical Incident Response Group, Behavioral Analysis Unit, FBI Academy and over 250 faculty members. The event attracted over 2,000 professionals from 50 states and 30 countries. The Chadwick Center also provided preceptorships to professionals from Colombia, Australia, Norway, Denmark, Iceland and Belgium and sent faculty to speak in conferences around the world.

### Virginia Agcayab, MFT

- Presented Child Sexual Abuse at the Womens Resource Center and Center for Community Solutions

### Julie Alley, PhD

- Provided week-long PCIT trainings for Chadwick staff

### David Bond, LCSW

- Presented Integrating Play Therapy Techniques and Trauma Focused CBT
- Presented Advanced Topics in Childhood Trauma: Effects Upon Psychological Functioning Across Development and Culture
- Presented Effectively Using Play Therapy with LGBTQ Youth

### Lisa Conradi, PsyD

- Invited to speak on creating trauma-informed child welfare systems at several conferences and events across the country. These include the Child Welfare League of America conference, Casey Family Programs in Austin, TX, NCTSN All-Network Conference in Baltimore, MD, Field Center conference in Philadelphia, PA and across San Diego County
- Presented Assessment-based treatment for traumatized children: Using the trauma assessment pathway model (TAP) in Miami, FL

### Laurie Fortin, LCSW

- Coordinated Investigative Response to Child Abuse (CIRCA) – Forensic Interviewing module
- Extended Forensic Evaluation training
- Beyond the Bench (Judges/Lawyers training)

- POST Training (Advanced Child Molest Investigations)
- Offender Training in New Hampshire
- Public Child Welfare Training Academy training (various topics)
- Forensic Interviewing Overview for visiting physicians

#### **Alison Hendricks, LCSW**

- Presented numerous times on TF-CBT
- Presented and trained on CTISP

#### **Marilyn Kaufhold, MD**

- Advanced 1 day Training in Physical Abuse Injuries for CWS, twice/year
- CIRCA Training for Child Abuse First Responders in San Diego County, quarterly
- California Clinical Forensic Medical Training Center (CCFMTC) Course Director for Pediatric Sexual Assault Forensic Examiner Training, twice/year
- California Clinical Forensic Medical Training Center (CCFMTC) lecturer in Adult Sexual Assault Forensic Examiner Training, twice/year
- POST training for Child Abuse detectives in child sexual abuse (Bridging the Communication Gap between the Medical Provider and law enforcement), twice/year
- Child Protection Team Presentation on Abusive Head Trauma to San Diego child abuse investigators with Premi Suresh, MD
- Child Abuse for First Responders (Paramedics) –San Diego

#### **Al Killen-Harvey, LCSW**

- Presented two day training on Assessment-based treatment for traumatized children: A trauma assessment pathway model-Part I in Miami, FL
- Presented a half day training on the trauma assessment pathway model in Salt Lake City, UT, Dallas, TX and San Francisco, CA
- Presented a one day training on treatment issues for child abuse victims to the Judicial Council of California in Long Beach, CA
- Presented a half day training on child abuse risk factors for lesbian, gay, bisexual and transgender youth in Salt Lake City, UT, Dallas, TX and Charleston, SC

- Presented a one day training on child abuse risk factors for lesbian, gay, bisexual and transgender youth to the Los Angeles Department of Mental Health in Pacoima, CA

#### **Cynthia L. Kuelbs, MD**

- Supervises child abuse fellows (two of only 21 child abuse pediatric fellowships in the nation) and the family violence rotation for pediatric residents at UCSD and Naval Medical Center, San Diego
- Lectures at UCSD Medical School on recognition of abusive head trauma and family violence prevention
- Lectures on issues associated with proper assessment and diagnosis of child physical and sexual abuse and the role of the pediatricians in family violence to local and national audiences

#### **Clorinda Merino, MEd**

- Provided trainings on SafeCare in Central Valley and Northern California

#### **Cambria Rose Walsh, LCSW**

- Provided trainings throughout the United States. The trainings focused on the importance of Evidence-Based Practice and TF-CBT

#### **Heidi Stern-Ellis, LCSW**

- Presented on Risk for LGBT youth

#### **Charles Wilson, MSSW**

- Invited to speak at over 20 national and international gatherings. Speaking engagements included the National Child Traumatic Stress Network, national conference on child and family maltreatment in Ede and Haarlem, Netherlands, state conferences in Minnesota, Florida, Oklahoma and New Hampshire, along with Child Welfare League of America and Evidence Based Practice Seminar in San Francisco

#### **Blake Zimmet, ASW**

- Provided trainings throughout the United States. The trainings focused on the importance of Evidence-Based Practice and TF-CBT

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Charles Wilson, MSSW</b>		
California Evidence-Based Clearinghouse for Child Welfare, Department of Social Services EBC 30001/00/Office of Child Abuse Prevention		\$3,800,000 Jan. 2004-June 2013
<b>Support Evidence Based Home Visitation Programs to Prevent Child Maltreatment</b>		\$2,499,608
90CA1768-01/Administration of Children Youth & Family		Oct. 2008-Sept. 2013
<b>Linda Wong Kerberg</b>		
Substance Abuse and Mental Health Administration Treatment and Services Adaptation Center SM54289-04		\$1,967,213 Oct. 2005-Apr. 2012





## AWARDS, HONORS AND MAJOR PRESENTATIONS

### NCA Recertification

The Board of the National Children's Alliance, the national accrediting body for multi-disciplinary child abuse centers awarded the Chadwick Center full accreditation status for the next five years after thorough review and site visit

### David Chadwick, MD, Director Emeritus

AMA's 2010 Scientific Achievement Award

### Marilyn Kaufhold, MD

Presentations on Team work in Child Abuse Evaluation and Investigation, Bogota, Cali and Medellin, Colombia, November 2010

### Cynthia L. Kuelbs, MD

San Diego Magazine's Best Doctors Award, October 2009

San Diego Magazine's Best Doctors Award, October 2010

Consultant, Developing a hospital based child protection team. Karolinska Institute, Stockholm Sweden, 2009

Abuse and medical care of teen delinquencies. 23rd Annual Conference on Child and Family Maltreatment, San Diego, CA, January 2009

Sorting through the allegations and evidence of sexual and physical abuse. Juvenile Law Institute, Oakland, CA, February 2009

San Diego Magazine's Best Doctors award, October 2010

Chadwick Lecture – Moving Forward, Looking Back. Child Maltreatment Conference 2011

### Charles Wilson, MSSW

2011 Annual Stars Award, San Diego Commission on Children, Youth and Families

Invited by the National Center for Child Traumatic Stress and SAMHSA to serve as Co-Chair for the National Breakthrough Collaborative on Development of Trauma- Informed Child Welfare

Appointed as expert faculty for the International Society for Prevention of Child Abuse and Neglect

United Way of San Diego Impact Council on Child Abuse and Neglect

Appointed member of San Diego County Commission on Children and Youth by the Board of Supervisors

### Sarah Villarroel, MD

- Presented on the frequency of medical follow-up of adolescent victims after an acute sexual assault and if certain characteristics of the patient, exam, and/or assault were related with better follow-up rates at the annual Helfer Society Meeting, Amelia Island, FL, April 3-6, 2011

## PUBLICATIONS

Chadwick DL, Castillo EM, Kuelbs C, Cox SA, Lindsay SP. Missed and missing cases of abusive injuries: the magnitude and the measurement of the problem. *Child Abuse Negl*, 34(12):943-50, 2010.

Chadwick, DL. The Child Abuse Doctors Book, STM Learning, Inc., St. Louis, 2011.

Conradi L, Wilson C. Managing traumatized children: A trauma systems perspective. *Current Opinion in Pediatrics*, 22:621-625, 2011.

Conradi L, Taylor N, Oliver T. A case study using the Trauma Assessment Pathway (TAP) model. *Journal of Child and Adolescent Trauma*, 3:1-18, 2010.

Conradi L, Geffner R, Hamberger LK, Lawson G. An exploratory study of females as dominant aggressors of physical violence in their intimate relationships. *Journal of Aggression, Maltreatment and Trauma*, 18(7):718-738, 2009.

Geffner R, Conradi L, Geis K, Aranda B. Conducting child custody evaluations in the context of family violence allegations: Practical techniques and suggestions for ethical practice. *Journal of Child Custody*, 6(3):189-218, 2009.

Kuelbs CL. The impact of intimate partner violence on children, In: *Intimate Partner Violence: A Bio-Psychosocial Approach*, Oxford Publishing, 2009.





# Child Development and Community Health

The Division of Child Development and Community Health has two sections, Developmental-Behavioral Pediatrics and The Pediatric Center for Community Health. Dr. Sheila Gahagan, a developmental-behavioral pediatrician and epidemiologist who holds the Martin T. Stein Endowed Chair in Developmental-Behavioral Pediatrics, leads the division. The division is made up of 11 full-time faculty, nine adjunct faculty, and 52 research and health promotion staff including 25 with master's degrees or higher. The division's clinical mission is to provide evidence-based developmental-behavioral pediatric evaluation and treatment to children from birth to 21-years old. The research focus is to understand and test interventions for a range of common health problems related to community conditions and health disparities. Educating undergraduate students, medical students,

pediatric residents, fellows in developmental-behavioral pediatrics, child psychiatry, and post-doctoral research fellows is an important mission of the division.

Developmental-Behavioral Pediatrics (DBP) has expanded its consultation services with a move to the Fresh Start Clinic space at 7920 Frost Street. The consultation clinic now has the capacity to assess and treat many more patients and we expect to double the number of children with developmental and behavioral concerns and disorders cared for in our clinic within the first six months. In addition to the developmental-behavioral pediatric consultation clinic, from 2009 –

Left to right: Maria Luisa Zúñiga, Martin T. Stein, Nancy Graff, Sandra Daley, Kay Rhee, Howard Taras, Shela Gahagan, Shelia Broyles, Michelle Zive, Patricia East, Philip Nader, Yi Hui Liu

2011, we have provided care for children at the Rady Children's Hospital-San Diego (RCHSD) Autism Discovery Institute, San Diego Regional Center, and the First Five Project in South Bay San Diego. From 2010 – 2011, we have also participated in multidisciplinary care for vulnerable children in the foster care system who have complex social and medical problems through the KidSTART program (directed by RCHSD Developmental Evaluation Services). Developmental-Behavioral Pediatrics provides education for pediatric and internal medicine/pediatric residents through the RRC-required DBP one-month block rotation. In addition, medical students rotate through DBP during their core clerkship and may take a clinical elective in DBP. We also provide didactic teaching during the core curriculums for medical students and residents. Since 2009, two pediatricians have completed a clinical DBP fellowship. The DBP three-year ACGME approved fellowship begins July 1, 2011, with two first year fellows. The fellowship will include an intensive clinical year and two years focusing primarily on research and scholarly preparation for an academic career.

The focus of The Pediatric Center for Community Health is on prevalent health disparities in children and youth in the United States. Our work includes clinical, epidemiological and community-based research and local health promotion projects. We have been successful in funding our work through grants from the National Institutes of Health, Centers for Disease Control and Prevention, the California Foundation and other foundations, totaling \$15,157,004 over the last two years. Currently, our areas of focus include childhood obesity, HIV/AIDS, adolescent pregnancy, oral health, access to care, and increasing underrepresented groups in the health professions. We work collaboratively across five research themes: Parenting and Family Processes; Determinants and Consequences of Childhood Obesity; Understanding and Reducing Health Disparities in Youth; Educating the Next Generation in Child Development and Community Health; and Working with Community Partners to Improve Child Development and Health. Because of our location on the U.S./Mexico border, our group has considerable expertise in issues relating the Latino context to children's health outcomes. Through our Child Development and Community Health Pilot grants we have developed new research collaborations with faculty in Pediatric Gastroenterology, The Child and Adolescent Services Research Center (CASRC) at RCHSD, and the Department of Health Behavior at the School of Public Health at San

Diego State University. While most of our research is local, we are leading funded research in Mexico and in Chile, related to HIV/AIDS and childhood obesity. Our international work broadens our focus but improves our ability to understand health disparities at home.

## FACULTY

- Sheila Gahagan, MD, MPH**, *Chief*, Professor of Clinical Pediatrics
- Shelia Broyles, PhD, MPH**, Project Scientist, Senior Lecturer
- Sandra Daley, MD**, Clinical Professor of Pediatrics and Associate Chancellor, UC San Diego (UCSD)
- Patricia East, PhD**, Research Scientist
- Nancy Graff, MD**, Clinical Professor of Pediatrics (Joint appointment - General Pediatrics)
- Yi Hui Liu, MD, MPH**, Assistant Clinical Professor of Pediatrics
- Kyung (Kay) Rhee, MD, MA, MSc**, Assistant Adjunct Professor of Pediatrics
- Martin T. Stein, MD**, Professor Emeritus
- Howard Taras, MD**, Clinical Professor of Pediatrics
- Michelle Zive, MS, RD**, Academic Coordinator
- Maria Luisa Zúñiga, PhD**, Associate Adjunct Professor of Pediatrics (Joint appointment-Medicine)

## ADJUNCT FACULTY

- Cecilia Algarín, MD**, Neurophysiology, University of Chile
- Bronwen Anders, MD**, Professor Emeritus
- Adam Braddock, MD**, Medical Staff Physician - Developmental-Behavioral Pediatrics
- Raquel Burrows, MD**, Endocrinology, University of Chile
- Marcela Castillo, PhD**, Psychology, University of Chile
- Fátima Muñoz, MD, MPH**, Medicine
- Philip Nader, MD**, Professor Emeritus
- Patricio Peirano MD, PhD**, Neurophysiology, University of Chile
- Marcela Reyes MD, PhD**, Preventive Medicine, University of Chile

## POSTDOCTORAL FELLOWS

**Tasha Taylor, MD**, July 2008–July 2010  
**Nina Chien, PhD**, Sept. 2009–June 2010  
**Suzanna Martinez, PhD**, Sept. 2009–Sept. 2012  
**Anna Anderson-Lazo, PhD**, Sept. 2010–April 2012

## CLINICAL ACTIVITIES

### **Sheila Gahagan, MD, MPH**

- Provides developmental-behavioral pediatric services in Developmental and Behavioral pediatric consultation clinic and in clinics that serve underserved communities (South Bay, KIDSTART clinics)
- Consults nationally and internationally on Developmental-Behavioral Pediatrics

### **Yi Hui Liu, MD, MPH**

- Administers Developmental-Behavioral clinic, provides clinical care and oversees education for medical students, residents and Developmental-Behavioral Pediatric and Child Psychiatry fellows
- Provides clinical care clinics that serve underserved communities (South Bay, KIDSTART clinics)
- Provides care and consultation for children with developmental disabilities through San Diego Regional Center

### **Kyung (Kay) Rhee, MD, MA, MSc**

- Provides care as a hospitalist in the Division of Pediatrics and Hospital Medicine at RCHSD and provides clinical care at Grossmont Hospital and Palomar Hospital

### **Martin T. Stein, MD**

- Provides developmental-behavioral pediatric services in Developmental and Behavioral pediatric consultation clinic
- Provides clinical care in General Pediatrics clinic, including consultation to General Pediatricians related to Developmental and Behavioral problems
- Consults nationally and internationally on Developmental-Behavioral Pediatrics

- Prominent national leader and teacher in Developmental-Behavioral Pediatrics

### **Howard Taras, MD**

- Provides medical consultation to San Diego City schools, and the Preuss School, including evaluating students' health care needs, establishing school health care plans, and supervising select school nursing services

## HEALTH PROMOTION ACTIVITIES

### **Shelia Broyles, PhD, MPH**

- Educate caregivers on the importance of proper nutrition and physical activity for children and provide skills they can use to promote optimal physical health for their children and families

### **Nancy Graff, MD**

- Advocacy for children served by foster care and child protection services
- Pediatric oral health policy development and training

### **Howard Taras, MD**

- Outreach to parents, through community partner agencies, to provide access to low cost/no cost health care for families with uninsured children throughout the county
- Access to emergency dental care for children who qualify for the program, and to offer information and education to professionals, parents, and children to foster ongoing preventive dental care

### **Michelle Zive, MS, RD**

- Dissemination of research-based social marketing programs for low-income communities, related to fruit and vegetable consumption and daily physical activity
- Obesity prevention addressing community environments, including schools, recreational facilities and parks in Latino neighborhoods

### **María Luisa Zúñiga, PhD**

- Behavioral health and health promotion among persons of Mexican origin

## Major Goals and Plans

- 1. To increase breadth and depth of research related to child health disparities. We expect that this will be accomplished in three ways:**
  - Continuation of excellent work related to childhood obesity, adolescent pregnancy, HIV/AIDS, and addressing health services work force disparities
  - New research initiatives through new collaborations with other divisions, departments and schools (facilitated by CDCH pilot funding grants)
  - Build research on current innovative health promotion programs
  - Participating in faculty recruitments with other divisions in order to expand our focus to other health disparity conditions including asthma, injuries and mental health conditions
- 2. To increase the reach of Developmental-Behavioral Pediatrics through:**
  - Increasing clinical volume
  - Addition of three-year ACGME approved fellows
  - Partnering with local programs providing developmental and behavioral assessment and intervention
- 3. To provide outstanding educational opportunities for trainees for:**
  - Developmental-Behavioral Pediatrics fellows in clinical care, research and education
  - Post-doctoral fellows in public health, nursing, social sciences in child health disparities
  - Pediatric residents in Developmental-Behavioral Pediatrics and Community Pediatrics.
  - Medical students and undergraduate students in clinical care and research related to Developmental-Behavioral Pediatrics and Community Pediatrics.
- 4. Work to improve the health of our local community, through:**
  - Health promotion projects funded by the Centers for Disease Control and Prevention and foundations. Our focus will continue to be on conditions in which disadvantaged children have higher risk compared to other children in the United States.
- 5. Increase the innovation and impact of our work through:**
  - Interdisciplinary collaboration within and outside of our division
  - New projects with our strong community partnerships
  - Strategic thinking about current funding priorities

## RESEARCH ACTIVITIES

### Shelia Broyles, PhD, MPH

- Recruitment, development, enrichment, and retention program for Hispanic students and faculty
- Disparities in health
- Social and environmental determinants of health
- Disparities related to training health professionals
- University-Community Liaison, Clinical and Translational Research Institute-Community Engagement and Outreach Unit (CTRI-CE): Development of agency-based outreach strategies designed to improve recruitment of understudied, hard to reach participants; and consultation to UCSD researchers on the benefits of community-based participatory research, and methods for applying effective community engagement strategies into their research design
- National Children's Study, Field Data Co-Team Leader, and Community Engagement team member: assistance with data collection personnel, field data metrics, and community outreach and engagement activities and related metrics



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Sheila Broyles, PhD, MPH</b>		
San Diego EXPORT Comprehensive NCMHD Research Center 2 P 60 MD000220-06/NIH (NCMHD)	\$950,000	\$11,027,550 Sept. 2002-Apr. 2012
First 5 for Parents: Fostering Healthy Behaviors 516878/County of San Diego	\$437,686	\$2,026,136 Aug. 2006-June 2010
National Children's Study (Swanson, PI) HHSN267200700021C/NICHD/NIH		\$13,896,742 Sept. 2007-Apr. 2012
San Diego Clinical and Translational Research Institute (Firestein, PI) UL1 RR031980/NCRR/NIH		\$6,818,318 July 2010-Mar. 2015
<b>Sandra Daley, MD</b>		
San Diego EXPORT Comprehensive NCMHD Research Center 5 P60 MD000220-02/NIH (NCMHD)	\$950,000	\$11,027,550 Sept. 2002-Apr. 2012
Health Careers Opportunity Program/S.D. Regional Consortium D18HP10623/PHS (HRSA)	\$700,353	\$4,321,468 Sept. 2008-Aug. 2012
HRSA Hispanic Center of Excellence D34HP18954/PHS (HRSA)	\$524,354	\$1,120,347 July 2010-June 2012
Evaluation of Pipeline Programs 2010-068/Calif Wellness Foundation	\$156,522	\$180,000 July 2010-June 2013
California Wellness Foundation's Diversity in Health Professions 2006-199/Calif Wellness Foundation	\$43,478	\$150,000 Oct. 2006-Sept. 2009
UCSD Health Sciences Institute Pipeline Research Pilots 20091065/Calif Endowment (The)	\$98,440	\$108,232 July 2009-Dec. 2010
HRSA American Recover and Reinvestment Act Equipment to Enhance Training for Health Professionals - Centers of Excellence Program		\$199,990 Sept. 2010-Sept. 2011
HRSA American Recover and Reinvestment Act Equipment to Enhance Training for Health Professionals - Health Opportunitites Career Program		\$228,291 Sept. 2010-Sept. 2011
<b>Patricia East, PhD</b>		
Effects of Adolescent Childbearing for Families and Siblings 1 R01 PG000803-01, 1 APRPA006013-01-00/HHS Office Of The Secretary	\$100,000	\$358,185 Apr. 2007-Mar. 2011

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Sheila Gahagan, MD, MPH</b>		
Biopsychosocial Determinants of Adolescent Obesity/ Cardiovascular Risk 7 R01 HL088530-02/NIH (NHLBI)	\$430,155	\$2,524,675 Aug. 2009-July 2013
Minority Supplement to Biopsychosocial Determinants of Adolescent Obesity/Cardiovascular Risk 3R01HL088530-02S1/NIH (NHLBI)		\$125,568 Sept. 2009-Sept. 2011
CRCHD Pilot Project Award, Vida Saludable 5 P60 MD000220-08/NIH (NCMHD)		\$47,817 Jan. 2010-May 2011
Regalo de Salud (The Gift of Health) 2011 1952 003/UCSD CDCH Pilot Study		\$50,000 Jan. 2011-Jan. 2012
<b>Kyu Rhee, MD, MA, MSc</b>		
Role of parenting skills, style, and family functioning in pediatric weight loss 7 K23 HD057299-01A2/NIH (NICHD)	\$134,172	\$802,255 Aug. 2010-May 2014
Developing and Testing the Feasibility of 'SANDIA' (Staying Active, Nutrition Diaries, Increased Abilities) UCSD CDCH 2011 1952 02/UCSD CDCH Pilot Study		\$40,000 Jan. 2011-Jan. 2012
<b>Howard Taras, MD</b>		
San Diego Clinical and Translational Research Institute 1UL1 RR031980-01/NIH Natl Ctr Research Resources	\$3,033,699	\$36,586,707 July 2010-Mar. 2015
Collaboration to Establish the Prevalence of FASD in San Diego, CA 1 U01 AA019879-01/NIH (NIAAA)	\$919,052	\$10,545,402 Sept. 2010-Aug. 2015
San Diego Kids Health Assurance Network 522842/County of San Diego	\$183,026	\$2,054,664 Jan. 2008-June 2011
San Diego Dental Health Initiative 518530/County of San Diego	\$406,250	\$1,650,000 July 2007-June 2011
Nutrition Link Sub 09-11209/CAL H&W Public Health, Dept. O	\$212,598	\$261,794 Oct. 2009-Sept. 2010
National Children's Study (Swanson, PI) HHSN267200700021C/NIH/NICHD		\$13,896,742 Sept. 2007-Sept. 2012

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Michelle Zive, MS, RD</b>		
CDC Communities Putting Prevention to Work Sub 532635/County of San Diego	\$3,380,230	\$3,457,675 June 2010-Mar. 2012
Networks for a Healthy California (5-A Day) Sub 08-85181/CAL H&W Public Health, Dept. O	\$879,602	\$3,227,057 Oct. 2008-Sept. 2011
Assesing the effect of Farmers Market Incentive Programs on Healthy Food Access and Consumption 20114714/Wholesome Wave Foundation	\$20,150	\$22,165 June 2011-Mar. 2012
Community Health Improvement Partners #29-1001		\$4,300 Sept. 2008-Aug. 2009
Behavior and Clinical Trials Participation in HIV+ Latinos 1 K01 MH072353-01A1/NIH (NIMH) Natl Inst Of Mental Health	\$112,932	\$607,446 May 2005-Apr. 2011
<b>Maria Luisa Zúñiga, PhD</b>		
HIV Care Among Recently Released HIV+ Jail Inmates (Pollini, PI) ID09-SD-016/CA HIV/AIDS Research Program (CHRP)		\$200,000 Apr. 2010-Apr. 2012
Complementary & Alternative Care Behavior in HIV+ Latinos in the US-Mexico Border Region R21AT004676-01A1/NIH/NCCAM		\$304,781 July 2009-July 2011
HIV/AIDS and Associated Co-Morbidities in the US-Mexico Border Region Fellowship 325128-UCSD/DIHCCM-03/Hispanic-Serving Health Professions Schools		\$96,995 Nov. 2006-Dec. 2011
AIDS International Training Program in the US-Mexico Border Region (Strathdee, PI) D43 TW08633/NIH		\$277,985 May 2010-May 2015
Mobile Phone-Based Video Directly Observed Therapy for Tuberculosis (Garfein, PI) R21 AI088326/NIH/NIAID		\$156,176 Apr. 2010-Apr. 2012

### Sandra Daley, MD

- PI-NIH-funded Program Project focused on health disparities
- Recruitment, development, enrichment, and retention program for Hispanic students and faculty
- Factors that increase the number of qualified disadvantaged students entering the local healthcare workforce
- Disparities related to training health professionals

### Patricia East, PhD

- Family- and individual-level factors that contribute to how younger siblings of pregnant teens can avoid teenage parenting (this is the only study in the country to focus on siblings' risk of adolescent pregnancy and to examine family adaptation to adolescent transition to parenting)

### Sheila Gahagan, MD, MPH

- Research is aimed at understanding health disparities in child growth and development
- PI on NIH-funded project on biological and psychosocial determinants of adolescent obesity and cardiovascular risk in Chilean adolescents
- PI on NIH-funded pilot grant studying an intervention to increase walking and decrease high-calorie beverage consumption in mothers and their pre-school-age children
- PI on Child Development/Community Health-funded pilot to test feasibility of promotora-led intervention to promote optimal weight in first-time pregnant mothers and their babies in collaboration with San Ysidro Health Center

### Kyung (Kay) Rhee, MD, MA, MSc

- PI on NIH-funded pediatric weight control intervention that examines the role of parent behaviors and parenting style in the success of treatment in overweight/obese 8-12 year old children. The study is also examining baseline underlying difference in parent feeding behaviors and parenting style among parents of overweight and normal weight children
- Co-PI on a Child Development/Community Health funded project that is developing and piloting a culturally tailored behavioral weight control intervention for Latino children and their families. This project involves focus groups with Latino parents and subsequent modification of the current behavioral intervention that will be used in a pilot intervention.

### Martin T. Stein, MD

- Research focuses on bringing multidisciplinary experts together to think about challenging pediatric cases. This work is published as a regular article in the *Journal of Developmental & Behavioral Pediatrics*.

### Howard Taras, MD

- Co-Investigator and director of the Community Engagement Unit, of the Clinical & Translational Research Institute, funded by the NIH-NCRR
- Co-Investigator, directing community engagement for the National Children's Study
- Research methods of cross-professional teaching at California Western School of Law
- Research in practical applications of school health

### María Luisa Zúñiga, PhD

- Research focus is on health care access and utilization in the US-Mexico border region with particular emphasis on Latinos living with HIV and Community-Based Participatory Research
- Primary and secondary HIV- prevention, including HIV/STI prevention among youth, barriers to health care utilization, complementary and alternative medicine use, and stigma and HIV-transmitting risk behaviors among Latinos living with HIV in the border region
- Zuniga has considerable expertise in Community-Based Participatory Research

## TEACHING ACTIVITIES

### Shelia Broyles, PhD, MPH

- Taught Quantitative and Qualitative Research Methodologies, with emphasis on health and health disparities impacting underserved and at-risk populations
- Supervises medical students' Independent Study Projects
- Supervises undergraduate and graduate students' special projects and internships
- Mentors students in SDSU-UCSD joint doctoral program in health behavior
- Lecturer, Special Topics in Health Disparities, SDSU graduate public health class
- CTRI-CE: Development of education modules to train staff, students, residents, and researchers covering community outreach topics such as the benefits of community-based participatory research, and methods for applying effective community engagement strategies into clinical and behavioral research design
- National Children's Study - mentor student interns in community engagement methods and supervise activities

### Sandra Daley, MD

- Principal Investigator of the Health Career Opportunities Program, Hispanic center of Excellence, and San Diego Comprehensive NIMHD Research Center in Health Disparities (CRCHD)
- Chair, The Preuss School Board of Directors
- Co-Chair, UCSD School of Medicine Diversity Task Force
- Board member, The San Diego Foundation, San Diego, CA
- Educational activities include: recruitment and retention of students and faculty from disadvantaged groups;



establishing partnerships with community groups and schools of higher education; teaching and mentoring students, fellows and junior faculty; and designing and implementing academic enrichment and research training programs for post-baccalaureate, community college, middle and high school academic enrichment and research methodology training programs

- Supervises medical students' Independent Study Projects (ISP)
- Program advisor for the Healthcare Opportunities Preparation Empowerment Program (HOPE), UCSD Diversity Coalition, and the School of Public Health course, Special Topics in Health Disparities

#### **Patricia East, PhD**

- Mentor for post-doctoral fellow, Nina Chien PhD (Education) September 1, 2009 – June 30, 2010
- Directs monthly Post-doctoral fellows Faculty Development Seminar attended by six post-doctoral fellows in psychology, health behavior, anthropology, developmental-behavioral pediatrics
- Master's Thesis Committee Member for Humberto Parada - SDSU Master's of Public Health Candidate. Thesis: Adolescent Mothers' Relationships with Their Baby's Father: Relations to Parenting and Child Acceptance at One year Postpartum, 2009-ongoing

#### **Sheila Gahagan, MD, MPH**

- Precepts residents and medical students on Developmental-Behavioral Pediatric rotation
- Core faculty for the Community Pediatric rotation (attends two months/yr)
- Mentor and thesis committee member for Master's level students in Public Health (Christine Williams, MPH, Health Promotion and Behavioral Sciences, 2011) and Clinical Research (Olga Dolgonos, MD, MAS, 2011)
- Mentor and thesis committee member for Doctoral level students in Nursing (Melinda Bender, PhD, 2009-2011) and Public Health—Health Behavior (Kim Tran Carpuic, PhD candidate, 2010-2011; Kristi Robusto, PhD candidate, 2010-2011)
- Mentor for post-doctoral fellow Suzanna Martinez, PhD, MS (Health Behavior) September 1, 2009 – September 1, 2012
- Mentors Dept. of Pediatric junior faculty (Kimberly Newton, MD-Pediatric GI), Lillian Choi, MD

(Pediatric GI), Adrianna Tremoulet, MD (Pediatric Pharmacology), Yvette Lacoursiere, MD (Obstetrics)

- Co-directs post-doctoral fellows Faculty Development Seminar
- Consults nationally and internationally in Developmental-Behavioral Pediatrics and children's growth

#### **Nancy Graff, MD**

- Rotation director for Community Pediatrics Rotation-Resident training in community pediatrics, advocacy, and child protection; Attending physician three-four blocks per year plus maintains curriculum; Develop and implement four Cultural Immersion Days per year, three film nights per year and one theater night per year; Leads two noon conferences in Community Pediatrics
- MS-4 course Principles to Practice: small group facilitator for general pediatrics cases; Directed the adolescent medicine case session and was small group facilitator
- Teaches continuity clinic residents in General Pediatrics

#### **Yi Hui Liu, MD, MPH**

- Developmental-Behavioral Pediatrics RRC-required block rotation director
- Precepts medical students, residents, and fellows in Developmental-Behavioral clinics

#### **Kyung (Kay) Rhee, MD, MA, MSc**

- Teaches topics in core hospitalist medicine curriculum to pediatric hospitalist fellows
- Developed and leads monthly research working group meetings in the Division of Child Development and Community Health
- Leads monthly research meetings in the Division of Pediatrics and Hospitalist Medicine
- Teaches UCSD undergraduates in Special Studies Course (BISP199)
- Supervises graduate students and post-doc students in delivering behavioral weight control intervention

#### **Martin T. Stein, MD**

- Precepts residents and medical students on Developmental and Behavioral rotation
- Consults nationally and internationally on Developmental-Behavioral Pediatrics
- Pediatrics 401: Core Pediatric Clerkship

- Lectures in Child Development (medical students)
- Conducts seminars in Child Development: Child and Adolescent Psychiatry Fellows
- Monthly Joint Conference with Developmental-Behavioral Pediatrics and Child Psychiatry
- Monthly Joint Conference with Developmental Services at RCHSD
- Pediatric Professor's Rounds

### Howard Taras, MD

- Core faculty for the Community Pediatric rotation (11 months per year of teaching; one month of precepting)
- Oral health training session, monthly for 10 months per year to medical students
- Supervises medical students' Independent Study Projects
- Co-directs pediatric residents' continuity clinic program
- Course co-director, Introduction to Clinical Medicine

### María Luisa Zúñiga, PhD

- Course Instructor, UCSD clinical research enhancement through supplemental training (CREST)
- Co-director and Instructor, Joint Doctoral Program Public Health UCSD Series FPM 258A, B, C
- Co-Instructor, Culture and Ethics, UCSD Biomedical Ethics Series (Winter 2011)
- Lecturer, Post-Doctoral Cancer Disparities Seminar (Fall 2010)
- Invited Course Instructor, Epidemiology in the Mexico-U.S. Border Region, Masters in International Health, Universidad Xochicalco, Tijuana, B.C., Mexico (Winter 2011)

## RCHSD DEVELOPMENTAL EVALUATION SERVICES

The Division of Child Development and Community Health works closely with RCHSD Program of Developmental Evaluation Services for education of pediatric residents and Developmental-Behavioral Pediatric Fellows.

### Kristin Gist, MS, Senior Director

Audiology, Speech-Language Pathology, Occupational Therapy, Developmental Evaluation Clinic and the Autism Discovery Institute provide outstanding training

opportunities for pediatric residents and Developmental-Behavioral Pediatric Fellows. Developmental-Behavioral Pediatric faculty collaborate with Developmental Evaluation Services to provide care for children with complex developmental needs.

### Alyssa Needleman, PhD, CCC-A, FAAA, Manager, Audiology

Audiology Department offers a full range of diagnostic and rehabilitative audiologic services, serving San Diego, Riverside, Imperial, San Bernardino and Orange counties, and families from Mexico. Services include diagnostic hearing tests, dispensing hearing aids and counseling, auditory evoked response testing, and cochlear implant services. Over the past two years (2009–2011) inpatient and outpatient visits for 25,000 patients included over 13,500 audiological evaluations, 2,000 brainstem evoked response tests (BERs), and 1,700 hearing aid fittings. In fiscal year 2011, audiologists saw more than 14,000 patients, including more than 350 patients with cochlear implants. Residents rotate through the Audiology Department under the supervision of Dr. Catherine Moyer and Dr. Shani Goldgrub and have the opportunity to observe diagnostic audiological evaluations and hearing aid fittings, and receive education on degrees and types of hearing loss, types of hearing aids, cochlear implants and other amplification devices, and the basics of how to read an audiogram, audiological tests and how to order them.

### Shari Garrett, MS, CCC-SLP, Manager, Speech-Language Pathology

Speech-Language Pathology Department provides comprehensive individualized inpatient and outpatient evaluation and treatment in speech production, language comprehension, expressive language, voice, fluency, auditory processing, and pragmatics. Speech-language pathologists also provide multi-disciplinary evaluation, consultation, and enrichment classes for children birth to five years of age through the First 5 Commission of San Diego's HDS initiative and KidSTART, a new multidisciplinary program for children ages 0-5 presenting with complex developmental and/or behavioral needs. The Speech-Language Pathology Department conducted more than 20,000 evaluation and treatment sessions in both fiscal years 2010 and 2011. Residents observe diagnostic and treatment sessions under the supervision of Valerie Dorfman, MS, CCC-SLP.

They also receive education about speech and language developmental expectations, milestones, and delays. Education is provided on frequently asked questions regarding typical and atypical fluency, voice and resonance, social pragmatics, and apraxia associated with autism spectrum disorders.

**Eileen Porter, OTR/L, HTC, PAM,  
Manager, Occupational Therapy**

Occupational Therapy Department provides a wide range of diagnostic and rehabilitation inpatient and outpatient services for children with developmental delays and disabilities including a focus on self-care skills, hand rehabilitation, splint fabrication, sensory processing, feeding and swallowing, fine motor coordination, and developmental activities. Occupational therapists also provide multidisciplinary evaluation, consultation, and enrichment classes for children ages 0-5 through the First 5 Commission of San Diego's HDS initiative and KidSTART, a new multidisciplinary program for children, five years and under, presenting with complex developmental and/or behavioral needs. Over the past two years (2009–2011), the Occupational Therapy Department provided Team evaluations and multidisciplinary treatment for children with serious feeding problems; and training 20 occupational therapy level I students and two level II students. Residents observe evaluations and treatment sessions and receive education on when and how to refer patients for occupational therapy services.

**Nan Haney, PT, MS, PCS,  
Manager, Physical Therapy**

Physical Therapy Department offers inpatient and outpatient rehabilitation services for children with a goal that each child achieve optimal developmental and functional outcomes focusing on continuity of care in the treatment of neurological, congenital, orthopedic, and developmental problems from infancy through adolescence. Over the past two years (2009–2011), the Physical Therapy Department provided 73,000 patient visits. Physical therapists also provide consultation and enrichment classes for children, ages 0–5, in the community through First 5 Commission funding. Other programs include a multidisciplinary program for children presenting with complex developmental and/or behavioral needs and a pro-

gram to assist drug using mothers to bond with their infants by teaching them infant massage. Residents observe evaluation and treatment sessions for younger patients with developmental delay and adolescent patients with orthopedic and sports injuries. In addition, residents learn about who to refer and how.

**Jeffery Olson, Supervisor,  
Developmental Services Operations**

Developmental Evaluation Clinic (DEC) offers inpatient and outpatient developmental and psychoeducational evaluation services for children birth-18 years, with a focus children, ages 0–5. The results of these comprehensive diagnostic evaluations are used to create a profile of developmental strengths and delays and identify early intervention programs and therapies. Outpatient services are also provided at Solana Beach, Oceanside, and Temecula. Over the past two years, the Developmental Evaluation Clinic conducted more than 1,600 developmental evaluations for children from San Diego, neighboring, and Baja California, Mexico. Residents spend a day with a clinical psychologist in DEC observing a developmental evaluation during Developmental-Behavioral Pediatrics. Our Clinical Improvement Coordinator serves as the mentor for this program and reviews diagnostic tools with the residents.

**Christina Corsello, Ph.D., Clinical Director  
and Aubyn Stahmer, Ph.D., Research Director,  
Autism Discovery Institute**

Autism Discovery Institute (ADI) provides comprehensive diagnostic and treatment services for children with autism spectrum disorders. Services include diagnostic assessments, parent-child developmental behavior therapy (PC-DBT), parent education and training, social skills groups, behavior modification, cognitive behavior therapy, service coordination and professional training. Specialized inclusion toddler and preschool programming is provided at Alexa's Playful Learning Academy for Young Children (PLAYC), which includes educational and therapeutic programming designed to integrate early education for typically developing children and children with autism or related disorders. In addition, the ADI is involved in research in diagnostic practices, individualized intervention, service systems, and genetics. Child psychiatry and Developmental-Behavioral Pediatric appoint-

ments are also offered within the ADI. Residents and fellows observe diagnostic evaluations and children in classrooms, under the direction of Drs. Christina Corsello, Natacha Akshoomoff, and Jennifer Reinehr. Residents learn about diagnostic assessments, intervention programs, community resources, and early screening and how to refer for an evaluation or intervention.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Sheila Gahagan, MD, MPH

UCSD National Center of Leadership in Academic Medicine Mentor Award, 2009  
Academic Senate Research & Travel Award, UCSD 2010  
Biopsychosocial risk for adolescent obesity in a Chilean cohort. UCSD Department of Pediatrics Faculty Research Seminar, San Diego, CA, April 28, 2009  
Biopsychosocial risk for adolescent obesity in a cohort from Santiago. Institute of Nutrition and Food Technology, University of Chile, Santiago, Chile, July 6, 2009  
Infant and toddler sleep. UCSD Department of Pediatrics, San Diego, CA, July 28, 2009  
The development of eating behavior, UCSD Department of Pediatrics Grand Rounds, San Diego, CA, September 25, 2009  
Risk for adolescent obesity – Early growth, eating behavior, sleep and activity. Keynote Speaker – Pediatric Research Day, Michigan State University and Wayne State University, March 12, 2010  
Infant growth after 40 weeks: What is optimal? Neonatal and Pediatric Nutrition: Update. San Diego, CA, May 19, 2010  
Sleep in typically developing and impaired children. Visiting Professor, University of Brescia, Brescia, Italy, October 27, 2010  
The development of eating behavior. Visiting Professor, University of Brescia, Brescia, Italy, October 28, 2010  
Strategies for early identification of neurologically impaired infants. Visiting Professor, University of Brescia, Brescia, Italy, October 29, 2010  
Developmental outcomes in adolescent and adults who were former premature infants. 11th Annual

APECADE Conference (The Association for Early Intervention for Development in At Risk Infants), Paris, France (presented in French), March 25, 2011

Behavioral and psychiatric outcomes in adolescent and adults who were former premature infants. 11th Annual APECADE Conference (The Association for Early Intervention for Development in At Risk Infants), Paris, France (presented in French), March 25, 2011

### Sandra Daley, MD

Salvation Army Women of Distinction Award, 2010  
The California Wellness Foundation Champion's of Health Professions Diversity Award, 2010  
POWER presentation at the Upward Bound Awards Banquet, San Diego, CA, July 23, 2009  
Why medicine, why you. Presentation at the Student National Medical Association Region I Annual Conference, San Diego, CA, October 17, 2009  
Is inequality making us sick? Presentation at the UCSD Medical Center Diversity Association Lecture Series, San Diego, CA, October 27, 2009  
Developing pipeline programs for diversity in health careers. Presentation at the American Association of Medical Colleges Annual Meeting, GSA/GEA Breakout Session, Boston MA, November 9-11, 2009  
Twelfth Annual/NMA Lenoir Pediatric Allergy, Asthma and Immunology Lecture, January 15, 2010  
The challenges of diversity in academia: Walking the walk. Association for Library and Information Science Annual Conference, San Diego, CA, January 5, 2011  
UCSD Health Sciences Institute Student Tracking: Lessons learned. Presentation at the HRSA Health Professions Diversity HCOP/COE Conference, Bethesda MD, February 1-3, 2011  
Albert Einstein College of Medicine 8th Annual Minority and Women Faculty Career Development Day, March 22-23, 2011

### Patricia East, PhD

San Diego Business Journal Women Who Mean Business Award, 2009

### Nancy Graff, MD

Indications of physical abuse. Training for the investigator: Burn evaluations, September 2010 and March 2011, San Diego, CA



Coordinator, California Collaborative Resident Legislative Advocacy Program, Sacramento, CA, 2009-2011  
Pediatricians practicing preventive dentistry. Future of Pediatrics Conference: Quality care for all children, Anaheim, CA, 2009

### **Yi Hui Liu, MD, MPH**

Focus (I wish they would) on ADHD. Practical pointers for pediatric practice, San Diego, CA, October 24, 2009  
Pharmacological pitfalls in managing developmental-behavioral disorders: ADHD and autism drugs. Advances in the practice of pediatrics, San Diego, CA, March 26, 2010  
ADHD update. San Diego Academy of Family Physicians 53rd Annual Postgraduate Symposium: Family medicine update 2010, San Diego, CA, June 26, 2010  
School readiness. Pediatric Grand Rounds at RCHSD, San Diego, CA, August 27, 2010  
Medication and young children: A developmental-behavioral pediatrician's perspective. We can't wait! Recognition and treatment of mental health problems in children 0-5, San Diego, CA, September 25, 2010  
Don't be delayed! Developmental screening in primary care. Practical Pediatrics, San Diego, CA, October 30, 2010  
KidSTART: Addressing complex developmental and behavioral needs for children 0-5. Child and Adolescent Psychiatry Grand Rounds at RCHSD, San Diego, CA, February 11, 2011

### **Kyung (Kay) Rhee, MD, MA, MSc**

Warren Alpert Medical School of Brown University  
Medical Student Teaching Award, 2009  
Hasbro Children's Hosp. Resident Teaching Award, 2009

### **Martin T. Stein, MD**

C. Anderson Aldrich Award for Contributions in Child Development: American Academy of Pediatrics  
National Center for Child Health and Development. Tokyo, Japan 2009  
Warren Weiswasser lecture in developmental and behavioral pediatrics, Yale School of Medicine, 2009  
Rethinking well child care. Seminar at Pediatric Academic Society (PAS), San Francisco, CA, 2009  
Scottish Rite Children's Hospital, Dallas, TX, 2010  
Pediatric psychopharmacology Presentations, 2009, 2010

### **Maria Luisa Zúñiga, PhD**

Cross-cultural considerations in the recruitment of Latinos of Mexican-origin into HIV/AIDS clinical trials in the US-Mexico border region. UCSD AIDS Clinical Rounds, San Diego, CA, January 9, 2009  
Improving health outcomes for Latino patients. UCSD Nursing Grand Rounds, San Diego, CA, March 11, 2009  
Understanding health care access and care utilization among HIV-positive Latinos in the US-Mexico border region. San Diego State University School of Social Work, April 7, 2009  
UCSD School of Medicine University Link Medical Science Program Award in recognition of dedication and willingness to share time and resources with students of the program, 2009  
Comisión de Salud Fronteriza México-Estados Unidos (US-Mexico Border Health Commission) Award for contributions to binational border health, 2010  
San Ysidro Health Center CASA HIV/AIDS Services Program Community Award for commitment to serving persons living with HIV through research and improving health and quality of life, 2010  
Universidad Xochicalco, Campus Tijuana Award in recognition for contributions as Honorary Faculty of the School of Medicine, 2010

## **PUBLICATIONS**

Barber JS, East PL. Home and parenting resources available to siblings depending on their birth intention status. *Child Dev*, 80(3):921-939, 2009.  
Barber JS, East PL. Children's experiences after the unintended birth of a sibling. *Demography*, 48(1): 101-125, 2011.  
Bauer NB, Stein MT. Lying, Cheating and Stealing. In: *Developmental and Behavioral Pediatrics; A Handbook for Primary Care*, 3rd Edition, edited by Augustyn M, Zuckerman B. Lippincott Williams & Wilkins, 2010.  
Blum NJ, Bird LM, Stein MT. Global developmental delay in a 10-month old infant boy. *J Dev Behav Pediatr*, 30(1):72-4, 2009.  
Broyles SL, Brennan JJ, Herzog K, Kozo J, Taras HL. Cultural adaptation of a nutrition education curriculum for Latino families to promote acceptance. *J Nutr Educ Behav*, 43:S158-S161, 2011.

- Burrows RA, Leiva LB, Weisstaub G, Lera LM, Albala CB, Blanco E, Gahagan S. High HOMA-IR, adjusted for puberty, relates to the metabolic syndrome in overweight and obese Chilean youths. *Pediatr Diabetes*, 12(3 pt 2): 212-8, 2011.
- Bussing R, Siddiqi S, Janicke DM, Harbert MJ, Trauner D, Taylor T, Stein MT. Late onset autistic symptoms and other fluctuating behaviors. *J Dev Behav Pediatr*, 30(6):593-6, 2009.
- Cappiello MS, Gahagan S. Early child development and developmental delay in indigenous communities. *Pediatr Clin N Am*, 56(6):1501-1517, 2009.
- Daley SP, Broyles SL, Rivera LM, Reznik VM. Increasing the capacity of health sciences to address health disparities. *J Natl Med Assoc*, Sep;101(9):881-5, 2009.
- Deiss RG, Garfein RS, Lozada RM, Burgos JL, Brouwer KC, Moser KS, Zúñiga ML, Rodwell TC, Ojeda VD, Strathdee SA. Cross-border mobility influences Tuberculosis diagnosis and treatment among injection drug users in Tijuana, Mexico. *Am J Public Health*, 99(8):1491-5, 2009.
- East PL. Adolescents' relationships with siblings. In: *Handbook of Adolescent Psychology*, Vol. 2. Contextual influences on adolescent development, edited by R.M. Lerner & L. Steinberg. Wiley, Hoboken, NJ, 2009: p. 43-73.
- East PL, Weisner TS, Slonim A. Youths' caretaking of their adolescent sisters' children: Results from two longitudinal studies. *J Fam Issues*, 30(12): 1671-1697, 2009.
- East PL, Weisner TS. Mexican American adolescents' family caregiving: Selection effects and longitudinal associations with adjustment. *Fam Relat*, 58(5): 562-577, 2009.
- East PL, Slonim A, Horn EJ, Trinh C, Reyes BT. How an adolescent's childbearing affects siblings' pregnancy risk: A qualitative study of Mexican American youth. *Perspect Sex Reprod Health*, 41(4): 210-217, 2009.
- East PL. Children's provision of family caregiving: Benefit or burden? *Child Dev Perspect*, 4(1): 55-61, 2010.
- East PL, Chien NC. Family dynamics across pregnant Latina adolescents' transition to parenthood. *J Fam Psychol*, 24(6): 709-720, 2010.
- East PL, Chien NC, Adams JA, Hokoda A, Maier A. Links between sisters' sexual and dating victimization: The roles of neighborhood crime and parental controls. *J Fam Psychol*, 24(6): 698-708, 2010.
- Gahagan S, Yu S, Kaciroti N, Castillo M, Lozoff B. Linear and ponderal growth trajectories in well-nourished, iron-sufficient infants are unimpaired by iron supplementation. *J Nutr*, 139(11):2106-12, 2009.
- Gahagan S. HIV-stage, nutritional status, and psychomotor child development in resource-poor settings - A causal web. *Dev Med Child Neurol*, 51(12):929-30, 2009.
- Gahagan S. Crying and colic. In: *Nelson Essentials of Pediatrics*, 5th edition, edited by Behrman RE, Kliegman RM. W.B. Saunders, Philadelphia, 2010.
- Gahagan S. Temper tantrums. In: *Nelson Essentials of Pediatrics*, 5th edition, edited by Behrman RE, Kliegman RM. W.B. Saunders, Philadelphia, 2010.
- Gahagan S. Attention deficit hyperactivity disorder. In: *Nelson Essentials of Pediatrics*, 5th edition, edited by Behrman RE, Kliegman RM. W.B. Saunders, Philadelphia, 2010.
- Gahagan S. Control of elimination - Normal development and disorders. In: *Nelson Essentials of Pediatrics*, 5th edition, edited by Behrman RE, Kliegman RM. W.B. Saunders, Philadelphia, 2010.
- Gahagan S. Normal sleep and pediatric sleep disorders. In: *Nelson Essentials of Pediatrics*, 5th edition, edited by Behrman RE, Kliegman RM. W.B. Saunders, Philadelphia, 2010.
- Gahagan S, Obesity. In: *Nelson Textbook of Pediatrics*, 19th Edition, edited by Kliegman RM, Behrman RE, Stanton BF, Nina Schor N, St. Geme J. W. B. Saunders Elsevier (in press).
- Gosney JE Jr, Storman D, Geving M, Liu YH. Operation housecall: A family-centered pediatric residency experience. *Clin Pediatr*, 48(7):780-3, 2009.
- Hoerster KD, Mayer JA, Gabbard S, Kronick RG, Roesch SC, Malcarne VL, Zúñiga ML. Impact of individual, environmental, and policy level factors on healthcare utilization among United States farmworkers. *Am J Public Health*, 101(4):685-92, 2011.
- Ireland R, Weisbart C, Dubowitz H, Rowe J, Stein MT. When family drawings reveal vulnerabilities and resilience. *J Dev Behav Pediatr*, 30(5):474-7, 2009.
- Jelalian E, Hart C, Rhee KE. Treatment of pediatric obesity. *Med Health R I*, 92(2): 48-49, 2009.
- Liu YH, Stein MT. Health Screening. In: *The Child: An Encyclopedic Companion*, 1st Edition, edited by RA Shweder, TR Bidell, AC Dailey, SD Dixon, PJ Miller, J Modell. University of Chicago Press, Chicago, 2009.
- Liu YH, Stein MT. Talking with Children. In: *The Zuckerman Parker Handbook of Developmental and*

- Behavioral Pediatrics for Primary Care*, 3rd Ed., edited by MC Augustyn, BS Zuckerman, EB Caronna. Lippincott Williams & Wilkins Philadelphia, 2010: p.7-11.
- Liu YH. The Vulnerable Child Syndrome. In: *Rudolph's Pediatrics*, 22nd Edition, edited by C Rudolph, A Rudolph, G Lister, L First, A Gershon. McGraw-Hill Professional, 2011.
- Marcus S, Lopez JF, McDonough S, Mackenzie MJ, Flynn H, Neal CR Jr, Gahagan S, Volling B, Kaciroti N, Vazquez DM. Depressive symptoms during pregnancy: Impact on neuroendocrine and neonatal outcomes. *Infant Behav Dev*, 34(1):26-34, 2011.
- McCabe CT, Woodruff SI, Zúñiga ML. Sociodemographic and substance use correlates of tobacco use in a large, multi-ethnic sample of emergency department patients. *Addict Behav*, 2011 Apr 22. [Epub ahead of print].
- Morton L, Taras H, Reznik V. Teaching interdisciplinary collaboration: Theory, practice, and assessment. *Quinnipiac Health Law Journal*, 13:301-327, 2010.
- Muñoz FA, Pollini RA, Zúñiga ML, Strathdee SA, Lozada R, Martínez GA, Valles-Medina AM, Sirotin N, Patterson TL. Condom access: associations with consistent condom use among female sex workers in two northern border cities of Mexico. *AIDS Educ Prev*, 22(5):455-65, 2010.
- Norlin C, Crawford MA, Bell, CT, Sheng X, Stein MT. Delivery of well-child care: a look inside the door. *Acad Pediatr*, 11(1):18-26, 2011.
- Orringer K, Gahagan S. Adolescent girls define menstruation: A multi-ethnic exploratory study. *Health Care Women Int*, 31(9): 831-847, 2010.
- Perrin Ellen, Smith, Davis C, Spack, N, Stein MT. Gender variant and gender dysphoria in two young children. *J Dev Behav Pediatr*, 31(2): 161-164, 2010.
- Pollini RA, Alvelais J, Hasan S, Minuto J, Lozada R, Vera A, Zúñiga M, Strathdee SA. High prevalence of abscesses and self-treatment among injection drug users in Tijuana, Mexico. *Int J Infect Dis*, 14 (Suppl 3):e117-22, 2010.
- Radecki L, Olson LM, Frintner MP, Tanner JL, Stein MT. What do families want from well-child care? Including parents in the rethinking discussion. *Pediatrics*, 124(3):858-65, 2009.
- Reyes M. Gahagan S, Diaz E, Blanco E, Leiva L, Lera L, Burrows R. Relationship of adiposity and insulin resistance mediated by inflammation in a group of overweight and obese Chilean adolescents. *Nutr J*, Jan14,10:4, 2011.
- Rhee KE, Coleman SM, Appugliese DP, Kaciroti NA, Corwyn RF, Davidson NS, Bradley RH, Lumeng JC. Maternal feeding practices become more controlling after and not before excessive rates of weight gain. *Obesity*, Sep;17(9):1724-9, 2009.
- Rhee KE, Appugliese D, Prisco A, Kaciroti N, Corwyn R, Bradley R, Lumeng J. Controlling maternal feeding practices associated with decreased dieting behavior in 6th grade children. *J Am Diet Assoc*, 110(4):619-623, 2010.
- Rhee KE, Wolf, H. Fever of unknown origin. The Pediatric Hospital Medicine Core Competencies Supplement. *J Hosp Med*, 5(S2):17-18, 2010.
- Siegel B, Chan C, Willies-Jacobo L, Stein MT. Culture clash: a missed opportunity. *J Dev Behav Pediatr*, 30(2):154-7, 2009.
- Stein MT. Common problems in infant feeding. In: *Developmental and Behavioral Pediatrics*, 4th edition, edited by Crocker A, Carey W, Coleman W, Feldman H. Mosby Elsevier, Philadelphia, 2009.
- Stein MT. Health supervision. In: *The Child: An Encyclopedic Companion*, edited by Shweder RA, Bidell TR, Dailey AC, Dixon CD, Miller PJ, Modell J. University of Chicago Press, Chicago, 2009.
- Stein MT, Lukasik M. Developmental screening and assessment in infants, toddlers and preschool children. In: *Developmental and Behavioral Pediatrics*, 4th edition, edited by Crocker A, Carey W, Coleman W, Feldman H. Mosby Elsevier, Philadelphia, 2009.
- Stein MT, Spock BM, Liu YH. Health screening. In: *The Child: An Encyclopedic Companion*, edited by Shweder RA, Bidell TR, Dailey AC, Dixon CD, Miller PJ, Modell J. University of Chicago Press, Chicago, 2009.
- Stein MT. Leon Eisenberg remembered. *J Dev Behav Pediatr*, 31(1), 81, 2010.
- Stein MT, Owens J, Abbott M. Significant sleep dysregulation in a toddler with developmental delay. *J Dev Behav Pediatr*, 31(4): 357-359, 2010.
- Stein, MT. (Editor) Challenging cases in developmental and behavioral pediatrics. *J Dev Behav Pediatr*, 31(3Supple):21, April 2010.

- Stein MT, Benninga MA, Felt BT. An 8-year old boy with treatment-resistant encopresis. *J Dev Behav Pediatr*, 31(6): 513-515, 2010.
- Stein MT, Elias ER, Saenz M, Pickler L, Reynolds A. Autistic spectrum disorder in a 9-year old girl with macrocephaly. *J Dev Behav Pediatr*, 31(7):632-634, 2010.
- Stein, MT. Headaches. In: *Developmental and Behavioral Pediatrics; A Handbook for Primary Care*, 3rd Edition, edited by Augustyn M, Zuckerman B. Lippincott Williams & Wilkins, 2010.
- Stein MT. Developmental and behavioral pediatrics. (Section Editor) In: *Rudolph's Pediatrics*, 22nd Edition. McGraw Hill, New York, 2011.
- Tang BG, Feldman HM, Padden C, Israeli N, Stein MT. Delayed recognition of profound hearing loss in a 7-year-old girl with a neurological condition. *J Dev Behav Pediatr*, 30(4): 327-30, 2009.
- Tang B, Piazza CC, Dolezal D, Stein MT. Severe feeding disorder and malnutrition in 2 children with autism. *J Dev Behav Pediatr*, 32(3):264-267, 2011.
- Tanner JL, Stein MT, Olson LM, Frintner MP, Radecki L. Reflections on well-child care practice: a national study of pediatric clinicians. *Pediatrics*, 124(3):849-57, 2009.
- Taras, H. Who should administer insulin in schools? Sorting out the controversy. *Pediatrics* 124(4):1211-1212, 2009.
- Taras H. Health and sex education. In: *The Child: An Encyclopedic Companion*, edited by Shweder RA, Bidell TR, Dailey AC, Dixon SD, Miller PJ Modell J. University of Chicago Press, Chicago, 2009.
- Taras H, Nader P. Overview of school health and school health program goals. In: *American Academy of Pediatrics Textbook of Pediatric Care*, edited by McInerney TK, Adam HM, Campbell DE, Kamat DM, Kelleher KJ. American Academy of Pediatrics, Elk Grove Village, IL, 2009.
- Taylor L, Stein MT. Physical growth and development. In: *The Child: An Encyclopedic Companion*, edited by Shweder RA, Bidell TR, Dailey AC, Dixon CD, Miller PJ, Modell J. University of Chicago Press, Chicago, 2009.
- Taylor T, Pachter LM, Bastian JF, Stein, MT. Gerardo: Asthma and cultural beliefs in a Latino family. *J Dev Behav Pediatr*, 32(1):75-77, 2011.
- Trasande L, Newman N, Long L, Howe G, Kerwin BJ, Martin RJ, Gahagan S, Weil WB. Translating knowledge about environmental health to practitioners: Are we doing enough? *Mt Sinai J Med*, 77(1):114-123, 2010.
- Weitzman CC, Schlegel S, Murphy N, Antonmaria AH, Brosco JP, Stein MT. When clinicians and a parent disagree on the extent of medical care. *J Dev Behav Pediatr*, 30(3):242-3, 2009.
- Willies-Jacobo L, Stein MT. Headaches. In: *The Child: An Encyclopedic Companion*, edited by Shweder RA, Bidell TR, Dailey AC, Dixon CD, Miller PJ, Modell J. University of Chicago Press, Chicago, 2009.
- Zúñiga ML, Blanco E, Sanchez L, Carroll S, Olshefsky A. Preventing HIV and other sexually-transmitted infections and reducing HIV-stigmatizing attitudes in high-risk youth: evaluation of a comprehensive community-based and peer facilitated curriculum. *Vulnerable Child Youth Stud*, 4(4):333-42, 2009.
- Zúñiga ML, Blanco E. HIV/AIDS: providing linguistically-effective care to Latinos who are English-language learners and live in communities along the United States-Mexico border. In: *HIV in Communities of Color: A Compendium of Culturally Competent Promising Practices*, edited by GA Downer. National Minority AIDS Education and Training Center, 2009, p.39-43.
- Zúñiga ML, Blanco E, Palinkas LA, Strathdee SA, Gifford AL. Cross-cultural considerations in the recruitment of Latinos of Mexican-origin into HIV/AIDS clinical trials in the US-Mexico border region: clinician and patient perspectives. *J Immigr Refug Stud*, 8(3):241-60, 2010.
- Zúñiga ML, Strathdee SA, Blanco E, Burgos JL, Patterson TL. Community HIV preventive interventions. In: *Handbook of Health Psychology and Behavioral Medicine*, edited by JM Suls, KW Davidson, RM Kaplan. Guilford Publications, New York, 2010: p.381-396.
- Zúñiga ML, Blanco E, Brennan JJ, Scolari R, Artamonova I, Strathdee SS. Binational care-seeking behavior and health-related quality of life among HIV-positive Latinos in the U.S.-Mexico border region. *J Assoc Nurses AIDS Care*, 22(3):162-72, 2011.
- Zúñiga ML. Border health (invited encyclopedia entry). In: *Encyclopedia of Immigrant Health*, edited by S Loue, M Sajatovic M. Springer, 2011.





# Critical Care and Anesthesia

The Critical Care Division is responsible for the Pediatric Intensive Care Unit (PICU) at Rady Children's Hospital-San Diego (RCHSD), a 30-bed unit that admits approximately 1,200 patients per year. The PICU multidisciplinary team is led by one of six attending pediatric critical care physicians. This team is responsible for the care of all patients in the intensive care unit, working closely with physicians from other specialty and subspecialty disciplines to assure excellent care. The PICU and its staff are an essential component of many programs at RCHSD, including the Regional Pediatric Trauma Center, the cardiovascular surgical program, and the pediatric transport program. In addition, the PICU plays an active part in both the educational and research missions of the hospital. Dr. Bradley Peterson is the Medical Director of the PICU and Dr. Susan Duthie is the Associate Medical Director.

The Anesthesia Division provides anesthesia services for 22,500 inpatient and outpatient procedures per year. The operating rooms consistently score in the top five percent of children's hospitals in operating room efficiency and utilization, as well as on-time starts. This has been achieved through the creative scheduling of Dr. Alvin Faierman, Director of Perioperative Scheduling, and through the cooperation of Dr. Scott Gillin, Chief of Anesthesia. The acute pain service is headed by Dr. George Ulma and provides services to approximately 2,500 patients annually.

Left to right: Eddie Canada, Alex Rodarte, Sandra Saw, Kathy Kaya, Andy Zimmerman, Robert Spear, Nate Brakke



## FACULTY

**Bradley Peterson, MD, FAAP, FCCM, Chief,**  
Critical Care Section, Associate Clinical Professor  
of Pediatrics and Anesthesiology

**Scott Gillin, MD, Chief,** Anesthesia Division,  
Assistant Clinical Professor of Anesthesiology

**Nathan Brakke, MD,** Assistant Clinical Professor  
of Anesthesiology

**Edgar Canada, MD,** Clinical Instructor  
of Anesthesiology

**Susan Duthie, MD, FAAP,** Associate Medical  
Director, Critical Care Section

**Alvin Faierman, MD,** Clinical Instructor  
of Anesthesiology

**Brock Fisher, MD,** Assistant Clinical Professor  
of Anesthesiology

**Michael Flynn, MD,** Associate Clinical Professor  
of Anesthesiology

**David Frankville, MD,** Associate Clinical Professor  
of Anesthesiology

Left to right: Anthony Stanzi,  
Scott Gillin, Vinit Wellis,  
Gloria Hwang, Alvin Faierman,  
George Ulma

**Josh Gordon, MD,** Assistant Clinical Professor  
of Anesthesiology

**Mark Greenberg, MD,** Professor of Anesthesiology  
and Pediatrics

**Gloria Hwang, MD,** Clinical Instructor  
of Anesthesiology

**Kathleen Kaya, MD,** Assistant Clinical Professor  
of Anesthesiology

**Sandeep Khanna, MD, FAAP**

**Daniel Lee, MD,** Assistant Clinical Professor  
of Anesthesiology

**Sidney Merritt, MD,** Associate Professor  
of Anesthesiology

**Daniel Ness, MD,** Assistant Clinical Professor  
of Anesthesiology

**Christine Nieman, MD**, Assistant Clinical Professor of Anesthesiology  
**Alex Rodarte, MD**, Associate Clinical Professor of Anesthesiology  
**William Ronan, DO**, Assistant Clinical Professor of Anesthesiology  
**Sandra Saw, MD**, Assistant Clinical Professor of Anesthesiology  
**Robert Spear, MD**, Assistant Clinical Professor of Anesthesiology  
**Clay Stanley, MD**, Clinical Instructor of Anesthesiology  
**Jennifer Ting, MD**, Assistant Clinical Professor of Anesthesiology  
**George Ulma, MD**, Clinical Instructor of Anesthesiology  
**Karen Vanderwall, MD**, Assistant Clinical Professor of Anesthesiology  
**Vinit Wellis, MD**, Assistant Clinical Professor of Anesthesiology  
**Michael Worthen, MD**, Assistant Clinical Professor of Anesthesiology  
**A. Andrew Zimmerman, MD**, Clinical Instructor of Anesthesiology

## DIVISION OF PEDIATRIC CRITICAL CARE POSTDOCTORAL FELLOWS

**Milton “Bill” Meadows, MD**  
**Anya Freedman, MD**  
**Francisco Recalde, MD**  
**Matthew Wilder, MD**  
**Raveen Raviendran, MD**  
**Jesse Gargas, MD**  
**Helen Harvey, MD**  
**Brian Frugoni, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Anesthesia Division provides anesthesia care to patients in the 16-room Acute Care Pavilion Operating Room Suites, the Sharp Memorial Hospital and Rady Children’s Hospital-San Diego MRI Center, the catheterization lab, the CT scanner, hematology-oncology procedure center, and to those receiving special procedures that must be performed at Sharp Memorial Hospital. The Division provides services for all major surgical procedures including congenital heart surgery, major orthopedic surgery, trauma, and organ transplants.

Dr. George Ulma is the Medical Director of the Acute Pain Service, which provides consultation for post-operative and oncology patients. The Division presents an annual pain conference at RCHSD, in addition to the ongoing pain resource nurse course.

A multidisciplinary team led by the attending critical care physician treats critical care patients in the PICU. This team includes nursing, respiratory therapy, pharmacy, social work, child life, the case manager and chaplaincy. Nutrition support, occupational therapy, physical therapy and speech therapy also join the multidisciplinary team when needed.

The medical team in the PICU includes the attending physicians, critical care fellows, and critical care nurse practitioners and resident physicians. The PICU is a closed unit, which means that the critical care medical team coordinates care given by all medical and surgical sub-specialists, and is ultimately responsible for the care each patient receives in the PICU. In addition, the medical team is responsible for the care of patients located outside of the PICU that are still on the PICU service. This may include trauma patients, as well as patients who have been transferred from the PICU to other areas of the hospital.

A critical care faculty member leads daily bedside patient care rounds. These rounds consist of an in-depth review of all pertinent radiological tests, laboratory data, and clinical data and all medical and surgical consulting opinions. A plan of care for the day is determined during rounds. In addition, the critical care faculty members provide consultations on patients in other care areas when requested, and attend all trauma activations as integral members of the trauma team.

# Major Goals and Plans

## Critical Care

To ensure continued excellent quality of care:

- Continue to collect and review PRISM data

To maintain excellence in the education and training of critical care fellows:

- Continue to provide educational programs for the fellows such as didactic conferences, journal club and research meetings
- Invite fellows to participate in the Multidisciplinary Critical Care Knowledge Assessment Program (MCKAP) examination, a national test of core critical care knowledge

To support research by critical care attendings and fellows:

- Encourage all critical care fellows to identify and submit a research project to the IRB by the end of their first year of training
- Improve the number of fellow research projects submitted for presentation at a national meeting

To improve national recognition for the Critical Care Program at RCHSD:

- Increase the program's presence at national meetings through committee involvement, speaking and participation

To strengthen education for critical care nursing and respiratory therapy:

- Oversee a bimonthly case conference for the critical care staff and be involved in planning and implementing Advanced Critical Care Topics

## Division of Anesthesia

The Anesthesia Division's future goals are to:

- Continue improving efficiency in the operating room
- Provide support for new programs such as cardiac transplant with minimal interruption in operating room efficiency and scheduling
- Improve on an acute pain database to allow more data analysis for quality improvement
- Provide guidance in providing acupuncture as a form of alternative medicine for oncology patients
- Encourage the use of regional anesthesia with the use of ultrasound location techniques

The PICU participates in a national program (PICUE) that reviews observed and predicted (based on severity of illness scores, PRISM) morbidity and mortality, as well as other care indicators in 34 major PICUs across the country. From December 2000 to December 2005, the PICU

at RCHSD had the best outcomes of all PICUs combined. The observed mortality was 3.94%; based on PRISM scores, the predicted mortality was 5.33%. This yields a Z-score of (-) 6.03 (i.e., 6 standard elevations to the good side), the best in the country.



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Manchester Family Fellow in Critical Care		\$300,000 2005-present

## RESEARCH ACTIVITIES

**Susan Duthie, MD, FAAP** is currently researching a benefit analysis of routine follow-up computed tomographic (CT) scans in pediatric trauma patients with closed head injury. Dr. Duthie is also researching whether the use of antibiotics with open and/or depressed skull fractures reduces associated infectious complications.

**Brock Fisher, MD** is the Fellowship Research Director. His responsibilities include assisting the Critical Care Fellows in the creation, design, implementation and publication of their mandated research activities. Department research meetings are held monthly to discuss logistics and progress of research activities. Current research includes evaluation of external closed-chest compression in a tertiary pediatric setting. Dr. Fisher is also researching the use of D-Dimer after brain trauma.

**Michael Flynn, MD, FAAP, FCCM** has been a consultant for many medical devices including warming technology and devices used for maintaining the airway during surgery.

**Sandeep Khanna, MD, FAAP** has been a primary investigator evaluating the use of mannitol to decrease cerebral venous congestion and postoperative irritability in bi-directional cavopulmonary shunt patients. Dr. Khanna has also been studying vasospasm in pediatric traumatic brain injury and comparing pediatric intensivists' and pediatric radiologists' interpretations of post-traumatic head CT scans. Dr. Khanna has been actively evaluating whether a cervical spine computed tomography scan is sufficient to clear cervical spine precautions in pediatric trauma patients. Another area of research is whether children with minor closed head injury, GCS 15, and radiographic evidence of intracranial injury be discharged from the emergency room safely after a period of observation.

**Bradley Peterson, MD, FAAP, FCCM** has been researching 3% hypertonic saline as rescue therapy for elevated intracranial pressure. He has also been examining CT findings in near-drowning patients, helium-oxygen gas as an adjuvant therapy in pediatric patients with acute respiratory distress syndrome, and evaluating mannitol in post-operative bi-directional cavopulmonary shunt patients. He has been a primary investigator studying vasospasm in pediatric traumatic brain injury. Dr. Peterson has also been a lead investigator for a multi-arm study evaluating B-Type natriuretic peptide in pediatric patients with congenital heart disease. Additionally, he has been a lead investigator and mentor for a prospective dual-phase project evaluating the use of a serum biomarker panel to diagnose and manage pediatric brain injury. This project has led to the identification of a low plasma d-dimer as a predictor of the absence of brain injury in children.

**Alexander Rodarte, MD** has been interested in the pharmacokinetics of drugs used in the perioperative setting, as well as the Pediatric Intensive Care Unit. He has performed research in antiemetics, as well as medications for the relief of postoperative pain and the use of topical anesthetics for the prevention of pain in minor procedures in children.

**Michael Worthen, MD** research interests include near-infrared spectroscopy (NIRS) monitoring following repair of congenital heart disease, and evaluating an age based formula and bedside clinical exam findings for endotracheal tube placement in children. He is also the Principal Investigator researching the incidence of cerebral micro emboli during pediatric cardiac catheterization. Dr. Worthen has also been researching repetition radiography, examining the rates, costs, and diagnostic issues associated with inter-facility transfer of pediatric patients.

## TEACHING ACTIVITIES

Each anesthesia attending is responsible for teaching Anesthesia residents from UC San Diego (UCSD) and the Navy Medical Center in San Diego. In addition, the Division trains respiratory therapists, emergency medical technicians, medical students and emergency department and pediatric residents in airway management.

In the Critical Care Division, each faculty member is responsible for teaching the critical care fellows, nurse practitioners, residents and non-physician staff while on the clinical service in the PICU. Teaching may take place during patient care rounds or at the bedside with new admissions. In addition, each faculty member is responsible for presenting several didactic talks for the fellows throughout the year. The UCSD Pediatric Residents, and the RCHSD Pediatric Emergency Department fellows spend time in the PICU and the critical care attending physician is responsible for their training.

### Susan Duthie, MD, FAAP

- Organizes and oversees the biweekly didactic lecture series for the subspecialty residents and attends the majority of these lectures
- Participates in the monthly Critical Care Morbidity and Mortality conference and Journal Club meetings
- Provides lectures for the pediatric residents on the PICU service, new nursing graduates, and cardiology fellows

### Sandeep Khanna, MD, FAAP

- Participates in the monthly Critical Care Morbidity and Mortality conference and Journal Club meetings
- Provides lectures for the pediatric residents on the PICU service

### Brock Fisher, MD

- Serves as Research Director for the Critical Care Department
- Responsible for organizing and running the monthly Journal Club
- Participates in the monthly Critical Care Morbidity and Mortality Conference
- Provides lectures for Pediatric Grand Rounds and the Advanced Trauma Symposium

### Bradley Peterson, MD, FAAP, FCCM

- Chairs the monthly Critical Care Morbidity and Mortality Conference
- Conducts the bimonthly Transport Case Conference
- Supervises the subspecialty residents in all aspects of patient care
- Lectures at the bimonthly Nursing Care Conference

### Robert Spear, MD

- Participates in the monthly Critical Care Morbidity and Mortality Conference and Journal Club meetings

### Michael Worthen, MD

- Participates in the monthly Critical Care Morbidity and Mortality Conference and Journal Club meetings

## POSTER PRESENTATIONS

Swanson CA, Burns JC, Peterson BM. Evaluating the use of a serum biomarker panel to diagnose and manage pediatric brain injury. Annual Canadian Critical Care Conference, Whistler, BC, February 2009

Mannheimer A, Khanna S, Foley J, Khanna S, Lamberti J, Peterson BM. Does mannitol decrease cerebral venous congestion and postoperative irritability in pediatric bi-directional glenn patients? Annual Cardiology Update on Pediatric and Congenital Cardiovascular Disease, Bahamas, February 2009

Swanson CA, Burns JC, Peterson BM. Evaluating the use of a serum biomarker panel to diagnose and manage pediatric brain injury. American Thoracic Society Conference, San Diego, CA, May 2009

Swanson CA, Burns JC, Peterson BM. D-dimer and brain injury in children: Clinical implications. Poster Presentation at the American Thoracic Society Conference, San Diego, CA, May 2009; *Am J Respir Crit Care Med* 179, 2009: A1609

Nathalang D, Khanna S, Harvey L. Comparison of pediatric intensivists' and pediatric radiologists' interpretations of post-traumatic head CT scans. Poster Presentation at the 10th Annual John M. Templeton Jr. Pediatric Trauma Symposium, Selected as 1st place, Poster Presentation Award. Philadelphia, PA, March 2010



Duthie S, Harvey H, Bush R, Levy M, Hilfiker M. An analysis of scheduled follow-up computed tomography (CT) scans in pediatric trauma patients with closed head injuries. Poster Presentation at the 40th SCCM Critical Care Congress. San Diego, CA, Jan 2011. *Critical Care Medicine*. Abstract Supplement: 38(12): 665, December 2010

Meadows M, Worthen M. Evaluation of an age-based formula and physical exam for placement of endotracheal tubes in children. Poster presentation at the 8th Annual Canadian Critical Care Conference. Whistler, Canada, February 25-27, 2011

Duthie S, Harvey H, Bush R, Levy M, Hilfiker M. Scheduled follow-up computed tomography (CT) scans in pediatric trauma patients with closed head

injury. Poster presentation at the 6th World Congress on Pediatric Critical Care. Sydney, Australia, March 13-17, 2011

## ORAL PRESENTATIONS

Wilder M. Grand Rounds Presentation, Myocardial and vascular sequelae of Kawasaki disease. UCSD/RCHSD, San Diego, CA, 2009

Khanna S. Invited Speaker, Oral presentation: Congenital heart disease-management. Paediatric Cardiac Surgery Programme, Heart and General Hospital, Jaipur, India, January 30-February 5, 2010



- Worthen M. Invited Speaker, Oral presentation: Congenital heart disease program in RCHSD. Paediatric Cardiac Surgery Programme, Heart and General Hospital, Jaipur, India, January 30-February 5, 2010
- Khanna S. Oral presentation: Bidirectional cavopulmonary anastomosis. Pediatric Critical Care Nursing National Conference, San Diego, CA, October 26, 2010
- Duthie S. Oral presentation: End tidal CO2 monitoring-uses and pitfalls. Pediatric Critical Care Nursing National Conference, San Diego, CA, October 28, 2010
- Brock F. Oral presentation: Diagnosis and management of abdominal trauma in children. Pediatric Critical Care Nursing National Conference, San Diego, CA, October 29, 2010
- Brock F. Oral presentation: Diagnosis and management of head trauma in children. Pediatric Critical Care Nursing National Conference, San Diego, CA, October 29, 2010
- Gargas J, Khanna S. Oral presentation: Cervical spine computed tomography scan, is this sufficient to clear cervical spine precautions in pediatric trauma patients? 6th World Congress on Pediatric Critical Care, Sydney, Australia, March 13-17, 2011

## PUBLICATIONS

- Duthie S. Guidelines for the Determination of Brain Death in Infant and Children: An Update of the 1987 Task Force Recommendations. *Critical Care Medicine*, 2010.
- Hamrick J, Foley J, Quinto KB, Fisher B. Quality of external closed-chest compressions in a tertiary pediatric setting: missing the mark. *Resuscitation*, 81(6):718-23, June 2010.
- O'Brien N, DeMott MC, Suchard JR, Clark R, Peterson, BM. Recurrent coagulopathy with delayed significant bleeding after crotaline envenomation. *Pediatric Emergency Medicine*, 25(7):457-9, July 2009.
- O'Brien N, Reuter-Rice KE, Khanna S, Peterson BM, Quinto KB. Vasospasm in Children with Traumatic Brain Injury. *Intensive Care Medicine*, 36(4): 680-7, April 2010.
- Niedner MF, Foley JL, Riffenburgh RH, Bichell DP, Peterson BM. B-Type natriuretic Peptide: Perioperative patterns in congenital heart disease. *Congenital Heart Disease*, 5(3):243-255, May/June 2010.
- Swanson C, Burns JC, Peterson B. Low plasma d-dimer predicts the absence of brain injury in children. *Journal of Trauma*, 68(5):1072-7, May 2010.
- Swanson CA, Burns JC, Peterson BM. D-dimer and brain injury in children: Clinical implications. *Am J Respir Crit Care Med*, 179:A1609, 2009.

## CHAPTERS

- Duthie S. Current and controversial traumatic brain injury treatment strategies. In: *Concepts in Pediatric Critical Care*, Spinella P, Nakagawa T. eds., Mount Prospect (IL), 2010.

## CHAPTERS IN PRESS

- Peterson B, Nathalang D. Pulmonary edema. *Textbook of Clinical Pediatrics*, 2nd Edition. (G. Haddad MD) Springer Publishing Company (in press).
- Peterson B, Wilder M. Near drowning. *Textbook of Clinical Pediatrics*, 2nd Edition (G. Haddad MD) Springer Publishing Company (in press).
- O'Brien N. Submersion injury, head injury. *Pediatric Acute Care: A Guide for Interprofessional Practice*. Co-editors Karin Reuter-Rice, NP & Beth Bolick. Jones & Bartlett Publication (in press).
- Hamrick J, Fuller J. Cardiovascular agents, cardiothoracic trauma. *Pediatric Acute Care: A Guide for Interprofessional Practice*. Co-editors Karin Reuter-Rice, NP & Beth Bolick, Jones & Bartlett Publication (in press).
- Nathalang D. Viral infections. *Pediatric Acute Care: A Guide for Interprofessional Practice*. Co-editors Karin Reuter-Rice, NP & Beth Bolick, Jones & Bartlett Publication (in press).
- Meadows B. Bites, stings. *Pediatric Acute Care: A Guide for Interprofessional Practice*. Co-editors Karin Reuter-Rice, NP & Beth Bolick, Jones & Bartlett Publication (in press).
- Worthen HM. Cardiogenic shock. *Pediatric Acute Care: A Guide for Interprofessional Practice*. Co-editors Karin Reuter-Rice, NP & Beth Bolick, Jones & Bartlett Publication (in press).





# Dermatology

The Division of Pediatric and Adolescent Dermatology is one of the largest pediatric dermatology units in the United States, and is a highly respected center for training in pediatric dermatology, with rotating physicians and trainees from throughout the world. The 2009-2011 academic years were tremendously successful for the division, with expansion of clinical services, educational activities and the research program.

The Eczema and Inflammatory Skin Disease Center, the first program of its type in the nation, continues to evolve clinical care, education, and research in atopic dermatitis, psoriasis, acne and other inflammatory diseases of childhood and adolescence. The Vascular Lesion and Birthmark Center has developed as a regional and national resource for the evaluation, management and study of

hemangiomas, vascular malformations, pigmented and other cutaneous birthmarks. The Center's services include multidisciplinary clinics with experts in dermatology, laser and plastic surgery, diagnostic and interventional radiology, otorhinolaryngology, pathology, ophthalmology and orthopedics. The division's diverse faculty members also specialize in procedural dermatology, cutaneous infections, genetic diseases, nevi (moles) and skin cancer, as well as initiatives for disease prevention and to improve skin health over a lifetime.

Left to Right: Victoria Barrio, Wynniss Tom, Lawrence Eichenfield, Sheila Friedlander, Nasreen Abbas, Magdalene Dohil, Yvonne Clark

The division offers one of the most comprehensive dermatology programs for children in the world, and is the largest and one of the most sought-after fellowship training programs in the nation.

## FACULTY

**Lawrence F. Eichenfield, MD**, *Director*, Professor of Clinical Pediatrics and Medicine

**Sheila Fallon Friedlander, MD**, Professor of Clinical Pediatrics and Medicine

**Magdalene A. Dohil, MD**, Associate Professor of Clinical Pediatrics and Medicine

**Victoria R. Barrio, MD**, Associate Clinical Professor of Pediatrics and Medicine

**Wynn L. Tom, MD**, Assistant Clinical Professor of Pediatrics and Medicine

**Sharon E. Jacob, MD**, Associate Clinical Professor of Medicine and Pediatrics

**Richard L. Gallo, MD, PhD**, Professor of Medicine and Pediatrics

**Neil F. Gibbs, MD**, Associate Clinical Professor of Pediatrics without Salary

**Susan Boiko, MD**, Assistant Clinical Professor of Pediatrics – Voluntary

## POSTDOCTORAL FELLOWS

**Michael Caglia, MD** (Research)

**Tina Chen, MD** (Clinical)

**Andrew Krakowski, MD** (Clinical)

**Caroline Piggott, MD** (Clinical)

**Michael Osofsky, MD** (Clinical)

**Catalina Matiz, MD** (Research)

**Chika Ugorji, MD** (Research)

**David Dasher, MD** (Clinical)

**Melinda Jen, MD** (Clinical)

**Melissa Reyes-Merín, MD** (Clinical)

## PRACTITIONERS

**Yvonne Clark, PA**

**Nasreen Abbas, NP**

**Tiara Esani, PA**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Dermatology Clinical service continues to grow, with over 18,000 ambulatory visits a year at the Rady Campus office, as well as Encinitas, Escondido and Murrieta satellites, and more than 850 surgical and laser procedures. The Vascular Lesion and Birthmark Center, under the leadership of Sheila Fallon Friedlander, has extended its multidisciplinary services to include an expanded laser program for refractory vascular birthmarks and other congenital and acquired dermatologic conditions.

The Dermatology Division services inpatient consultations at RCHSD, UCSD Medical Center and Sharp Mary Birch Hospital for Women. The pediatric dermatology clinical service is amongst the largest in the country — in physician number, size of the fellowship training program, number of annual patient visits, dermatologic surgeries/procedures, and newborn consultations.

The physicians in the division have advanced training in the expert diagnosis and management of common and uncommon skin conditions, which include:

- eczema, psoriasis and other inflammatory skin disorders
- hemangiomas, vascular malformations, and other birthmarks
- acne
- warts and molluscum contagiosum
- bacterial, viral and fungal infections of the skin, hair, and nails
- genodermatoses
- moles (nevi), melanoma and other skin malignancies
- congenital and acquired tumors

The members of the division have internationally recognized expertise in laser and dermatologic surgery for children and adolescents. Therapies utilized include topical and systemic drugs, cryosurgery, laser therapy and dermatologic surgery. Surgical services are performed in-office

or in the Surgery Center at RCHSD, and state-of-the-art pain relief techniques are utilized during procedures.

The Eczema and Inflammatory Skin Disease Center specializes in comprehensive clinical care, education of patients, families and health care professionals, and research on atopic dermatitis, psoriasis, acne and other inflammatory skin diseases. The center integrates basic and clinical research into its care, and emphasizes medical, educational and emotional support as part of its therapeutic interventions. Highlights of the Center's activities include its influential web presence, [www.eczemacenter.org](http://www.eczemacenter.org), including video "training modules." The center has pioneered novel therapeutic and education approaches, and is a world leader in the study of eczematous dermatitis. The center has instituted the development and testing of new therapies for treatment and approaches to improve clinical outcomes, and the initiation of standardized "train the trainers" atopic dermatitis education, to improve the consistency of teaching about this common, chronic disease. In addition, the Center has extensive clinical and research activities related to pediatric psoriasis and acne, ranging from NIH-supported basic science to clinical intervention studies.

## RESEARCH/SCIENTIFIC HIGHLIGHTS

The Dermatology Clinical Trials program is the largest in the country in staffing, trials performed and patients enrolled, with over 25 research projects in the past two years.

**Dr. Wynnis Tom** has received a prestigious five-year NIH K23 award to study genetic influences of pediatric psoriasis (\$612,500). Dr. Tom's area of investigative interest and expertise includes inflammatory disorders, particularly atopic dermatitis and psoriasis. She is working on a collaborative study looking at genotype-phenotype correlations between a T-cell signaling pathway and pediatric psoriasis to assess for factors that may influence disease severity, course, or treatment outcome. In addition she is studying pediatric psoriasis and possibly associated cardiovascular and metabolic risks, and other comorbidities. She is a principal investigator on collaborative studies for the Pediatric research collaborative group, PeDRA (Pediatric Dermatology Research Alliance). Dr. Tom was appointed

to the American Academy of Dermatology (AAD) Atopic Dermatitis Guidelines Task Force.

**Dr. Lawrence Eichenfield** is Division Director and co-directs The Eczema and Inflammatory Skin Disease Center, along with Dr. Magdalene Dohil, and The Vascular Lesion and Birthmark Center, with Dr. Fallon Friedlander. Dr. Eichenfield has a long-standing interest in inflammatory skin disease, including atopic dermatitis, psoriasis and pediatric acne. Studies include assessment of allergic conditions in children at risk for, or with, atopic dermatitis, the influence of barrier dysfunction on the course of eczematous dermatitis, the evaluation of safety and efficacy of topical and systemic anti-inflammatory agents for dermatitis, psoriasis and acne vulgaris, and the utility of therapeutic interventions in inflammatory disease outcomes. Dr. Eichenfield delivered the keynote address at the International Atopic Dermatitis Therapeutic Education conference, held in Rome, Italy, and is one of the creators of a multicenter collaborative research program for pediatric dermatology, PEDRA (PEdiatric Dermatology Research Alliance). Dr. Eichenfield also served on the NIH/NIAID Food Allergy Guidelines Expert Panel and Oversight Committee; the guidelines were published over the last several months. He serves as co-Chair of the American Academy of Dermatology Atopic Dermatitis Guidelines Task Force. In addition, Dr. Eichenfield is co-chairing a National Guidelines for Pediatric Acne Initiative (of the American Acne and Rosacea Society and Acne Alliance of North America), in collaboration with the American Academy of Pediatrics. His research interests also include vascular lesions, hemangiomas, and pigmented and non-pigmented birthmarks and acquired lesions.

**Magdalene A. Dohil, MD**, co-directs the Eczema and Inflammatory Skin Disease Center, and is Physician Director of Clinical Services. Her research interests include therapeutic education and outcome measures in Atopic Dermatitis, molluscum contagiosum, and topical therapies for inflammatory skin disease. Dr. Dohil represented North American centers at the international "Harmonization of Outcomes Measures of Eczema" (HOME) meeting, and presented center data and experience at the International Society of Atopic Dermatitis meeting in Germany.

**Dr. Sheila Fallon Friedlander** continues her productive research on hemangioma pathogenesis and therapy,

## Major Goals and Plans

### Center Development

#### Eczema and Inflammatory Skin Disease Center

- The Center is continuing to innovate new methods for educating patients, families, physicians and other health care workers, including evolving web-based learning modules, videos, and “web 2.0 and 3.0.” The research program includes significant genomics initiatives such as the NIH-sponsored research on psoriasis of Dr. Wynn Tom, as well as the study of disease impact and comorbidities in inflammatory skin diseases including atopic dermatitis and acne. The Center is also a leader in the development of a pediatric dermatology collaborative research group PEDRA (PEdiatric Dermatology Research Alliance) for the study of inflammatory skin disease and comparative effectiveness studies. Dr. Tom will be leading a multi-center study of systemic therapy for atopic dermatitis, utilizing web-based collaborative data entry as well as patient-oriented outcome measures.
- The Vascular Lesion and Birthmark Center is expanding its services, which includes the multi-disciplinary vascular lesion clinic and collaborative clinics with plastic surgery for the evaluation and management of congenital and acquired skin anomalies. The Center was recently named a Sturge-Weber Foundation Center of Excellence, reflecting the expertise in management of port-wine stains and associated syndromes, as well as complex vascular malformations. The laser program expansion continues, with the addition of new laser technology for refractory blood vessel birthmarks. The Center is a leader in utilizing new fractionated laser devices for the treatment of surgical and traumatic scars in children, in collaboration with Naval Medical Center dermatologist-laser surgeons. This new program has the potential to improve the lives of thousands of children, minimizing the physical and psychosocial impact and effects of trauma and disfigurement. The division is exploring the development of a Pediatric Photomedicine and Laser Center, dedicated to research and clinical care utilizing lasers and light-based therapies.

### Faculty Development

- The recruitment of two to three faculty members is planned for the next four-year period. A national search is underway for pediatric dermatologists with interests and expertise in laser and procedural dermatology, as well as physician-scientists and clinical experts in pediatric dermatology.

including serving as principal investigator of a large study of the utility of beta-blocker therapy (propranolol). As co-Director of the Vascular Lesion and Birthmark Center, she has greatly expanded the specialty clinical services. Sheila is now President-elect of the Society for Pediatric Dermatology. She is Director of the Dermatology Fellowship Program, and is completing investigation of the basic biology and pathogenesis of infantile hemangiomas as well as other vascular lesions which she initiated as a Skaggs Clinical Research Scholar in association with The Scripps Research Institute. She is also a consultant in a CERM-funded study on the therapeutic utility of stem cells, as well as a participant in a study on the utility of

topical beta-blockers in the treatment of hemangiomas of infancy. She is also a world-renowned expert in cutaneous infections, including those of fungal etiology, such as tinea capitis, onychomycosis, and candidal dermatitis. She is involved in multiple clinical studies on microbiologic effects of inflammatory skin disease.

**Victoria Barrio, MD**, participates in a broad set of clinical trials and activities. She has interests in neonatal dermatology and developmental dermatoses, as well as a strong interest in education.

**Richard L. Gallo, MD, PhD**, directs a basic science research program at UCSD that has NIH RO1 funding of approximately \$1.5 million per year—the largest program



directed by a pediatric dermatologist in the United States. He is a leading investigator on the role of the innate immune system in skin health and disease, focusing on antimicrobial peptides and aspects of the interaction of the skin with the immune system, including the first description of an antimicrobial peptide in mammalian skin, the association of atopic eczema with a defect in antimicrobial peptide production, innate defense protein mediation of the pathogenesis of rosacea, and influence of vitamin D on cutaneous immunity.

## TEACHING AND TRAINING ACTIVITIES

RCHSD and UCSD have perhaps the most extensive training program for pediatric dermatology in the nation. The Division of Pediatric Dermatology at RCHSD is affiliated with both the Department of Pediatrics and the Department of Medicine (Dermatology) at UCSD. The Pediatric Dermatology Fellowship Program was introduced in 1996. Based at RCHSD, fellows are involved in clinical activities and research involving pediatric dermatology. The clinical program involves ambulatory dermatology clinics and inpatient consultations at RCHSD, UCSD Hillcrest and Sharp Mary Birch Hospital. The programs have trained more than 280 dermatology residents and 38 fellows (in addition to hundreds of pediatric residents). Pediatric dermatology fellows are also actively involved in research during their fellowship years. These trainees enhance the program and contribute to the advancement of the field of pediatric dermatology through research and education.

The Division of Pediatric and Adolescent Dermatology offers specialized clinical training, clinical and basic research, teaching and other academic activities to develop individual expertise and allow trainees to contribute to the fields of dermatology and pediatrics. Elective rotations are available for medical students and resident trainees in dermatology, pediatrics and other specialties. Divisional education conferences are held weekly, which include case reviews and Journal Club. Dr. Victoria Barrio oversees medical student and resident educational activities for the division. An annual national continuing

medical education course, "Pediatric Dermatology for the Practitioner," is held in collaboration with Children's Hospital of Philadelphia and the University of Pennsylvania. Both Drs. Wynnis Tom and Victoria Barrio have recently been awarded the prestigious Robert Goltz Teaching Prize of the UCSD Division of Dermatology.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Victoria R. Barrio, MD

Best Doctors in America, 2009 - 2011

Co-Chair, Society for Pediatric Dermatology National Meeting, Spring 2012

Speaker, Dermatoses in the first year of life. American Academy of Dermatology Annual Meeting, San Francisco, CA, March 2009

Speaker, Things that go bump in the nursery. Pediatric Dermatology for the Practitioner. San Diego, CA, April 2009  
Speaker (with Treat J, Yan A), Pediatric Dermatology Emergencies Workshop: Pediatric dermatology for the practitioner. San Diego, CA, April 2009

Speaker, Things that go bump at school. 12th Annual School Health Leadership Conference, San Diego, CA, October 2009

Speaker, Pediatric dermatology jeopardy. 34th Annual Hawaii Dermatology Seminar, Waikoloa, HI, February 2010

Speaker, Dermatoses in the first year of life. American Academy of Dermatology Annual Meeting, Miami, FL, March 2010

Speaker, Neonatal dermatology. Pediatric dermatology for the practitioner, San Diego, CA, April 2011

Speaker, ER or ignore? Pediatric dermatology for the practitioner, San Diego, CA, April 2011

Speaker. Barrio VR. Common Pediatric Skin Problems. Rady Children's Continuing Medical Education. San Diego, CA. May, 2011

Speaker, Dermatoses in the first year of life. Alabama Dermatology Society, Destin, FL, June 2011

Speaker, Interesting cases from UCSD pediatric dermatology. Alabama Dermatology Society, Destin, FL, June 2011

### Magdalene A. Dohil, MD

Co-Chair, Society for Pediatric Dermatology National Meeting, Spring 2012

Golden Triangle Award of the American Academy of Dermatology for the Eczema Center at RCHSD, 2010

Director, American Academy of Dermatology Annual Meeting, New Orleans, LA, February 4-8, 2011

Speaker, New approaches to old problems: Technology in pediatric endoscopy. International Endoscopy Day, RCHSD, San Diego, CA, October 2, 2009

Speaker, Atopic dermatitis: What's new and what's true; terrible to trivial: Pediatric version, advances in cosmetic medical dermatology. 6th Annual Meeting, Maui, HI, January 23-27, 2010

Speaker, Warts and molluscum: Pediatric issues; hair too much/hair too little. American Academy of Dermatology 68th Annual Meeting, Miami, FL, March 5-9, 2010

Speaker, AD in children – new trends, proven treatment. Grand Rounds, Arnold Palmer Hospital for Women and Children, Orlando, FL, November 9, 2010

Speaker, AD in children and challenging cases in pediatric dermatology. American Academy of Pediatrics Quarterly Meeting, Central Florida Chapter, Orlando, FL, November 9, 2010

Speaker, American Academy of Dermatology Exam Prep Course, San Diego, CA, November 19-21, 2010

Speaker, Identifying natural ingredients and their use in skin care, challenges in pediatric dermatology, a case-based approach; A multidisciplinary approach to medical dermatology; Lumps and bumps in children. Orlando Dermatology Aesthetic & Clinical Conference, Orlando, FL, January 14-17, 2011

Moderator, General Session: A multidisciplinary approach to medical dermatology; Lumps and bumps in children. Orlando Dermatology Aesthetic & Clinical Conference, January 14-17, 2011

Invited Director, Pediatric dermatology. American Academy of Dermatology Annual Meeting, New Orleans, LA, February 4-8, 2011

Speaker, Lumps and bumps in children. American Academy of Dermatology Annual Meeting, New Orleans, LA, February 4-8, 2011

Speaker, Lumps and bumps. 35th Annual Hawaii Dermatology Seminar, Maui, HI, March 13-18, 2011

Speaker, Outside/inside skin and gut. 35th Annual Hawaii Dermatology Seminar, Maui, HI, March 13-18, 2011

Speaker, Lumps and bumps. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011

Speaker, Warts and molluscum. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011

Speaker, Naturals in dermatology. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011

Director and Moderator, Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011

Speaker, Consensus criteria and outcome measures in atopic dermatitis. Harmonizing Outcome Measures in Eczema (HOME), Amsterdam, June 6-7, 2011

Speaker, Natural ingredients in skin care and treatment. Alabama Dermatology Society, Sandestin, FL, June 23-26, 2011

### Lawrence F. Eichenfield, MD

Editor-in-Chief, *Pediatric Dermatology*

Best Doctors in America, Castle Connolly Medical Ltd., 2004-2011

San Diego Top Doctors of Excellence, Dermatology and Pediatric Specialists, 2004-2011

Chair, American Academy of Dermatology Annual Meeting 2011 and Scientific Assembly Committee, 2010-2011

Expert Panel and Oversight Committee, National Institute of Allergy and Infectious Disease, Guidelines for the diagnosis and management of food allergy, 2008-2010

Chair, American Academy of Dermatology Atopic Dermatitis Guidelines Task Force, 2010-2012

Member, Board of Directors, American Academy of Dermatology, 2005-2009

Pasquariello Lectureship, Children's Hospital of Philadelphia, 2010

Sidbury Lectureship, Duke University Department of Pediatrics, 2010

Co-Chair, Dermatology Section, Excellence in Paediatrics, London, 2010

Chair, World Congress of Pediatric Dermatology: Atopic Dermatitis Symposium, Bangkok, Thailand, November 17-18, 2009

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Lawrence F. Eichenfield, MD</b>		
An Open-Label Extension Study to Evaluate the Safety of Etanercept in Pediatric Subjects with Plaque Psoriasis 20050111/Amgen	\$106,793	\$251,799 Jan. 2006-Present
An Open-label Study to Assess Facial Acne Improvement and Tolerability with Use of RETIN-A MICRO(Tretinoin Gel) Microsphere, 0.04% in a Pump Dispenser 20083372/Johnson & Johnson	\$131,800	\$166,068 Apr. 2008-Apr. 2009
A Phase Two Study Evaluating the Safety and Efficacy of Once Daily Use of the LEO 80185 Topical Suspension Containing Calcipotriol 50 mcg/g Plus Betamet MBL 0801/Leo Pharmaceutical Products Ltd.	\$70,279	\$158,582 May 2010-Present
Clinical Evaluation of T.R.U.E. Test Panel 1.1, 2.1, and 3.1 in Children and Adolescents Mekos 07 29P1/2/3 401-PREA/Allerderm	\$155,925	\$155,925 Sept. 2008-Present
A Multi-Center, Double-Blinded, Vehicle Controlled, Phase 2 Study of JNJ 10229570-AAA for the Treatment of Acne Vulgaris CAP-8023/Johnson & Johnson	\$100,685	\$148,997 Jan. 2011-Sept. 2012
A Phase 2B Multi-Center, Double-Blind, Randomized, Dose-Ranging Clinical Trial to Evaluate IDP-107 in the Treatment of Moderate to Severe Acne Vulvatis with Nodular Involvement DPSI-IDP-107-P2-01/Dow Pharmaceutical Sciences	\$118,093	\$148,797 Jan. 2008-Present
A Phase 2, Single-Arm Study to Evaluate the Safety and Pharmacokinetics of Alefacept in Adolescent Subjects with Moderate to Severe Psoriasis 0485-CL-0004/Astellas Pharma Inc.	\$77,278	\$142,472 Feb. 2009-Present
Cross-Sectional Evaluation of Biological Markers of Cardiovascular Disease in Children and Adolescents with Psoriasis 20101698/Amgen	\$105,952	\$133,500 Jan. 2010-Oct. 2011
PD and PD of Calcitriol Following Twice Daily Application of Calcitriol 3mcg/g Ointment under Conditions of Maximal Use on Adolescents with Plaque Psoriasis RD.06.SPR.18102/Galderma Laboratory, Inc.	\$44,487	\$129,307 Oct. 2006-Present

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
An Investigator-Blinded, Randomized, Community, Based, Phase Four Study to Assess Facial Acne Improvement and Tolerability with Use of RETIN-A-MICRO® (Tretinoin Gel) Microsphere, 0.04% in a Pump Dispenser in a Pediatric Population CA-P-6397-1/Johnson & Johnson	\$90,242	\$113,705 Mar. 2009-Present
A Prospective Pediatric Longitudinal Eval. to Assess Long Term Safety of \$ Tacrolimus Ointment for the Treatment of Atopic Dermatitis APPLEs/Astellas Pharma Inc.	112,500	\$112,500 Dec. 2005-Mar. 2010
A Randomized, Double-Blind, Placebo-Controlled, Dose Response Study for the Safety and Efficacy of Thymosin Beta 4 in the Treatment of Patients with Epidermolysis Bullosa SSEB/Regenerx Biopharmaceuticals, Inc.	\$90,065	\$103,680 Dec. 2007-Present
Double-Blind, Prospective, Randomized, Vehicle Controlled Multi-Center Study of Photodynamic Therapy with Visionac Ccream in Patients with Acne Vulgaris PC TA 206/11/Photocure ASA (Norway)	\$54,841	\$69,100 Apr. 2011-Present
A Multi-Center Randomized Vehicle Controlled Double-Blind Study to Evaluate the Safety and Efficacy of Epiduo Gel 0.1% /2.5% Administered Once Daily 18155/Galderma Laboratory, Inc.	\$53,244	\$67,088 July 2010-Present
Safety and efficacy of TACLONEX ointment ("Study Drug") in adolescent patients (aged 12 to17 years) with psoriasis vulgaris MCB 0501 INT/Leo Pharmaceutical Products Ltd.	\$51,510	\$51,510 May 2009-Present
Method Evaluation of Buccal Swab Collection A Sub-Study of CASM981C US09/Novartis Pharmaceutical		\$18,175 Oct. 2007-June 2010
Evaluation of the Cutaneous Innate Immune and Clinical Response to Oral and Topical Vitamin D UCSD/CSSD/RCHSD Intramural Grant		\$50,000 Aug. 2007-June 2011
An Investigation of the Safety and Efficacy of Elidel 1% Cream in Atopic Disease Modification Assessed in a 3-Year Randomized, Double-Blind, Vehicle Controlled Phase to Evaluate Effects on Atopic Dermatitis in Infants, and a 2-3 Year Open Label Phase to Evaluate the Effect of Early Intervention Versus Delayed Intervention with Elidel on teh Incidence of Asthma in Children CASM981C US09/Novartis Pharmaceutical		\$508,625 Apr. 2002-June 2010



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Sheila Fallon Friedlander, MD</b>		
A Randomized, Controlled, Multi-Dose, Multi-Center, Adaptive Phase II/III Study in Infants with Proliferating Infantile Hemangiomas Requiring Systemic Therapy to Compare Four Regimens of Propranolol to Placebo VO400 SB/Pierre Fabre Dermatologie	\$194,795	\$245,442 Jan. 2010-Present
A Real-Life In-Use Study to Evaluate the Tolerance and Safety of Aveeno Baby Sunscreen Lotion SPF 50, 1358-086 in Infants and Children with Atopic Dermatitis 20104547/Neutrogena Corporation	\$56,150	\$70,749 June 2010-May 2011
Autologous Retinal Pigmented Epithelial Cells Derived from Induced Pluripotent Stem Cells for the Treatment of Atrophic Age Related Macular Degeneration SUB 5-22236/Scripps Research Institute	\$25,000	\$30,000 Oct. 2010-Sept. 2011
A Prospective Study Comparing the Incidence of Infantile Hemangiomas Following Normal Pregnancies Versus Pregnancies Complicated by Placental Abnormalities Skaggs Scholar Grant		\$444,690 Feb. 2006-Sept. 2010
<b>Wynnis L Tom, MD</b>		
Impact of the Severity of Pediatric Psoriasis in Childhood Body Mass Index and Co-Morbid Risk Factors: An Epidemiologic Analysis 20103845/International Psoriasis Council	\$9,524	\$12,000 Apr. 2010-Mar. 2012
Genetic Influence in Pediatric Psoriasis 1 K23 AR060274-01A1/NIH (NIAMS)	\$122,500	\$661,500 July 2011 - June 2016
Oral Azathioprine and Pediatric Atopic Dermatitis: Evaluation of the Cutaneous Antimicrobial Barrier and Immune Response Pilot Project Award/Society for Pediatric Dermatology		\$7,500 July 2008-Dec. 2009
Genetic Variation in a T-Cell Signaling pathway and its Influence on Pediatric Psoriasis UCSD/Pediatrics		\$38,150 Mar. 2008-Feb. 2009

Speaker, Seeing red: Hemangiomas and vascular malformations. Plastic Surgery Grand Rounds, UCSD, July 22, 2009

Speaker, Atopic dermatitis; What's breaking out—challenging acne cases: Childhood and Adolescence; What's hot in atopic dermatitis. Summer Academy Meeting of the

American Academy of Dermatology, Boston, MA, July 30-August 2, 2009

Speaker, In the beginning...There was neonatology!; Dermatology jeopardy; Rheum with a view. Women's & Pediatrics Dermatology, San Francisco, CA, September 10-13 2009



Visiting Professor, Neonatal dermatology update; Procedural pediatric dermatology. Penn State College of Medicine, Hershey, PA, October 1, 2009

Speaker, Opportunistic infections in neonates. World Congress of Pediatric Dermatology, Bangkok, Thailand, November 17-18, 2009

Speaker, Eczema update; What's new in pediatric dermatology. Mount Sinai Winter Dermatology Symposium, New York, NY, December 12, 2009

Speaker, Hot topic—Pigmented lesions in kids; Terrible to trivial: Pediatric version. Advances in Cosmetic and Medical Dermatology, Wailea, Maui, HI, January 25, 2010

- Speaker, What's erupting: Acne update; Cases for the panel: What would you do? Skin Disease Education Foundation Hawaii Dermatology, Kona, HI, February 29, 2010
- Speaker, Acne and Rosacea Update Forum; What's new in pediatric dermatology; Pediatric onychomycosis/nail disorders; Clinical trials in an academic setting and pediatric considerations. 68th Annual American Academy of Dermatology Meeting, Miami Beach, FL, March 2-9, 2010
- Speaker, Neonatal dermatology (a case-based overview). Dermatology Resident Conference, University of Texas Southwestern Medical Center, Dallas, TX, March 31, 2010
- Speaker, Pasquariello Lectureship, Neonatal dermatology. Dermatology Grand Rounds, Children's Hospital of Philadelphia, Philadelphia, PA, April 14, 2010
- Speaker, What's new in eczema. Dermatology Grand Rounds, Mount Sinai School of Medicine, New York, NY, April 15, 2010
- Speaker, Red, white, blue and new: What's up with hemangiomas; Challenging cases for fun; Zit's complicated: An update on acne. Pediatric Dermatology for the Practitioner, Philadelphia, PA, April 16, 2010
- Speaker, Atopic dermatitis: Insights into pathogenesis and therapy. Pediatric Grand Rounds, Duke University Medical Center, Durham, NC, May 25, 2010
- Speaker, Sidbury Lecturer, Atopic dermatitis: Insights; case presentations. Dermatology Grand Rounds, Duke University Medical Center, Durham, NC, May 26, 2010
- Speaker, Advances in pediatric dermatology—you make the call; Skin signs—when to worry and not to worry. Case Studies in Pediatric Dermatology, 12th Annual Summer Conference on Pediatrics, Napa, CA, July 6-10, 2010
- Speaker, How does the academic pediatric dermatologist partner w/industry? Society for Pediatric Dermatology Annual Meeting, Portland, OR, July 17, 2010
- Speaker, Hemangiomas: What's hot. Summer Academy Meeting of the American Academy of Dermatology, Chicago, IL, August 5-8, 2010
- Plenary Session Speaker, Neonatal dermatology: Recent developments. Summer Academy Meeting of the American Academy of Dermatology, Chicago, IL, August 5-8, 2010
- Speaker, Increasing patient compliance, update on eczema, asthma and atopic conditions. Chicago, IL, August 7, 2010
- Speaker, Seeing red: Hemangiomas and vascular lesions. Pacific Dermatologic Association Annual Meeting, Pasadena, CA, August 12, 2010
- Speaker, Acne. UCSD Department of Medicine (Dermatology) Didactics, San Diego, CA, August 25, 2010
- Speaker, Back-to-school dermatology issues. Encinitas Community Healthcare Forum, Encinitas, CA, August 26, 2010
- Speaker, In the beginning...neonatology; Atopic dermatitis: Meeting the clinical challenge. Women's and Pediatric Dermatology Meeting, San Francisco, CA, September 25, 2010
- Speaker, What's the scoop on pediatric acne? PISD? Pediatric inflammatory skin disease. Coastal Derm Meeting, Rancho Bernardo, CA, October 1, 2010
- Speaker, Dermatology—things that cause rings; itch and scratch. American Academy of Pediatrics National Conference, San Francisco, CA, October 5, 2010
- Speaker, Neonatal dermatology. UCSD Department of Medicine (Dermatology) Didactics, San Diego, CA, October 6, 2010
- Speaker, Controversies in dermatology; new developments in atopic dermatitis; therapeutic hotline. Fall Clinical Dermatology Conference, Las Vegas, NV, October 8, 2010
- Speaker, In the beginning...neonatal dermatology; To worry or not to worry: Visual dermatologic diagnosis; Topical topics: What's new in acne and eczema therapy; Scales & nails: Fungal infection. Update, American Academy of Pediatrics-CA CME Meeting, Las Vegas, NV, November 19-22, 2010
- Speaker, Paediatric dermatology update. Excellence in Paediatrics, London, UK, December 3, 2010
- Speaker, Rheum with a view; food allergy and dermatology (testing); fungal infections. 69th Annual American Academy of Dermatology Meeting, New Orleans, LA, February 4-10, 2011
- Speaker, Pediatric spots; atopic angst, advances in cosmetic and medical dermatology. Maui, HI, February 25, 2011
- Speaker, MRSA and others: Skin and soft tissue infections; Case studies in derm: Cases that keep you up at night! 11th Annual Conference on Pediatric Emergencies, Breckenridge, CO, March 3-5, 2011
- Session Chair, Clinical update on pediatric dermatology, hot stuff in inflammatory skin disease, and what would



you do? Cases for the Panel. 35th Annual Hawaii Dermatology Seminar, March 13-18, 2011  
 Speaker, Challenging cases and acne—what’s erupting. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011  
 Speaker, Skin Rashes: When do I need to worry? Advanced Pediatric Emergency Medicine Assembly Conference, San Diego, CA, April 13, 2011  
 Invited lecturer, Allergy and atopic dermatology—NIH Food Allergy Guidelines. New York University Dermatology Grand Rounds, New York, NY, April 29, 2011

**Sheila Fallon Friedlander, MD**

Best Doctors in America, Castle Connelly Medical Ltd, 2004 -2011  
 San Diego Top Doctors of Excellence, 2004-2011  
 Who’s Who in America, 2008–2011  
 President Elect, Society for Pediatric Dermatology, 2011  
 Program Director, Advanced Pediatric Dermatology, American Academy of Dermatology Annual Meeting, 2011  
 Chair, Skin Disease and Education Foundation Women’s and Pediatric Dermatology Seminar, 2008-2011  
 UCSD Division of Dermatology, The Robert W. Goltz, MD Excellence in Teaching Award, 2010  
 UCSD Academy of Clinician Scholars, 2010-Present  
 Board of Directors, Children’s Specialists of San Diego Holdings, 2010  
 America’s Top Doctors/Best Doctors in America, Castle Connolly Medical Ltd, 2011  
 Medical Curriculum Committee, Dermatology Foundation, 2008–present  
 Speaker, Year in Review—Dermatology. Society for Pediatric Dermatology, Philadelphia, PA, July 9-12, 2009  
 Speaker, How to—the latest and greatest on pediatric eczema; Dermatology jeopardy; Diaper dermatitis—when it’s bad and what else could they have?; Name that lesion. Skin Disease Education Foundation, Women’s and Pediatric Dermatology Seminar, San Francisco, CA, September 11-13, 2009  
 Speaker, Childhood eczemas, pediatric acne. 5th Annual Coastal Dermatology Symposium, San Diego, CA, September 30-October 3, 2009  
 Speaker, Pediatric pearls re-polished; Terrible to trivial: Pediatric version. Advances in Cosmetic Medical Dermatology, Maui, HI, January 23-27, 2010

Speaker, Small frys? Pediatric sun protection update; Top five-minute downloads: What’s hot? Skin Disease Education Foundation Dermatology Seminar, Hawaii, February 14-19, 2010  
 Speaker, Tinea capitis: Management in children; Advanced pediatric dermatology; Vascular birthmarks-new approaches! American Academy of Dermatology 68th Annual Meeting, Miami, FL, March 5-9, 2010  
 Speaker, Acne through the ages; Dermatology jeopardy. Skin Disease Education Foundation, Women’s and Pediatric Dermatology Seminar, San Francisco, CA, September 24-26, 2010  
 Speaker, Vascular birthmarks: Management Pearls; Pediatric dermatology: The state of our specialty; Tinea Capitis. American Academy of Dermatology 69th Annual Meeting, New Orleans, LA, February 4-8, 2011  
 Speaker, Exanthems; Vascular lesions: When to watch, when to treat; Pediatric pearls restrung; Sun, skin, and sun protection in children. 7th Annual Maui Derm, Maui, HI, February 23-27, 2011  
 Speaker, Sun, skin, sun protection and children. 35th Hawaii Dermatology Seminar, Maui, HI, March 13-18, 2011  
 Speaker, Birthmarks and hemangioma management. 35th Hawaii Dermatology Seminar, Maui, HI, March 13-18, 2011  
 Speaker, Moles and melanoma in children. UC Davis Grand Rounds, April 6, 2011  
 Speaker, Hemangiomas and vascular lesions: A how-to approach. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011  
 Speaker, Sun and moles. Pediatric Dermatology for the Practitioner, San Diego, CA, April 8-9, 2011

**Wynniss L. Tom, MD**

NIH Career Development K Award, 2011  
 UCSD Division of Dermatology, The Robert W. Goltz, MD, Excellence in Teaching Award, 2011  
 Session Director, American Academy of Dermatology Annual Meeting, 2011  
 Atopic Dermatitis Delphi Consensus Conference 2010, Editorial Director  
 Appointed, American Academy of Dermatology, Atopic Dermatology Guidelines Task Force  
 Speaker, Important skin infections in pediatrics. Essential Topics in Pediatrics 2009 Conference, San Diego, CA, May 2009



Speaker, Approach to severe atopic dermatitis. 33rd Uniformed Services Dermatology Seminar, San Diego, CA, August 2009

Speaker, Atopic dermatitis...what should you do next? Advances in Cosmetic & Medical Dermatology Annual Meeting, Maui, HI, January 2010

Speaker, A case of Kasabach-Merritt Syndrome. Advances in Cosmetic & Medical Dermatology Annual Meeting, Maui, HI, January 2010

Speaker, Atopic dermatitis: What's true, what's new. American Academy of Dermatology 68th Annual Meeting, Miami, FL, March 2010

Speaker, Treatment of the severe atopic child. American Academy of Dermatology 69th Annual Meeting, New Orleans, LO, February 2011

Speaker, Atopic dermatitis: Tried and true treatments. American Academy of Dermatology 69th Annual Meeting, New Orleans, LO, February 2011

### Sharon E. Jacob, MD

First prize-Society for Pediatric Dermatology Research Award (Matiz/Jacob) 2010

Session Director and Speaker (multiple lectures). American Academy of Dermatology Annual Meetings, 2010-11

## PUBLICATIONS

- Aceves SS, Newbury RO, Dohil MA, Bastian JF, Dohil R. A symptom scoring tool for identifying pediatric patients with eosinophilic esophagitis and correlating symptoms with inflammation. *Ann Allergy Asthma Immunol*, 103(5):401-6, 2009.
- Barrio VR, Eichenfield LF. Birthmarks; skin disorders and diseases. *The Child: an Encyclopedic Companion*, The University of Chicago Press, 105-106; 909-910, 2009.
- Bikowski J, Lau EG, Jacob SE. Eyelash growth: A beneficial side effect of prostaglandin analogues. *Cutis*, 85(4):187-8, 2010.
- Binns HJ, Brumberg HL, Forman JA, Karr CJ, Osterhoudt KC, Paulson JA, Sandel MT, Seltzer JM, Wright RO, Smith ML, Antaya R, Cohen BA, Friedlander SF, Ghali FE, Yan AC. Ultraviolet radiation: a hazard to children and adolescents. *Pediatrics*, 127(3):e791-817, 2011. Epub 2011 Feb 28.
- Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA, Eichenfield LF, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FER, Teach SJ, Yawn BP, Schwaninger JM. Guidelines for the diagnosis and management of food allergy in the United States: Summary of the NIAID-sponsored expert panel report. *Journal of Allergy and Clinical Immunology*, 126(6):1105-1118, 2010.
- Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwaninger JM. Guidelines for the diagnosis and management of food allergy in the United States: Summary of the NIAID-sponsored expert panel report. *Nutrition Research*, 31(1):61-75, 2011.
- Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwaninger JM. Guidelines for the diagnosis and management of food allergy in the United States: Summary of the NIAID-sponsored expert panel report. *Journal of the American Academy of Dermatology*, 64(1):175-192, 2011.
- Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwaninger JM, NIAID-sponsored expert panel. Guidelines for the diagnosis and management of food allergy in the United States: Summary of the NIAID-sponsored expert panel report. *Nutrition*, 27(2):253-267, 2011.
- Breithaupt A, Friedlander SF. A comparative trial evaluating the efficacy of tacrolimus 0.1% ointment versus

- aquaphor ointment for the treatment of keratosis pilaris. *Pediatr Dermatol*, 28(4):459-60, 2011; doi: 10.1111/j.1525-1470.2011.01497.x.
- Castanedo-Tardan MP, Matiz C, Jacob SE. Contact dermatitis in children—a review of current opinions. *Actas Dermosifiliogr*, 102(1):8-18, 2011. English, Spanish.
- Castanedo-Tardan MP, González ME, Connelly EA, Giordano K, Jacob SE. Systematized contact dermatitis and montelukast in an atopic boy. *Pediatr Dermatol*, 26(6):739-43, 2009.
- Clayton LA, Tom WL. Individualizing treatment for adolescent acne to achieve optimal outcomes. *Journal of Pediatric Health Care*, 24(2):127-32, 2010.
- Matiz C, Tom WL, Eichenfield LF, Pong A, Friedlander SF. Children with atopic dermatitis appear less likely to be infected with community acquired methicillin-resistant staph aureus. *Pediatric Dermatology*, 28(1):6-11, 2011.
- Dohil MA, Alvarez-Connelly E, Eichenfield LF. Fluocinolone acetonide 0.01% in peanut oil: Safety and efficacy data in the treatment of childhood atopic dermatitis in infants as young as 3 months of age. *Pediatric Dermatology*, 26(3):262-268, 2009.
- Dohil MA, Kalavala M. Topical calcineurin inhibitors in the treatment of atopic dermatitis: Current evidence in pediatric patients. *American Journal of Clinical Dermatology*, 11:6, 2010.
- Dohil R, Aceves S, Dohil M. Oral viscous budesonide therapy in children with epidermolysis bullosa and proximal esophageal strictures. *J Pediatr Gastroenterol Nutr*, 52(6):776-7, 2011.
- Eichenfield LF, Wortzman M. A novel gel formulation of 0.25% tretinoin and 1.2% clindamycin phosphate: efficacy in acne vulgaris patients aged 12 to 18 years. *Pediatric Dermatology*, 26(3):257-261, 2009.
- Eichenfield L. Fixed-combination monotherapy with clindamycin 1%- benzoyl peroxide 5% gel: focus on acne patient benefits and clinical use: Introduction. *Cutis*, 84(5 Suppl):3-4, 2009.
- Eichenfield LF, Thiboutot D, Shalita A, Swinyer L, Tangheiti E, Tschén E, Parr L. A three-step acne system containing solubilized benzoyl peroxide versus benzoyl peroxide/clindamycin in pediatric patients with acne. *Journal of Clinical Aesthetic Dermatology*, 2(11):21-26, 2009.
- Eichenfield LF, McCollum A, Msika P. The benefits of sunflower oleodistillate (SOD) in pediatric dermatology. *Pediatric Dermatology*, 26(6):669-75, 2009.
- Eichenfield L. Improving treatment outcomes: tolerability of a fixed-combination clindamycin 1%-benzoyl peroxide 5% hydrating gel as monotherapy or in combination with a retinoid. *Cutis*, 84(5 Suppl):12-7, 2009.
- Eichenfield LF, Matiz C, Funk A, Dill SW. Study of the efficacy and tolerability of 0.04% tretinoin microsphere gel for preadolescent acne. *Pediatrics*, 125(6):e1316-e1323, 2010. Epub 2010 May 24.
- Eichenfield LF, Fowler JF Jr, Friedlander SF, Levy ML, Webster GF. Diagnosis and evaluation of acne. *Seminars in Cutaneous Medicine and Surgery*, 29(2 Supplement 1):5-8, 2010.
- Eichenfield LF, Jarratt M, Schlessinger J, Kempers S, Manna V, Hwa J, Liu Y, Graeber M. Adapalene 0.1% Lotion in the treatment of acne vulgaris: results from two placebo-controlled, multicenter, randomized double-blind, clinical studies. *Journal of Drugs in Dermatology*, 9(6):639-646, 2010.
- Eichenfield LF, Fowler JF, Fried RG, Friedlander SF, Levy ML, Webster GF. Perspectives on therapeutic options for acne: an update. *Seminars in Cutaneous Medicine and Surgery*, 29(2 Supplement 1):13-16, 2010.
- Eichenfield LF. Acne is commonly observed in healthy children from 8 through 11 years of age in increasing numbers. Introduction. *Seminars in Cutaneous Medicine and Surgery*. 29(2 Supplement 1):1, 2010.
- Eichenfield LF. Facing the challenge of acne vulgaris in pediatric patients. *Seminars in Cutaneous Medicine and Surgery*, 29(2 Supplement 1):1, 2010.
- Eichenfield, LF, Thiboutot D, Shalita A, Swinyer L, Tangheiti E, Tschén E, Parr L. A three-step acne system containing solubilized benzoyl peroxide versus benzoyl peroxide/clindamycin in pediatric patients with acne. *Journal of Clinical and Aesthetic Dermatology*, 2(11):21-26, 2009.
- Eichenfield LF, Jorizzo JL, Dirschka T, Taub AF, Lynde C, Graeber M, Kerrouche N. Treatment of 2,453 acne vulgaris patients aged 12-17 years with the fixed-dose adapalene-benzoyl peroxide combination topical gel: efficacy and safety. *Journal of Drugs in Dermatology*, 9(11):1395-1401, 2010.
- Fleischer AB, Shalita A, Eichenfield LF, Abramovits, Lucky A, Garrett S, Dapsone Gel Study Group.

- Dapsone gel 5% in combination with adapalene gel 0.1%, benzoyl peroxide gel 4%, or moisturizer for the treatment of acne vulgaris: a 12-week, randomized, double-blind study. *Journal of Drugs in Dermatology*, 9(1):33-40, 2010.
- Fried RG, Webster GF, Eichenfield LF, Friedlander SF, Fowler JF Jr, Levy ML. Perspectives on therapeutic options for acne: an update. *Seminars in Cutaneous Medicine and Surgery*, 29(2 Suppl):13-16, 2010. Review.
- Fried RG, Webster GF, Eichenfield LF, Friedlander SF, Fowler JF Jr, Levy ML. Medical and psychosocial impact of acne. *Seminars in Cutaneous Medicine and Surgery*, 29(2Suppl):9-12, 2010.
- Friedlander SF, Eichenfield LF, Fowler JF Jr, Fried RG, Levy ML, Webster GF. Acne epidemiology and pathophysiology. *Seminars in Cutaneous Medicine and Surgery*, 29(2 Supplement 1):2-4, 2010.
- Friedlander SF. Propranolol may benefit those with severe infantile hemangiomas. *Jnl Ped*, 156(3):506-507, 2010.
- Gaffin JM, Spergel JM, Boguniewicz M, Eichenfield LF, Paller AS, Fowler JF, Dinulos JG, Tilles SA, Schneider LC, Phipatanakul W. Cat and daycare exposures are protective for asthma in children with atopic dermatitis. *Journal of Allergy and Clinical Immunology*, 2011 Apr (submitted).
- Gold LS, Cruz A, Eichenfield L, Tan J, Jorizzo J, Kerrouche N, Dhuin JC. Effective and safe combination therapy for severe acne vulgaris: a randomized, vehicle-controlled, double-blind study of adapalene 0.1%-benzoyl peroxide 2.5% fixed-dose combination gel with doxycycline hyclate 100 mg. *Cutis*, 85(2):94-104, 2010.
- Herro EM, Friedlander SF, Jacob SE. Violin bow-associated rubber allergy in a child. *Dermatitis*, 22(4):223-4, 2011. No abstract available.
- Herro EM, Friedlander SF, Jacob SE. Bra associated allergic contact dermatitis: p-tert-butylphenol formaldehyde resin as the culprit. *Pediatric Dermatology*, in press.
- Herro E, Jacob SE. Mentha piperita (peppermint). *Dermatitis*, 21(6):327-9, 2010.
- Hook KP, Eichenfield LF. Approach to the neonate with ecchymoses and crusts. *Dermatologic Therapy*, 24(2):240-248, 2011.
- Hsu J and Tom WL. Omphalomesenteric duct remnants: Umbilical versus umbilical cord lesions. *Pediatric Dermatology*, 28(4):404-7, 2011.
- Hsu JW, Matiz C, Jacob SE. Nickel allergy: Localized, Id, and systemic manifestations in children. *Pediatr Dermatol*, 2010 Nov 18, doi:10.1111/j.1525-1470.2010.01196.x.
- Hsu JW, Jacob SE. Children's toys as potential sources of nickel exposure. *Dermatitis*, 20(6):349-50, 2009.
- Jackson ML, Newman E, Nelson F, Romero L, Jacob S. Syringomas on the buttocks: case report. *Cutis*, 86(5):259-60, 2010.
- Jacob SE, Yang A, Herro E, Zhang C. Contact allergens in a pediatric population: association with atopic dermatitis and comparison with other north american referral centers. *J Clin Aesthet Dermatol*, 3(10):29-35, 2010.
- Jacob SE, Hsu JW. Sodium hydroxymethylglycinate: A potential formaldehyde-releasing preservative in child products. *Dermatitis*, 20(6):347-9, 2009.
- Jacob SE, Hsu JW. Reactions to aquaphor: Is bisabolol the culprit? *Pediatr Dermatol*, 27(1):103-4, 2010.
- Jacob SE, Herro EM. School-issued musical instruments: a significant source of nickel exposure. *Dermatitis*, 21(6):332-3, 2010.
- Jacob SE, Breithaupt AD. An important difference between "exposed" and "photodistributed" underscores the importance of identifying common reactions. *J Clin Aesthet Dermatol*, 2(9):44-5, 2009.
- Jockin YM, Friedlander SF. Periocular infantile hemangioma. *Int Ophthalmol Clin*, 50(4):15-25, 2010.
- Lee PW, Elsaie ML, Jacob SE. Allergic contact dermatitis in children: common allergens and treatment: a review. *Curr Opin Pediatr*, 21(4):491-8, 2009.
- Maier LE, Lampel HP, Bhutani T, Jacob SE. Hand dermatitis: a focus on allergic contact dermatitis to biocides. *Dermatol Clin*, 27(3):251-64, v-vi, 2009.
- Matiz C, Tom WL, Eichenfield LF, Pong A, Friedlander SF. Children with atopic dermatitis appear less likely to be infected with community acquired methicillin-resistant staphylococcus aureus: The San Diego experience. *Pediatric Dermatology*, 28(1):6-11, 2011.
- Matiz C, Russell K, Jacob SE. The importance of checking for delayed reactions in pediatric patch testing. *Pediatric Dermatology*, 28(1):12-14, 2011.
- Matiz C, Jacob SE. The lanolin paradox revisited. *J Am Acad Dermatol*, 64(1):197, 2011.
- Matiz C, Jacob SE. Systemic contact dermatitis in children: How an avoidance diet can make a difference.

- Pediatr Dermatol*, 2010 Aug 27, doi:10.1111/j.1525-1470.2010.01130.x [Epub ahead of print].
- Matiz C, Hsu JW, Paz Castanedo-Tardan M, Jacob SE. Allergic contact dermatitis in children: A review of international studies. *G Ital Dermatol Venereol*, 144(5):541-56, 2009.
- McCullum AD, Paik A, Eichenfield LF. The safety and efficacy of tacrolimus ointment in pediatric patients with atopic dermatitis. *Pediatric Dermatology*, 27(5):425-436, 2010.
- Meurer M, Eichenfield LF, Ho V, Potter PC, Werfel T, Hultsch T. Addition of pimecrolimus cream 1% to a topical corticosteroid treatment regimen in paediatric patients with severe atopic dermatitis: a randomized, double-blind trial. *Journal of Dermatological Treatment*, 21(3):157-66, 2010.
- Moennich JN, Zirwas M, Jacob SE. Nickel-induced facial dermatitis: adolescents beware of the cell phone. *Cutis*, 84(4):199-200, 2009.
- Nedorost S, Warshaw E, Jacob S, Katta R, Zirwas M, Andrew S. Allergic contact dermatitis caused by durable-press finishes does exist in the USA. *Contact Dermatitis*, 63(4):233-4, 2010; author reply 234-5. doi: 10.1111/j.1600-0536.2010.01766\_1.x.
- Newman E, Eichenfield LF. Granular cell tumor on the palm of an 8-year-old girl. *Pediatric Dermatology*, 27(6):653-658, 2010.
- NIAID-Sponsored Expert Panel, Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA, Plaut M, Cooper SF, Fenton MJ, Arshad SH, Bahna SL, Beck LA, Byrd-Bredbenner C, Camargo CA Jr, Eichenfield L, Furuta GT, Hanifin JM, Jones C, Kraft M, Levy BD, Lieberman P, Luccioli S, McCall KM, Schneider LC, Simon RA, Simons FE, Teach SJ, Yawn BP, Schwanger JM. Guidelines for the diagnosis and management of food allergy in the United States: report of the NIAID-sponsored expert panel. *Journal of Allergy and Clinical Immunology*, 126(6 Suppl):S1-58, 2010.
- Nijhawan RI, Molenda M, Zirwas MJ, Jacob SE. Systemic contact dermatitis. *Dermatol Clin*, 27(3):355-64, vii, 2009.
- Paller AS, Eichenfield LF, Langley RG, Leonardi CL, Siegfried EC, Creamer K, Kricorian G. Subgroup analyses of etanercept in pediatric patients with psoriasis. *Journal of American Academy of Dermatology*, 63(2):e38-41, 2010.
- Paller AS, Siegfried EC, Eichenfield LF, Pariser D, Langley RG, Creamer K, Kricorian G. Long-term etanercept in pediatric patients with plaque psoriasis. *Journal of American Academy of Dermatology*, 63(5):762-768, 2010.
- Rouhani P, Kirsner RS, Amado A, Fleming LE, Nouri K, Jacob SE. Knowledge of surgery-related allergic contact dermatitis among florida dermatological surgeons: A pilot study. *J Clin Aesthet Dermatol*, 2(11):33-6, 2009.
- Russell K, Jacob SE. Sodium hydroxymethylglycinate. *Dermatitis*, 21(2):109-10, 2010.
- Russell K, Jacob SE. Bisabolol. *Dermatitis*, 21(1):57-8, 2010.
- Siegfried EC, Eichenfield LF, Paller AS, Pariser D, Creamer K, Kricorian G. Intermittent etanercept therapy in pediatric patients with psoriasis. *Journal of American Academy of Dermatology*, 63(5):769-74, 2010, Epub 2010 Sep 15.
- Sulit D, Tom WL, Friedlander SF. Multicentric infantile hemangiopericytoma: Case report and review of the literature. *J Pediatr Hematol Oncol*, 33(4):e166-70, 2011.
- Sulit D, Tom WL, Willert J, Nespeca M, and Friedlander SF. Multicentric hemangiopericytoma: Case report and review of the literature. *Journal of Pediatric Hematology Oncology*, 33(4):e166-70, 2011.
- Thiboutot D, Eichenfield L, Shalita A, Del Rosso JQ, Swinyer L, Tanghetti E, Tschen E, Parr L. A 3-step acne system containing solubilized benzoyl peroxide versus clindamycin-benzoyl peroxide. *Cutis*, 84(1):48-55, 2009.
- Tom WL, Hsu JW, Eichenfield LF, Friedlander SF. Pediatric "STUMP" lesions: evaluation and management of difficult atypical Spitzoid lesions in children. *Journal of the American Academy of Dermatology*, 64(3):559-572, 2011, Epub 2011 Jan 20.
- Wright NA, Piggott CDS, Eichenfield LF. The role of biologics and other systemic agents in the treatment of pediatric psoriasis. *Seminars in Cutaneous Medicine and Surgery, Psoriasis and Biologics*, 29(1):20-27, 2010.
- Zvulunov A, McCuaig C, Frieden IJ, Mancini AJ, Puttgen KB, Dohil M, Fischer G, Powell J, Cohen B, Ben Amitai D. Oral propranolol therapy for infantile hemangiomas beyond the proliferation phase: A multicenter retrospective study. *Pediatr Dermatol*, 28(2):94-8, 2011, doi: 10.1111/j.1525-1470.2010. 01379.x, Epub 2011 Mar 1.





Left to Right:  
Kenneth Lyons Jones,  
Tina Chambers

# Dysmorphology and Teratology

Dr. Jones and Dr. Chambers are involved in efforts to improve policies regarding drug safety during pregnancy, both in California and at the federal level. They are involved in active clinical and epidemiological research programs in California, and collaborate with scientists at Boston University as well as in Australia, South Africa, Ukraine, South Korea, Poland and Mexico. They also lead a new NIH initiative to develop for the first time a population prevalence estimate of Fetal Alcohol Spectrum Disorders in San Diego County. Dr. Chambers also leads the National Children's Study for San Diego County, a 21-year 100,000 person cohort study of maternal and child health and development. They also maintain a strong commitment to teaching at the undergraduate, graduate and postdoctoral levels, and participate in many programs for

trainees in the areas of pediatrics, epidemiology, and behavioral health as well as in the School of Pharmacy.

The division is involved in three major areas: (1) An active clinical service in San Diego County and the Tijuana region of Mexico; (2) A highly productive and well-funded research program focused on better understanding the etiology and developmental pathogenesis of birth defects and other child health issues; and (3) A teaching program that includes undergraduate students, graduate students in epidemiology, medical students, postdoctoral students, and associate faculty and fellows.

## FACULTY

**Kenneth Lyons Jones, MD**, *Chief*, Division of  
Dysmorphology/Teratology, Professor of  
Pediatrics, Dysmorphologist/Clinical Teratologist  
**Christina D. Chambers, PhD, MPH**, Program  
Director, Professor of Pediatrics, Perinatal  
Epidemiologist

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division has a number of active clinical activities providing diagnostic services, genetic and Teratogen counseling, and long-term follow-up of children with birth defects throughout the region. Clinics are held in the city of San Diego, Tijuana, Mexico, and in newborn intensive care units throughout San Diego County. Inpatient consults are conducted at UC San Diego (UCSD) Medical Center (in the neonatal intensive care unit, newborn nursery and autopsy service), Scripps Mercy Hospital and Kaiser Permanente Hospital's Zion facility. Outpatient consults and follow-up take place at Rady Children's Hospital-San Diego (RCHSD), Kaiser Permanente Hospital's Vandevere facility and at Hospital del Infantil de las Californias in Tijuana.

Another major clinical service is delivered through the California Teratogen Information Service and Clinical Research Program (CTIS Pregnancy Health Information Line). The program, which is directed by Dr. Chambers, provides counseling for pregnant women and physicians throughout California regarding the prenatal effects of drugs, chemicals, and environmental agents to which the pregnant woman may have been exposed. The program is located at UCSD, with satellite offices at Los Angeles Children's Hospital.

## RESEARCH ACTIVITIES

Our research group has been involved in a number of areas of investigation. The group's primary focus is to better understand the etiology and developmental pathogenesis of birth defects. A major research theme is based on the

premise that a substantial number of birth defects which presently have an unknown etiology are the result of drugs, chemicals and/or environmental agents to which the fetus is exposed. Follow-up through systematic post-marketing surveillance of prenatally exposed infants whose mothers were ascertained through the California Teratogen Information Service and Clinical Research Program provide a wealth of research material. In addition, our group is the coordinating center for research studies conducted through the Organization of Teratology Information Specialists (OTIS), a group of 12 services throughout North America. We provide the infrastructure that allows for proper study design, subject ascertainment, follow-up, collection of data, statistical analysis and interpretation of data for a number of large collaborative studies that are being performed by OTIS. In a major national initiative in collaboration with the American Academy of Allergy Asthma and Immunology and Boston University, in 2009, a national system for post-marketing surveillance for pregnancy safety of drugs and vaccines was launched – known as the Vaccines and Medications in Pregnancy Surveillance System (VAMPSS). This research effort provides an infrastructure and research pipeline for multiple national studies of drug and vaccine safety in pregnancy. In the inaugural year of VAMPSS the Division received funding from the U.S. Department of Health and Human Services/BARDA to study H1N1 vaccine in pregnancy, and federal funding from AHRQ to study asthma medications in pregnancy. Two additional VAMPSS projects funded by commercial pharma have recently been added to the system.

A second major research theme relates to the prenatal effects of alcohol. Four studies that are on-going at the present time are funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). One study examines a variety of risk factors for fetal alcohol spectrum disorders in Ukraine. A second study compares the dysmorphic features of children exposed to alcohol across cultures. A third study, funded by NIAAA through a NARCH Center is focused on testing a randomized intervention for risky alcohol consumption among Native American women of reproductive age. A fourth study represents a consortium of investigators who are establishing for the first time an accurate prevalence estimate of the full range of fetal alcohol spectrum disorders in four cities in the U.S.

A third research area is based on the multidisciplinary National Children's Study which is a 21 year cohort study involving at least 100,000 pregnancies in the U.S. The San Diego County site for this study is led by our division along with an interdisciplinary team of investigators from Pediatrics, Reproductive Medicine, and Behavioral Health and in collaboration with San Diego State University's Graduate School of Public Health.

A fourth research theme is based on the theory that intrauterine vascular accidents play a major role in the etiology of birth defects which previously have defied a rationale embryologic explanation. We are particularly involved at the present time in attempting to better understand the etiology of gastroschisis, which we strongly believe has a vascular etiology. An additional theme that we have recently been pursuing is based on the premise that a certain portion of birth defects are the result of chronic or acute alterations in embryonic and/or fetal nutrition.

## TEACHING ACTIVITIES

The division recently hosted a visiting scholar, Matteo Cassina, MD, from the Department of Pediatrics, University of Padova, Italy. Currently Warren Foster, PhD, from the Department of Obstetrics and Gynecology, McMaster University, Ontario, Canada, is here to observe programs.

### **Christina D. Chambers, PhD, MPH**

Dr. Chambers mentors three post-doctoral fellows in Pediatrics and one post-doctoral fellow in Reproductive Medicine, mentors two pre-doctoral students in Public Health, a number of graduate students from the Skaggs School of Pharmacy and Pharmaceutical Sciences for six-week elective rotations, and mentors ISP student and CREST students from the UCSD School of Medicine. She teaches an elective course in the Skaggs School of Pharmacy and Pharmaceutical Sciences, and lectures in the various graduate courses in epidemiology.

### **Kenneth Lyons Jones, MD**

Dr. Jones is the ISP liaison for the Department of Pediatrics. He conducts resident rounds for neonatal fellows, residents and medical students in the UCSD neonatal intensive care unit and newborn nursery. He gives didactic lectures at the UCSD School of Medicine. He has

one full day outpatient clinic per week at Rady Children's Hospital San Diego. On all occasions he has a pediatric resident from UCSD or Balboa Naval Hospital rotating on service as part of the Dysmorphology/Genetics elective. Fourth-year medical students may also rotate on this service on a case-by-case basis.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### **Christina D. Chambers, PhD, MPH**

Delegate to Representative Assembly UCSD Academic Senate for Department of Pediatrics, 2009-  
Member, Executive Committee, Center for Human Development, UC San Diego, 2009-  
16th Annual Women Who Mean Business Awards, San Diego Business Journal, 2009  
UCSD National Center of Leadership in Academic Medicine Mentor Honor in the 2009 Junior Faculty Development Program, Health Sciences, UCSD, 2009  
UCSD Community Pediatrics Seminar, December 2009  
Feature Interview with David Garnet, UCTV Health Matters, January 2010  
PregTASTIC podcast, February 2010  
Global Health Seminar Series, UCSD, April 2010  
International Symposium—Toward the understanding and prevention of human birth defects. The value of the focused cohort study including a detailed physical examination in identifying new human teratogens. Japanese Teratology Society 50th Anniversary Meeting, July 2010  
Expert Panel Member, Center for Evaluation of Hazards to Human Reproduction (CERHR), Meeting of Evaluation of Genistein and Infant Soy Formula, December 2009  
Quarterly Columnist, *OB Gyn News*, 2009-  
Member, NIH-NIAAA International Team; establishing collaboration with Poland National Ministry of Health, 2009  
Expert Member, International 'PregForum' Board of Specialists in Rheumatology, Internal Medicine, Obstetrics and Gynecology, and Pediatrics, 2010  
Consultant to Naval Health Research Center H1N1 Vaccine Pregnancy Safety Study, 2009-2010  
Expert Member, National Data Bank for Rheumatic Diseases (NDB), Wichita, KS, 2010

## Major Goals and Plans

- Safety of maternal/infant exposure to medications and vaccines – expanding the national VAMPSS program and developing a national Center for maternal and fetal/infant health
- Launching the National Children's Study and adjunct studies in San Diego and across multiple sites.
- Maternal/fetal genetic susceptibility to developmental toxins –pharmacogenetics and personalized medicine during pregnancy.
- Stem cells as a model system for study in developmental toxins.
- Maternal/fetal immune tolerance and pregnancy outcome.
- Abnormalities of maternal and/or fetal nutrition as an etiology of adverse pregnancy outcome.
- Launch the Co-FASP School Study with the San Diego Schools and Community Organizations.
- Development of a telecommunication system that will permit practitioners in one area of the world real time communication regarding Dysmorphology/Teratology with members of our division.
- Establish the Center for the Promotion of Maternal Health and Infant Development.

Member, NIH-NIAAA International Team; establishing collaboration with South Korea, 2010

Member, Board of Directors, Organization of Teratology Information Specialists (OTIS), 2010-

Reviewer, Autism Speaks Grants, 2009

Reviewer, CDC Grants, 2010

Co-Author, *Briggs Drugs in Pregnancy and Lactation*

Guest Editor, Birth Defects Research Part A: Special 50th Anniversary Issue, 2010

### **Kenneth Lyons Jones, MD**

Chair, Search Committee, Director, Pediatric Diabetes Research Center, Department of Pediatrics, UCSD

Member, Association of American Physicians, Inducted May 2010

Dr. David W. Smith Teaching Award – Academy of Pediatrics; Section of Genetics and Birth Defects Vancouver, British Columbia, March 2011

Invited Speaker, Alcohol and pregnancy: What we have learned in 37 years; Organization of teratology information specialists studies; and Prenatal exposure to Retin-A for human teratogens: Environmental factors which cause birth defects. Harvard Medical School, Boston, MA, April 2010

Visiting Professor, Department of Pediatrics, The Meinhard Robinow Lecture: Fetal alcohol spectrum disorder: What we have learned in 37 years. House Officer Seminar: Minor malformations on the physical examination: A

clue to more serious problems. University of Virginia School of Medicine, Charlottesville, VA, May 2010

Visiting Professor, Department of Pediatrics, Grand Rounds: Alcohol and pregnancy: What we have learned in 37 years. Neonatology Fellow Seminar: approach to the dysmorphic child. University of Pittsburgh Medical Center, Pittsburgh, PA, June 2010

Visiting Professor, Department of Pediatrics, A prospective approach to the identification of human teratogens. The OTIS Research Center at UCSD. University of California Los Angeles School of Medicine, October 2010

Member, Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology (IRAP) NIH Study Section, 2009-

California Teratogen Information Service and Clinical Research Program: I and other members of the staff give talks to various community groups and organizations throughout the state of California

National Children's Study: Promotion of study at neighborhood/community San Diego County Health Fairs TERI, Inc. Oceanside, CA Research Advisory Council Training, Education @ Research Institute – Focus on autism and other developmental disabilities

Advanced federal funding for teratology information services throughout the United States for the last 10 years (Bill introduced into both the Senate and House of Representatives in 2010 are up for vote before Congress adjourns this fall)



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Christina D. Chambers, PhD, MPH</b>		
National Childrens Study - San Diego County (Base) Location Sub UCI 20071925 (HHSN267200700021C)/(UCI) UC Irvine	\$426,589	\$18,203,872 Sept. 2007-Sept. 2012
Co_FASP Measurement of Prevalence of FASD in San Diego County 1 U01 AA019879-01/NIH (NIAAA)	\$919,052	\$10,545,402 Sept. 2010-Aug. 2015
Rheumatic Diseases and Psoriasis Pregnancy Registry - OTIS Autoimmune Diseases in Pregnancy Project 20040246/Amgen	\$3,271,340	\$6,375,561 Mar. 2005-Nov. 2014
Post-Marketing Safety Study of Assess Pregnancy Outcomes Including Miscarriage Following Administration of CERVARIX in the United States and Canada - A VAMPSS Study 20105154/Glaxosmithkline	\$4,465,948	\$3,108,411 Dec. 2010-Mar. 2015
Spectrum of and Nutritional Risk Factors for FASD in Russia and Ukraine 2 U01 AA014835-04/NIH (NIAAA)	\$541,053	\$3,809,293 Sept. 2003-July 2012
H1N1 and Influenza Vaccines and Antiviral Medications in Pregnancy (VAMPSS) HHS00100201000029C/HHS Office Of The Secretary	\$2,428,325	\$3,650,651 Feb. 2010-Feb. 2012
OTIS Autoimmune Diseases in Pregnancy Project: The Actemra Pregnancy Registry 20090812/Hoffmann-La Roche Ltd	\$2,712,672	\$3,417,966 Nov. 2010-Oct. 2015
OTIS Autoimmune Diseases in Pregnancy Project: The Abatacept Pregnancy Registry 20062987/Bristol-Myers Squibb Company	\$480,810	\$3,152,027 Nov. 2006-Oct. 2011
Pregnancy Outcomes and Asthma Medications in Pregnancy: a VAMPSS Demonstration Project 1 R18 HS018474-01/PHS (AHRQ)	\$378,445	\$2,900,008 Sept. 2009-July 2014
Prospective Follow-up of Pregnancy Exposure to Leftunomide - OTIS Autoimmune Diseases in Pregnancy Project 2005-3359/Barr Lab	\$418,917	\$2,586,392 July 2005-July 2012
Menveo Vaccine Pregnancy Registry - A VAMPSS Study 20103461/Novartis Pharmaceutical	\$1,967,324	\$2,343,016 Aug. 2010-Aug. 2015

Flight to the North Pole fantasy trip for handicapped children at the San Diego Coast Guard Station just prior to Christmas each year  
Annual Kurt Benirschke Lecture at the UCSD School of Medicine

## PUBLICATIONS

- Ayers JW, Chambers CD, Hofstetter CR, Hughes SC, Reyes WD, Kang SW, Irvin VL, Hovell MF. Cultural and social network predictors of drinking among Korean American women. *Alcohol*, Sep 13; [Epub ahead of print] PMID: 20843638, 2010.
- Bakhireva LN, Wilsnack SC, Kristjanson A Yevtushok L, Onishenko S, Wertelecki W, Chambers CD. Paternal drinking, intimate relationship quality, and alcohol consumption in pregnant ukrainian women. *Stud Alcohol Drugs*, 72(4):536-44, 2011.
- Bandoli G, Johnson DL, Jones KL, Lopez-Jimenez J, Salas E, Mirrasoul N, Van Voorhess AS, Chambers CD. Potentially modifiable risk factors for adverse pregnancy outcomes in women with psoriasis. *British Journal of Dermatology*, in press, 2010.
- Bandoli G, Johnson DL, Jones KL, Jimenez JL, Salas E, Mirrasoul N, Chambers CD, OTIS Collaborative Research Group. Potentially modifiable risk factors for adverse pregnancy outcomes in women with psoriasis. Presented at the San Diego Epidemiology Research Exchange in La Jolla, CA, May 2010.
- Chambers C, Scialli A. Developmental toxicology Section 1 concepts: Epidemiological factors in developmental toxicity. *Comprehensive Toxicology*, 2nd Ed. Edited by Knudsen T, Daston G, in press, 2010.
- Chambers C. Anticonvulsant use in pregnancy. *Ob. Gyn. News*, Vol. 45, No 2: 12, February 2010.
- Chambers CD, Johnson DL, Robinson LK, Braddock SR, Xu R, Lopez-Jimenez J, Mirrasoul N, Salas E, Luo YJ, Jin S, Jones KL, and the Organization of Teratology Information Specialist Collaborative Research Group. Birth outcomes in women who have taken leflunomide during pregnancy. *Arthritis & Rheumatism*, 62(5), p1493-1503, 2010.
- Chambers CD. What is the role of post-marketing surveillance studies in detecting teratogenic exposures? *Teratology Primer*, 2nd Ed. The Teratology Society, co-editors: Barbara Hales, Anthony Scialli, and Melissa Tassinari. Web Launch, June 2010.
- Chambers CD. Value of the small cohort study including a physical examination for minor structural defects in identifying new human teratogens. *Congenit Anom*, (Kyoto) 51(1):16-20, 2011.
- Chambers CD, Schatz M, Mitchell AA, Louik C, Jones KL. The vaccines and medications in pregnancy surveillance system (VAMPSS): Launch of a new system for post-marketing surveillance. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):406, May 2010.
- Clark RD, Graham JM, Jr, Friez MJ, Hoo JJ, Jones KL, McKeown C, Moeschler JB, Raymond FL, Rogers RC, Schwartz CE, Battaglia A, Lyons MJ, Stevenson RE. FG syndrome, an X-linked multiple congenital anomaly syndrome: The clinical phenotype and an algorithm for diagnostic testing. *Genetics in Medicine*, 11(11):769-75, 2009.
- Delrahim-Howlett K, Chambers CD, Clapp JD, Xu R, Duke K, Moyer RJ 3rd, Van Sickle D. Web-based assessment and brief intervention for alcohol use in women of childbearing potential: a report of the primary findings. *Alcohol Clin Exp Res*, 35(7):1331-8, 2011.
- Delrahim-Howlett K, Chambers CD, Clapp JD, Duke K, Xu R, Moyer R, Van Sickle D, Larson S. Web-based intervention for alcohol use in women of childbearing potential. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):373, May 2010.
- Ding Ding M, Chambers CD, Kao K, Prewitt LM. Prospective birth outcomes in pregnant women using methamphetamine. Presented at the San Diego Epidemiology Research Exchange in La Jolla, California, May 2010.
- Feldman HS, Jones KL, Lindsay S, Slymen D, Klonoff-Cohen H, Kao K, Rao S, Chambers C. Prenatal alcohol exposure patterns and alcohol-related birth defects and growth deficiencies: a prospective study. *Alcohol Clin Exp Res* (in press 2011).
- Feldman HS, Jones KL, Slymen S, Slymen D, Klonoff-Cohen H, Kao K, Rao S, Chambers C. Patterns of prenatal alcohol exposure and associated non-characteristic minor structural malformations: a prospective study. *Am J Med Genet*, Part A (in press 2011).
- Felix R, Chambers CD, Cobian V, Prince L, Kao K, Alvarado S, Jones KL. An electronic medical record (EMR) system-based referral facilitating access to ter-

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Asthma Control Test (ACT) Pregnancy Study - A VAMPSS Study 20110211/Glaxosmithkline	\$121,644	\$149,371 Apr. 2011-Apr. 2012
NASBIRT - Native American Screening And Brief Intervention for Alcohol Sub none (HS300292)/Indian Health Council, Inc.	\$62,345	\$78,555 Sept. 2009-Aug. 2010
State of California Department of Education: California Teratogen Information Service & Clinical Research Program (Jones, PI) State of California Community Service Project	\$308,000 annually	continuous
Dysmorphology Core (Jones, PI) U24AA014815-04/NIH-NIAAA		\$795,000 Sept. 2007-Aug. 2012
Prospective Follow-up of Pregnancy Exposure to Humira (Adalimumab) (Jones, PI) Abbott Laboratories		\$1,361,363 Dec. 2003-Mar. 2012
<b>Kenneth Lyons Jones, MD</b>		
Prospective Follow-up of Pregnancy Exposure to Humira (Adalimumab) 2004-0793/Abbott Laboratories	\$1,232,301	\$3,630,319 Dec. 2003-Aug. 2012
Maternal Dietary Fat Intake as a Potentially Preventable Cause of Gastroschisis 20084224/Hartwell Foundation, The	\$100,000	\$300,000 Apr. 2008-Mar. 2011
Dysmorphology Core (U24 Core) 1 U24 AA014815-01/NIH (NIAAA)	\$240,255	\$1,428,119 Sept. 2003-July 2012
Maternal Nutritional Status as a Potentially Cause of Gastroschisis Sub CHNR08-803 (NO.06-000427)/(UCD) UC Davis	\$75,472	\$80,000 Jan. 2008-Mar. 2011

atogen risk counseling for health care providers and their patients. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):368, May 2010.

Green J, Lindsay SP, Chambers CD. The association between the fetal growth pattern and major congenital anomalies in infants of diabetic mothers. Presented at the San Diego Epidemiology Research Exchange in La Jolla, California, May 2010.

Haas DM, Hebert MJ, Soldin OP, Flockhart DA, Madadi P, Nocon JJ, Chambers CD, Hankins GD, Clark S, Wisner KL, Li L, Renbarger JL, Learman LA. Pharmacotherapy and pregnancy: Highlights from the

second international conference for individualized pharmacotherapy in pregnancy. *Clinical and Translational Science*, 2(6):439-43, 2009.

Jones KL. The effects of alcohol on fetal development. *Birth Defects Research C Embryo Today*, 93(1) 3-11, 2011.

Jones KJ, Hoyme HE, Robinson LK, Del Campo M, Manning MA, Prewitt L, Chambers CD. Fetal alcohol spectrum disorders: Establishing the broad range of structural defects. *Am J Med Genet*, Part A, in press, 2010.

Jones KL, Carey JC. The importance of dysmorphology in the identification of new human teratogens. *Am J Med Genet C Semin Med Genet*, 15;157(3):188-94, 2011.

- Jones KL, Hagey LR, Gonzalez V, Benirschke K, Chambers CD. Maternal dietary fat intake as a potentially preventable cause of gastroschisis. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):370, 2010.
- Katheria A, Masliah D, Benirschke K, Jones KL, Kim JH. Idiopathic persistent pulmonary hypertension in an infant with Smith-Lemli-Opitz Syndrome. *Fetal and Pediatric Pathology*, 29(6):373-9, 2010.
- Keen CL, Uriu-Adams JY, Skalny A, Grabeklis S, Green K, Yevtushok L, Wertelecki WW, Chambers CD. The plausibility of maternal nutritional status being a contributing factor to the risk for fetal alcohol spectrum disorders: The potential influence of zinc status as an example. *Biofactors*, 36 (2):125-135, 2010.
- Kliieger-Grossmann C, Lavign S, Kao K, Garcia-Bournissen F, Quinn D, Luo V, Sermer M, Riordan S, Laskin C, Matok I, Gorodischer R, Chambers C, Levi A, Koren G. Prenatal exposure to mycophenolate mofetil: an updated estimate. *Journal of Obstetrics and Gynecology of Canada*, Volume 32;8, p794-797, 2010.
- Mattson SN, Roesch SC, Fagerlund A, Autti-Ramo I, Jones KL, May PA, Adnamcs CM, Konovalova V, Riley EP, and the CIFASD. Toward a neurobehavioral profile of fetal alcohol spectrum disorders. *Alcoholism: Clinical and Experimental Research*, in press 2010.
- May PA, Gossage JP, Smith M, Tabachnick BG, Robinson, LK, Manning M, Cecanti M, Jones KL, Nkhaole N, Buckley D, Kalbert WO, Trujillo PM, Hoyme HE. Population differences in dysmorphic features among children with fetal alcohol spectrum disorders. *Journal of Developmental & Behavioral Pediatrics*, 31:304-316, 2010.
- May PA, Fiorentino D, Coriale G, Kalberg WO, Hoyme HE, Aragón AS, Buckley D, Stellavato C, Gossage JP, Robinson LK, Jones KL, Manning M, Ceccanti M. Prevalence of severe fetal alcohol spectrum disorders in communities near Rome, Italy: New estimated rates are higher than previous estimates. *Int J Environ Res Public Health*, 8(6):2331-51, 2011.
- Murphy V, Namazy J, Powell H, Schatz M, Chambers C, Attia J, Gibson P. A meta-analysis of adverse perinatal outcomes in women with asthma. *BJOG*, 118:1314-1323, 2011.
- Namazy JA, Murphy VE, Powell H, Gibson PG, Chambers CD, Schatz M. Congenital anomalies in asthmatic women using corticosteroids during pregnancy: A meta analysis from published data. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):364, 2010.
- Ostensen M, Brucato A, Carp H, Chambers C, Dolhain R, Doria A, Förger F, Gordon C, Hahn S, Khamashta M, Lockshin M, Matucci-Cerinic M, Meroni PL, Nelson JL, Parke A, Petri M, Ruiz-Irastorza G, Raio L, Silva CA, Tincani A, Villiger PM, Wunder D, Cutolo M. Pregnancy and reproduction in autoimmune rheumatic diseases. *Rheumatology*, in press 2010.
- Roussotte FF, Sulik KK, Mattson SN, Riley EP, Jones KL, Adnams CM, May PA, O'Conner JJ, Narr KL, Sowell ER. Regional brain volume reductions related to facial dysmorphology and neurocognitive function in fetal alcohol spectrum disorders. *Human Brain Mapping* March 17, 2011. [Epub ahead of print] PMID:214562.
- Sawada A, Jones KL, Lindsay S, Slymen D, Klonoff-Cohen H, Chambers C, Barrett-Connor E. Patterns and timing of prenatal alcohol exposure in relation to minor malformations: Preliminary data results from a California cohort study." Presented at the San Diego Epidemiology Research Exchange in La Jolla, California, May 2010.
- Schatz M, Chambers CD, Jones KL, Louik C, Mitchell AA. Safety of influenza immunizations and treatment during pregnancy: The vaccines and medicals in pregnancy surveillance. *American Journal of Obstetrics and Gynecology*, Feb. 17, 2011 [Epub ahead of print] PMID: 21333964.
- Uriu-Adams JY, Chambers CD, Gross HB, Ensunsa JL, Green K, Le A, Yevtushok L, Zymak-Zakutnya N, Wertelecki W. Alcohol drinking patterns and nutrient status in ukrainian pregnant women. *Birth Defects Research (Part A): Clinical and Molecular Teratology*, 88(5):382, 2010.
- West JH, Thackery R, Chambers CD, Kao KK, Dick LM, Jones KL. Correlates of continued alcohol consumption during pregnancy: Implications for health promotion. *California Journal of Health Promotion 2011*, Volume 9, Issue 1, 56-61.
- Xu R, Chambers C. A sample size calculation for spontaneous abortion in observational studies. *Reproductive Toxicology*, Sept. 3, 2011 [Epub ahead of print] doi:10.1016/j.reprobx.2011.08.009.





# Emergency Medicine

The Division of Pediatric Emergency Medicine provides medical care to sick and injured children at the Sam S. and Rose Stein Emergency Care Center (ECC) at Rady Children's Hospital-San Diego (RCHSD) and four Urgent Care Centers (UCC). The ECC is the only emergency care center in the San Diego region solely dedicated to caring for children. It is also the only Level 1 pediatric trauma center in San Diego County. Our emergency department specializes in pediatric trauma care, laceration repair, pediatric sedation, orthopedic care, care of children with special needs, and stabilization and treatment of critically ill children. Our UCCs provide conveniently located after hours pediatric care at four different locations outside of our main campus.

## FACULTY

**Jim Harley, MD, MPH**, *Interim Division Chief*,  
Clinical Professor of Pediatrics

**Marc Etkin, MD**, Interim Clinical Director,  
Associate Clinical Professor of Pediatrics

**Joyce Arpilleda, MD**, Associate Clinical Professor of  
Pediatrics

**Urgent Care Team:** Left to right: Tia Rajasingham, Jamil Madati, Arit Edwin-Enyenihi, Jamie Lien, Cynthia Hoecker, Janet Friday, Ghazala ShariEFF, Marc Etkin, John Kanegaye, Stacey Ulrich, Krista Caldwell, Jim Harley, Heather Conrad, Paul Ishimine, Simon Lucio

**Krista Caldwell, MD**, Assistant Clinical Professor of Pediatrics

**Keri Carstairs, MD**

**Heather Conrad, MD**, Assistant Clinical Professor of Pediatrics

**Arit Edwin-Enyenihi, MD**, Associate Clinical Professor of Pediatrics

**Cynthia Hoecker, MD**, Clinical Professor of Pediatrics

**David Gutglass, MD**

**Paul Ishimine, MD**, Associate Clinical Professor of Emergency Medicine and Pediatrics

**John Kanegaye, MD**, Clinical Professor of Pediatrics

**Jason Lowe, DO**

**Simon Lucio, MD**, Associate Clinical Professor of Pediatrics

**P. Jamil Madati, MD**, Assistant Clinical Professor of Pediatrics

**Seema Shah, MD**, Assistant Clinical Professor of Pediatrics

**Stacey Ulrich, MD**, Assistant Clinical Professor of Pediatrics

## INTERMEDIATE CARE PEDIATRICIANS

**Janet Friday, MD**, Clinical Professor of Pediatrics

**Elizabeth Hicks, MD**, Assistant Clinical Professor of Pediatrics

**Wendy Hunter, MD**, Assistant Clinical Professor of Pediatrics

**Jamie Lien, MD**, Assistant Clinical Professor of Pediatrics

**Jennifer Weglowski, MD**, Assistant Clinical Professor of Pediatrics

## URGENT CARE PEDIATRICIANS

**Katherine Konzen, MD, MPH**, *Medical Director*, Clinical Professor of Pediatrics

**Shaun Berger, MD**

**Kara Hutton, MD**

**Jenny Ilfeld, MD**

**Teresa Isaias, MD**, Assistant Clinical Professor of Pediatrics

**Weena Joshi, MD**

**Gregory Langley, MD**, Associate Clinical Professor of Pediatrics

**Daniel Kao, MD**

**Lauren Kearney, MD**

**Seema Mishra, MD**, Assistant Clinical Professor of Pediatrics

**Nadia Sarwar, MD**, Assistant Clinical Professor of Pediatrics

## PEDIATRIC EMERGENCY MEDICINE FELLOWS

**Nisa Atigapramoj, MD**

**Jessica Dayan, MD**

**Angela Lumba, MD**

**Julia Magaña, MD**

**Matthew Murray, MD**

**Sherri Rudinsky, MD**

**Vanessa Tamas, MD**

## NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS

**Stacy Bright, NP**

**Annie Gerhart, NP**

**Jamie Gilley, NP**

**Lindsay Grubensky, NP**

**Tawnya Macchiarella, NP**

**Kelly Pretorius, NP**

**Stephanie Reitinger, NP**

**Eva Schmitt, PA**

**Marci Valenciano, NP**

**Kristi Westphal, NP**



## EMERGENCY CARE CENTER (ECC)

Jim Harley, MD, MPH and Marc Etkin, MD serve as the interim division and clinical directors of the Emergency Medicine Division. The nursing directors are Lesley Carlson, RN and Lisa McDonough, RN. The ECC is the busiest pediatric emergency department on the West Coast. Last year, we saw 71,000 patients in the ER (July 2010 to June 2011). We have made great strides in improving customer service by reducing the Left Without Being Seen (LWBS) rate and decreasing customer complaints. Our LWBS rate is now at 2.7% despite our overall volume continuing to increase. We achieved our 2010-11 goal of decreasing our patient throughput times by 5%. The number of compliments also has greatly increased.

The ECC is the most common entrance for admitted patients at RCHSD. 10% of the patients that are seen in the ECC are admitted. This accounts for over 50% of the

total admissions to RCHSD. We are the receiving unit for emergency transports brought in by paramedics and Mercy Air. Our division provides continuous feedback and consultation regarding pediatric pre-hospital and disaster preparation and care in San Diego.

We were the first area of the hospital to begin on EPIC (an Electronic Medical Record). We have now finished our second year with this program and have seen many improvements in the quality of care we deliver. We now have ten different medical pathways we have developed and use to ensure that high quality care is always given.

**Emergency Care Team:** Left to right: Paul Ishimine, Janet Friday, Jennifer Weglowski, Linnday Grubensky, NP, Heather Conrad, Simon Lucio, Jason Lowe, Seema Shah, Jim Harley, John Kanegaye, Marc Etkin





## QUALITY IMPROVEMENT INITIATIVE

We continue to strive to improve the quality of care we provide and our patient satisfaction. This year, the Emergency Improvement Committee headed by Paul Kurtin, MD and Abby Marquette and Rachel Weber along with Jim Harley, Marc Etkin, Lesley Carlson, and Lisa McDonough, was formed to improve our patient throughput. One of the most frequent complaints our patients have is of excessive waits. Our group met on a regular basis to examine why there were delays and what could be done to reduce them. A key finding was the number of patients in the ER for over 400 minutes was related to increased left without being seen rates. By reducing the number of these patients, our LWBS rates dropped and patient satisfaction improved. The findings of our group were recently published in the Society for Health Systems (SHS) monthly newsletter.

## URGENT CARE CENTERS (UCC)

Under the leadership of Dr. Katherine Konzen, Urgent Care Medical Director, the UCCs saw 38,737 patients at our four off-site urgent care facilities last year. This was a 13.5% increase from the previous year. The Urgent Care Centers provide nearby access to local communities so that parents and patients do not need to travel to the RCHSD Emergency Department. The Urgent Care Centers provide quick access to a board certified pediatrician and pediatric trained nurses when the family's doctor or pediatrician's office is closed in the evenings and weekends. Our clinics provide after hours care 365 days a year. The sites are open 4pm - 10pm weekdays and 1pm - 10pm on weekends.

**Emergency Care Team (cont'd):** Left to right: Wendy Hunter, Nisa Atigapramoj, Matthew Murray, Julia Magana, Joyce Arpilleda, Vanessa Tamas, Jessica Dayan, Krista Caldwell, Elizabeth Hicks



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Genetic Influences and Gene Expression in Kawasaki Disease		\$532,059
1 R01 HL69413-01/NHLBI [Burns (PI), Kanegaye (Site PI)]		2006-2011

### North County

The North County Urgent Care is located at 625 W. Citracado Parkway, Suite 100, in the North County Medical Office Building. RCHSD leases space to run CCS specialty clinics during the day and the Urgent Care Center in the evenings and weekends. This site is located off Interstate 15 on the corner of Felicita and Citracado Parkway. Our team of providers saw 12,445 patients this past year.

### East County

Our East County Urgent Care facility was re-opened in March 2008 on the Grossmont Medical Center Campus. This Urgent Care facility is conveniently located for people who live in East County communities such as La Mesa or El Cajon. This site has grown significantly since its re-opening, and saw 10,042 patients this year.

### Mid City

The Mid-City Clinic was designed to provide comprehensive services for a largely underserved population in City Heights based on a creative model. The Mid-City Clinic sees primary care patients at the site during the day. The Urgent Care team sees patients in the evening, and provides unparalleled level of service to an area where most patients must use public transportation to go beyond their neighborhood. This combination provides services seven days a week and is open until 10pm. There were 15,626 patients seen at this site this year.

### North Coastal

This site is located in Oceanside and is a collaborative effort between Sanford clinics, CPCMG, CSSD Specialty Clinics and RCHSD. The Urgent Care shares space with the Specialty clinics. This site opened April 4th and saw 624 patients through the end of the fiscal year.

## EMERGENCY DEPARTMENT MEDICAL STAFF

Our provider staff is comprised of 14 board certified pediatric emergency medicine specialists, 16 board certified or eligible pediatricians, nine nurse practitioners and one physician assistant. Two additional board-certified pediatric emergency medicine specialists will join our staff in fall of 2011. We have the largest group of pediatric emergency medicine physicians on the west coast. All of the pediatric emergency medicine specialists in the Division have completed a residency in Pediatrics or Emergency Medicine and an additional two- to three-year fellowship in Pediatric Emergency Medicine for a total of 5-6 years of postgraduate training. Our pediatricians, nurse practitioners and physician assistant staff our Intermediate Care area, rapid medical assessment area and less acute side of our emergency department.

The Emergency Division at RCHSD is the only ER in San Diego County that provides 24-hour coverage with pediatric emergency medicine physicians. We are also part of the trauma team. This year we saw 1091 children that were referred to our center after being involved in serious accidents such as motor vehicle collisions, pedestrians struck by automobiles, bicycle and skateboard accidents, and falls.

## CLINICAL ACTIVITIES

### Midlevel provider program

One of our most successful programs has been the development of specialized nurse practitioners and physician assistants that provide medical care for less acutely ill

and injured children who present to the ECC. We have ten pediatric nurse practitioners/physician assistants that run this program under the direction of Jim Harley, Marc Etkin and Tawnya Macchiarella. Currently, about 25% of our patients are seen by a mid-level provider.

### Intermediate Care

We have five pediatricians to augment our medical provider staff to see patients with less acute problems. All our pediatricians have received additional training in suturing to improve care in our ER.

### Sedation

This year we added a new nitrous oxide machine to use in procedural sedation. It can be used without need of a painful IV. Nitrous oxide is an excellent medication to calm excessive anxiety in children undergoing procedures in the ER. We have found this has been well received by both patients and staff.

### Disaster Preparedness

Our division appointed Heather Conrad, MD as disaster director for our division. She has attended training and has worked this year to help make our ED ready to be the first line-receiving unit for pediatric disaster victims. We recently participated in a recent hospital wide table top disaster drill to see how we would respond to an influenza epidemic.

### Emergency Medical Services

Our Division provides advice and direction to the County and City of San Diego in pre-hospital care. We strive to ensure that paramedics are properly supplied with the necessary equipment, education, and protocols to assess and stabilize sick and injured children before they are brought to the hospital. Jamil Madati, MD is the RCHSD pre-hospital care liaison. Jim Harley, MD is on the California State Technical Advisory Committee for EMS-C (Emergency Medical Services for Children).

## TEACHING ACTIVITIES

Education is one of our core missions. We train Pediatric, Emergency Medicine, and Family Medicine residents from

San Diego and from all over the country in the recognition and stabilization of sick and injured children. Medical students from the University of California, San Diego (UCSD) rotate with us. In the 2010-11 year, we trained 170 residents and 20 medical students. Seema Shah, MD is our division education coordinator. We provide bedside teaching and instruction in basic procedures such as suturing or lumbar punctures with 40 hours of direct attending coverage a day. We offer a fourth-year UCSD medical student rotation that is one of the most popular selections among students interested in pediatrics or emergency medicine.

We currently participate with UCSD in using a state of the art, computer programmed resuscitation model for teaching residents and medical students.

## FELLOWSHIP

The Division of Emergency Medicine runs an ACGME-accredited two- to three-year fellowship program in pediatric emergency medicine. Currently, there are six fellows in training. Paul Ishimine, MD is the Fellowship Director. We have four attendings on staff that completed their pediatric emergency medicine training in our program. Currently in the United States, there are not enough pediatric emergency medicine physicians to meet today's demands. Training future pediatric emergency medicine physicians is a key priority of our department to help meet this need. There are only four other similar training programs in California.

## RESEARCH ACTIVITIES

The Division of Emergency Medicine is committed to excellence in improving our knowledge of emergency care for sick and injured children. Current research in our emergency department falls into three categories: NIH-funded research on Kawasaki disease (an inflammatory disease unique to children that can cause heart disease); multicenter collaborative studies with other pediatric centers; and clinical research studies. Kawasaki disease research is a unique and highly successful collaboration among clin-

ical researchers in the division, basic science researchers, and Dr. Jane Burns, an internationally recognized expert in Kawasaki disease. Our collaborative research is performed through the American Academy of Pediatrics' Section on Emergency Medicine. We have two ongoing clinical studies on the treatment of minor head injuries. One is with the use of intravenous hypertonic saline and the other is with ondansetron. A recent study was published on the use a rapid service area in improving patient flow. Other studies in progress include the effect of a croup pathway on patient throughput, the use of serum lactate levels in intussusception and the evaluation of syncope in the emergency department.

## SCIENTIFIC PRESENTATIONS AND ABSTRACTS

Ramsawh H, Stein M, Chavira D, Ancoli-Israel S, Madati PJ, Kanegaye J. Anxiety disorders in the pediatric emergency department: prevalence, clinical correlates, and healthcare utilization. Abstract accepted for presentation during symposium, Mental health service utilization in youth: Deficiencies of availability, awareness, and use of evidence-based treatments, at the Association for Behavioral and Cognitive Therapies Annual Convention, Toronto, Canada, November 10-13, 2011

Kanegaye JT, Van Cott E, Tremoulet A, Salgado A, Kruk P, Hauschildt J, Jain S, Sun X, Burns JC. Reconocimiento precoz de la presentación con adenopatías iniciales de enfermedad de Kawasaki. Poster presentation, XIV Congreso Sociedad Latinoamericana de Infectología Pediátrica, Punta Cana, Dominican Republic, May 25-28, 2011

Kanegaye JT, Van Cott E, Tremoulet A, Salgado A, Kruk P, Hauschildt J, Jain S, Sun X, Burns JC. Early recognition of lymph node first presentation of Kawasaki disease. Poster presentation, Pediatric Academic Societies' Annual Meeting, Denver, CO, April 30, 2011

Ghafouri N, Sharieff G, Rajasingham A, Kanegaye JT. Comparison of one-dose and two-dose regimes of oral Dexamethasone in the management of acute asthma

exacerbations in the pediatric emergency department. Poster presentation, 2010 American Academy of Pediatrics National Conference and Exhibition, San Francisco, CA, October 1, 2010

Sato Y, Tremoulet A, Daniels LB, Shimizu C, Kanegaye JT, Watson V, Best B, Snider J, Frazer J, Molkara D, Maisel A, Burns JC. Markers of cardiomyocyte injury in acute Kawasaki disease. Poster presentation at Pediatric Academic Societies' Annual Meeting, Vancouver, Canada, May 2010

Tsai V, Harley JR, Sharieff GQ, Carlson LA, Kanegaye JT. Rapid medical assessment: Improved patient flow and left without being seen rates. Platform presentation, American Academy of Pediatrics 2009 National Conference and Exhibition, Washington, DC, October 16, 2009

L E Nigrovic, R Malley, C G Macias, J T Kanegaye, D M Moro-Sutherland, B K Bonsu, D Agrawal, Y L Katsogridakis, K M Mansour, D W Steele, S H Schwab, N Kuppermann, R D Schremmer, J E Bennett, M M Mohseni, R L Kaplan, M I Herman, S Bandyopadhyay, P Dayan, V J Wang. Pediatric Emergency Medicine Collaborative Research Committee, American Academy of Pediatrics. Enteroviral PCR testing for children with pretreated culture-negative meningitis. Platform presentation at Pediatric Academic Societies' Annual Meeting, Baltimore, MD, May 5, 2009

## PUBLICATIONS

Arpilleda J. Head and neck emergencies. In: *Neonatal and Infant Emergencies*, Sharieff G, McCollough M (eds.) New York, NY, Cambridge University Press, 122-127, 2009.

Burns JC, Kanegaye JT. Fever and red eyes. In: *Challenging Cases in Pediatric Ophthalmology*, Robbins SL, Baber LJ, Granet DB (eds.) Elk Grove Village, IL. American Academy of Pediatrics, 2012 (in press).

Colletti JE, Brown KM, Sharieff GQ, Barata IA, Ishimine P, ACEP Pediatric Emergency Medicine Committee. The management of children with gastroenteritis and dehydration in the emergency department. *J Emerg Med*, 2009 [Epub ahead of print].

## Major Goals and Plans

The Mission of the Division of Emergency Medicine is to be a center of excellence for providing acute care to ill and injured children in San Diego. We are continuing to improve our care by developing and implementing clinical pathways, where assessment and treatment can be standardized and periodically assessed to ensure we are delivering high quality care.

We will continue to expand our urgent care services. Our goal is to provide parents a nearby alternative to the Rady Children's Hospital Main Campus that allows their children to be evaluated for minor illnesses and injuries when their primary care physician's office is closed. We hope to open one more Urgent Care Center in the South Bay area some time in the future.

We continue to recruit more pediatric emergency physicians to join our group. Two new PEM faculty will start this fall.

Our goal for our fellowship program is to make it one of the premier training centers for pediatric emergency medicine in the U.S.

We continue to make clinical research a priority.

We will continue participating in an NIH-funded grant on Kawasaki's disease. All our fellows have clinical research projects in progress. We are looking to add a director of clinical research to our division and have begun recruitment for this position.

- Doniger SJ, Ishimine P, Fox JC, Kanegaye JT. Randomized controlled trial of ultrasound guided peripheral intravenous catheter placement versus traditional techniques, in difficult access pediatric patients. *Pediatr Emerg Care*, 25(3):154-9, 2009.
- Friday JH, Kanegaye JT, McCaslin I, Zheng AM, Harley JR. Ibuprofen provides analgesia equivalent to acetaminophen-codeine in the treatment of acute pain in children with extremity injuries: a randomized clinical trial. *Acad Emerg Med*, 16(8):711-6, 2009.
- Friday JH. Ataxia. In: *Textbook of Pediatric Emergency Medicine*, 6th ed, Fleisher GR, Ludwig S (eds). Baltimore, MD, Lippincott Williams & Wilkins, 264-7, 2010.
- Fury W, Tremoulet AH, Watson VE, Best BM, Shimizu C, Hamilton J, Kanegaye JT, Wei Y, Kao C, Mellis S, Lin C, Burns JC. Transcript abundance patterns in Kawasaki disease patients with intravenous immunoglobulin resistance. *Human Immunology*, 71(9):865-873, 2010.
- Harley JR. Upper extremity injuries. In: *Pediatric Emergency Medicine: Just the Facts*, 2nd ed., Strange G, Ahrens W, Schafermeyer R (eds.) New York: McGraw-Hill, Oct 2011.
- Harley JR. Environmental emergencies. In: Harwood-Nuss' *The Clinical Practice of Emergency Medicine*, 5th edition, Wolfson B, Hendey G, Ling L, Rosen C, Schaider J, Sharieff G (eds.) Philadelphia, PA: Lippincott Williams & Wilkins, 2010:197-204.
- Harley JR. Injuries of the upper extremities. In: *Pediatric Emergency Medicine*, 3rd ed. Strange G, Ahrens W, Schafermeyer R (eds.) New York: McGraw-Hill, 2009:309-321.
- Harley J. Environmental emergencies. In: *Neonatal and Infant Emergencies*, Sharieff G, McCollough M (eds.) New York, NY: Cambridge University Press, 2009:197-204.
- Hoecker C. Nursemaid's elbow. In: Harwood-Nuss' *The Clinical Practice of Emergency Medicine*, 5th ed., Wolfson B, Hendey G, Ling L, Rosen C, Schaider J, Sharieff G (eds.) edited by Lippincott Williams & Wilkins, 2010:1296-1297.
- Hunter W, Sharieff G. Refractory wheezing and fever in a 2-year-old boy. *Medscape Emergency Medicine*, Oct. 2010.



- Ishimine P. Approach to the infant with fever. In: *Neonatal and Infant Emergencies*, Sharieff G, McCollough M, (eds.) New York, NY: Cambridge University Press; 2009:105-121.
- Ishimine P. Complications after dental surgery. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Dental decay. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (Eds.); Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Dental trauma and displaced teeth. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Gingivitis. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Oral lesions. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Oropharyngeal, palatal, and esophageal injury. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2006, revised 2010.
- Ishimine P. Evaluation of fever of unknown origin in children. In: *Epocrates/BMJ Point of Care*, Epocrates Online, 2009; accessed August 31, 2010.
- Ishimine P. Dental anatomy and development. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (eds.) Brisbane, Australia: Pemsoft Pty Ltd., 2010.
- Ishimine P. Oral health. In: *PEMSoft: The Pediatric Emergency Medicine Decision Support Software*, Dieckmann RA, Pitt WR (Eds.); Brisbane, Australia: Pemsoft Pty Ltd., 2010.
- Ishimine P. Heat stroke in children. In: *UpToDate*, [http://www.uptodate.com/online/content/topic.do?topicKey=peds\\_env/6454&selectedTitle=1~150&source=search\\_result#H1;2010](http://www.uptodate.com/online/content/topic.do?topicKey=peds_env/6454&selectedTitle=1~150&source=search_result#H1;2010); accessed Jan 21, 2010.
- Ishimine P. Heat illness (other than heat stroke) in children. In: *UpToDate*, [http://www.uptodate.com/online/content/topic.do?topicKey=peds\\_env/4988&selectedTitle=1~8&source=search\\_result#H1;2010](http://www.uptodate.com/online/content/topic.do?topicKey=peds_env/4988&selectedTitle=1~8&source=search_result#H1;2010); accessed Jan 21, 2010.
- Kanegaye JT, Nigrovic L, Malley R, Cannavino C, Schwab S, Bennett J, Mohseni M, Wang V, Katsogridakis Y, Herman M, Kuppermann N, for the Pediatric Emergency Medicine Collaborative Research Committee of the AAP. The diagnostic value of immature neutrophils (bands) in the cerebrospinal fluid of children with pleocytosis. *Pediatrics*, 123(6):e967-71, 2009.
- Kanegaye JT, Wilder MS, Molkara D, Frazer J, Pancheri J, Tremoulet A, Watson VE, Best BA, Burns JC. Recognition of a Kawasaki disease shock syndrome. *Pediatrics*, 123:e783-e789, 2009.
- Kanegaye JT, Yamamoto LG. Challenging cases in pediatric emergency medicine. Elk Grove Village, IL. *American Academy of Pediatrics*, 2009:432.
- Kanegaye JT. Immobile arm. In: Fleisher and Ludwig's *5-Minute Pediatric Emergency Medicine Consult*, Hoffman RJ, Wang VJ, Scarfone R, et al (eds.) Philadelphia, PA. Wolters Kluwer, Lippincott Williams & Wilkins, 2011:506-507.
- Kanegaye JT. Jaundice, conjugated hyperbilirubinemia. In: Fleisher and Ludwig's *5-Minute Pediatric Emergency Medicine Consult*, Hoffman RJ, Wang VJ, Scarfone R, et al (eds.) Philadelphia, PA. Wolters Kluwer, Lippincott Williams & Wilkins. 2011:536-537.
- Kanegaye JT. Jaundice, unconjugated hyperbilirubinemia. In: Fleisher and Ludwig's *5-Minute Pediatric Emergency Medicine Consult*, Hoffman RJ, Wang VJ, Scarfone R, et al (eds.) Philadelphia, PA. Wolters Kluwer, Lippincott Williams & Wilkins. 2011:538-539.
- Kanegaye JT. Neck mass. In: Fleisher and Ludwig's *5-Minute Pediatric Emergency Medicine Consult*, Hoffman RJ, Wang VJ, Scarfone R, et al (eds.) Philadelphia, PA. Wolters Kluwer, Lippincott Williams & Wilkins. 2011:650-651.
- Kanegaye JT. Vaginal bleeding, prepubertal. In: Fleisher and Ludwig's *5-Minute Pediatric Emergency Medicine Consult*, Hoffman RJ, Wang VJ, Scarfone R, et al (eds.) Philadelphia, PA. Wolters Kluwer, Lippincott Williams & Wilkins. 2011:1008-1009.
- Lien J, Sharieff G. Trauma: Orthopedic injuries. In: *Neonatal and Infant Emergencies*, Sharieff G,

- McCullough M (eds.) New York, NY: Cambridge University Press; 2009:335-346.
- Ling XB, Lau K, Deshpande C, Park JL, Milojevic D, Macaubas C, Xiao C, Lopez-Avila V, Kanegaye JT, Burns JC, Cohen H, Schilling J, Mellins ED. Urine peptidomic and targeted plasma protein analyses in the diagnosis and monitoring of systemic juvenile idiopathic arthritis. *Clinical Proteomics*, 6(4):175-193, 2010.
- Ling XB, Park JL, Carroll T, Nguyen KD, Lau K, Macaubas C, Chen E, Lee T, Sandborg C, Milojevic D, Kanegaye JT, Burns J, Schilling J, Mellins ED. Plasma profiles in active systemic juvenile idiopathic arthritis: biomarkers and biological implications. *Proteomics*, 10(24):4415-30, 2010.
- Lumba A, Lucio S, Sharieff G. Vomiting, weakness, and skin discoloration in a 9-year-old child. In: <http://www.medscape.com>, Aug 4, 2010.
- Madati PJ. Abuse: Sexual. In: Harwood-Nuss' *The Clinical Practice of Emergency Medicine*, 5th ed., Wolfson B, Hendey G, Ling L, Rosen C, Schaidler J, Sharieff G (eds.) edited by Lippincott Williams & Wilkins, 2010:1182-1184.
- Madati PJ, Sharieff G. Management of pain and sedation in the first year of life. In: *Neonatal and Infant Emergencies*, Sharieff G, McCullough M (eds.) New York, NY: Cambridge University Press, 2009:33-40.
- Mayor R, Saenz N, Kanegaye JT. Acute appendicitis presenting with a painful inguinal mass: complication related to patent processus vaginalis and testicular maldescent. *Pediatric Emergency Care*, 27(5):414-416, 2011.
- Meade C, Kanegaye JT. Genitourinary emergencies. In: *Neonatal and Infant Emergencies*, Sharieff G, McCullough M (eds.) New York, NY: Cambridge University Press; 2009:221-234.
- Nigrovic LE, Malley R, Agrawal D, Kuppermann N. Pediatric Emergency Medicine Collaborative Research Committee of the American Academy of Pediatrics. Low risk of bacterial meningitis in children with a positive enteroviral polymerase chain reaction test result. *Clin Infect Dis*, 51(10):1221-2, 2010. Kanegaye J acknowledged collaborator of AAP PEMCRC.
- Popper SJ, Watson VE, Shimizu C, Kanegaye JT, Burns JC, Relman DA. Gene transcript abundance profiles distinguish Kawasaki disease from adenovirus infection. *J Infect Dis*, 200(4):657-66, 2009.
- Sato YZ, Molkara DP, Daniels LB, Tremoulet AH, Shimizu C, Kanegaye JT, Best BM, Snider JV, Frazer JR, Maisel A, Burns JC. Cardiovascular biomarkers in acute Kawasaki disease. *Int J Cardiol*, 2011 (in press).
- Schnadower D, Kuppermann N, Macias CG, Freedman SB, Baskin MN, Ishimine P, Scribner C, Okada P, Beach H, Bulloch B, Agrawal D, Saunders M, Sutherland DM, Blackstone MM, Sarnaik A, McManemy J, Brent A, Bennett J, Plymale JM, Solari P, Mann DJ, Dayan PS; for the Pediatric Emergency Medicine Collaborative Research Committee of the American Academy of Pediatrics. Sterile cerebrospinal fluid pleocytosis in young febrile infants with urinary tract infections. *Arch Pediatr Adolesc Med*, 165(7):635-641, 2011. Kanegaye J acknowledged collaborator of AAP PEMCRC.
- Schnadower D, Kuppermann N, Macias CG, Freedman SB, Baskin MN, Ishimine P, Scribner C, Okada P, Beach H, Bulloch B, Agrawal D, Saunders M, Sutherland DM, Blackstone MM, Sarnaik A, McManemy J, Brent A, Bennett J, Plymale JM, Solari P, Mann DJ, Dayan PS; American Academy of Pediatrics Pediatric Emergency Medicine Collaborative Research Committee. Febrile infants with urinary tract infections at very low risk for adverse events and bacteremia. *Pediatrics*, 126(6):1074-83, 2010. Kanegaye J acknowledged collaborator of AAP PEMCRC.
- Shah S, Kaufhold M. Abuse and neglect: physical. In: Harwood-Nuss' *The Clinical Practice of Emergency Medicine*, 5th ed., Wolfson B, Hendey G, Ling L, Rosen C, Schaidler J, Sharieff G (eds.) edited by Lippincott Williams & Wilkins, 2010:1185-1189.
- Shah S, Sharieff G. Respiratory emergencies. In: *Neonatal and Infant Emergencies*, Sharieff G, McCullough M (eds.) New York, NY: Cambridge University Press; 2009:270-290.
- Shike H, Kanegaye JT, Best BA, Pancheri J, Burns JC. Pyuria associated with acute Kawasaki disease and fever from other causes. *Pediatric Infectious Disease Journal*, 28(5):440-443, 2009.
- Tsai V, Sharieff G, Kanegaye J, Carlson L, Harley J. Rapid medical assessment: Improving pediatric emergency department time to provider, length of stay, and left without being seen rates. *Pediatr Emerg Care*, 2011 (in press).



# Endocrinology

The Division of Pediatric Endocrinology is actively engaged in clinical care, research, teaching and community service in the areas of endocrinology, diabetes, lipid disorders and obesity. The division has continued to expand its clinical and research activities to meet the ongoing health needs of the San Diego pediatric community.

Left to Right: Ron Newfield, Tom Kelly, Karen Klein, Michael Gottschalk, Jane Kim, Susan Phillips, Ken Lee Jones

## FACULTY

**Michael Gottschalk, MD, PhD**, *Chief*, Clinical Professor of Pediatrics

**Ivka Afrikanova, PhD**, Assistant Project Scientist

**Ergeng Hao, MD**, Associate Project Scientist

**Alberto Hayek, MD**, Professor Emeritus

**Andrew Hinton, PhD**, Assistant Project Scientist

**Rohan K. Humphrey, PhD**, Assistant Project Scientist

**Ulupi Jhala, PhD**, Associate Research Scientist

**Kenneth Lee Jones, MD**, Professor Emeritus

**Ayse Kayali, PhD**, Assistant Project Scientist

**Thomas Kelly, MD**, Assistant Clinical Professor of Pediatrics





Left to Right: Jianhua Shao, Maike Sander, Olupi Jhala, C.C. King, Anthony Montgomery,

## POSTDOCTORAL FELLOWS

- Audrey Briscoe, MD**
- Abigail Gelb-Fruzza, MD**
- Shaun Hunter, PhD**
- Janel Kopp, PhD**
- Rudolf Pillich, PhD**
- Hung Ping Shih, PhD**
- Allen Wang, PhD**
- Ruiyu Xie, PhD**
- Sangho Yu, PhD**

- Jane Kim, MD**, Assistant Adjunct Professor of Pediatrics
- Charles King, PhD**, Associate Research Scientist
- Karen Klein, MD**, Associate Clinical Professor of Pediatrics
- Anthony Montgomery, PhD**, Research Scientist
- Ron Newfield, MD**, Associate Clinical Professor of Pediatrics
- Susan Phillips, MD**, Assistant Professor of Pediatrics in Residence
- Liping Qiao, PhD**, Associate Project Scientist
- Maike Sander, MD**, Associate Professor of Pediatrics
- Philip A. Seymour, PhD**, Assistant Project Scientist
- Jianhua Shao, MD, PhD**, Associate Professor of Pediatrics
- Mayra Yebra, PhD**, Associate Project Scientist

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division of Pediatric Endocrinology cares for children with endocrine disorders, lipid disorders and diabetes mellitus. The division is a participant in the multidisciplinary Prader-Willi clinic. Outpatient endocrinology clinics are located at Rady Children's Hospital San Diego (RCHSD) and in satellite offices in San Diego, Imperial and Riverside Counties. Over the past year, there were more than 8,000 endocrine/diabetes outpatient visits, and over 1,000 children with either type 1 or type 2 diabetes mellitus were routinely seen by the diabetes service. The Diabetes Center at RCHSD received the American Diabetes Association Recognition Award for meeting the standards of education in diabetes self-management.



## RESEARCH ACTIVITIES

**Carla Demeterco, MD, PhD** is involved in developmental therapeutics for diabetes mellitus. She has worked extensively in the area of pancreatic beta cell biology with emphasis on inducing beta cell regeneration in the adult human pancreas. She previously reported a connection between cell-cell contact and hormone expression. She also showed abnormal signaling patterns in the beta-cells of patients with type 2 diabetes. More recently she has become interested in studying children with diabetes mellitus and obesity. She collaborated on a recent study of misdiagnosed monogenic diabetes in children. She is the local principal investigator investigating the effects of the bile acid sequestrant, Colesevelam, in children with type 2 diabetes.

**Michael Gottschalk, MD, PhD** is involved in clinical trials related to diabetes mellitus in children, including studies on the immunomodulation of type 1 diabetes, pharmacokinetic/pharmacodynamic studies of exenatide in type 2 diabetes mellitus and behavioral modification of obese adolescents at risk for type 2 diabetes mellitus. He is also the local principal investigator studying IGF-1 treatment and growth hormone treatment of children with IGF-1 deficiency.

**Alberto Hayek, MD** is the Co-Director of the UC San Diego Pediatric Diabetes Research Center and his lab is involved in studies related to basic research in diabetes, with a focus on insulin-producing pancreatic endocrine cells, contained in cell clusters called in the so-called islets. His laboratory was the first to show replication of human islets in vitro when exposed to specific growth factors. Dr. Hayek's laboratory was also one of the first to develop culture model-systems for human fetal and adult islets. This culture-system has provided a model for the identification of growth factors involved in islet cell differentiation and replication. At this time, Dr. Hayek's work centers on human embryonic stem cells and induced pluripotent stem cells derived from skin biopsies of patients with type 1 diabetes. The goal of this research is to contribute to the development of cell-based therapies for diabetes.

**Ulupi Jhala, PhD** research is focused on unraveling the mechanisms that initiate and sustain beta cell death to result in diabetes. Current projects are focused on the role of mixed lineage kinases in initiating apoptosis in response to cytokines and fatty acids. Specific emphasis areas

include regulation of mitochondrial bioenergetic pathways and how they impinge on cell survival. A second interest of research is understanding the role that epigenetic events play in the binary cellular decision of differentiation versus growth of the beta cell.

**Kenneth Lee Jones, MD** continues his interest in diabetes and obesity in children. He is currently studying the effect of sulfonylurea therapy on glycemic control and neuromuscular function in a child with the DEND syndrome and neonatal diabetes. He is also studying the misdiagnosis of type 2 diabetes in children.

**Jane Kim, MD** investigates molecular mechanisms of insulin resistance and pancreatic beta cell failure in experimental models of type 2 diabetes. Current projects include studies defining the role of FoxO1 forkhead transcription factors in adipose and other insulin target tissues. This work is expected to identify novel mechanisms that regulate insulin signaling in the context of obesity.

**Charles C. King, PhD** is working to enhance the production of pancreatic progenitor cells from human embryonic stem cells (hESCs) through the manipulation of signal transduction pathways and microRNAs. Specifically, Dr. King is working to understand the biochemical signals that regulate the transition of hESC from pluripotent cells to definitive endoderm, a committed cell fate necessary for the generation of insulin-producing cells. His laboratory has identified a number of compounds that inhibit a previously unrecognized signaling pathway necessary to maintain pluripotency. Addition of these compounds enhances definitive endoderm formation and significantly decreases teratoma formation. A second focus of the laboratory is to better understand the role microRNAs play in insulin cell genesis. Next Generation Sequencing is being used to map changes in microRNA expression of cells at defined points in differentiation.

**Karen Klein, MD** is studying precocious puberty in girls with the goal of optimizing growth, exploring new treatment methods, and defining pubertal progression after treatment. Dr. Klein is also studying the effect of weight gain and racial diversity on pubertal onset. Her laboratory runs an ultrasensitive yeast bioassay for estradiol. This unique technique enables her to study estrogen's role in growth and pubertal development in the above settings. A third area of research is adolescent polycystic ovarian syndrome. Dr. Klein shares laboratory space with Dr. Jeffrey Chang in reproductive

## Major Goals and Plans

The division's major goal over the next five years is to build a pediatric diabetes center in San Diego. The aim is to bring clinicians and researchers together under one roof, creating an environment that allows novel interventions developed in the laboratory to be quickly translated into clinical practice.

Currently in San Diego, the clinical and research components of this initiative are geographically dispersed among multiple institutions, including UCSD, Rady Children's Hospital San Diego, the Whittier Institute, the La Jolla Institute of Allergy and Immunology and the Sanford-Burnham Institute. Merging these independent programs into a single center would create a long-needed, comprehensive program on par with the leading pediatric diabetes centers in the country. Support for training will allow expansion to the UCSD Pediatric Endocrinology Fellowship program to be very competitive in recruiting talented individuals specifically focused on diabetes research.

The research focus will be on islet cell regeneration, including stem cell initiatives, immune-based interventions in recent onset of type 1 diabetes mellitus, and crucial collaborations that interlace biological approaches to devise new avenues to treat and prevent type 1 diabetes mellitus. Clinically, the diabetes center would conceptually simulate a medical home for diabetes; physically, it would provide a home-like environment that would include a teaching kitchen, playroom, media room and library. Because an individual's physical environment has an enormous impact on perceptions and overall feelings of well-being, creating a home environment provides a better interface with the child/adolescent, family, and diabetes health-care team.

The Department of Pediatrics and RCHSD are currently planning for the construction of a clinical research center on the hospital campus, focusing on five areas of pediatric health, including obesity/diabetes. In collaboration with the Gastroenterology Division, the Endocrinology Division is creating a clinical research program for obesity and related consequences, directed toward prevention and treatment of obesity, insulin resistance, fatty liver disease, metabolic syndrome and dyslipidemia. The program will also include a multidisciplinary clinical program and, by working with the Center for Healthier Communities, provide comprehensive community education.

endocrinology, and hopes to increase collaboration using his expertise and her patient population.

**Maja Marinkovic, MD** maintains clinical database of patients with IGF-1 deficiency treated with Increlex.

**Anthony Montgomery, PhD** has focused on methods to improve the ex vivo expansion of insulin-producing beta cells for transplantation. Dr. Montgomery has shown that interactions between beta cells and their extracellular environment induces cultured beta cells to transition into a defunct mesenchymal phenotype. Importantly, Dr. Montgomery has identified small compound inhibitors that prevent this process and subsequently preserve the native phenotype and function of beta cells in culture. In collaboration with Dr. Alberto Hayek, Dr. Montgomery

is also developing novel approaches to increase the yield and function of insulin producing beta cells from both human embryonic stem cells and pancreatic progenitor populations. This work is focused on the use of small compound inhibitors of select non-receptor tyrosine kinases and upon the manipulation of the extracellular matrix environment.

**Ron Newfield, MD** has developed and is maintaining a comprehensive database of endocrinology and diabetes patients seen at Rady Children's Hospital-San Diego. The database has already enabled publication of manuscripts and abstracts, and will remain a valuable source for future research in pediatric diabetes and endocrinology. Dr. Newfield is involved in clinical trials of growth hormone

treatment in children with idiopathic short stature, testing of new injection devices for growth hormone, and pharmacokinetic studies of lipid-lowering medications. Dr. Newfield is also involved in a clinical trial, related to the immunomodulation of type 1 diabetes mellitus in recently diagnosed children and adolescents, by way of a vaccination with an islet-cell antigen. He has launched a study to screen relatives of children with type 1 diabetes for their risk of developing the disease as well, as part of TrialNet, a multicenter network in the US and abroad. He has also initiated a few industry-based studies to study new therapies in children and adolescents with type 2 diabetes, to start enrolling in the fall of 2011.

**Susan Phillips, MD** is focused on understanding the hormonal function of adipose tissue in human obesity. Obesity increases the risk of developing type 2 diabetes, yet the nature of the link between obesity and diabetes remains poorly understood. To better understand the relationship between excess fat and diabetes, Dr Phillips has been studying human fat using a novel culture method that permits its study over a prolonged period of time. Using this method she has found that fat hormone secretion differs markedly in obese and lean subjects. She has specifically identified alterations in the secretion of the novel fat cell hormone adiponectin. Adiponectin is an insulin-sensitizing hormone whose low levels in obesity are predictive of diabetes disease occurrence. She has determined that adiponectin production is impaired in visceral fat and in large fat cells. Her current studies are focused on identifying the cellular mechanisms by which reductions in adiponectin occur in visceral fat and in large fat cells. The goal of her work is to identify key regulatory steps in adiponectin synthesis and secretion such that the excess adipose tissue of the obese can be leveraged to increase adiponectin production.

**Maike Sander, MD** conducts research into developing strategies for a cell-based therapy for diabetes mellitus. The successful production of insulin-producing beta-cells requires a thorough understanding of the molecular networks that direct the normal development of these cells, as well as the identification of an appropriate convertible cell type, such as embryonic stem cells or adult progenitor cells. One the major, still unanswered, questions in the field of pancreas organogenesis is whether a stem or progenitor cell population resides in the pancreas beyond the embryonic period. The objective of our research is to

understand the molecular and cellular mechanisms that control stem/progenitor cell maintenance and differentiation in the embryonic and adult pancreas. Our research employs mouse molecular genetics, approaches in human embryonic stem cells as well as biochemical methods.

**Jianhua Shao, MD, PhD** is studying obesity and obesity-induced insulin resistance. His laboratory currently is working on three main projects: 1) Transcriptional regulation of adiponectin gene expression. The main goal of this study is to elucidate the underlying mechanisms that suppress adiponectin gene expression during the development of obesity 2) Adipocytokines and lipid metabolism. The objective of this study is to identify the regulatory effects of adiponectin on FFA and triglyceride metabolism in skeletal muscle and adipose tissue and 3) Macrophage infiltration and adipogenesis. Conditional gene knockout and macrophage-specific ablation approaches are employed to investigate the developmental role of macrophages in excessive energy intake-induced adipogenesis and angiogenesis. 4) Maternal obesity and offspring adiposity, which study how maternal overnutrition alters intrauterine metabolic environment and through which programs offspring adiposity. In addition, a series of preliminary studies are carrying out for a new project, which aims at brown adipocyte activation and obesity.

## TEACHING ACTIVITIES

### **Carla Demeterco, MD, PhD**

Dr. Demeterco supervises medical students, residents and fellows in the endocrine/diabetes clinic and lectures at resident and fellow conferences. She also serves as Skaggs School of Pharmacy & Pharmaceutical Sciences Preceptor.

### **Michael Gottschalk, MD, PhD**

Dr. Gottschalk is the Pediatric Endocrinology Fellowship Program Director and Vice-Chair for Education in the Department of Pediatrics. As such, he is very involved in resident and fellow education. He teaches in the first-year medical student Endocrinology Reproductive Medicine and Metabolism course, precepts medical students in the endocrine/diabetes clinic and is chair for a medical student

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Audrey Briscoe, MD</b>		
FELLOWSHIP GENENTECH	100,000	100,000
Genentech - BRISCOE		Aug 2010 - Jul 2012
<b>Michael Gottschalk, MD, PhD</b>		
Immune Tolerance Network (ITN) Trial- ATG for New-onset T 1DM	581,082	660,152
Sub ITN10187-00 (N01-AI-15416)/(UCSF) UC SAN FRANCISCO		Jul 2007 - Mar 2012
Effect of Antithymocyte Globulin on Preserving Beta-Cell Function in New-onset Type 1 Diabetes Mellitus	348,755	393,392
Sub 108131 (AI15416)/(UCSF) UC SAN FRANCISCO		Jan 2010 - Apr 2014
T1D Exchange Clinic-based Registry	95,562	105,118
Sub CLINIC No. 26/JAEB CENTER FOR HEALTH RESEARCH, IN		Nov 2010 - Feb 2013
Combination Therapy with Sitagliptin (DPP-4 Inhibitor) and Lansoprazole (Proton Pump Inhibitor) to Restore Pancreatic Beta Cell Function in Recent-Ons	51,980	62,376
20113926 RepairT1D/SANFORD USD MEDICAL CENTER		Apr 2011 - Mar 2012
<b>Alberto Hayek, MD</b>		
Mechanisms of Pancreas Development		2,000,000
Hillblom Foundation		Jan 2007 - Dec 2010
Modeling Pancreas from Human Embryonic Stem Cells		530,817
JUVENILE DIABETES FOUNDATION		Aug 2007 - Jul 2012
<b>Ulupi Jhala, PhD</b>		
Signaling Cascades in Regulation of Pancreatic Beta Cell Mass	218,200	1,646,723
1 R01 DK080147-01/NIH (NIDDK)		Feb 2008 - Nov 2012
Mixed Lineage Kinases as Drug Targets in Type 1 Diabetes	227,258	499,412
40-2009-706/JUVENILE DIABETES FOUNDATION		Jan 2010 - Dec 2011
Stress Kinase Regulated Beta Cell Apoptosis	151,571	494,098
1-2006-303/JUVENILE DIABETES FOUNDATION		Feb 2006 - Jul 2009
Epigenetic Regulation of PDX1 Gene	209,137	230,051
40-2010-747/JUVENILE DIABETES FOUNDATION		Nov 2010 - Oct 2011
Modeling Pancreas from Human Embryonic Stem Cells (Hayek, PD)		679,221
35-2008-622/JDRF		Sep 2008 - Aug 2011



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Jane Kim, MD</b>		
Studies of FoxO1 in Insulin Resistance and its Interaction with PPARgamma 1 K08 DK075479-01A1/NIH (NIDDK)	108,558	784,035 Sep 2007 - Aug 2012
<b>Karen Klein, MD</b>		
Growth and Menses in Girls with Precocious Puberty After Discontinuation of Treatment 20082188/ABBOTT LABORATORIES	99,840	125,798 Sep 2009 - Jan 2013
Racial Diversity and Obesity Impact on Pubertal Onset 2005-0355/PFIZER	20,000	69,470 Nov 2005 - Sep 2011
<b>Anthony Montgomery, PhD</b>		
Matrix Interactions and the Derivation of Functional Human Beta Cells 1-2006-138/JUVENILE DIABETES FOUNDATION	145,744	483,302 May 2006 - Apr 2010
Exploitation of Human ESC-Derived Sertoli Cells for Islet Transplantation 5-2008-830/JUVENILE DIABETES FOUNDATION	100,000	110,000 Nov 2008 - Oct 2009
SRC Family Kinase Inhibitors and Generation of Functional Human Beta Cells 5-2009-356/JUVENILE DIABETES FOUNDATION	100,000	110,000 Apr 2009 - Mar 2010
Human Stem Cell-Derived Sertoli Cells for Islet Transplantation 5-2010-67/JUVENILE DIABETES FOUNDATION	100,000	110,000 Mar 2010 - Feb 2011
Kinase Inhibitors and the Endocrine Specification of hESC Derivatives 1-11-10-19/AMERICAN DIABETES ASSN	48,874	48,874 Jan 2011 - Dec 2011
<b>Maike Sander, MD</b>		
Epigenetic strategies for the in vitro generation of replacement beta cells 1 U01 DK089567-01/NIH (NIDDK)	937,946	3,649,050 Sep 2010 - Jun 2013
Characterization of Pancreatic Progenitor Cells 2008-D-014-NET/LARRY L. HILLBLOM FOUNDATION, THE	313,030	2,537,729 Apr 2009 - Jan 2010
Mechanisms of Cell Regeneration in the Pancreas 7 R01 DK078803-03/NIH (NIDDK)	153,334	1,717,280 Oct 2008 - Jul 2012
Nkx6 Gene Function in Pancreas Development 7 R01 DK068471-05/NIH (NIDDK)	209,073	1,624,745 Oct 2008 - Jul 2015

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Identification of Signaling Pathways Promoting Beta Cell Regeneration 34-2008-629/JUVENILE DIABETES FOUNDATION	286,920	1,032,124 Oct 2008 - May 2011
Mechanisms of Cell Differentiation and Fate Choice Sub none (DK072495)/Hagedorn Research Institute	136,846	814,190 Oct 2008 - Jul 2010
Beta Cell Stem Cells as Targets for Regenerative Therapies 43-2009-791/JUVENILE DIABETES FOUNDATION	324,545	679,998 Dec 2009 - Nov 2011
Enhancer-Based Beta-Cell Programming Strategies Sub VUMC38646(DK072473)/VANDERBILT UNIVERSITY (TENNESSEE)	255,000	394,081 Aug 2011 - Jul 2012
Quantitative Comparison of hESC and hiPSC Lines to Generate Pancreatic Endoderm and Endocrine Cells Sub VUMC 38186 (DK072473)/VANDERBILT UNIVERSITY (TENNESSEE)	163,163	252,087 Apr 2011 - Mar 2012
Investigation of New Permissive Environments for Beta Cell Engraftment VUMC 38642/VANDERBILT UNIVERSITY (TENNESSEE)	135,000	208,631 Aug 2011 - Jul 2012
Nkx6.1 - Induces Alpha-Cell Conversion and Enhanced Beta-Cell Regeneration Sub VUMC36123 (DK072473)/VANDERBILT UNIVERSITY (TENNESSEE)	125,000	186,493 Sep 2009 - Aug 2011
Epigenetic Regulation of Endocrine Cell Transcription (ERECT) Sub VUMC36149 (DK072473)/VANDERBILT UNIVERSITY (TENNESSEE)	112,500	173,812 Sep 2009 - Aug 2011
3D Growth of Human Pancreatic Tissue from PSCs Sub VUMC38644/VANDERBILT UNIVERSITY (TENNESSEE)	104,000	160,723 Aug 2011 - Jul 2012
Support for the NIH-NIDDK Beta Cell Biology Consortium Coordinating Center Sub VUMC 37644 (DK078473)/VANDERBILT UNIVERSITY (TENNESSEE)	6,866	10,608 Jan 2011 - Jul 2012
<b>Jianhua Shao, MD, PhD</b>		
Adiponectin and Regulation of Triglyceride Metabolism 7 R01 DK080418-03/NIH (NIDDK)	149,689	1,442,405 Jul 2009 - Jan 2013
Transcriptional Regulation of Adiponectin Gene Expression 7-07-CD-23/AMERICAN DIABETES ASSN	158,332	675,432 Jul 2009 - Jun 2012

independent study project. In addition, he was invited to speak at meetings of the Endocrine Society and has been interviewed on local television.

#### **Kenneth Lee Jones, MD**

Dr. Jones continues to work with students, rotating residents and pediatric endocrinology fellows in the pediatric diabetes and endocrinology clinics. He also spends one week each month as the inpatient-attending physician on the pediatric endocrine/diabetes service. In this capacity, he rounds with the resident/student team for an hour each morning.

#### **Tom Kelly, MD**

Dr. Kelly provides lectures to residents and fellows, and teaches in the endocrine/diabetes clinic and inpatient service.

#### **Jane Kim, MD**

Dr. Kim provides lectures to residents and fellows, and teaches in the endocrine/diabetes clinic. She also serves on a fellowship scholarship oversight committee and is an instructor and mentor for undergraduate, graduate and medical students.

#### **Karen Klein, MD**

Dr. Klein teaches medical students, residents and fellows in the endocrinology clinic. She has served as a mentor for endocrine fellows and served on a fellowship scholarship oversight committee.

#### **Maja Marinkovic, MD**

Dr. Marinkovic teaches endocrine fellows, pediatric residents and medical students in inpatient and outpatient settings. She teaches in the first-year medical student Endocrinology Reproductive Medicine and Metabolism course. She serves on the ISP committee.

#### **Ron Newfield, MD**

Dr. Newfield is responsible for organizing the three-year endocrinology-diabetes fellowship lecture series. He is also in charge of Journal Club. He is involved in medical student, resident and fellowship education. He mentored a student on her ISP project, an abstract of which was published at the 2011 American Diabetes Association meeting. He has given several presentations to local health professionals and presented at endocrine grand rounds. In

addition, he has been interviewed on local television to raise awareness for diabetes in children.

#### **Susan Phillips, MD**

Dr. Phillips teaches medical students, interns, residents and fellows in the outpatient pediatric diabetes and endocrinology clinics as well as in the UCSD/VA diabetes outpatient clinic. She serves as a facilitator to first year medical students and is a core-course lecturer for second year medical students. She provides noon lectures on a variety of pediatric diabetes and endocrinology topics to housestaff and provides two board review talks per year for endocrinology fellows. She serves as a mentor to a fourth year medical student and as an ISP chair. Dr. Phillips supervises postdoctoral fellows, medical students and undergraduate researchers in her laboratory.

#### **Maike Sander, MD**

Dr. Sander is co-lecturer of the Stem Cell Biology Course that is mandatory for graduate students, postgraduate researchers, and clinical fellows who receive support by the California Institute of Regenerative Medicine (CIRM). She also teaches a core class for first year graduate students in the Biomedical Sciences Graduate Program and co-lectures a core class in the Integrated Bachelor's/Master's Degree Programs. Dr. Sander supervises postdoctoral fellows, graduate students, and undergraduate researchers in her laboratory.

## **AWARDS, HONORS AND MAJOR PRESENTATIONS**

#### **Michael Gottschalk, MD, PhD**

- Lecture, Bone basics: When bones aren't healthy. The 24th Annual San Diego International Conference on Child and Family Maltreatment, San Diego, CA January 26, 2010
- Lecture, Congenital adrenal hyperplasia: Transition from childhood to adulthood. UCSD Endocrine Grand Rounds, San Diego, CA June 16, 2010
- Invited Speaker, Meet the professor: Treatment of Diabetes in children and adolescents. The 92nd Annual Endocrine Society Meeting San Diego, CA June 24, 2010

### Alberto Hayek, MD

- Speaker, Enhanced pancreatic endocrine differentiation of human pluripotent stem cells following pharmacological inhibition of select kinases. 13th World Congress of International Pancreas and Islet Transplant Association. Prague, Czech Republic, June 1-4, 2011
- Keynote Speaker, Islet stem cells in diabetes cell therapy. Cali, Colombia, May 26-29, 2011
- Speaker, In vitro conversion of stem cells to beta cells. 14th International Congress of Endocrinology, Kyoto, Japan, March 2010
- Speaker, Cell-based therapies for Type 1 Diabetes. Pancreas and Islet Transplant Society Meeting, Utsunomiya, Japan, March 2010
- Speaker, Cell based-therapies for T1D. Portland, OR, April 2010
- Speaker, Islet neogenesis from stem cells. Genoa, Italy, December 5, 2010

### Ulupi Jhala, PhD

- Speaker, 1st annual Symposium. Pediatric Diabetes Research Center at UCSD, La Jolla, CA, February 2010
- JDRF workshop: Epigenetics and Beta cell reprogramming. Harvard University, Cambridge, MA, December 2009
- Invited Speaker, Obesity. Nutrition Research Center, Boston University School of Medicine, Boston, MA December 2009
- Speaker, Genomics Institute of Novartis Research Foundation, San Diego, CA, October 2010
- Invited Speaker, 2nd Annual GNF-JDRF Diabetes Research Symposium, San Diego, CA, April 2011
- Invited Speaker, Seminar series. Wells Center for Pediatric Research, Indianapolis, IN, May 2011

### Jane Kim, MD

- Speaker, San Diego Beta Cell Society Meeting, November 2010

### Maja Marinkovic, MD

- Lecturer, Growth patterns: Short, tall and in-between. Pediatric Grand Rounds Scripps Mercy Hospital, San Diego, CA, July 21, 2010

### Anthony Montgomery, PhD

- Invited Speaker, Emerging role for the neural cell adhesion molecule L1 in promoting tumor growth and metastasis. Pfizer Global Research & Development, La Jolla, CA 2010
- Lecturer, Stem cell biology. Online course (BIOL-40186) UCSD Extension, 2009-present
- Impact of extracellular matrix on the mesenchymal transition of human  $\beta$ -cells. San Diego Beta Cell Society Meeting, 2010
- Enhanced pancreatic endocrine differentiation of human pluripotent stem cells following pharmacological inhibition of select kinases. Proceedings of the Western Region Islet Study Group, 2011

### Ron Newfield, MD

- Lecture, Primary care and Diabetes management in the 21st century: New challenges. Regional CME event on Practical Pediatrics, at Scripps Memorial Hospital, La Jolla, CA, October 2010
- Lecture, an Update on hypopituitarism, diagnosis and management. CME lecture at Grossmont Hospital, San Diego, CA, April 2010

### Susan Phillips, MD

- Invited Speaker, Are GLP-1R agonists appropriate for the obese child with T2DM? American Diabetes Association Meeting, New Orleans, LA, June 2010
- Invited Speaker, Regulation of adiponectin and anti-diabetic therapies in humans. Obesity Society Meeting, San Diego, CA, October 2010
- Oral presentation, Biology of the fat cell, Location?, Location?, Location? Pediatric Grand Rounds, San Diego, CA, October 2009

### Maike Sander, MD

- Invited Speaker, Annual Meeting of the Society for Developmental Biology, Chicago, IL, July 2011
- Speaker, The Beta Cell Biology Consortium. Annual meeting, Washington, MD, May 2011
- Invited Speaker, Annual Meeting of the American Association of Anatomy, Washington, MD, April 2011
- Invited Speaker, EASD/JDRF Joint Strategic Meeting, Barcelona, Spain, November 2010
- Invited Speaker, University of California, Irvine, CA, November 2010



- Invited Speaker, 15th EASD/Hagedorn Oxford Workshop, Oxford, UK, August 2010
- Invited Speaker, session chair, 70th Meeting of the American Diabetes Association, Orlando, FL, June 2010
- Invited Speaker, session chair, Keystone Symposium on Islet Biology, Whistler, BC, Canada, April 2010
- Invited Speaker, City of Hope, Beckman Center, Duarte, CA, April 2010
- Invited Speaker, Understanding beta-cell functional maturation to generate alternative sources of human beta-cells. JDRF Workshop, New York City, NY, March 2010
- Speaker, The Beta Cell Biology Consortium, annual meeting, Washington, MD, March 2010
- Invited Speaker, Advances in Diabetes Biology, Immunology and Cell Therapy. 10th Annual Rachmiel Levine Diabetes and Obesity Symposium, Las Vegas, NV, February 2010
- Invited Speaker, University of Nebraska, Omaha, Medical School, NE, February 2010
- 1st annual Symposium, Pediatric Diabetes Research Center at UCSD (speaker), La Jolla, CA February 2010
- Invited Speaker, The Frontiers in Diabetes Research: Biology of the Beta Cell. Columbia University Conference, New York, NY, November 2009
- Invited Speaker, Harvard Medical School Joslin Diabetes Research Institute, Boston, MA, October 2009
- Invited Speaker, Kings College, London, UK, August 2009
- Invited Speaker, University of Manchester, Manchester, UK, August 2009
- Invited Speaker, Innovation and translational stem cell therapy for diabetes and neurological diseases. Los Angeles, CA, September 2009
- Speaker, The Beta Cell Biology Consortium, Annual Meeting, Washington, MD, May 2009

### Jinhua Shao, MD, PhD

- Lecturer, Adiponectin and lipid metabolism, The 2009 PDRC Symposium, February 2010
- Invited Speaker, Adiponectin and fetal fat deposition, Peking University, Beijing, China, June 2011
- Oral presentation, Adiponectin enhances skeletal muscle oxidative metabolism by suppressing MAPK phosphatase-1, ADA 71st Scientific session, San Diego, CA, June 2011

## PUBLICATIONS

- Carpentier R, Suñer RE, Van Hul N, Kopp JL, Beaudry JB, Cordi S, Antoniou A, Raynaud P, Lepreux S, Jacquemin P, Leclercq IA, Sander M, Lemaigre FP. Embryonic ductal plate cells give rise to cholangiocytes, periportal hepatocytes and adult liver progenitor cells. *Gastroenterology*, in press 2011.
- Cohen P, Germak J, Rogol AD, Weng W, Kappelgaard AM, Rosenfeld RG; American Norditropin Study Group. Variable degree of growth hormone (GH) and insulin-like growth factor (IGF) sensitivity in children with idiopathic short stature compared with GH-deficient patients: evidence from an IGF-based dosing study of short children. *J Clin Endocrinol Metab*, 95(5):2089-98. 2010.
- Demeterco C, Hao E, Lee SH, Itkin-Ansari P, Levine F. Human beta-cell neogenesis? *Diabetes Obes Metab*, 11 Suppl 4:46-53, 2009.
- Dorrell C, Erker L, Schug J, Kopp JL, Canaday PS, Fox AJ, Smirnova O, Duncan AW, Finegold MJ, Sander M, Kaestner KH, Grompe M. Prospective isolation of a bipotential clonogenic liver progenitor cell in adult mice. *Genes & Development*, 25:1193-203. 2011.
- Fan WQ, Morinaga H, Kim JJ, Bae E, Spann NJ, Heinz S, Glass CK, and Olefsky JM. FoxO1 regulates Tlr4 signaling and cell survival in macrophages. *EMBO J*, 2010.
- Handelsman Y, Mechanick JI, Blonde L, Grunberger G, Bloomgarden ZT, Bray GA, Dagogo-Jack S, Davidson JA, Einhorn D, Ganda O, Garber AJ, Hirsch IB, Horton ES, Ismail-Beigi F, Jellinger PS, Jones KL, Jovanovi L, Lebovitz H, Levy P, Moghissi ES, Orzech EA, Vinik AI, Wyne KL. AACE Task Force for Developing Diabetes Comprehensive Care Plan. American Association of Clinical Endocrinologists Medical Guidelines for Clinical Practice for developing a diabetes mellitus comprehensive care plan. *Endocr Pract*, 17 Suppl 2:1-53. 2010.
- Hey-Hadavi J, Pleil A, Deeb LC, Fuqua JS, Silverman LA, Reiner B, Newfield R, Rajicic N, Wajnrach MP, Cara JF. Ease of use and preference for a new disposable self-injection pen compared with a reusable pen for administering recombinant human growth hormone: A multicenter, 2-Month, single-arm, open-label clinical trial in patient-caregiver dyads. *Clin Ther*, 32(12):2036-47, 2010.

- Huang JS, Gottschalk M, Norman GJ, Calfas KJ, Sallis JF, Patrick K. Compliance with behavioral guidelines for diet, physical activity and sedentary behaviors is related to insulin resistance among overweight and obese youth. *BMC Res Notes*, 4(1):29. 2011.
- Humphrey RK, Newcomb CJ, Yu SM, Hao E, Yu D, Krajewski S, Du K, Jhala US. Mixed lineage kinase-3 stabilizes and functionally cooperates with TRIBBL-3 to compromise mitochondrial integrity in cytokine-induced death of pancreatic beta cells. *J Biol Chem*, 285(29):22426-36. 2010.
- Humphrey RK, Yu SM, Flores LE, Jhala US. Glucose regulates steady-state levels of PDX1 via the reciprocal actions of GSK3 and AKT kinases. *J Biol Chem*, 285(5):3406-16, 2009.
- Kaido TJ, Yebra M, Kaneto H, Cirulli V, Hayek A, Montgomery AM. Impact of integrin-matrix interaction and signaling on insulin gene expression and the mesenchymal transition of human  $\beta$ -cells. *J Cell Physiol*, 224:101-111, 2010.
- Kavaler ST, Morinaga H, Jih A, Fan WQ, Hedlund M, Varki A, Kim JJ. Pancreatic beta-cell failure in obese mice with human-like CMP-Neu5Ac hydroxylase deficiency. *FASEB J*, 25(6):1887-93, 2011.
- Kim JJ, Sears DD. TLR4 and insulin resistance. *Gastroenterology Research and Practice*, 2010 Aug, Vol 2010.
- Kinney B, Qiao L, LeVaughn JM, Shao J. B56/PP2A Inhibits Adipose Lipolysis in High-fat Diet-induced Obese Mice. *Endocrinology*, 151(8): 3624-32. 2010.
- Kopp JL, Dubois CL, Schaffer AE, Hao E, Shih HP, Seymour PA, Ma J, Sander M. Sox9+ ductal cells are multipotent progenitors throughout development but do not produce new endocrine cells in the normal or injured adult pancreas. *Development*, 138:653-65. 2011.
- Kopp JL, Dubois CL, Hao E, Thorel F, Herrera PL, Sander M. Progenitor cell domains in the developing and adult pancreas, *Cell Cycle*, 10:1-7. 2011.
- Lawson EB, Gottschalk M, Schiff DE. Insulin infusion to treat severe hypertriglyceridemia associated with pegaspargase therapy: a case report. *J Pediatr Hematol Oncol*, 33(2):e83-6. 2011.
- Marinkovic M, Rasmussen M, Jones KL. Feminizing changes in a prematurely born infant. *Clin Pediatr (Phila)*, 49(2):188-9, 2010.
- Midyett LK, Rogol AD, Van Meter QL, Frane J, Bright GM, MS301 Study Group. Recombinant insulin-like growth factor (IGF)-I treatment in short children with low IGF-I levels: first-year results from a randomized clinical trial. *J Clin Endocrinol Metab*, 95(2):611-9. 2010.
- Montgomery AM, Yebra M. The epithelial-to-mesenchymal transition of human pancreatic  $\beta$ -cells: Inductive mechanisms and implications for the cell-based therapy of type I diabetes. *Curr Diabetes Rev*, 2011 (in press).
- Newfield RS. ACTH receptor blockade: A novel approach to treat congenital adrenal hyperplasia, or Cushing's disease. *Med Hypotheses*, 74(4):705-6, 2010.
- Qiao L, Lee B, Kinney B, Yoo HS, J. Shao. Energy Intake and Adiponectin Gene Expression. *Am J Physiol Endocrinol Metab*, 300:E809-E816. 2011.
- Qiao L, Kinney B, Schaack J, Shao J. Adiponectin Inhibits Lipolysis in Mouse Adipocytes. *Diabetes*, 60:1519-1527. 2011.
- Schaack J, Qiao L, Walkiewicz MP, Stonehouse M, Engel DA, Vazquez-Torres A, Nordeen SK, Shao J, Moorhead JW. Insertion of CTCF-binding sites into a first-generation adenovirus vector reduces the innate inflammatory response and prolongs transgene expression. *Virology*, 412:136-145. 2011.
- Schaffer, A.E., Freude, K.K., Nelson, S.H., Sander, M. Nkx6 transcription factors and Ptf1a function as antagonistic lineage determinants in multipotent pancreatic progenitors. *Developmental Cell*, 18:1022-1029. 2010.
- Xu Y, Zhu X, Hahm HS, Wei W, Hao E, Hayek A, Ding S. Revealing a core signaling regulatory mechanism for pluripotent stem cell survival and self-renewal by small molecules. *Proc Natl Acad Sci USA*, 107(18):8129-34. 2010.
- Yebra M, Diaferia GR, Montgomery AM, Kaido T, Brunken WJ, Koch M, Hardiman G, Crisa L, Cirulli V. Endothelium-derived Netrin-4 supports pancreatic epithelial cell adhesion and differentiation through integrins  $\alpha 2\beta 1$  and  $\alpha 3\beta 1$ . *PLoS ONE*, 2011 (in press).



# Gastroenterology,

# Hepatology and Nutrition

The Division of Gastroenterology, Hepatology and Nutrition is committed to the delivery of exemplary clinical care, to teaching trainees, and to perform basic and clinical research in digestive diseases in children. Faculty members engage in a wide variety of clinical and basic science research to further the understanding, treatment, and cure of many disorders. The division is part of many collaborative multi-center trials, and provides accredited training to pediatric and adult gastroenterology fellows, residents, and medical students from UC San Diego (UCSD) as well as other programs. The division provides comprehensive, interdisciplinary care for children and adolescents with general gastroenterology disorders, liver disorders including hepatitis, fatty liver, biliary atresia, inflammatory bowel dis-

ease, motility and functional disorders, obesity, peptic disorders, eosinophilic esophagitis, polyposis and colon polyps, feeding difficulties, and total parenteral nutrition.

Left to Right: Lars Bode, Kerri Boutelle, Jeannie Huang, Ranjan Dohil, Lillian Choi, Jae Kim, Paulina Ordonez, Jeffrey Schwimmer, Xenia Hom, Ariel Feldstein, Mamata Sivagnanam, Warren Shapiro, Kimberly Newton



## FACULTY

**Ariel E. Feldstein, MD**, Professor of Pediatrics and  
*Division Chief*

**Lars Bode, PhD**, Assistant Professor of Pediatrics  
in Residence

**Kerri Boutelle, PhD**, Associate Professor of Clinical  
Pediatrics and Psychiatry

**Rebecca Cherry, MD**, Assistant Clinical Professor

**Lillian Choi, MD**, Assistant Clinical Professor  
of Pediatrics

**Ranjan Dohil, MB, BCh**, Professor of Clinical  
Pediatrics

**M. Abigail Garcia, MD**, Assistant Clinical Professor  
of Pediatrics

**Xenia Hom, MD**, Assistant Clinical Professor  
of Pediatrics

**Jeannie Huang, MD, MPH**, Associate Professor of  
Pediatrics in Residence

**Sherry Huang, MD**, Associate Clinical Professor  
of Pediatrics

**Jae Kim, MD, PhD**, Assistant Clinical Professor  
of Pediatrics

**Martin Kagnoff, MD**, Professor of Medicine and  
Pediatrics (Emeritus)

**Kimberly Newton, MD**, Assistant Adjunct Professor  
of Pediatrics

**M. Paulina Ordonez, MD**, Assistant Professor  
of Pediatrics

**Jeffrey Schwimmer, MD**, Associate Professor of  
Clinical Pediatrics

**Warren Shapiro, MD**, Assistant Clinical Professor  
of Pediatrics

**Mamata Sivagnanam, MD**, Assistant Professor of  
Pediatrics in Residence

**Sharon Taylor, MD**, Clinical Professor of Pediatrics

## POSTDOCTORAL FELLOWS

**Monica Zherebtsov, MD**

**Emily Contreras, MD**

**Elizabeth Yu, MD**

**Tamara Taketani, MD**

**Hannah Awai, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The board-certified faculty members are the sole providers for pediatric digestive diseases in San Diego and Imperial Counties, providing consultations for patients and physicians on all aspects of gastrointestinal disease in the inpatient and outpatient setting, including diagnostic and therapeutic endoscopies, living-related and cadaveric liver transplantation, liver diseases, obesity, wellness and nutrition, eosinophilic esophagitis, motility disorders, parenteral and enteral nutritional supplementation, and disorders of the pancreas and gallbladder. The division has outpatient clinic centers at Rady Children's Hospital-San Diego (RCHSD), Balboa Naval Medical Center, and Kaiser-Permanente. They also provide outpatient satellite care in Escondido, Murrieta, and Encinitas.

## RESEARCH ACTIVITIES

**Kerri Boutelle, PhD** performs research focusing on the causes, characterization, prevention and treatment of childhood and adolescent obesity and eating disorders. Overarching research objectives include investigating the role of familial factors in the etiology, prevention, and treatment of obesity and eating disorders in youth, utilizing principles of basic behavioral science to inform and improve treatments for obesity and eating disorders; and determining intervention and prevention strategies aimed at changing the trajectory of weight and eating disorders in children and adolescents. In ongoing studies, Dr. Boutelle hopes to identify innovative and cost-effective treatment strategies for obese children (parent-only treatments), to develop new treatments based on basic behavioral research for children who binge eat (self-regulation treatments), and to disseminate current behavioral treatment through innovative methods (guided self-help, computer-based guidance for primary care physicians). Dr. Boutelle's clinical interests lie in the treatment of childhood and adolescent obesity and eating disorders, and the concomitant depression, anxiety, oppositional, personality, behavioral and family changes that occur with eating-related difficulties. Her clinical work is



grounded in empirically based cognitive-behavioral, interpersonal and family-based treatments, and she provides and supervises individual, group and family therapy. She is also the Director of Behavioral Services, Weight and Wellness Clinic.

**Lillian Choi, MD** has special interests in pediatric gastroenterology that include irritable bowel syndrome. Dr. Choi is currently conducting a pilot trial assessing the effects of a non-tricyclic antidepressant on recurrent abdominal pain. The study is an open-labeled pilot trial evaluating S-adenosylmethione as a treatment for recurrent abdominal pain (RAP) in 30 children. The specific aims are to determine whether SAM-e reduces pain intensity, non-pain symptoms, pain disability, and depressive symptoms in children with RAP.

**Ranjan Dohil, MB, BCh** is primarily interested in acid-peptic disease. He is interested in the acid-secreting agent, cysteamine, which is presently used as the only FDA-approved treatment for cystinosis. Studies to understand the pharmacokinetics of cysteamine have been performed and proven valuable. As part of his research, Dr. Dohil has recently developed a controlled-release preparation of cysteamine to reduce the frequency of drug administration and diminish associated gastrointestinal symptoms in cystinosis. Eosinophilic esophagitis (EE) is Dr. Dohil's second interest. Having started an EE clinic for children, he created a database to improve our understanding of the epidemiology, diagnosis, treatment, and natural history of this condition. He has treated a number of children with a newly formulated viscous oral steroid formulation.

**Ariel Feldstein, MD** is Chief of the Division. He is regarded as a leading physician scientist in the field of Pediatric Hepatology. Dr. Feldstein's research program is focused on dissecting the biochemical pathways of cell death triggered by over-accumulation of fatty acids and other lipids in the liver and other organs, which may play an important role in disease processes such as obesity-associated liver disease (non-alcoholic steatohepatitis or NASH), and type 2 diabetes. A second objective is to better understand the events that link excessive accumulation of lipids in the liver (steatosis) to liver injury, fibrosis and carcinogenesis. His research is currently supported by several grants from the National Institutes of Health (NIH) as well as foundation (American College of Gastroenterology) and industry (Nestle) grants. His laboratory has provided key evidence to support the currently

most accepted theory of the role of hepatic lipid compartmentation and lipotoxicity in the pathogenesis of steatohepatitis development. Most recently, he provided key evidence for a novel pathogenic role for adipocyte cell death, and in particular the Fas extrinsic pathway of apoptosis in the recruitment of macrophages to adipose tissue, inflammation and subsequent metabolic disruption resulting in insulin resistance and hepatic lipid accumulation during weight gain. At the translational level, Dr. Feldstein has pioneered the role of examining cytokeratin-18 fragments as biomarkers for liver injury in NASH. This marker is currently considered the most promising non-invasive test for liver injury in patients with NASH. His laboratory routinely utilizes a variety of in vivo and in vitro experimental models in various projects on the basic mechanisms involved in steatosis and NASH development as well as an array of mass spectrometry based approaches (LC/ESI/MS/MS, proteomics) directed toward translational studies to identify mechanism-based disease biomarkers. Dr. Feldstein's lab offers a unique environment for fellows in the gastroenterology training program combining significant clinical and translational endeavors with substantial basic research opportunities.

**M. Abigail Garcia, MD** receives funding from the Cystic Fibrosis Foundation to research gastrointestinal manifestations of cystic fibrosis. Dr. Garcia focuses on understanding the patho-physiological basis of cystic fibrosis (CF). Her research aims to understand the consequences of diminished bicarbonate transport in CF and how this affects development of mucoviscidosis. She has shown that bicarbonate is essential for optimal mucus secretion in mouse models, and that bicarbonate deficiency inhibits intestinal mucus release. She is further investigating the mechanisms behind this finding to provide an effective treatment option to CF patients who suffer from distal intestinal obstruction syndrome or chronic constipation.

**Jeannie Huang, MD, MPH** is a member of the Center for Wireless & Population Health Systems, which is a body of investigators whose work focuses on the creative use of networked technologies and ubiquitous computing to improve population health ([cwphs.ucsd.edu](http://cwphs.ucsd.edu)). Dr. Huang currently leads and collaborates on several highly innovative health intervention projects addressing personal health behaviors and public health issues, including Texting to promote Adolescent Health Liaisons and Communication (TAHLC), a technology (website + SMS)-based interven-

## Major Goals and Plans

- Development of a Motility Center, one of the handful of pediatric motility programs in the country and the only one of its kind in the West Coast, will provide consultation and diagnostic services for children and adolescents with a wide variety of motility, and functional disorders
- Development of an Inflammatory Bowel Disease Center, a multidisciplinary center that will provide comprehensive care for children with Crohn's Disease and ulcerative colitis.
- The Division of Pediatric Gastroenterology and Nutrition at UCSD and RCHSD has undergone marked expansion in order to provide state-of-the-art care to children with GI illnesses. Last year we increased our clinical exposure county-wide with the implementation of satellite clinical services in Escondido. We have started clinics in Encinitas and Murrietta. Our goal is to continue to improve community access in GI services.
- Capsule endoscopy is now provided on-site.
- Recruitments are underway to increase research in developmental biology, stem cells, inflammatory bowel disease, and motility disorders.
- There is plan to enhance the fellowship program by maximizing the number of fellows and seeking more GI-dedicated training grant slots for fellows.
- The Division plans to further develop mentoring support for faculty members.
- The Celiac Disease Clinic combines the expertise of world-renowned leaders in celiac disease research with comprehensive care and management. Services are provided by pediatric gastroenterologists and nutritionists with specialized expertise.
- Dr. Ranjan Dohil plans to evaluate dyspepsia with the newly designed entero-naso tube in collaboration with other experts in the field of probiotics to determine colonization patterns of specific probiotic agent. Dr. Dohil plans to use the tube to study bacterial colonization patterns in varying diseases such as IBD, celiac disease, and eosinophilic disorders of the intestine.
- Dr. Sharon Taylor intends to increase nutritional awareness by providing formal educational opportunities to the house staff and students. A "Short Gut Pathway" is near completion and will improve outcomes in hospitalized patients with intestinal failure. She is also developing an inpatient Nutrition Support Team at RCHSD.
- With more than \$8 million in external research funding relating to gastroenterology, hepatology, and nutrition, the division is a growing national leader in generation of new knowledge relating to the field being at the forefront of scientific research in areas such as obesity and its metabolic complications, chronic liver diseases including steatohepatitis, as well as intestinal biology and immunology.

tion for adolescents with chronic disease to increase health-related self-efficacy and healthcare engagement among adolescents with chronic disease as they prepare for their transition to adult care; Fit4Life, a technology-based weight management program among children who have survived acute lymphoblastic leukemia; and SMART: A Social and Mobile Weight Control Program for Young Adults, that

utilizes the Facebook platform to deliver a weight management program to obese young adults.

**Sherry Huang, MD** is involved in studies of kindreds with early colon cancer risk, with particular interest in patients with hamartomatous polyposis syndromes. She is involved in research evaluating the genetics of early colon cancer in children and its pathogenesis. Her projects involve the role

the oncogene PTEN plays in relation to DNA mismatch repair. She also has projects looking at activation of Wnt Signaling in hamartomatous polyposis. Dr. Huang also studies the AKT pathway in hamartomaotus polyps with special focus on mTOR signaling.

Dr. Huang's clinical focus is on the early detection of colon cancer and at-risk kindreds. Working with geneticists from UCSD Moores Cancer Center, Dr. Huang evaluates and counsels kindreds at risk for colon cancer. Dr. Huang recently became the Director for the UCSD Pediatrics Residency Program.

**Martin Kagnoff, MD** (Emeritus) is Director of the Warren Medical Research Center for Celiac Disease and the Laboratory of Mucosal Immunology at UCSD. He has served as Editor for two biomedical research journals and is currently the Chairman of the Immunology, Microbiology, and Inflammatory Bowel Disease section of the American Gastroenterological Association.

Dr. Kagnoff is an active physician scientist who works closely with the medical personnel who care for adults and children through the UCSD Celiac Disease Clinics. He led the current NIH consensus panel on the care of patients with celiac disease.

**Kimberly Newton, MD** is primarily interested in pediatric celiac disease. She directs the Pediatric Celiac Disease Center at RCHSD associated with the Warren Medical Research Center for Celiac Disease at UCSD. Dr. Newton is creating a comprehensive database for pediatric celiac disease patients that will serve as an important resource for the further understanding of genetic, environmental and immunologic factors that contribute to celiac disease development in childhood. Specific research endeavors will focus on the investigation of gut microflora and its relationship to celiac disease onset, in addition to the evaluation of potential biomarkers for monitoring celiac disease activity and dietary compliance.

Dr. Newton is participating in the formal evaluation of teaching and behavioral interventions that could aid in gluten-free dietary compliance in the adolescent population. Dr. Newton also completed an advanced fellowship in hepatology and transplantation.

**Jeffrey Schwimmer, MD** is Director of the Weight and Wellness Center, a multi-disciplinary program for the evaluation and treatment obesity at RCHSD. Dr. Schwimmer's

research emphasis is on the complications of obesity, both metabolic and behavioral. Current projects include the characterization of regional fat depots and their relationship to alterations in physiology and disease. Studies of quality-of-life in obese children are ongoing. Dr. Schwimmer also directs the Fatty Liver Clinic at RCHSD, the first clinic in the U.S. dedicated to the care of children with fatty liver disease. Dr. Schwimmer is working to identify genes and familial factors that determine susceptibility to fatty liver. Fatty liver is now the most common cause of chronic liver disease in children.

**Warren Shapiro, MD** continues to be interested in functional GI disorders. He implemented a GI Biofeedback Clinic at Kaiser, which has had significant success in helping the difficult cases. He inaugurated a similar clinic at RCHSD.

**Mamata Sivagnanam, MD** research focuses on congenital tufting enteropathy. This is a severe and life-threatening problem presenting with intractable diarrhea in infancy. Using modern genetic technology, Dr. Sivagnanam isolated epithelial cell adhesion molecule (EpCAM) as a gene associated responsible for this condition. She focuses on the effect it has on intestinal epithelial physiology. She hopes to gain a better understanding of the role of adhesion molecules in intestinal epithelial development in health and disease.

**Sharon Taylor, MD** is Director of Nutrition Support Services. She runs the Intestinal Rehabilitation clinic, managing most of the complex short bowel pediatric population in San Diego. She is responsible for RCHSD Nutrition Manual and Guidelines.

## TEACHING ACTIVITIES

The Division's ACGME accredited three-year fellowship program trains up to six fellows in clinical and basic science research. The program combines clinical and research training throughout the program, with the first year focused on an in-depth clinical experience in gastroenterology, hepatology, and nutrition. The second and third years provide time for focused development of research interests.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Ranjan Dohil, MD

- Invited Speaker, Clinical features of eosinophilic esophagitis. APFED meeting, San Diego, CA, July 2008
- Invited Speaker, Eosinophilic esophagitis: Recounting the atopic triad. CME Eczema Conference, San Diego, CA, July 2008
- Invited Speaker, Treatment of cystinosis with ECCysteamine. Workshop, CRN Meeting, Atlanta, GA, July 2009
- Invited Speaker, Randomized, double-blind study of OVB for Eosinophilic esophagitis. Digestive Disease Week, Plenary session. New Orleans, LA, May 2010
- Randomized, double-blind study of OVB for eosinophilic esophagitis. Digestive Disease Week, Plenary session. New Orleans, LA, May 2010
- Invited Speaker, Developing new formulations for cysteamine. A Decade of Treatment studies in Cystinosis. CRF Scientific Meeting, Newport Beach, April 2010
- Poster of Distinction, Enteric-coated cysteamine for the treatment of NAFLD in children. Digestive Disease Week, New Orleans, LA, 2010

### Ariel Feldstein, MD

- Organizer and Chair, Novel Diagnostics in Liver Disease Clinical Symposium. Digestive Disease Week 2009
- Moderator, Mechanisms of cell death. AASLD Research Workshop
- Moderator, Apoptosis and autophagy in the liver. AASLD Research Workshop
- Faculty Member, Hepatic apoptosis and NASH Symposium. Canadian Digestive Disease Week 2011
- Visiting Professor, Department of Pediatrics, Columbia University. August 6-7, 2009
- Invited Faculty, AASLD Clinical Symposium NAFLD Update—Alternatives to liver biopsy. Digestive Disease Week, New Orleans, LA, May 14-18, 2010
- Visiting Professor, Department of Pediatrics, University of Wisconsin, Madison, WI, September 12-13, 2009
- Invited Speaker, Shanghai International Forum on Digestive Diseases, September 13-20, 2010

- Invited Speaker, XXXVII Congress of the Chilean Gastroenterological Association, Puerto Varas, Chile, November 17-20, 2010

### Jeannie Huang, MD, MPH

- Invited Speaker, Childhood obesity: The role of the dentist. California Society Pediatric Dentistry Annual Meeting, San Francisco, CA, April, 2011
- Invited Speaker, Maintenance of Certification Forum. NASPGHAN Annual Meeting, Orlando, FL, October, 2011
- Invited KeyNote Speaker, Childhood obesity: The reason for H.O.P.E. 4th Annual Nutrition Symposium: Clinician's guide to obesity management and treatment options. Seattle Children's Hospital, October, 2011

### Mamata Sivagnanam, MD

- Invited speaker, 2nd International Symposium on Ep-CAM and Cancer Stem Cell Markers, Munich, Germany, October 2008

### Jeffrey Schwimmer, MD

- America's Top Gastroenterologists, Consumer Research Council of America, 2008-2009
- America's Top Pediatricians, Consumer Research Council of America, 2009-2010
- Young Investigator, Clinical Science Award Gastroenterology Research Group and American Gastroenterological Association, presented at Digestive Disease Week, New Orleans, LA, May 2, 2010
- Walter B. Cannon Lecturer, The Society of Gastrointestinal Radiologists, 2011
- The Benenson Distinguished Lectureship, San Diego Epidemiology Exchange, 2011

## PUBLICATIONS

- Abdelmalek MF, Suzuki A, Guy C, Unalp-Arida A, Colvin R, Johnson RJ, Diehl AM, and the Nonalcoholic Steatohepatitis Clinical Research Network. Increased fructose consumption is associated with fibrosis severity in patients with non-



- alcoholic fatty liver disease. *Hepatology*, 51(6):1961-71, 2010.
- Abu-Rajab Tamimi TI, Elgouhari HM, Alkhoury N, Yerian LM, Berk MP, Lopez R, Schauer PR, Zein NN, Feldstein AE. An apoptosis panel for nonalcoholic steatohepatitis diagnosis. *J Hepatol*, 2010 Dec 8 [Epub ahead of print].
- Aceves A, Bastian J, Dohil M, Newbury R, Dohil R. An abdominal symptom scoring tool can distinguish pediatric patients with eosinophilic esophagitis and correlates with tissue inflammation. *Ann Allergy Asthma Immunol*, 103(5):401-6, 2009.
- Aceves S, Newbury R, Chen D, Mueller J, Dohil R, Hoffman H, Bastian J, Broide DH. Resolution of remodeling in eosinophilic correlates with epithelial response to topical corticosteroids. *Allergy*, 65:109-16, 2010.
- Aceves S, Newbury R, Chen D, Dohil R, Bastian J, Broide DH. Mast cells infiltrate esophageal smooth muscle in eosinophilic esophagitis, express TGF $\beta$ 1, and increase esophageal smooth muscle contraction. *Journal of Allergy and Clinical Immunology*, 126:1198-204, 2010.
- Adams LA, Feldstein AE. Nonalcoholic steatohepatitis: Risk factors and diagnosis. *Expert Rev Gastroenterol Hepatol*, 4(5):623-35, 2010.
- Adams LA, Feldstein AE. Non-invasive diagnosis of nonalcoholic fatty liver and nonalcoholic steatohepatitis. *J Dig Dis*, 2010 Nov 17 [Epub ahead of print].
- Alkhoury N, Berk M, Lopez R, Feldstein AE. Serum retinol-binding protein 4 (rbp4) levels in patients with nonalcoholic fatty liver disease. *J Clin Gastroenterol*, 2009 Jun 11 [Epub ahead of print].
- Alkhoury N, Dixon LJ, Feldstein AE. Lipotoxicity in nonalcoholic fatty liver disease: Not all lipids are created equal. *Expert Rev Gastroenterol Hepatol*, 3(4): 445-451, 2009.
- Alkhoury N, Tamimi TA, Yerian L, Lopez R, Zein NN, Feldstein AE. The inflamed liver and atherosclerosis: a link between histologic severity of nonalcoholic fatty liver disease and increased cardiovascular risk. *Dig Dis Sci*, 2009 Dec 5 [Epub ahead of print].
- Alkhoury N, Gornicka A, Berk MP, Thapaliya S, Dixon LJ, Kashyap S, Schauer PR, Feldstein AE. Adipocyte apoptosis: A link between obesity, insulin resistance and hepatic steatosis. *J Biol Chem*, 2009 Nov 24 [Epub ahead of print].
- Alkhoury N, Carter-Kent C, Lopez R, Rosenberg WM, Pinzani M, Bedogni G, Feldstein AE, Nobili V. A combination of the pediatric nafld fibrosis index and enhanced liver fibrosis test identifies children with fibrosis. *Clin Gastroenterol Hepatol*, 2010 Sep 29 [Epub ahead of print].
- Alkhoury N, Carter-Kent C, Feldstein AE. Apoptosis in nonalcoholic fatty liver disease: diagnostic and therapeutic implications. *Expert Rev Gastroenterol Hepatol*, 2011, in press (April Issue).
- Alkhoury N, Carter-Kent C, Elias M, Feldstein AE. Atherogenic dyslipidemia and cardiovascular risk in children with nonalcoholic fatty liver disease. *Clin Lipidol*, 2011, in press.
- Alm ME, Neumark-Sztainer D, Story M, Boutelle KN. Self-weighting and weight control behaviors among adolescents with a history of overweight adolescents. *Journal of Adolescent Health*, 44(5), 424-430, 2009.
- Arikian A, Boutelle K, Peterson CB, Dalton J, Day JW, Crow SJ. Targeting parents for the treatment of pediatric obesity in boys with Duchenne muscular dystrophy: A case series. *Eating and Weight Disorders*, 15, e161-e165, 2010.
- Ascha MS, Hanouneh IA, Lopez R, Abu-Rajab Tamimi T, Feldstein AE, Zein NN. Incidence and risk factors of hepatocellular carcinoma in patients with nonalcoholic steatohepatitis. *Hepatology*, 51(6):1972-8, 2010.
- Aufreiter S, Kim JH, O'Connor DL. Dietary oligosaccharides increase colonic weight and the amount but not concentration of bacterially synthesized folate in the colon of piglets. *J Nutr*, 141(3):366-372, 2011.
- Barshop NJ, Francis CS, Schwimmer JB, Lavine JE. Nonalcoholic fatty liver disease as a comorbidity of childhood obesity. *Pediatric Health*, 3(3):271-81, 2009.
- Barshop NJ, Capparelli EV, Sirlin CB, Schwimmer JB, Lavine JE. Acetaminophen pharmacokinetics in children with nonalcoholic fatty liver disease. *Journal of Pediatric Gastroenterology and Nutrition*, 52(2):198-202, 2011.
- Berman MI, Boutelle KN, Crow SJ. A case series investigating acceptance and commitment therapy as a treatment for previously treated, unremitted patients with anorexia nervosa. *European Eating Disorder Review*, 17(6), 426-34, 2009.
- Boutelle KN, Eisenberg M, Becker M, Neumark-Sztainer D. The reciprocal relationship between connectedness

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Kerri Boutelle, PhD</b>		
Parents as the Agent of Change for Childhood Obesity 1 R01 DK075861-01A2/NIH (NIDDK)	\$385,752	\$3,167,925 July 2010-June 2015
Guided Self-Help for Childhood Obesity 1 R21 DK080266-01A1/NIH (NIDDK)	\$125,000	\$422,558 Sept. 2008-Nov. 2011
Responsivity to Sugar Consumption in Obese Children UCSD/Department of Pediatrics		\$30,000 Oct. 2010-Sept. 2011
Parent-Child Obesity Treatment for Latino Families UCSD/Department of Pediatrics		\$40,000 Jan. 2011-Dec. 2011
Self-Regulation Treatment for Adolescent Obesity: Teen-ROC UCSD/Department of Pediatrics		\$75,000 June 2009-Dec. 2010
Emotional Eating Versus Hedonic Eating in Adolescents Who Overeat UCSD/Academic Senate		\$10,000 Oct. 2009-Sept. 2010
<b>Rebecca Cherry, MD</b>		
Pilot Study of Esophageal Dysmotility in Eosinophilic Esophagitis UCSD Department of Pediatrics Intramural Clinical Research Grant		\$50,000 July 2010-July 2011
Pilot Study of Clinical Hypnosis for Treatment of Abdominal Pain in Children UCSD Academy of Clinical Scholars/STRI Faculty Research Award		\$17,500 July 2011-July 2012
<b>Ranjan Dohil, MB, BCH</b>		
Topical Budesonide in the Treatment of Eosinophilic Esophagitis 20081207/Versus Pharmaceuticals, Inc.	\$399,509	\$481,088 Dec. 2007-Dec. 2010
Treatment of Cystinosis with EC-Cysteamine 20062926/Cystinosis Research Foundation	\$230,623	\$458,814 Mar. 2006-Oct. 2012
Various Studies in Cystinosis 20092338/Cystinosis Research Foundation	\$207,862	\$271,691 Oct. 2008-Sept. 2011
Two year funding proposal for Betty Cabrera, B.S., MPH 20113432/Cystinosis Research Foundation	\$176,591	\$194,250 Oct. 2011-Sept. 2013

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Food-Effect on Bioavailability of Cystagon8482 in Normal, Healthy Adults 20114753/Raptor Pharmaceutical Corp.	\$95,193	\$120,000 Sept. 2011-Sept. 2012
Enteric Coated Cysteamine for NAFLD Raptor Pharmaceutical Corp.		\$320,000 2009
Studies in Eosinophilic Esophagitis Hearst Foundation		\$250,000 2010
<b>Ariel Feldstein, MD</b>		
The Lysosomal-Mitochondrial Pathway in Nonalcoholic Fatty Liver Disease (Feldstein, PI) R01 DK076852/NIH/NIDDK		\$1,382,790 Dec. 2006-Jan. 2012
Caspase Dependent Cell death in Nonalcoholic Fatty Liver Disease (Feldstein, PI) R01 DH082451/NIH/NIDDK		\$1,492,128
Alcoholic Liver Disease: Biochemical, Cellular and Systemic Responses to Ethanol, Project 2: Mitochondrial Phospholipid Oxidation in Alcoholic Liver Disease (Nagy, PI) P20 AA071069-01/NIH/NIAAA		\$1,120,313
Systemic Oxidized Phospholipids in Mitochondrial Dysfunction of Alcoholic Injury (McIntyre, PI) R01 AA017747/NIH/NIAAA		\$250,934 Oct. 2009-Sept. 2013
Metabonomics for Discovery and Validation of Biomarkers in Nonalcoholic Fatty Liver Disease (NAFLD) and Nonalcoholic SteatoHepatitis (NASH) (Hazen, PI) Nestle		\$498,000 Jan. 2010-Jan. 2012
Pathways of Oxidative Stress in Chronic Pancreatitis (Stevens, PI) ACG/Junior Faculty Development Award		\$150,000 Jan. 2011-Jan. 2013
<b>Jeannie Huang, MD</b>		
TAHLC: Texting to Promote Adolescent Health Liaisons and Chronic Disease Management 1 RC1 MD004721-01/NIH (NCMHD)	\$323,625	\$999,891 Sept. 2009-July 2012
PACE-CALL: A Tailored Weight Management Program for Childhood ALL Survivors MRS07-07-166-01-CPPB/American Cancer Soc, Inc.	\$540,000	\$583,200 July 2007-June 2012

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Hope Project	\$150,000	\$159,000
2007-1285/Vitamin Cases Consumer Settlement		Mar. 2008-Mar. 2010
Health Professional Obesity Prevention Education (HOPE) Project	\$16,181	\$25,000
20093477/Pfizer		Sept. 2007-Sept. 2009
Gastroenterology Training Grant		\$1,450,000
T32 DK07202/NIDDK		July 2007-June 2012
<b>Jeffrey Schwimmer, MD</b>		
Pediatric Trials in Non-Alcoholic Steatohepatitis NASH	\$117,952	\$8,246,428
3 U01 DK061734-06S1/NIH (NIDDK)		Sept. 2002-Apr. 2014
Imaging of Non-Alcoholic Fatty Liver Disease	\$301,090	\$2,409,943
1 R01 DK075128-01/NIH (NIDDK)		Sept. 2006-Mar. 2012
Development of MR-Based Biomarker Panels for NAFLD-A NASH	\$417,802	\$597,273
CRN Ancillary Study		Sept. 2010-June 2012
1 R56 DK090350-01/NIH (NIDDK)		
Clinical Research on Non-Alcoholic Fatty Liver Disease	\$412,073	\$565,811
Sub 1 (DK061734)/Columbia University		May 2010-Apr. 2011
Clinical Reserach on Non-Alcoholic Fatty Liver Disease	\$232,390	\$285,604
Sub 5-39232 (DK061734)/Columbia University		May 2010-Apr. 2011
The Intestinal Microbiome in Pediatric NAFLD	\$160,162	\$246,665
Sub none (DK088831)/Medical College Of Wisconsin		Sept. 2010-June 2011
<b>Mamata Sivagnanam, MD</b>		
Intestinal Epithelial Function in Congenital Tufting Enteropathy	\$133,900	\$723,060
1 K08 DK078672-01A2/NIH (NIDDK)		Aug. 2009-July 2014
Investigation of the Role of Epithelial Adhesion Molecule in the Intestinal Epithelium	\$75,000	\$150,000
07-1646/Children's Digestive Health		Dec. 2008-Dec. 2011



- with parents and adolescent emotional well-being over 5 years. *J Psychosom Res*, 66(4):309-16, 2009.
- Boutelle KN, Libbey H, Neumark-Sztainer D, Story M. Weight control behaviors among adolescents who have lost weight and those who have not. *Journal of American Dietetic Association*, 109 (12), 2029-35, 2009.
- Boutelle KN, Hannan P, Fulkerson JA, Crow S, Stice E. Obesity as a predictor of depression in adolescent females. *Health Psychology*, 29(3):293-8, 2010.
- Boutelle KN, Cafri G, Crow SJ. A parent-only intervention for childhood obesity. *Obesity*, 19(3), 574-580, 2011.
- Brunt EM, Kleiner DE, Wilson LA, Unalp A, Behling CE, Lavine JE, Neuschwander-Tetri BA; NASH Clinical Research Network. Portal chronic inflammation in non-alcoholic fatty liver disease (NAFLD): a histologic marker of advanced NAFLD-clinicopathologic correlations from the NASH Clinical Research Network. *Hepatology*, 49(3):809-20, 2009.
- Brunt EM, Kleiner DE, Wilson LA, Belt P, Neuschwander-Tetri BA; NASH Clinical Research Network (CRN). Nonalcoholic fatty liver disease (NAFLD) activity score and the histopathologic diagnosis in NAFLD: distinct clinicopathologic meanings. *Hepatology*, 53(3): 810-820, 2011.
- Carter-Kent C, Feldstein AE. Non-alcoholic steatohepatitis over multiple generations. *Dig Dis Sci*, 2009 Jul 23 [Epub ahead of print].
- Carter-Kent C, Yerian LM, Brunt EM, Angulo P, Kohli R, Ling SC, Xanthakos SA, Whittington PF, Charatcharoenwitthaya P, Yap J, Lopez R, McCullough AJ, Feldstein AE. Nonalcoholic steatohepatitis in children: A multicenter clinicopathological study. *Hepatology*, 50(4):1113-20, 2009.
- Carter-Kent C, Brunt EM, Yerian LM, Alkhoury N, Angulo P, Kohli R, Ling SC, Xanthakos SA, Whittington PF, Charatcharoenwitthaya P, Yap J, Lopez R, McCullough AJ, Feldstein AE. The relationships of steatosis type, grade, and zonality with histological features in pediatric nonalcoholic fatty liver disease. *J Pediatr Gastroenterol Nutr*, 2011 Jan 12 [Epub ahead of print].
- Cassidy FH, Yokoo T, Aganovic L, Hanna RF, Bydder M, Middleton MS, Hamilton G, Chavez AD, Schwimmer JB, Sirlin CB. Fatty liver disease: MR imaging techniques for the detection and quantification of liver steatosis. *Radiographics*, 29(1):231-60, 2009.
- Chalasanani N, Guo X, Loomba R, Goodarzi MO, Haritunians T, Kwon S, Cui J, Taylor KD, Wilson L, Cummings OW, Chen YD, Rotter JI. Nonalcoholic Steatohepatitis Clinical Research Network. Genome-wide association study identifies variants associated with histologic features of nonalcoholic fatty liver disease. *Gastroenterology*, 139(5):1567-1576, 2010.
- Chen R, Feldstein AE, McIntyre TM. Suppression of mitochondrial function by oxidatively truncated phospholipids is reversible, aided by bid, and suppressed by Bcl-XL. *J Biol Chem*, 284(39):26297-308, 2009.
- Choi LJ, Jenikova G, Hanson E, Spehlmann ME, Boehling NS, Kirstein SL, Bunday RA, Smith JR, Insel PA, Eckmann L. Coordinate down-regulation of adenylyl cyclase isoforms and the stimulatory G protein (Gs) in intestinal epithelial cell differentiation. *J Biol Chem*, 285(17):12504-11, 2010.
- Cromley T, Neumark-Sztainer D, Story M, Boutelle KN. Parent and family associations with weight-related behaviors and cognitions among overweight adolescents. *Journal of Adolescent Health*, 47(3), 263-269, 2010.
- David K, Kowdley KV, Unalp A, Kanwal F, Brunt, EM, Schwimmer JB and the NASH CRN Research Group. Quality of life in adults with non-alcoholic fatty liver disease: baseline data from the nonalcoholic steatohepatitis clinical research network. *Hepatology*, 49(6):1904-12, 2009.
- Dohil R, Gangoiti J, Babrera B, Fidler M, Schneider J, Barshop B. long-term treatment of cystinosis in children with twice daily systeamine. *Journal of Pediatrics*, 156:823-7, 2010.
- Dohil R, Newbury R, Fox L, Bastian J, Aceves S. A randomized, double-blind, placebo-controlled study of oral viscous budesonide in children with eosinophilic esophagitis. *Gastroenterology*, 139:418-29, 2010.
- Dohil R. Oral Viscous Budesonide is effective in children with eosinophilic esophagitis. Continuing Medical Education. *Gastroenterology*, 139:e19-21, 2010.
- Dohil R, Aceves SS, Dohil MA. Oral viscous budesonide therapy in children with epidermolysis bullosa and proximal esophageal strictures. *JPGN* (in press).
- Dohil R, Schmeltzer S, Cabrera BL, Wang T, Durelle J, Duke KB, Schwimmer JB, Lavine JE. Enteric-coated cysteamine for the treatment of paediatric non-alcoholic fatty liver disease. *Alimentary Pharmacology & Therapeutics*, 33(9):1036-44, 2011.
- Dohil R, Schmeltzer S, Cabrera B, Durelle J, Shragg P,

- Schwimmer J, Lavine J. Pilot Study: Enteric-coated cysteamine for the treatment of NAFLD in children. *Aliment Pharm Therap*, 2011 March 13 [E-pub ahead of print].
- Duvvuri V, Cromley T, Klabunde M, Boutelle K, Kaye WH. Differential weight restoration on olanzapine versus fluoxetine in identical twins with anorexia nervosa. *International Journal of Eating Disorders*, DOI: 10.1002/eat.20917, 2011.
- Elgouhari HM, Zein CO, Hanouneh I, Feldstein AE, Zein NN. Diabetes mellitus is associated with impaired response to antiviral therapy in chronic hepatitis c infection. *Dig Dis Sci*, 2009 Jan 16 [Epub ahead of print].
- Feldstein AE, Kleiner D, Kravetz D, Buck M. Severe hepatocellular injury with apoptosis induced by a hepatitis c polymerase inhibitor. *J Clin Gastroenterol*, 43(4):374-81, 2009.
- Feldstein A.E., Wieckowska A, Lopez R., Liu Y.C., Zein N. N., McCullough A. Cytokeratin 18 fragment levels as a noninvasive biomarker for nonalcoholic steatohepatitis: A multicenter validation study. *Hepatology*, 50(4):1072-8, 2009.
- Feldstein AE, Treeprasertsuk S, Charatcharoinwithaya P, Benson JY, Enders FB, Angulo P. The natural history of nonalcoholic fatty liver disease in children: A follow-up study for up to 20-years. *Gut*, 58(11):1538-44, 2009.
- Feldstein AE, Nobili V. Biomarkers in nonalcoholic fatty liver disease: a new era in diagnosis and staging of disease in children. *J Pediatr Gastroenterol Nutr*, 51(4):378-9, 2010.
- Feldstein AE. Novel insights into the pathophysiology of nonalcoholic fatty liver disease. *Semin Liver Dis*, 30(4):391-401, 2010 (30 year anniversary special issue).
- Feldstein AE, Lopez R, Abu-Rajab Tamimi T, Yerian LM, Chung Y, Berk M, Zhang R, et al. Mass spectrometric profiling of oxidized lipid products in human non-alcoholic fatty liver disease. *J Lipid Res*, 51(10): 3046-54, 2010.
- Feldstein AE, Bailey SM. Emerging role of redox dysregulation in alcoholic and nonalcoholic fatty liver disease. *Antioxid Redox Signal*, 2011 Jan 23 [Epub ahead of print].
- Fleming SE, Kim JH. Ultrasound-guided umbilical catheter insertion in neonates. *J Perinatol*, 31(5):344-349, 2011.
- Fulkerson JA, Kubik MY, Rydell S, Boutelle KN, Story M, Neumark-Sztainer D. Focus groups with working parents of school-aged children: what's needed to improve family meals? *Journal of Nutrition, Education and Behavior*, 43(3)189-193, 2011.
- Fulkerson JA, Rydell S, Kubik MY, Lytle L, Boutelle KN, Story M, Neumark-Sztainer D, Dudovitz B, Garwick A. Healthy home offerings via the mealtime environment (HOME): feasibility, acceptability, and outcomes of a pilot study. *Obesity*, 18, S69-S74, 2010.
- Gabbert C, Donohue M, Arnold J, Schwimmer JB. Adenovirus-36 and obesity in children and adolescents. *Pediatrics*, 126(4): 721-726, 2010.
- Gangoiti J, Fidler M, Cabrera B, Schneider J, Barshop B, Dohil R. Pharmacokinetics of enteric-coated cysteamine. *British J Clin Pharmacol*, 70:376-82, 2010.
- Garcia MA, Kling K, Newbury R, Huang JS. Complicated diverticular disease in a child with Williams Syndrome. *J Pediatr Gastroenterol Nutr*, 48(2):233-6, 2009.
- Garcia MA, Yang N, and Quinton PM. Normal mouse intestinal mucus release requires cystic fibrosis transmembrane regulator-dependent bicarbonate secretion. *J Clin Invest*, 119(9):2613-22, 2009.
- Gornicka A, Morris-Stiff G, Thapaliya S, Papouchado BG, Berk M, Feldstein AE. Transcriptional profile of genes involved in oxidative stress and antioxidant defense in a dietary murine model of steatohepatitis. *Antioxid Redox Signal*, 2011 Jan 2 [Epub ahead of print].
- Higashidani A, Bode L, Nishikawa A, Freeze HH. Exogenous mannose does not raise steady state mannose-6-phosphate pools of normal or N-glycosylation-deficient human fibroblasts. *Mol Genet Metab*, 96(4):268-72, 2009.
- Hong P, Ninonuevo MR, Lee B, Lebrilla C, Bode L. Human milk oligosaccharides reduce HIV-1-gp120 binding to dendritic cell-specific ICAM3-grabbing non-integrin (DC-SIGN). *Br J Nutr*, 101(4):482-6, 2009.
- Huang JS, Donohue M, Becerra K, Xu R. The relationship between parents' and children's weight perceptions: results of a survey. *Infant, Child, Adolescent Nutrition*, 1:15-20, 2009.
- Huang JS, Donohue M, Golnari G, Fernandez S, Walker-Gallego E, Galvan K, Briones C, Tamai J, Becerra K. Pediatricians' weight assessment and obesity management practices. *BMC Pediatr*, 9:19, 2009.
- Huang JS, Meixner L, Fernandez S, McCutchan JA. A double-blinded, randomized controlled trial of zoledronate



therapy for HIV-associated osteopenia and osteoporosis. *AIDS*, 23(1):51-7, 2009.

Huang J, Pokala P, Hill L, Boutelle KN, Wood C, Becerra K, Calfas K. The Health and Obesity: Prevention and Education (HOPE) Curriculum Project – curriculum development. *Pediatrics*, 124(5):1438-46, 2009.

Huang JS, Sallis J, Patrick K. The role of primary care in promoting children's physical activity. *Br J Sports Med*, 43(1):19-21, 2009.

Huang JS, Becerra K, Golnari G, Fernandez S, Opalach A, Andres del Valle A. Digital facial image modification

and its effects on body image and parental support for dietary and physical activity behaviors in children. *J Pediatr*, 154: 74-8, 2009.

Huang JS, Patrick K, Sallis J. The role of primary care in promoting children's physical activity. *Br J Sports Med*, 43:19-21, 2009.

Huang JS, Donohue M, Golnari G, Fernandez S, Walker-Gallego E, Galvan K, Briones C, Tamai J, Becerra K. Pediatricians' weight assessment and obesity management practices. *BMC Pediatr*, 9:19, 2009.

Huang J, Pokala P, Hill L, Wood C, Boutelle K, Becerra



- K, Calfas K. The Health and Obesity: Prevention and Education (HOPE) Curriculum project – Curriculum Development. *Pediatrics*, 124:1438-1446, 2009.
- Huang JS, Tobin A, Harvey L, Nelson TR. Diagnostic medical radiation in pediatric patients with inflammatory bowel disease. *J Pediatr Gastroenterol Nutr*, 2011 (in press).
- Huang JS, Gottschalk M, Norman GJ, Calfas KJ, Sallis JF, Patrick K. Compliance with behavioral guidelines for diet, physical activity and sedentary behaviors is related to insulin resistance among overweight and obese youth. *BMC Research Notes*, 4:29, 2011.
- Huang JS, Gottschalk M, Pian M, Dillon L, Barajas D, Bartholomew LK. Transition to adult care: Systematic assessment of adolescents with a chronic illness and their medical teams. *J Pediatr*, 2011 (in press).
- Huang SC, Erdman SH. Pediatric juvenile polyposis syndromes: An update. *Curr Gastroenterol Rep*, 11(3):211-9, 2009.
- Huang SC, Lee, JK, Smith J, Doctolero RT, Tajima A, Beck SE, Weidner N, Carethers JM. Evidence for an hMSH3 defect in familial hamartomatous polyps. *Cancer*, 117(3):492-500, 2011.
- Hughes Cassidy F, Yokoo T, Aganovic L, Hanna R, Bydder M, Middleton MS, Hamilton G, Chavez AD, Schwimmer JB, Sirlin CB. Fatty liver disease: MR imaging techniques for the detection and quantification of liver steatosis. *Radiographics*, 29(1):231-60, 2009.
- Huh D, Stice E, Shaw H, Boutelle K. Female overweight and obesity in adolescence: developmental trends and ethnic differences in prevalence, incidence, and remission. *Journal of youth and adolescence*, DOI: 10.1007/s10964-011-9664.
- Jerstad SJ, Boutelle KN, Ness KK, Stice E. Prospective reciprocal relations between physical activity and depression in adolescent females. *J Consulting and Clinical Psychology*, 78(2):268-72, 2010.
- Kashyap SR, Diab DL, Baker AR, Yerian L, Bajaj H, Gray-McGuire C, Schauer PR, Gupta M, Feldstein AE, Hazen SL, Stein CM. Triglyceride levels and not adipokine concentrations are closely related to severity of nonalcoholic fatty liver disease in an obesity surgery cohort. *Obesity*, 2009 Apr 9 [Epub ahead of print].
- Katheria AC, Masliah E, Benirschke K, Jones KL, Kim JH. Idiopathic persistent pulmonary hypertension in an infant with smith-lemli-opitz syndrome. *Fetal Pediatr Pathol*, 29(6):373-379, 2010.
- Kistler K, Molleston J, Unalp A, Abrams SH, Behling C, and Schwimmer JB for the NASH CRN. Symptoms and quality of life in obese children and adolescents with nonalcoholic fatty liver disease. *Alimentary Pharmacology & Therapeutics*, 31(3):396-406, 2010.
- Kistler KD, Brunt EM, Clark JM, Diehl AM, Sallis JF, and Schwimmer JB for the NASH CRN Research Group. Physical activity recommendations, exercise intensity, and histological severity of nonalcoholic fatty liver disease. *American Journal of Gastroenterology*, 106(3):460-8, 2011.
- Knatz S, Manginot T, Neumark-Sztainer D, Story M, Boutelle KN. Prevalence and psychosocial associations of secretive eating in adolescents. *Childhood Obesity*, 7(1): 30-35, 2011.
- Kohli R, Kirby M, Xanthakos SA, Softic S, Feldstein AE, Saxena V, Tang PH, Miles L, Miles MV, Balistreri W, Woods S, Seeley RJ. High-Fructose medium-chain-trans-fat diet induces liver fibrosis and elevates plasma coenzyme q9 in a novel murine model of obesity and NASH. *Hepatology*, 2010 Jun 11 [Epub ahead of print].
- Korsapati H, Babaei A, Bhargava V, Dohil R, Quin A, Mittal RK. Dysfunction of the longitudinal muscles of the oesophagus in eosinophilic oesophagitis. *Gut*, 58(8):1056-62, 2009.
- Lavine JE, Schwimmer JB, Molleston JP, Scheimann AO, Murray KF, Abrams SH, Rosenthal P, Sanyal AJ, Robuck PR, Brunt EM, Unalp A, Tonascia J, The NASH CRN Research Group. Treatment of nonalcoholic fatty liver disease in children: TONIC trial design. *Contemporary Clinical Trials*, 31(1):62-70, 2010.
- Lavine JE, Schwimmer JB, Van Natta ML, Molleston JP, Murray KF, Rosenthal P, Abrams SH, Scheimann AO, Sanyal AJ, Chalasani N, Tonascia J, Unalp A, Clark JM, Brunt EM, Kleiner DE, Hoofnagle JH, Robuck PR, Nonalcoholic Steatohepatitis Clinical Research Network. Effect of vitamin E or metformin for treatment of nonalcoholic fatty liver disease in children and adolescents: the TONIC randomized controlled trial. *Journal of the American Medical Association*, 305(16):1659-68, 2011.
- Levy-Marchal C, Arslanian S, Cutfield W, Sinaiko A, Druet C, Marcovecchio ML, Chiarelli F, Amemiya S, Berenson G, Caprio S, Charles MA, Cook S, Davis E, Dolan L,



- Dunger D, Fagot-Campagna A, Flodmark CE, Ford E, Gautier JF, Goodman E, Goran M, Haymond M, Hofman P, Hokken-Koelega A, Ibanez L, Lee S, Maffei C, Mericq V, Metzger B, Norgren S, Ong K, Pettitt D, Rudolf M, Schwimmer J, Steinberger J, Weiss R, Yajnik C. Insulin resistance in children: Consensus, perspective, and future directions. *Journal of Clinical Endocrinology and Metabolism*, 95 (12):5189-5198, 2010.
- Li Z, Berk M, McIntyre TM, Feldstein AE. Hepatic lipid partitioning and liver damage in nonalcoholic fatty liver disease: role of stearyl-CoA desaturase. *J Biol Chem*, 284 (9):5637-5644, 2009.
- Lindbäck SM, Gabbert C, Johnson BL, Smorodinsky E, Sirlin CB, Garcia N, Pardee PE, Kistler KD, Schwimmer JB. Pediatric nonalcoholic fatty liver disease: A comprehensive review. *Advances in Pediatrics*, 57(1):85-140, 2010.
- Loomba R, Sirlin CB, Schwimmer JB, Lavine JE. Advances in pediatric nonalcoholic fatty liver disease. *Hepatology*, 50(4):1282-93, 2009.
- McComsey GA, Tebas P, Shane E, Yin MT, Overton ET, Huang JS, Aldrovandi GM, Cardoso SW, Santana JL, Brown TT. Bone disease in HIV infection: a practical review and recommendations for HIV care providers. *Clin Infect Dis*, 51:937-46, 2010.
- Mond J, Van den Berg P, Boutelle K, Hanaan P, Neumark-Sztainer D. Obesity, body dissatisfaction, and emotional well-being in early and late adolescence: findings from the project EAT study. *Journal of Adolescent Health*, 48(4), 373-378, 2010.
- Morris-Stiff G, Feldstein AE. Fibroblast growth factor 21 as a biomarker for NAFLD – integrating pathobiology into clinical practice. *J. Hepatol*, 53(5):795-6, 2010.
- Neuschwander-Tetri BA, Clark JM, Bass NM, Van Natta ML, Unalp-Arida A, Tonascia J, Zein CO, Brunt EM, Kleiner DE, McCullough AJ, Sanyal AJ, Diehl AM, Lavine JE, Chalasani N, Kowdley KV, NASH Clinical Research Network. Clinical, laboratory and histological associations in adults with nonalcoholic fatty liver disease. *Hepatology*, 52(3):913-924, 2010.
- Nobili V, Alkhoury N, Lopez R, Feldstein AE. Retinol binding protein-4: A promising circulating marker of liver damage in pediatric nonalcoholic fatty liver disease. *Clin Gastroenterol Hepatol*, 7(5):575-9, 2009.
- Nobili V, Alkhoury N, Alisi A, Manco M, Lopez R, Bartuli A, Feldstein AE. Severity of liver injury and atherogenic lipid profile in children with nonalcoholic fatty liver disease. *Pediatr Res*, 67(6):665-70, 2010.
- Nobili V, Carter-Kent C, Feldstein AE. Role of lifestyle changes in the management of chronic liver disease. *BMC Medicine* 2010, in press.
- Patton HM, Yates K, Unalp-Arida A, Behling CA, Huang TT, Rosenthal P, Sanyal AJ, Schwimmer JB, Lavine JE. Association between metabolic syndrome and liver histology among children with nonalcoholic fatty liver disease. *American Journal of Gastroenterology*, 105(9): 2093-2102, 2010.
- Puga Yung GL, Fidler M, Albani E, Spermon N, Teklenburg G, Newbury R, Schechter N, van den Broek T, Prakken B, Billea R, Dohil R, Albani S. Heat shock protein-derived T-cell epitopes contribute to autoimmune inflammation in pediatric Crohn's disease. *PLoS One*, 4(11):e7714, 2009.
- Radhakrishnan K, Worley S, Arrigain S, Hupertz V, Kay M, Yerian L, Wyllie R, and Feldstein AE. Autoimmune hepatitis in children: Impact of cirrhosis at presentation on natural history and long term outcome. *Dig Liver Dis*, 2010 Feb 15 [Epub ahead of print].
- Ramos GA, Hanley AA, Aguayo J, Warshak CR, Kim JH, Moore TR. Neonatal chemical hypoglycemia in newborns from pregnancies complicated by type 2 and gestational diabetes mellitus - the importance of neonatal ponderal index. *J Matern Fetal Neonatal Med*, epub 2011.
- Rockwell RE, Boutelle K, Trunko ME, Jacobs MJ, Kaye WH. An innovative short-term, intensive, family-based treatment for adolescent anorexia nervosa: Case series. *European Eating Disorders Review*, DOI: 10.1002/erv.1094, 2011.
- Rotman Y, Koh C, Zmuda JM, Kleiner DE, Liang TJ. Nonalcoholic Steatohepatitis Clinical Research Network (NASH CRN). The association of genetic variability in patatin-like phospholipase domain-containing protein 3 (PNPLA3) with histological severity of nonalcoholic fatty liver disease. *Hepatology*, 52 (3):894-903, 2010.
- Sanyal AJ, Chalasani N, Kowdley KV, McCullough A, Diehl AM, Bass NM, Neuschwander-Tetri BA, Lavine JE, Tonascia J, Unalp A, Van Natta M, Clark J, Brunt EM, Kleiner DE, Hoofnagle JH, Robuck PR, and the

- NASH CRN. Pioglitazone, Vitamin E, or Placebo for Nonalcoholic Steatohepatitis. *N Engl J Med*, 362:1675-85, 2010.
- Sauer CW, Kim JH. Human milk macronutrient analysis using point-of-care near-infrared spectrophotometry. *J Perinatol*, 31(5):339-343, 2011.
- Schwimmer JB, Dunn W, Norman GJ, Pardee PE, Middleton MS, Kerkar N, Sirlin CB. SAFETY study: Alanine aminotransferase cutoff values are set too high for reliable detection of pediatric chronic liver disease. *Gastroenterology*, 138(4):1357-64, 2010.
- Shannon A, Alkhoury N, Carter-Kent C, Monti L, Devito R, Lopez R, Feldstein AE., Nobili V. Ultrasonographic quantitative estimation of hepatic steatosis in children with nonalcoholic fatty liver disease (nafld): A prospective study. *J Pediatr Gastroenterol Nutr*, 2011 in press.
- Sivagnanam M, Schaible T, Szigeti R, Byrd RH, Finegold MJ, Ranganathan S, Gopalakrishna GS, Tatevian N, Kellermayer R. Further evidence for EpCAM as the gene for congenital tufting enteropathy. *Am J Med Genet A*, 152A(1):222-4, 2010.
- Sivagnanam M, Janecke AR, Müller T, Heinz-Erian P, Taylor S, Bird LM. Case of syndromic tufting enteropathy harbors SPINT2 mutation seen in congenital sodium diarrhea. *Clin Dysmorphol*, 19(1):48, 2010.
- Sivagnanam M, Mueller J, Szigeti R, Gopalakrishna GS, Finegold MJ, Kellermayer R. Aminoglycoside therapy of nonsense mutation induced intestinal failure. *Pediatrics* (in review).
- Speliotes EK, Butler JL, Palmer CD, Voight BF; GIANT Consortium; MIGen Consortium; Nonalcoholic Steatohepatitis Clinical Research Network, Hirschhorn JN. PNPLA3 variants specifically confer increased risk for histologic nonalcoholic fatty liver disease but not metabolic disease. *Hepatology*, 52(3): 904-12, 2010.
- Sullivan S, Schanler RJ, Kim JH, et al. An exclusively human milk-based diet is associated with a lower rate of necrotizing enterocolitis than a diet of human milk and bovine milk-based products. *J Pediatr*, 156(4):562-567 e561, 2010.
- Tuohy TMF, Done MW, Lewandowski MS, Shires PM, Saraiya DS, Huang SC, Neklason DW, Burt RW. Large intron 14 rearrangement in APC results in splice defect and attenuated FAP. *Hum Genet*, 127:359-369, 2010.
- Vali P, Fleming SE, Kim JH. Determination of Umbilical Catheter Placement Using Anatomic Landmarks. *Neonatology*, 98(4):381-386, 2010.
- Wang Z, Klipfell E, Bennett BJ, Koeth R, Levison B, DuGar B, Feldstein AE, Britt EB, Fu X, Chung YM, Schauer P, Smith JD, Allayee H, Tang W, DiDonato JA, Lusis AJ, and Hazen SL. Gut flora dependent metabolism of dietary phosphatidylcholine contributes to cardiovascular disease. *Nature*, 472(7341):57-63, 2011.
- Yang L, McMullen MR, Pratt BT, Zhang R, Papouchado BG, Nagy L, Feldstein AE, McIntyre TM. Bioactive oxidized phospholipids circulating during chronic ethanol ingestion are inflammatory biomarkers. *J Biol Chem*, 2010 May 11 [Epub ahead of print].
- Yokoo T, Bydder M, Hamilton G, Middleton MS, Patton HM, Hassenein T, Schwimmer JB, Sirlin CB. Effect of fat spectral model parameters on hepatic fat quantification by multi-echo gradient-echo magnetic resonance imaging. *Magn Reson Imaging*, 25(1):67-76, 2009.
- Yokoo T, Bydder M, Hamilton G, Middleton MS, Gamst AC, Wolfson T, Patton HM, Lavine JE, Schwimmer JB, Sirlin CB. Estimation of hepatic proton-density fat fraction by magnetic resonance imaging at 3T. *Radiology*, 258(3):749-59, 2011.
- Yu EL, Sivagnanam M, Ellis L, Huang JS. Acute hepatotoxicity after ingestion of morinda citrifolia (Noni Berry) juice in a 14-year old boy. *J Pediatr Gastroenterol Nutr*, 52(2):222-4, 2010.
- Yu EL, Schwimmer JB, Lavine JE. Non-alcoholic fatty liver disease: epidemiology, pathophysiology, diagnosis, and treatment. *Paediatrics and Child Health*, 20(1):26-29, 2010.



# Genetics

The Genetics Division is actively involved in clinical care, research, teaching and service. The division sees more than 4,000 patients per year in a variety of clinics, primarily as outpatients at Rady Children's Hospital San Diego (RCHSD), but also throughout Southern California, and in Mexico. The division has an active inpatient consult service, and also sees more than 500 inpatients per year. Faculty members in the division presently hold more than \$6 million in grants and contracts, and have published over 50 original articles and chapters within the last two years.

Division faculty are actively engaged in teaching at all training levels, including graduate and medical students, residents and fellows, and community physicians. The division has several internationally recognized leaders in

their respective fields. Many of the faculty have held leadership positions in national organizations, including most notably the Presidencies of the American College of Medical Genetics (Dr. Jones) and the American Society of Gene Therapy (Dr. Friedmann). A number of faculty members are on the editorial boards of leading Genetics journals.

Left to right: Albert LaSpada, William Nyhan, Mary Willis, Robert Naviaux, Lynne Bird, Jerry Schneider, Bruce Barshop, Ted Friedmann, Marilyn Jones, Craig Bennett, Alysson Muotri

A major development for the division was the appointment of Dr. Albert La Spada as the new Division Chief in 2009. Dr. La Spada's appointment concluded a national search, and places an internationally renowned physician-scientist with clinical training in Genetics at the helm of the division.

## FACULTY

**Albert R. La Spada, MD, PhD**, Professor of Pediatrics and Cellular & Molecular Medicine; *Division Chief of Genetics*

**Bruce A. Barshop, MD, PhD**, Professor of Pediatrics; Director, Metabolic Disease Program

**Lynne M. Bird, MD**, Associate Professor of Pediatrics

**Theodore Friedmann, MD, PhD**, Professor of Pediatrics

**Marilyn C. Jones, MD**, Professor of Pediatrics; Director, Genetics and Dysmorphology

**Fred Levine, MD, PhD**, Emeritus Professor of Pediatrics; Professor and Director, Sanford Children's Health Research Center, Burnham Institute

**Alysson Muotri, PhD**, Assistant Professor of Pediatrics and Cellular & Molecular Medicine

**Robert K. Naviaux, MD, PhD**, Associate Professor of Medicine and Pediatrics In Residence

**Mark E. Nunes, MD**, Affiliate Faculty; Division Chief, Medical Genetics, Kaiser-Permanente

**William L. Nyhan, MD, PhD**, Research Professor of Pediatrics

**Mary J. Willis, MD, PhD**, Affiliate Faculty; Medical Officer, Pediatrics, Balboa Naval Hospital

## CLINICAL FELLOWS

**Jaime Barea, MD**

## POSTDOCTORAL FELLOWS

**Constanza Cortes, PhD**

**Somashish Ghosh Dashdar, PhD**

**Audrey Dickey, PhD**

**Amy Dubinsky, PhD**

**Janel Kopp, PhD**

**Bradley Morrison, PhD**

**Hung-Ping Shih, PhD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division of Genetics provides a wide range of clinical genetics services to the greater San Diego community, including pediatrics genetics, biochemical genetics, cancer genetics, and reproductive medicine.

RCHSD and the UC San Diego (UCSD) Medical Center have a long established tradition of excellence in biochemical genetics. Drs. Barshop, Levine, and Nyhan are the principal providers of biochemical genetics services in San Diego. At RCHSD, they admit patients, consult on inpatients, and participate in a weekly Metabolic Clinic, evaluating more than 700 patients annually. At the UCSD Medical Center, they serve in the Clinical Research Center, the Adult Neuro-Metabolic Clinic, and in the Infusion Center, where they treat adult patients with enzyme replacement therapies. Drs. Barshop, Levine, and Nyhan also provide consultation services for several other hospitals and pediatric practices throughout the region and abroad.

The Biochemical Genetics Laboratory serves as an important regional and international resource for several clinical and research tests. The laboratory is a licensed clinical laboratory and is certified by the College of American Pathologists. Drs. Barshop and Nyhan review and interpret results, and provide consultation services for referring physicians. Dr. Naviaux, who established the molecular diagnostic laboratory, provides the corresponding services for DNA tests performed by the Biochemical Genetics Laboratory.



The Cystine Determination Laboratory is a part of the Biochemical Genetics Laboratory, which is directed by Dr. Barshop. Intracellular cystine concentrations are analyzed by tandem mass spectrometry. The testing (about 500 leukocyte cystine assays per year) permits the diagnosis of 10 to 15 new cases of cystinosis each year, and the assays are used to direct therapy.

The division is also involved with the California Newborn Screening Program, which now includes an expanded number of conditions since the introduction of tandem mass spectrometry in August 2005. Dr. Barshop is Chief Medical Advisor of the Area Service Center, which coordinates all newborn screening for approximately 120,000 births each year in the four southernmost counties, including the Metabolic Center at RCHSD.

Drs. Lynne Bird and Marilyn Jones provide primary evaluation and follow up for children with birth defects, developmental disorders, and health-related conditions in which a genetic diagnosis is suspected. Dr. Jones is Acting Director of UCSD's Prenatal Diagnosis Center and an active participant in the Fetal Diagnosis Center operated by the Department of Reproductive Medicine at UCSD. Both Drs. Bird and Jones provide consultations on the various inpatient services at RCHSD, Sharp Mary Birch Hospital for Women, the broader Sharp system, and Scripps system hospitals. They also counsel prenatal patients at the UCSD Fetal Diagnosis Center.

Dr. Bird evaluates roughly 800 new and follow-up patients annually. Dr. Bird sees patients in four half-day dysmorphism and genetics clinics, directs the monthly Prader-Willi syndrome clinic, and supervises two genetic counselors at RCHSD. Dr. Bird is Medical Director of the newly formed Down Syndrome Center, which offers multidisciplinary evaluation and management of children with Down syndrome.

Dr. Jones evaluates up to 1,200 new and follow-up patients annually. She sees patients at RCHSD in five half-day dysmorphism and genetics clinics, monthly craniofacial clinics, and monthly cleft palate clinics. In addition, Dr. Jones has a monthly half-day clinic at the San Diego Regional Center for the Developmentally Disabled, a monthly half-day clinic at the Hospital de las Californias in Tijuana, and an annual full-day clinic at the El Centro Regional Center for the Developmentally Disabled.

Dr. La Spada sees patients in neurogenetics clinic and Huntington's disease clinic at UCSD, and also evaluates patients with inherited neurological diseases at RCHSD.

Dr. Nunes directs the medical genetics service at Kaiser Permanente and runs a number of subspecialty clinics, including cancer genetics and cardiogenetics clinic. He participates in genetics teaching and training of medical students, residents, and fellows at UCSD – RCHSD.

Dr. Willis staffs the genetics Clinic at Balboa Naval Hospital and participates in their multi-specialty craniofacial clinic. In addition, she participates in the metabolic clinic at RCHSD twice monthly, and in resident and fellow training at RCHSD - UCSD.

## RESEARCH ACTIVITIES

**Dr. Bruce Barshop** has conducted several clinical case studies and clinical trials, including: study of diagnostic approaches to Lesch-Nyhan disease and disorders of mitochondrial disorders, carbohydrate metabolism, and fatty acid oxidation. Therapeutic agents under trial include sapropterin in phenylketonuria, dichloroacetate in congenital lactic acidemia, triacetyluridine in pyrimidine nucleotide depletion syndrome, and enzyme replacement in lysosomal storage disorders, including mucopolysaccharidosis type I. Dr. Barshop also collaborates with Dr. Ranjan Dohil on therapies for cystinosis. Work with Dr. Ajai Khanna of the Department of Surgery has centered on liver transplantation in metabolic diseases, including novel applications. Dr. Barshop has an interest in extensive analysis of metabolite patterns and is developing metabolomic studies, including a component of a recently funded project to investigate metabolic effects of infectious stress and vaccination in mitochondrial disease and autism.

**Dr. Lynne Bird** is the principal investigator on a large record review study through Sharp Memorial Hospital/ Mary Birch Hospital for Women, designed to explore the association between growth patterns and types of congenital abnormalities seen in infants of diabetic mothers, to be analyzed in conjunction with the Epidemiology Program at San Diego State University. Dr. Bird is also

## Major Goals and Plans

The next five years will be crucial for the future of medical genetics clinical practice at RCHSD and UCSD, and will be pivotal in determining if the application of genetics and genomics advances to pediatrics clinical practice is to be achieved at RCHSD.

With the arrival of a new Division Chief, considerable effort will be directed to improving the academic orientation of genetics at RCHSD and UCSD. The plans for the Division of Genetics during the next 5-year period are thus as follows:

- We have reactivated our accredited clinical genetics residency and fellowship program, and we have accepted our first fellow, Dr. Jaime Barea, a trainee in the pediatrics residency at UCSD – RCHSD who will begin in 2011. Dr. Al La Spada became the Program Director of the genetics residency and fellowship in March of 2011.
- Our Clinical Genetics conference continues to be held at 7:30 AM the first Friday of each month just before Grand Rounds. Division faculty participation has been excellent, as this conference is directed at rotating medical students, residents, and fellows in genetics and other subspecialty areas. Our local Clinical Genetics physicians at Balboa Hospital and Kaiser-Permanente, as well as Genetics Counselors, all are regular attendees at the monthly meeting. This meeting continues to serve as a focal point for the creation of a vibrant academic Clinical Genetics community at RCHSD – UCSD.
- We will be recruiting a Clinician X faculty member to join our Division and participate in the Clinical activities of our unit. This individual will be primarily based at RCHSD and will be expected to assume leadership of the Genetics residency-fellowship program.
- We will begin a monthly Human Genetics research conference to be held one Thursday at 12:00 pm per month on the UCSD campus. The purpose of this conference will be to bring together clinical practitioners and basic researchers to facilitate interaction and collaboration, especially as advances in Genetics and Genomics open up new opportunities for the discovery of genes responsible for a wide range of inherited and complex diseases.

In addition to these division goals, individual faculty goals are as follows:

- Drs. Barshop and Dohil will begin a national study of a new formulation of cysteamine to improve treatment of cystinosis.
- Drs. Barshop and Naviaux will head two components of a project studying the stress response of patients with autism and mitochondrial disease, centering on metabolomics and molecular genetics, respectively.
- Dr. Bird will continue the study, “Congenital Anomalies in Infants of Diabetic Mothers,” and recruit patients for the Rare Disease Clinical Research Network natural history study and treatment trial. She will participate in the development of an additional research protocol to evaluate the benefit of levodopa on motor problems in older children and adults with Angelman syndrome.
- Dr. Friedmann plans to test the effects of RNAi knockdown of the HPRT gene in embryonic stem cells. He will also attempt to identify small molecules able to cause dopaminergic (DA) differentiation of fluorescently-marked ES cells by exposure to small molecule libraries and high throughput detection of cells expressing the fluorescent marker from a DA-neuronal-specific promoter. Dr. Friedmann will begin to apply the resources of the recently established WADA world-wide bioinformatics facility at UCSD to coordinate the extensive WADA research program in growth factors.
- Dr. La Spada will be involved in the further development of the Institute for Genomic Medicine, and will work with Dr. Frazer and others to launch a new Genomics research program at Rady Children’s Hospital.
- Dr. Levine will continue to focus on cell therapy for diabetes, as well as high throughput screening to identify small molecules that affect various aspects of pancreatic beta-cell growth and differentiation.
- Dr. Muotri will be developing new methods of stem cell experimentation in the fields of autism and Rett syndrome.
- Dr. Nyhan is launching a clinical trial centering on dopaminergic therapy in Lesch-Nyhan disease.





the local site investigator in a collaborative endeavor to study Angelman syndrome (AS), as part of a large NIH-funded Rare Disease Clinical Research Network (RDCRN) to study AS, Rett syndrome and Prader-Willi syndrome (PWS). She supervises two studies as part of this project, a natural history study, and a clinical trial to treat young AS patients with vitamin supplements and was also awarded two grants by the Angelman Syndrome Foundation to conduct AS studies, including a Phase II trial of Levodopa. Dr. Bird also received funding from the Department of Pediatrics to establish a multidisciplinary clinic for the health supervision of children with PWS. The clinic has been operational for three years and is the only clinic in Southern California for the comprehensive evaluation and management of individuals with PWS; one goal of the clinic is to facilitate participation in clinical research on PWS, in collaboration with University of California Irvine where patients can be enrolled in the RDCRN natural history study.

**Dr. Theodore Friedmann** continues to study Lesch-Nyhan Disease (LND), a metabolic disease characterized by profound neurodevelopmental abnormalities. His lab is concentrating on microarray and proteomic characterizations of human fibroblasts derived from LND patients, and of affected brain regions of the HPRT gene knockout mouse model. Dr. Friedmann's lab has identified a number of genes and gene families that are aberrantly expressed in LND, and is presently examining their potential role in the development of the disorder's neuropathology. Dr. Friedmann is continuing to study the assembly and gene transfer properties of synthetic virus-like nanoparticles (virosomes), and the molecular mechanisms of growth enhancement by the growth factor IGF-1 in cultured cells and in mice *in vivo*. He has also established a bioinformatic facility under the sponsorship of the World Anti-Doping Agency (WADA) that will coordinate the worldwide research program of growth factors and related functions under the auspices of WADA. The Friedmann laboratory recently reported that the HPRT deficiency of Lesch-Nyhan Disease is accompanied by severe disruption of normal cell signaling mechanisms in the Wnt and presenilin-1 pathways. They also reported that HPRT deficiency in iPS cells leads to major defects in purinergic signaling pathways that cause defects in ERK and CREB expression. They propose the surprising conclusion that

the housekeeping HPRT gene plays a vital role in the development of the nervous system.

**Dr. Marilyn Jones** conducts research into the clinical delineation of birth defect patterns, the natural history of syndromes, genotype/phenotype correlations, the elucidation of normal and abnormal mechanisms of morphogenesis, and the impact of prenatal diagnosis on clinical management.

**Dr. Albert La Spada** applies the tools of molecular genetics, neuroscience, and functional genomics to understand mechanisms of neurological disease. His research program is focused upon human genetic diseases caused by expansions of trinucleotide repeats, including Huntington's disease, spinobulbar muscular atrophy, and spinocerebellar ataxia type 7. He has found that transcription dysregulation and activation of apoptosis/autophagy are important in neurological disease. His lab has learned that protease function and proteolytic cleavage regulate key events in pathogenesis. His lab's goal is to define molecular and cellular pathways by which neurons become dysfunctional and use this knowledge to devise rational therapies. Focus areas include: failure of protein quality control underlies all major neurological disease: Identification of genetic pathways that regulate autophagy and role of mTOR signaling in neuroprotection; altered gene transcription in neurological disease and retinal degeneration, and unraveling the complexity of CNS gene regulation, including microRNAs and non-coding RNAs; bioenergetics of neurons, and understanding mitochondria dysfunction in neurological disease, including mitophagy and mitochondrial dynamics; and cross-talk between the insulin signaling pathway and neurological disease pathways. In 2011, Dr. La Spada uncovered a novel mechanism regulating gene expression and transcription linked to Spinocerebellar ataxia 7, an inherited neurological disorder. The discovery promises to have broad ramifications, suggesting that abundant non-coding transcripts of ribonucleic acid (RNA) may be key players in neurological development and function, and could be powerful targets for future clinical therapies. The research was published in the June 22nd issue of *Neuron*, and was highlighted with a video abstract describing the work.

**Dr. Fred Levine** is continuing his research on the relationship between growth and differentiation of the human endocrine pancreas. The ultimate goal of this



work is to develop a sufficient understanding of beta-cell regeneration to allow for the development of a beta-cell replacement therapy for diabetes. To this end, Dr. Levine's lab has developed cell lines from the endocrine cells and endocrine precursor cells of the human adult and fetal pancreas. The cell lines express low levels of islet hormones, and are being used as platforms for high-throughput screening, as well as for fundamental studies of beta-cell growth and differentiation. The laboratory is also studying primary adult human non-endocrine pancreatic epithelial cells. Having shown that they can function as endocrine progenitors, they are pursuing mechanistic studies to determine the molecular basis for beta-cell differentiation from those cells.

**Dr. Alysson Muotri** is interested in the mechanistic basis of neurodevelopmental disease, including Rett syndrome. His laboratory uses animal models, neural stem cells, human pluripotent cells and various other molecular tools to investigate fundamental mechanisms of brain development and mental disorders. He is particularly well known for his expertise in the application of induced pluripotent stem cell (iPSC) technology to the study of neurodevelopmental disease. Dr. Muotri's laboratory also explores mobile elements, such as retrotransposons, as generators of diversity during neuronal differentiation. These mobile elements may be part of a conserved core process responsible for evoking facilitated complex non-random phenotype variation through which selection may act. In work published in *Cell* in 2010, Dr. Muotri and his team used induced pluripotent stem cells from patients with Rett syndrome to create functional neurons that provide the first human cellular model for studying the development of autism spectrum disorder (ASD) and could be used as a tool for drug screening, diagnosis and personalized treatment.

**Dr. Robert Naviaux** is conducting research into the cause of Alpers syndrome, a devastating disease of children and young adults that leads to seizures and liver failure. His team at the UCSD Mitochondrial and Metabolic Disease Center identified the first causative mutations in a gene called POLG—the mitochondrial DNA polymerase  $\gamma$ . Since this discovery, dozens of new mutations have been found, and DNA testing has now become the gold standard for confirming the diagnosis of Alpers syndrome around the world. In addition, the Naviaux lab collaborates with labs across the country on

projects ranging from the development of non-invasive methods for mitochondrial disease diagnosis to the role of mitochondria in embryogenesis, stem cell differentiation, cancer, diabetes, and tissue regeneration.

**Dr. William Nyhan** has had a long series of clinical studies and therapeutic trials, most notably including studies of Lesch-Nyhan disease. He has several long-standing protocols for systematic evaluation of purine metabolism, amino acid metabolism, and fatty acid oxidation. He is the PI of a project to investigate the efficacy of tetrahydrobiopterin in correcting neurotransmitter abnormalities in Lesch-Nyhan disease. Another clinical trial of nitisinone in alkaptonuria has been approved. He has recently re-established a facility for mutational analysis for HPRT deficiency in the laboratory.

## TEACHING ACTIVITIES

### **Bruce A. Barshop, MD, PhD**

Teaching is an integral part of the popular elective rotation in Genetics and Metabolism which brings pediatrics residents from UCSD and Balboa Naval Hospital to our dysmorphology and metabolic Clinics at Rady Children's Hospital; a third year medical student is usually present as well. In addition to that venue for direct personal instruction, didactic sessions are presented at the RCHSD Resident Noon Lectures, and Dr. Barshop covers those sessions relating to metabolic diseases. Dr. Barshop lectures in the School of Medicine, including a session of Biomedical Science 223 on the topic of Newborn Screening and a session of Cell Biology and Biochemistry on the topic of Treatment of Genetic Disease, and he participates in the Objective Structured Clinical Examinations (OSCE) to second-year medical students. He has mentored undergraduate students in independent study projects. Dr. Barshop typically speaks at several conferences of medical professionals each year at UCSD, RCHSD, and other institutions in the area. Dr. Barshop and Dr. Naviaux developed a new set of lectures on genetics and metabolism for Chris Glass's SOMC-229 ERM course on Endocrinology, Reproduction, and Metabolism. This is the first year that this new course has been offered, and the metabolism lectures received high marks from the students.

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Bruce Barshop, MD, PhD</b>		
Newborn Screening Metabolic Centers 08-MC014/CAL H&W Public Health, Department	\$128,712	\$266,952 July 2008-June 2010
Genetic factors involving expression of 3-methylcrotonyl-CoA carboxylase deficient 1 R03 HD069983-01/NIH (NICHD)	\$50,000	\$154,771 Aug. 2011-July 2013
Proteomic based identification of cysteinylated proteins in cystinotic cells CRF-GERTSMAN/Cystinosis Research Foundation	\$140,484	\$140,484 Jan. 2010-Dec. 2011
Newborn Screening Metabolic Centers 10-MC014/CAL H&W Public Health, Department	\$130,769	\$132,769 July 2010-June 2011
Improvement to Intracellular Cystine Measurement CRF-3144/Cystinosis Research Foundation	\$59,367	\$65,304 Sept. 2010-Aug. 2011
Newborn Screening Area Service Contract-Primary Medical Consultant Covering 4 Southernmost Counties 03-75-055/CAL DHS		\$640,488 Jan. 2003-June 2007
Preparation Methodologies for Intracellular Cystine Determination and Dynamics of Lysosomal Cystine in Cystinosis Cystinosis Research Foundation		\$118,000 Jan. 2008-June 2009
Support for Pharmacokinetic Studies Cysteine Determination Facility/Cystinosis Research Foundation		\$188,400 July 2006-June 2009
Metabolomic Component in Grant to Evaluate Risk of Vaccination and Infectious Stress in Autism and Mitochondrial Disease (Wallace, PI) Autism Speaks		\$175,000 Jan. 2009-Dec. 2009
<b>Theodore Friedmann, MD</b>		
Bioinformatics Center 20073938 (07D15TF)/World Anti-Doping Agency (Canada)	\$339,617	\$1,017,541 May 2008-Dec. 2012
Lesch-Nyhan Disease, A Model for Complex Genetic, Proteomic, and Metabolic Pathways 1 R24 DK82840-01/NIH (NIDDK)	\$1,222,559	\$7,420,981 Sept. 2008-Aug. 2013

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Albert La Spada, MD, PhD</b>		
Models of SBMA Motor Neuron Degeneration 7 R01 NS041648-10/NIH (NINDS)	\$4,900	\$2,160,566 July 2009 - Aug. 2015
Role of Nna1 in Retinal and Cerebellar Neurodegeneration 7 R01 EY014997-06/NIH (NEI)	\$34,682	\$1,856,316 July 2009 - May 2014
The PPAR-delta Pathway in neural function and Huntington's disease neuropathology 1 R01 NS065874-01A1/NIH (NINDS)	\$218,750	\$1,689,845 Feb. 2010 - Jan. 2015
Autophagy and Protein Translation in Neural Function & Neurodegeneration 1 R01 AG033082-01A1/NIH (NIA)	\$205,000	\$1,583,625 Sept. 2009 - Aug. 2014
CCCTC-Binding Factor (CTCF) in Trinucleotide Repeat Instability and Disease 7 R01 GM059356-09/NIH (NIGMS)	\$5,023	\$532,322 July 2009 - Jan. 2011
SCA7 Neurodegeneration: Molecular Basis and Therapy 7 R01 EY014061-08/NIH (NEI)	\$250,000	\$408,088 Sept. 2009 - Aug. 2010
Mouse Models of FXTAS: Defining Critical Periods and Molecular Targets Sub No. 07-004392-1-UCSD (NS062411)/(UCD) UC Davis	\$113,386	\$344,965 July 2009 - June 2011
Modeling Motor Neuron Degeneration in SBMA MDA176084/Muscular Dystrophy Association, Inc	\$100,000	\$330,000 July 2010 - June 2013
Is the PPAR-Delta Signaling Pathway a Therapeutic Target in HD? CHDI 20102409/CHDI Foundation/High Q Foundation	\$87,451	\$199,937 Feb. 2010 - Jan. 2012
Evaluation of PhotoThera Infared ATP Activation in HD Transgenic mice 20114044/Photothera	\$85,489	\$132,081 June 2011-June 2012
Development of ASO Therapies for SCA7 & Related Neurodegenerative Disorders 20104265/Isis Pharmaceuticals	\$65,765	\$101,607 June 2010-June 2011
Modeling motor neurom degeneration in SBMA (MDA4340) 20100129/Muscular Dystrophy Association, Inc	\$90,909	\$100,000 July 2009-June 2010

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Alysson Muotri, PhD</b>		
Modeling Autism with Human Pluripotent Cells 1 DP2 OD006495-01/NIH (OD)	\$1,500,000	\$2,317,500 Sept. 2009-Aug. 2014
The impact of L1retrotransposition in the nervous system 1 R01 MH094753-01/NIH (NIMH)	\$250,000	\$1,884,987 Aug. 2011-May 2016
Developing a drug-screening system for Autism Spectrum Disorders using human neurons TR2-01814/Cal Institute For Regenerative Medicine	\$428,304	\$1,491,471 Apr. 2011-Mar. 2014
Modeling Familial ALS8 with Human Induced Pluripotent Stem Cells MDA185410/Muscular Dystrophy Association, Inc	\$109,839	\$362,466 Feb. 2011-Jan. 2014
Williams Syndrome: A Model for Linking Genes, Neural Systems and Social Phenotype Sub P00052440 (HD033113)/Salk Institute For Biological Studies	\$76,562	\$111,222 Apr. 2011-Feb. 2012
Fellowship IRSF Carromeu IRSF-Carromeu/Intl Rett Syndrome Association	\$50,000	\$100,000 Oct. 2009-Sept. 2011
Modeling Autism Spectrum Disorders using human neurons 20100900/Emerald Foundation Inc.	\$50,000	\$50,000 Dec. 2009-Dec. 2010
Modeling Autism Spectrum Disorders using human neurons 20100900/Emerald Foundation Inc.	\$50,000	\$50,000 Dec. 2010-Dec. 2011
CDKL5 Pluripant Stem Cells 20112961/CDKL5 Research	\$41,667	\$50,000 Mar. 2011-Jan. 2012
Academic Senate UCSD		\$10,000 July 2005-June 2010
<b>William L Nyhan, MD, PhD</b>		
Diagnostic Center for Lesch-Nyhan Disease 2008-1/Lesch-Nylan Syndrome Childrens Research Foundation	\$37,150	\$102,777 June 2008-June 2011



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Tetrahydrobiopterin in Lesch-Nyhan Disease		\$20,000
Biomarin Pharmaceutical		July 2009-June 2010
Biochemical Genetics		\$30,000
San Diego Foundation		July 2008-June 2009
<b>Atsushi Miyanohara, PhD</b>		
Core B -Vector Development Lab	\$160,000	\$1,116,200
Sub 272547 ( HL66941)/Veterans Medical Research Foundation		Sept. 2006-Aug. 2011
Translational Studies of AAV gene transfer for CHF	\$7,424	\$38,411
VPA Miyanohara 287975 (HL088426)/Veterans Medical Research Foundation		Sept. 2008-Apr. 2012

### Lynne M. Bird, MD

Dr. Bird serves as a mentor and preceptor to the genetics residents. She participates regularly in Case Conferences, Morning Report, Resident CPC activities, Professor Rounds and Grand Rounds. For most of the year, a third-year UCSD medical student participates in one of her half-day clinics. She is also involved in resident training through the dysmorphology clinic in Mexico. Dr. Bird presents an average of four lectures per year to residents and faculty, as part of the Noon Conference series for the pediatric residents and medical students, Noon Conference series for the UCSD NICU and newborn nursery, the UCSD/SDSU Preventive Medicine residency, and invited lectures to various community hospitals. Dr. Bird serves as a preceptor for the Introduction to Clinical Medicine course and administers OSCE examinations to second-year medical students. For the past several years, she has been a preceptor for summer internships for pre-medical students, and also became involved in the UCSD Medical Scholars Clinical Rotation program. In 2009, she served as a small group instructor in the reorganized 'Genetics in Medicine' course for medical school and pharmacy school students.

### Theodore Friedmann, MD

Dr. Friedmann is a member of the Biomedical Sciences Graduate Programs and has served for a number of years on the Biomedical Sciences Minor Proposition Committees. He has recently served as chair of the thesis committee of one BMS student, as a member of several other thesis committees and has chaired and served on a number of BMS minor proposition committees. He lectures in a number of graduate and elective courses and has presented a yearly seminar course on biomedical ethics. During the spring 2011, Dr. Theodore Friedmann has continued presentation of the long-standing Human Gene Therapy Seminar series. He has also continued to serve as chairman of the genetics panel of the World Anti-Doping Agency. Dr. Friedmann gives several lectures throughout the world.

### Marilyn C. Jones, MD

Dr. Jones has served as program director for the ABMG Fellowship Program and the Medical Genetics Residency Program. Twice a week Dr. Jones supervises a third-year UCSD medical student in history taking, physical examination, and counseling. UCSD Pediatrics and Med/Peds

residents participate in outpatient clinics, as well as the cleft and craniofacial programs when they are on their genetics elective. The pediatric dental residents rotate monthly through Dr. Jones' cleft palate and craniofacial clinics, and the dental residents each spend a day seeing general genetics patients during their two-year residency. Dr. Jones continues to mentor medical students from the Universidad Autonoma de Baja California at the Hospital Infantil de las Californias. Dr. Jones has lectured for Hillary Klopoff-Cohen's elective course, Family and Preventive Medicine. In 2009, she served as a small group instructor in the reorganized 'Genetics in Medicine' course for medical school and pharmacy school students. Dr. Jones presents an average of four specialty conferences a year to UCSD students and residents, as well as one Grand Rounds presentation annually at UCSD or an affiliated hospital. She is an active participant in the bi-monthly Fetal Diagnosis Conference at UCSD.

#### **Albert R. La Spada, MD, PhD**

Dr. La Spada took over the organization of the Genetics in Medicine course in 2009 with Dr. Gabriel Haddad. This course, which is given to first year medical students and second year pharmacy students, is the only formal integrated genetics course that UCSD professional students receive. Drs. La Spada and Haddad reorganized the course to incorporate small group case discussions coordinated by sets of instructors. Dr. La Spada will be directing a clinical genetics monthly meeting, and instructs pediatrics residents and fellows in this venue and other teaching forums at Rady Children's Hospital. Dr. La Spada is also involved in teaching BMS graduate students and neurosciences graduate students at UCSD.

#### **Fred Levine, MD, PhD**

Dr. Levine is a member of the Biomedical Sciences and Molecular Pathology Graduate Programs. Currently, he has one Biomedical Sciences and one Bioengineering PhD student in the lab. He has served for a number of years on the Molecular Pathology or Biomedical Sciences Minor Proposition Committees, and serves on three doctoral committees for a number of other students. He gives lectures in graduate courses, including Molecular Neurobiology Cell and Tissue Engineering, and Gene Therapy. As part of his clinical activities, he is involved in

teaching medical students, residents and clinical fellows, particularly during his time on service in metabolism.

#### **Robert K. Naviaux, MD, PhD**

Dr. Naviaux teaches Biomedical Sciences 223, Human Genetics and Metabolism. This course is offered in the spring and is designed for advanced undergraduates, graduate students, and elective medical students with an interest in the genetics of human disease. Dr. Naviaux gives lectures and grand rounds presentation around the world, most recently at Vanderbilt University, Children's Hospital of Orange County, the National Cancer Institute at the National Institutes of Health, and Manipal University, India. In addition, Dr. Naviaux directs the research of three undergraduate students and a master's student currently on rotation in the lab. Dr. Naviaux and Dr. Barshop developed a new set of lectures on genetics and metabolism for Chris Glass's SOMC-229 ERM course on Endocrinology, Reproduction, and Metabolism. This is the first year that this new course has been offered, and the metabolism lectures received high marks from the students.

#### **William L. Nyhan, MD, PhD**

Dr. Nyhan participates in the metabolic clinics at RCHSD, instructing pediatrics residents from UCSD and Balboa Naval Hospital and medical students. He has also lectured in Biomedical Sciences 223 on disorders of purine metabolism. Dr. Nyhan attended the Saturday, June 11, 2011, meeting of the Reunion du Conseil Scientifique de l'association Francaise Lesch-Nyhan Action Maladie Genetique in Paris at Broussais hospital under the aegis of Professor William Nyhan, President of the Scientific Council. He saw a number of patients and counseled families there. Another meeting is scheduled for two years hence.

#### **Mary J. Willis, PhD, MD**

Dr. Willis coordinates all genetics training activities at Balboa Naval Hospital for the residents, physician assistant students, and medical students of UCSD and the Uniformed Services University of the Health Sciences.



## AWARDS, HONORS AND MAJOR PRESENTATIONS

### **Bruce A. Barshop, MD, PhD**

Communicating Editor, *Journal of Inherited Metabolic Disease*  
Informatics Chair, Secretary, Society for Inherited Metabolic Disorders

Biochemical and Molecular Genetics Resource Committee, College of American Pathologists  
Guidelines Committee, California Newborn Screening Program

Web Site Oversight Committee, American College of Medical Genetics

### **Lynne M. Bird, MD**

Member, Program Committee, American College of Medical Genetics

### **Theodore Friedmann, MD, PhD**

Member, Sanford-Burnham Institute (La Jolla) Scientific Advisory Board

Chair, Lesch-Nyhan Research Foundation Scientific Advisory Board

Member, World Anti-Doping Agency Health, Medicine and Research Committee

Chair, World Anti-Doping Agency Genetics Committee

Member, Clinigene Intl Board; Member, Hastings Center (NY) Gene Therapy Project

Associate Editor, *Molecular Therapy*  
Editorial Board, *Human Gene Therapy*  
Editor, *Advances in Genetics*, Elsevier Publishing Company  
Editor, *DNA Transfer*, Cold Spring Harbor Press

### **Marilyn C. Jones, MD**

Member, Committee on Economics, American Cleft  
Palate-Craniofacial Assn, 2000-present  
Past-president, American College of Medical Genetics  
2007-present  
Official Council, Western Society for Pediatric Research,  
2006-present

### **Albert R. La Spada, MD, PhD**

Editorial Board, *Human Molecular Genetics*  
Member, "Faculty of 1000"  
American Society of Human Genetics Meeting Program  
Committee. Planning and Organizing Committee:  
2006-2009  
Scientific Advisory Board, Hereditary Disease Foundation  
Medical Review Advisory Board, National Ataxia Foundation  
Wassenberg Memorial Lecture on Genetic Disease (San  
Diego State University), 2011  
Lifetime achievement award for repeat expansion mutation  
identification (Fifth Meeting on the Molecular  
Mechanisms Of Neurodegeneration; Milan, Italy), 2011

### **Fred Levine, MD, PhD**

Director, Sanford Children's Health Research Center,  
Sanford-Burnham Institute  
Editorial Board, *American Journal of Physiology:  
Endocrinology and Metabolism*  
Research Council, UC Industry-University Cooperative  
Research Program  
Chair, Institutional Submission Selection Committee,  
UCSD School of Medicine

### **Alysson Muotri, PhD**

NIH Director's New Innovator Award, 2009  
Emerald Foundation Young Investigator Award, 2009  
National Center of Leadership in Academic Medicine,  
UCSD, La Jolla, CA, 2009

### **Robert K. Naviaux, MD, PhD**

President, Mitochondrial Medicine Society, 2007-present  
Associate Editor, *Mitochondrion*  
US Chair, Indo-US Science and Technology Forum  
Conference on Mitochondrial Medicine and Research  
Co-chair of the Extramural Organizing Committee that  
established the Mitochondrial Transformative R01  
Program at NIH  
Medical Expert Council member for the Division of  
Vaccine Compensation, US Department of Health and  
Human Services  
Trailblazer Award, Autism Speaks, 2011

### **William L. Nyhan, MD, PhD**

Member Scientific Advisory Board, United Mitochondrial  
Disease Foundation

## **PUBLICATIONS**

- Acu ID, Liu T, Suino-Powell K, Mooney S M, D'Assorro  
A, Rowland N, Muotri AR, Correa R, Niu Y, Kumar R,  
Salisbury JL. Coordination of centrosome homeostasis  
and DNA repair is intact in MCF-7 and disrupted in  
MDA-MB 231 breast cancer cells. *Cancer Research*, 70:  
3320-8, 2010.
- Barshop BA. Metabolic diseases. In: *The Chicago  
Companion to the Child*, edited by Shweder RA, Bidell  
TR, Dailey AC, Dixon SD, Miller PJ, Modell J.  
University of Chicago Press, 2009.
- Beltrão-Braga PCB, Pignatari GC, Maiorka PC, Oliveira  
NAJ, Lizier NF, Wenceslau CV, Miglino MA, Muotri  
AR,\* Kerkis I\*. Feeder free derivation of induced  
pluripotent stem cells from human immature dental  
pulp stem cells. *Cell Transplantation* (accepted 2011) \*co-  
corresponding authors.
- Bird LM. Angelman syndrome. In: *Encyclopedia of  
Neuroscience*, edited by Squire LR. Oxford: Academic  
Press, pp. 375-380, 2009.
- Chakrabarti L, Eng J, Ivanov N, Garden GA, La Spada  
AR. Autophagy activation and enhanced mitophagy  
characterize the Purkinje cells of pcd mice prior to neu-  
ronal death. *Mol Brain*, 2(1):24, 2009.



- Chakrabarti L, Zahra R, Jackson SM, Kazemi-Esfarjani P, Sopher BL, Mason AG, Toneff T, Ryu S, Shaffer S, Kansy JW, Eng J, Merrihew G, MacCoss MJ, Murphy A, Goodlett DR, Hook V, Bennett CL, Pallanck LJ, La Spada AR. Mitochondrial dysfunction in NnaD mutant flies and Purkinje cell degeneration (pcd) mice reveals a role for Nna proteins in neuronal bioenergetics. *Neuron*, 66: 835-845, 2010.
- Dawson MI, Ye M, Cao X, Farhana L, Hu QY, Zhao Y, Xu LP, Kiselyuk A, Correa RG, Yang L, Hou T, Reed JC, Itkin-Ansari P, Levine F, Sanner MF, Fontana JA, Zhang XK. Derivation of a retinoid X receptor scaffold from peroxisome proliferator-activated receptor gamma ligand 1-Di(1H-indol-3-yl)methyl-4-trifluoromethylbenzene. *ChemMedChem*, 4(7):1106-19, 2009.
- Dhar SU, Scaglia F, Li FY, Smith L, Barshop BA, Eng CM, Haas RH, Hunter JV, Lotze T, Maranda B, Willis M, Abdenur JE, Chen E, O'Brien W, Wong LJ. Expanded clinical and molecular spectrum of guanidinoacetate methyltransferase (GAMT) deficiency. *Mol Genet Metab*, 96(1):38-43, 2009.
- Dohil R, Fidler M, Gangoiti JA, Kaskel F, Schneider JA, Barshop BA. Twice-Daily Cysteamine Bitartrate Therapy for Children with Cystinosis. *J Pediatr*. 156:71-75, 2010.
- Dohil R, Gangoiti JA, Cabrera B, Fidler M, Schneider JA, Barshop BA. Long-term treatment of cystinosis in children with twice daily cysteamine. *J Pediatr*, 156:823-7, 2010.
- Felfly H, Muotri AR, Yao H, Haddad G. Hematopoietic Stem Cell Transplantation Protects Mice from Lethal Stroke. *Experimental Neurology*, 225(2): 284-293 (2010).
- Fidler MC, Gangoiti JA, Schneider JA, Barshop BA. Time before isolating cystinotic leukocytes affects reliability of cystine determination. *Pediatr Nephrol*, 24(12): 2465-6, 2009.
- Friedmann T, Hoffman E. Genetic doping in sport: applying the concepts and tools of gene therapy. In: *Performance-Enhancing Technologies in Sport: Ethical Conceptual, and Scientific Issues*, Chap. 12, pp. 241-254, Johns Hopkins University Press, 2009.
- Gangoiti JA, Fidler M, Cabrera BL, Schneider JA, Barshop BA, Dohil R. Pharmacokinetics of enteric-coated cysteamine bitartrate in healthy adults: a pilot study. *Br J Clin Pharmacol*. 70:376-82, 2010.
- Gentile JK, Tan WH, Bacino CA, Skinner SA, Barbieri-Welge R, Bauer-Carlin A, Beaudet AL, Bichell TJ, Horowitz LT, Lee HS, Sahoo T, Waisbren SE, Bird LM, Peters SU. A neurodevelopmental survey of Angelman syndrome with genotype-phenotype correlations. *J Dev Behav Pediatr*, 31(7):592-601(2010) Research article.
- Hugle B, Hoffman H, Bird LM, Gebauer C, Suchowerskyj P, Sack U, Kohlhase J, Schuster V. Hoffman syndrome: New patients, new insights. *Am J Med Genet A*, 155A:149-53 (2011) Research article.
- Jones MC, Jones KL. Syndromes of orofacial clefting. In: *Comprehensive Cleft Care*, edited by Losee JE, Kirschner RE. McGraw-Hill, pp 107-27, 2009.
- King CC, Bouic K, Friedmann T. A fractionation method to identify quantitative changes in protein expression mediated by IGF-1 on the proteome of murine C2C12 myoblasts. *Proteome Sci*, 7:28, 2009.
- Klein J, Nyhan WL, Kern M. The effects of alanine ingestion on metabolic responses to exercise in cyclists. *Amino Acids*, 37(4):673-80, 2009.
- La Spada AR. Getting a handle on Huntington's disease: silencing neurodegeneration. *Nat Med*, 15(3):252-3, 2009.
- La Spada AR, Weydt P, Pineda VV. Huntington's disease pathogenesis: mechanisms and pathways. In: *Frontiers in Neuroscience: Huntington's Disease*, edited by Lo DC, Hughes RE, CRC Press (in press).
- Lee SH, Demeterco G, Geron I, Abrahamsson A, Levine F, Itkin-Ansari P. Islet specific Wnt activation in human type II diabetes. *Exp Diabetes Res*, 2008:728763, Epub 2009.
- Lee SH, Hao E, Lee SH, Savinov AY, Geron I, Strongin AY, Itkin-Ansari P. Human beta-cell precursors mature into functional insulin-producing cells in an immunoisolation device: implications for diabetes cell therapies. *Transplantation*, 87(7):983-91, 2009.
- Lee TM, Addonizio LJ, Barshop BA, Chung WK. Unusual presentation of propionic acidemia as isolated cardiomyopathy. *J Inherit Metab Dis*, 2009 [Epub ahead of print].
- Leithe RA, Marchetto MC, Muotri AR, Vasconcelos Dde M, de Oliveira ZN, Machado MC, Menck CF. Identification of XP complementation groups by recombinant adenovirus carrying DNA repair genes. *J Invest Dermatol*, 129(2):502-6, 2009.
- Marchetto MCN, Carromeu C, Acab A, Yu D, Yeo G, Yangling M, Gage FH, Muotri AR. A model for neural development and treatment of Rett syndrome using human induced pluripotent stem cells. *Cell*, 143(4): 527-39 (2010).

- Massirer K, Carromeu C, Oliveira K, Muotri A. R. Maintenance and differentiation of neural stem cells. *WIREs SysBioMed*, online ePub Jun 21 (2010).
- Muotri AR\*, Marchetto MCN, Coufal NG, Oefner R, Yeo G, Nakashima K, Gage F H.\* L1 retrotransposition in neurons is modulated by MeCp2. *Nature*, 468(7322): 443-6 (2010) \*co-corresponding authors.
- Muotri AR. Modeling epilepsy with pluripotent human cells. *Epilepsy Behav*, 14(Supp 1):81-5, 2009.
- Naviaux RK, Le TP, Bedelbaeva K, Leferovich J, Gourevitch D, Sachadyn P, Zhang X-M, Clark L, Heber-Katz E. Retained features of embryonic metabolism in the adult MRL mouse. *Molecular Genetics and Metabolism* 2009.
- Nguyen KV, Naviaux RK, Patra S, Barshop BA, Nyhan WL. Novel mutations in the human MCCA and MCCB gene causing methylcrotonylglycinuria. *Molec Genet Metab*, 102(2):218-21, 2010.
- Nienhuis A, Friedmann T. An integrated funding mechanism for clinical trials in human gene therapy. *Mol Ther*, 17(7):1117-8, 2009.
- Nyhan WL. Inborn errors of metabolism II: Disorders of purine and amino acid metabolism. In: *Clinical Pediatric Neurology*, 3rd ed., edited by David R. Demos Medical Publishing, 2009.
- Nyhan WL, Willis M, Barshop BA, Gangoiti J. Positive newborn screen in the biochemically normal infant of a mother with treated holocarboxylase synthetase deficiency. *J Inherit Metab Dis*, 2009 [Epub ahead of print].
- Ravits JM, La Spada AR. ALS motor phenotype heterogeneity, focality, and spread: deconstructing motor neuron degeneration. *Neurology*, 73(10):805-11, 2009.
- Peters SU, Bird LM, Kimonis V, Glaze DG, Shinawi LM, Bichell TJ, Barbieri-Welge R, Nespeca M, Anselm I, Waisbren S, Sanborn E, Sun Q, O'Brien WE, Beaudet AL, Bacino CA. Double-blind therapeutic trial in Angelman syndrome using betaine and folic acid. *Am J Med Genet A*, 152A(8):1994-2001 (2010) Research article.
- Sivagnanam M, Janecke AR, Mueller T, Heinz-Erian P, Taylor S, Bird LM. Case of syndromic tufting enteropathy harbors SPINT2 mutation seen in congenital sodium diarrhea. *Clin Dysmorphol*, 19:48 (2010) Research article.
- Sopher BL, Ladd PD, Pineda VV, Libby RT, Sunkin SM, Hurley JB, Thienes CP, Terry Gaasterland T, Filippova GN & La Spada AR. (2011). CTCF regulates ataxin-7 expression through promotion of a convergently transcribed, antisense non-coding RNA. *Neuron*, 70: 1071-1084.
- Tan WH, Bacino CA, Skinner SA, Anselm I, Barbieri-Welge R, Bauer-Carlin A, Beaudet AL, Bichell TJ, Gentile JK, Glaze DG, Horowitz LT, Kothare SV, Lee H-S, Nespeca MP, Peters SU, Sahoo T, Sarco D, Waisbren SE, Bird LM. Angelman syndrome: Mutations influence features in childhood. *Am J Med Genet A*, 155A:81-90 (2011) Research article.
- Tarantal AF, Lee CC, Itkin-Ansari P. Real-time bioluminescence imaging of macroencapsulated fibroblasts reveals allograft protection in rhesus monkeys (*Macaca mulatta*). *Transplantation*, 88(1):38-41, 2009.
- West M, Nicholls K, Mehta A, Clarke JT, Steiner R, Beck M, Barshop BA, Rhead W, Mensah R, Ries M, Schiffmann R. Agalsidase alfa and kidney dysfunction in Fabry disease. *J Am Soc Nephrol*, 20(5):1132-9, 2009.
- Young JE, Garden GA, Martinez RA, Tanaka F, Sandoval CM, Smith AC, Fischbeck KH, Ellerby LM, Morrison RS, Taylor JP, La Spada AR. Polyglutamine-expanded androgen receptor truncation fragments activate a Bax-dependent apoptotic cascade mediated by DP5/Hrk. *J Neurosci*, 29(7):1987-97, 2009.
- Young JE, La Spada AR. Development of selective nutrient deprivation as a system to study autophagy induction and regulation in neurons. *Autophagy*, 5(4):555-7, 2009.
- Young JE, Martinez RA, La Spada AR. Nutrient deprivation induces neuronal autophagy and implicates reduced insulin signaling in neuroprotective autophagy activation. *J Biol Chem*, 284(4):2363-73, 2009.



# Genome Sciences

The Division of Genome Information Sciences was established in the fall of 2009 and is led by Dr. Kelly Frazer in the UC San Diego School of Medicine's Department of Pediatrics. Dr. Frazer's laboratory is located in the Moores UCSD Cancer Center and works closely with physicians in the Department of Pediatrics, the Moores UCSD Cancer Center, and Rady Children's Hospital. Genome Information Sciences collaborates frequently with the university's Institute for Genomic Science and the Clinical and Translational Research Institute.

The main function of this division is to use genomic information as a basis for focusing on the predisposition for cancer and other complex diseases starting in childhood but spanning the whole age spectrum. Our research

aims to understand genetic predisposition to disease or individual responses to treatment, such as the ability to tolerate or safely metabolize drugs.

Left to right: Olivier Harismendy, Lynne Nazareth, Kelly Frazer, Erin Smith, Christian Barrett

## FACULTY

**Kelly A. Frazer, PhD**, Professor of Pediatrics; *Chief*,  
Division of Genome Information Sciences  
**Olivier Harismendy, PhD**, Adjunct Assistant  
Professor of Pediatrics  
**Christian Barrett, PhD**, Assistant Project Scientist  
**Lynne Nazareth, PhD**, Assistant Project Scientist  
**Erin Smith, PhD**, Assistant Project Scientist

## RESEARCH ACTIVITIES

The division's current research activities are highly collaborative and focused on two main areas of study: Characterization of Inherited Variants and Cancer Genomics.

### Characterization of Inherited Variants

The Division of Genome Information Sciences is working closely with Dr. Christina Chambers in the National Children's Study. This study will examine the effects of the environment, as broadly defined to include factors such as air, water, diet, sound, family dynamics, community and cultural influences, and genetics on the growth, development, and health of children across the United States, following them from before birth until age 21 years. The goal of the Study is to improve the health and well-being of children and contribute to understanding the role various factors have on health and disease.

Dr. Frazer and Dr. Harismendy have initiated and are leading investigators for a large NHLBI supported multi-disciplinary project in collaboration with Dr. Juan Carlos Izpisua Belmonte, Dr. Neil Chi, Dr. Sylvia Evans, Dr. Lawrence Goldstein, Dr. Daniel O'Connor, Dr. Michael "Geoff" Rosenfeld, and Dr. Gene Yeo. The goal of the project is to use iPSC-derived cardiomyocytes from 200 genotyped individuals as cellular models to investigate how human genetic variation influences the gene regulatory networks involved in cardiac biology and disease.

In collaboration with Dr. John-Bjarne Hansen at the University of Tromsø (Norway), Drs. Frazer, Harismendy, Nazareth and Smith are performing whole-exome sequencing of 850 individuals to identify genetic risk factors for

venous thromboembolism (VTE), a common disease with high recurrence rate, serious short- and long-term complications, and potential fatal outcome.

In collaboration with Dr. Stephen Spector, Drs. Frazer, Harismendy, Nazareth and Smith are performing whole-exome sequencing of 500 individuals to identify the host genetic factors associated with HIV-associated neurocognitive disorders (HAND) in children.

In collaboration with Dr. Joe Gleeson we are using advanced genomic technologies to address genetic mechanisms underlying human structural brain defects. Our research goals are to identify new genes responsible for recessive structural brain defects in consanguineous families.

### Cancer Genomics

Drs. Frazer and Harismendy are working closely with Drs. Richard Schwab and Barbara Parker to establish clinical sequencing in the Moores Cancer Center. This study has funding through a supplement to the UC San Diego CTSA. In collaboration with UC Irvine, our goal is to examine 100 breast cancer patients to determine if they are eligible for targeted therapy trials based on the molecular phenotype of their tumor. More broadly, this project is supported by the UCSD health system as well as a fundraising effort to Sequence One Thousand Oncology Patients (STOP) Cancer.

Drs. Frazer and Barrett are collaborating with Drs. Dennis Carson, Catriona Jamieson and Thomas Kippas at the UCSD Moores Cancer Center to examine leukemia stem cells from acute and chronic leukemias using advanced genomic technologies to verify mechanisms of drug action. We will study the effects of specific pathway inhibitors on both leukemia stem cells and hematopoietic stem cells using human xenograft models.

In collaboration with Dr. Barbara Parker at UCSD Moores Cancer Center, Drs. Frazer, Harismendy and Smith are conducting a pilot study of archival breast tumor specimens from the Women's Healthy Eating and Living (WHEL) Diet Study. Using next-generation sequencing technology, we propose to compare the somatic mutation patterns in genomic DNA of triple-negative tumors from breast cancer patients who have remained without recurrence (ten plus years) to those of triple-negative breast cancers in patients who developed metastases.





In collaboration with Dr. Thomas Kipps at the UCSD Moores Cancer Center, Drs. Frazer, Barrett and Smith are conducting a retrospective matched case-control study comparing an early-progressing group of CLL patients with a later-progressing and a long-term indolent group. We will use second-generation sequencing methods to identify prognostic biomarkers to better predict and

understand the progression of chronic lymphocytic leukemia (CLL).

Over-expression of B-cell lymphoma/leukemia-2 (Bcl-2) family genes has been observed in human blast crisis chronic myeloid leukemia (CML) and may fuel cancer stem cell (CSC) survival. In a study led by Dr. Catriona Jamieson at the UCSD Moores Cancer Center, Dr Barrett has recently shown using transcriptome data that human CSC express a panoply of anti-apoptotic Bcl-2 isoforms in response to extrinsic signals in vivo, indicating that a pan Bcl-2 inhibitor will be required to abrogate CSC survival.

Dr. Olivier Harismendy is leading a project undergoing ultra-deep targeted sequencing of cancer mutational hotspots in order to develop an assay that can reliably detect and accurately measure the frequency of multiple somatic mutations present only in a fraction of the cells in a heterogeneous tumor. Such an assay would facilitate translational research to study the selection of tumor sub-clones during disease progression and treatment, and could be used by clinicians to improve tumor characterization and selection of therapy choices during clinical trials. Dr. Harismendy received 2 years of funding from the NCI to continue the development of this approach.

Dr. Harismendy is leading a collaboration with Dr. Kesari at the UCSD Moores Cancer Center, to study the genetic differences between primary glioblastoma and patient derived pre-clinical models such as neurospheres, xenograft or lamin cell-culture. This study is important to validate tumor pre-clinical model used in the laboratory and ensure that they accurately represent the tumor genetics, for the development of novel therapies and the study of drug response.

## TEACHING ACTIVITIES

Members of the division are actively involved in teaching UCSD graduate and medical students. Several members of the faculty (Frazer, Barrett, Smith) participated in teaching the graduate level course on quantitative methods in genetics as well as lectures in the Stem Cell Course and the medical genetics course. The faculty provide formal lectures in a variety of conferences on the UCSD campus attended by students and clinical residents including

the Bioinformatics graduate student lecture series, neuro-oncology lecture series and the Cardiovascular Research Conference. Dr. Harismendy is providing continuous Genomic Study Design and Analysis support to faculty and staff through his appointment at the Clinical and Translational Research Institute.

### Kelly Frazer, PhD

Invited participant, NHGRI 10 year strategic planning meeting, Bethesda Maryland July 2010

Organizer, UCSD IGM Inaugural Symposium October 2010

Invited speaker, CIRM meeting on biobanking San Francisco November 2010

Invited speaker, Gordon Conference on Cancer Stem Cells February 2011

Invited speaker, Sequence based symposium Lawrence Berkeley National Laboratories May 2011

Invited speaker, Annual Frontiers of Clinical Investigation Symposium San Diego October 2011

Invited speaker, International Genomics meeting Chile October 2011

### Olivier Harismendy, PhD

Targeted Sequencing in Cancer Genomics X-Gen Congress and Expo, San Diego, CA, March 2011

Deciphering the genetic basis of common diseases by integrated functional annotation of common and rare variants. Beyond the Genome, Boston, MA October, 2010

Presentation at AGBT (Winter 2011)

## PUBLICATIONS

The 1000 Genomes Consortium. Diversity of human copy number variation and multicopy genes. *Science*, 330:641-645, 2010.

The 1000 Genomes Project Consortium. A map of human genome variation from population-scale sequencing. *Nature*, 467:1061-1073, 2010.

The 1000 Genomes Project Consortium. Mapping copy number variation by population-scale genome sequencing. *Nature*, 470:59-65, 2011.

Alliey-Rodriguez N, Zhang D, Badner JA, Lahey BB, Zhang X, Dinwiddie S, et al. Genome-wide association

study of personality traits in bipolar patients. *Psychiatr Genet*, 21(4):190-4, 2011. PMID: 3125400.

Bansal V, Harismendy O, Tewhey R, Murray SS, Schork NJ, Topol EJ, Frazer KA. Accurate detection and genotyping of SNPs utilizing population sequencing data. *Genome Res*, 20(4):537-45, 2010. Epub 2010 Feb 11. PubMed PMID: 20150320.

Belmonte Mahon P, Pirooznia M, Goes FS, Seifuddin F, Steele J, Lee PH, et al. Genome-wide association analysis of age at onset and psychotic symptoms in bipolar disorder. *Am J Med Genet B Neuropsychiatr Genet*, 156B(3):370-8, 2011. PMID: 3178836.

Bhatia G, Bansal V, Harismendy O, Schork NJ, Topol EJ, Frazer K, Bafna V. A covering method for detecting genetic associations between rare variants and common phenotypes. *PLoS Comput Biol*, 6(10):e1000954, 2010. PubMed PMID: 20976246.

Barrett CL, Cho B, Palsson BO. Sensitive and accurate identification of protein-DNA binding events in ChIP-chip assays using higher order derivative analysis. *Nucl Acids Res*, 39(20), 2011.

Cichon S, Muhleisen TW, Degenhardt FA, Mattheisen M, Miro X, Strohmaier J, et al. Genome-wide association study identifies genetic variation in neurocan as a susceptibility factor for bipolar disorder. *Am J Hum Genet*, 88(3):372-81, 2011. PMID: 3059436.

Conrad DF, Keebler JE, DePristo MA, Lindsay SJ, Zhang Y, Casals F, Idaghdour Y, Hartl CL, Torroja C, Garimella KV, Zilversmit M, Cartwright R, Rouleau GA, Daly M, Stone EA, Hurles ME, Awadalla P, 1000 Genomes Project. Variation in genome-wide mutation rates within and between human families. *Nature Genet*, 43:712-4, 2011.

Dae-Hee Lee, Adam M. Feist, Christian L. Barrett, Bernhard Ø. Palsson. Cumulative Number of Cell Divisions as a Meaningful Timescale for Adaptive Laboratory Evolution of Escherichia coli. *PLoS ONE*, 6(10): e26172, 2011.

Dao DT, Mahon PB, Cai X, Kovacsics CE, Blackwell RA, Arad M, et al. Mood disorder susceptibility gene CACNA1C modifies mood-related behaviors in mice and interacts with sex to influence behavior in mice and diagnosis in humans. *Biol Psychiatry*, 68(9):801-10, 2011. PMID:2955812.

Goes FS, Rongione M, Chen YC, Karchin R, Elhaik E, Potash JB. Exonic DNA sequencing of ERBB4 in bipo-

- lar disorder. *PLoS One*, 6(5), 2011:e20242. PMID: 3102700.
- Gravel S, Henn BM, Gutenkunst RN, Indap AR, Marth GT, Clark AG, Yu F, Gibbs RA, 1000 Genomes Project, Bustamante CD. Demographic history and rare allele sharing among human populations. *PNAS*, 108:11983-8, 2011.
- Harismendy O, Notani D, Song X, Rahim NG, Tanasa B, Heintzman N, Ren B, Fu X, Topol EJ, Rosenfeld MG, Frazer KA. Multiple enhancers in the 9p21 gene desert contain regulatory variants associated with Coronary Artery Disease and Type 2 Diabetes risk. *Nature*, 470(7333):264-8, 2011. Pubmed PMID: 21307941.
- Harismendy O, Bansal V, Bhatia G, Nakano M, Scott M, Wang X, Dib C, Turlotte E, Sipe JC, Murray SS, Deleuze JF, Bafna V, Topol EJ, Frazer KA. Population sequencing of two endocannabinoid metabolic genes identifies rare and common regulatory variants associated with extreme obesity and metabolite level. *Genome Biol*, 11(11):R118, 2010.
- The International Aphid Genomics Consortium. Genome sequence of the pea aphid *Acyrtosiphon pisum*. *PLoS Biol*, 8:e1000313, 2010.
- Kinsella M, Harismendy O, Nakano M, Frazer KA, Bafna V. Sensitive gene fusion detection using ambiguously mapping RNA-Seq read pairs. *Bioinformatics*, 2011 Feb 16. PubMed PMID: 21330288.
- Lanktree MB, Guo Y, Murtaza M, Glessner JT, Bailey SD, Onland-Moret NC, et al. Meta-analysis of dense gene-centric association studies reveals common and uncommon variants associated with height. *Am J Hum Genet*, 88(1):6-18, 2011. PMID: 3014369.
- Elks CE, Perry JR, Sulem P, Chasman DI, Franceschini N, He C, et al. Thirty new loci for age at menarche identified by a meta-analysis of genome-wide association studies. *Nat Genet*, 42(12):1077-85, 2010. PMID: 3140055.
- Levy D, Neuhausen SL, Hunt SC, Kimura M, Hwang SJ, Chen W, et al. Genome-wide association identifies OBFC1 as a locus involved in human leukocyte telomere biology. *Proc Natl Acad Sci, USA*, 107(20): 9293-8, 2010. PMID: 2889047.
- Lindblad-Toh K, Garber M, Zuk O, Lin MF, Parker BJ, Washietl S, Kheradpour P, Ernst J, Jordan G, Mauceli E, Ward LD, Lowe CB, Holloway AK, Clamp M, Gnerre S, Alföldi J, Beal K, Chang J, Clawson H, Cuff J, Di Palma F, Fitzgerald S, Flicek P, Guttman M, Hubisz MJ, Jaffe DB, Jungreis I, Kent WJ, Kostka D, Lara M, Martins AL, Massingham T, Moltke I, Raney BJ, Rasmussen MD, Robinson J, Stark A, Vilella AJ, Wen J, Xie X, Zody MC; Broad Institute Sequencing Platform and Whole Genome Assembly Team, Baldwin J, Bloom T, Chin CW, Heiman D, Nicol R, Nusbaum C, Young S, Wilkinson J, Worley KC, Kovar CL, Muzny DM, Gibbs RA; Baylor College of Medicine Human Genome Sequencing Center Sequencing Team, Cree A, Dihn HH, Fowler G, Jhangiani S, Joshi V, Lee S, Lewis LR, Nazareth LV, Okwuonu G, Santibanez J, Warren WC, Mardis ER, Weinstock GM, Wilson RK; Genome Institute at Washington University, Delehaunty K, Dooling D, Fronik C, Fulton L, Fulton B, Graves T, Minx P, Sodergren E, Birney E, Margulies EH, Herrero J, Green ED, Haussler D, Siepel A, Goldman N, Pollard KS, Pedersen JS, Lander ES, Kellis M. A high resolution map of human evolutionary constraint using 29 mammals. *Nature*, 478-476-8, 2011.
- Locke D.P., Hillier, L.W., Warren, W.C., Worley, K.C., Nazareth, L.V., Muzny, D.M., et al. Comparative and demographic analyses of orangutan genomes. *Nature*, 469: 529-533, 2011.
- Lupski, J., Reid, J.G, Gonzaga-Juaregui, C., Rio Deiros, D., Chen, D., Nazareth, L., Bainbridge, M., Dinh, H., Jing, C., Wheeler, D.A., McGuire, A.L., Zhang, F., Stankiewicz, P., Halperin, J.J., Yang, C., Gehman, C., Guo, D., Irikat, R.K, Warren, T., Fantin, N.J., Muzny, D., and Gibbs, R.A. (2010). Whole-genome sequencing in a patient with Charcot-Marie-Tooth neuropathoneuropathy. *N. Engl. J. Med*, March 10 Epub ahead of print.
- McMahon FJ, Akula N, Schulze TG, Muglia P, Tozzi F, Detera-Wadleigh SD, et al. Meta-analysis of genome-wide association data identifies a risk locus for major mood disorders on 3p21.1. *Nat Genet*, 42(2):128-31, 2010. PMID: 2854040.
- Mei H, Chen W, Srinivasan SR, Jiang F, Schork N, Murray S, et al. FTO influences on longitudinal BMI over childhood and adulthood and modulation on relationship between birth weight and longitudinal BMI. *Hum Genet*, 128(6):589-96, 2010.

- Nagarajan H, Butler JE, Klimes A, Qiu Y, Zengler K, Ward J, Young ND, Methé BA, Palsson BO, Lovley DR, Barrett CL. De novo assembly of the complete genome of an enhanced electricity-producing variant of *Geobacter sulfurreducens* using only short reads. *PLoS ONE*, 5(6):e10922, 2010.
- The Nasonia Genome Working Group. Functional and evolutionary insights from the genomes of three parasitoid *Nasonia* species. *Science*, 327:343-348, 2010.
- Nwulia EA, Hipolito MM, Amir S, Lawson WB, Nurnberger JI, Jr. Ethnic disparities in the perception of ethical risks from psychiatric genetic studies. *Am J Med Genet B Neuropsychiatr Genet*, 156(5):569-80, 2011.
- Tremblay PL, Summers ZM, Glaven RH, Nevin KP, Zengler K, Barrett CL, Qiu Y, Palsson BO, Lovley DR. A c-type cytochrome and a transcriptional regulator responsible for enhanced extracellular electron transfer in *Geobacter sulfurreducens* revealed by adaptive evolution. *Environmental Microbiology*, 13(1), 2011.
- Renfree MB, Papenfuss AT, Deakin JE, Lindsay J, Heider T, Belov K, Rens W, Waters PD, Pharo EA, Shaw G, Wong ES, Lefèvre CM, Nicholas KR, Kuroki Y, Wakefield MJ, Zenger KR, Wang C, Ferguson-Smith M, Nicholas FW, Hickford D, Yu H, Short KR, Siddle HV, Frankenberg SR, Chew KY, Menzies BR, Stringer JM, Suzuki S, Hore TA, Delbridge ML, Mohammadi A, Schneider NY, Hu Y, O'Hara W, Al Nadaf S, Wu C, Feng ZP, Cocks BG, Wang J, Flicek P, Searle SM, Fairley S, Beal K, Herrero J, Carone DM, Suzuki Y, Sugano S, Toyoda A, Sakaki Y, Kondo S, Nishida Y, Tatsumoto S, Mandiou I, Hsu A, McColl KA, Lansdell B, Weinstock G, Kuczek E, McGrath A, Wilson P, Men A, Hazar-Rethinam M, Hall A, Davis J, Wood D, Williams S, Sundaravadanam Y, Muzny DM, Jhangiani SN, Lewis LR, Morgan MB, Okwuonu GO, Ruiz SJ, Santibanez J, Nazareth L, Cree A, Fowler G, Kovar CL, Dinh HH, Joshi V, Jing C, Lara F, Thornton R, Chen L, Deng J, Liu Y, Shen JY, Song XZ, Edson J, Troon C, Thomas D, Stephens A, Yapa L, Levchenko T, Gibbs RA, Cooper DW, Speed TP, Fujiiyama A, M Graves JA, O'Neill RJ, Pask AJ, Forrest SM, Worley KC. Genome sequence of an Australian kangaroo, *Macropus eugenii*, provides insight into the evolution of mammalian reproduction and development. *Genome Biol*, 12: R81, 2011 (Epub ahead of print).
- Schuster SC, Miller W, Ratan A, Tomsho LP, Giardine B, Kasson LR, Harris RS, Petersen DC, Zhao F, Qi J, Alkan C, Kidd JM, Sun Y, Drautz DI, Bouffard P, Muzny DM, Reid JG, Nazareth LV, Wang Q, Burhans R, Riemer C, Wittekindt NE, Moorjani P, Tindall EA, Danko CG, Teo WS, Buboltz AM, Zhang Z, Ma Q, Oosthuysen A, Steenkamp AW, Oostuisen H, Venter P, Gajewski J, Zhang Y, Pugh BF, Makova KD, Nekrutenko A, Mardis ER, Patterson N, Pringle TH, Chiaromonte F, Mullikin JC, Eichler EE, Hardison RC, Gibbs RA, Harkins TT, Hayes VM. Complete Khoisan and Bantu genomes from Southern Africa. *Nature* 463: 943- 947, 2010.
- Sklar P, Ripke S, Scott LJ, Andreassen OA, Cichon S, Craddock N, et al. Large-scale genome-wide association analysis of bipolar disorder identifies a new susceptibility locus near ODZ4. *Nat Genet*. 43(10):977-83, 2011.
- Smith EN, Koller DL, Panganiban C, Szelinger S, Zhang P, Badner JA, et al. Genome-wide association of bipolar disorder suggests an enrichment of replicable associations in regions near genes. *PLoS Genet*. 7(6):e1002134, 2011. PMID: 3128104.
- Smith EN, Chen W, Kahonen M, Kettunen J, Lehtimäki T, Peltonen L, et al. Longitudinal genome-wide association of cardiovascular disease risk factors in the Bogalusa heart study. *PLoS Genet*. 6(9), 2010. PMID: 2936521.
- Zhang D, Qian Y, Akula N, Alliey-Rodriguez N, Tang J, Gershon ES, et al. Accuracy of CNV Detection from GWAS Data. *PLoS One*. 6(1):e14511, 2011. PMID: 3020939.
- Zhou D, Udpa N, Gersten M, Visk DW, Bashir A, Xue J, Frazer KA, Posakony JW, Subramaniam S, Bafna V, Haddad GG. Experimental selection of hypoxia-tolerant *Drosophila melanogaster*. *Proc Natl Acad Sci USA*. 108(6):2349-54, 2011. Epub 2011 Jan 24. PubMed PMID: 21262834.





# The Heart Institute - Cardiology

Rady Children's Heart Institute was created to integrate and coordinate the clinical, research and educational programs of the Cardiology and Cardiovascular Surgery Divisions at Rady Children's Hospital-San Diego (RCHSD).

The Section of Cardiology currently includes 10 full time cardiologists. Recruitments since July 2009 include: Dr. Molkara (a graduating fellow from our institution and general cardiologist) who joined the Division in August 2009, Dr. Perry (a specialist in electrophysiology and pacing) who joined the Division in November 2009, and Dr. Nigam (a research cardiologist) who joined the Division in November 2009. Currently, there are active recruitments underway for a specialist in heart failure and cardiac transplantation, and for a cardiac intensive care specialist.

Left to right: Vishal Nigam, Paul Grossfeld, Raymond Fripp, Stanley Kirkpatrick, Beth Printz, John Moore, Howaida El-Said, Christopher Davis, Delaram Molkara, Jeffrey Frazer, James Perry

## FACULTY

**John W. Moore, MD, MPH**, Professor of Clinical Pediatrics; *Chief*, Section of Cardiology, Department of Pediatrics, Medical Director of Division of Cardiology, RCHSD; Medical Director, Cardiac Catheterization Laboratory, RCHSD

**Christopher K. Davis, MD, PhD**, Assistant Clinical Professor of Pediatrics; Medical Director of Exercise Laboratory, RCHSD

**Howaida G. EL-Said, MD, PhD**, Associate Professor of Pediatrics

**Jeffrey R. Frazer, MD**, Associate Clinical Professor of Pediatrics

**Raymond R. Fripp, MD**, Clinical Professor of Pediatrics; Medical Director of Echocardiography Laboratory, RCHSD

**Paul D. Grossfeld, MD**, Associate Clinical Professor of Pediatrics; Director of Pediatric Cardiology Fellowship Program

**Stanley E. Kirkpatrick, MD**, Associate Clinical Professor of Pediatrics, retired (volunteer faculty)

**Delaram Molkara, MD**, Assistant Clinical Professor of Pediatrics

**Vishal Nigam, MD**, Assistant Professor of Pediatrics in Residence

**James C. Perry, MD**, Clinical Professor of Pediatrics; Medical Director of Electrophysiology, Pacing and Adult Congenital Heart Disease, RCHSD

**Beth Printz, MD**, Associate Professor of Clinical Pediatrics; Medical Director of Non-Invasive Cardiac Imaging, RCHSD

## POSTDOCTORAL FELLOWS

**Sushil Prabakaran**, 1st year, UC San Diego

**Sanjeet Hedge, MD**, 2st year, UC San Diego

**Andras Bratincsak, MD**, 3nd year, UC San Diego

**Shai Tejman-Yarden, MD**, 3nd year, UC San Diego

## CLINICAL ACTIVITIES

The Division is the only comprehensive tertiary care provider of cardiovascular services in the region (San Diego, Imperial, and South Orange Counties), and it receives referrals from Balboa Naval Medical Center, as well as the San Diego Regional Kaiser Medical Center. In addition, the Division is the major off island referral center for the State of Hawaii. The Division's Clinical Volumes for the academic year 2009-2010 were 10,280 total outpatient visits including 828 patients seen in satellite offices. Six hundred cardiac catheterizations were performed, about 70% of which were interventional catheterizations. The echocardiography laboratory performed 8,957 echocardiograms.

In the last five years there has been steady growth in all categories: about 25% increase in total outpatient visits, and about 50% increase in echocardiograms and catheterizations. The growth of the division clinical volumes has been related both to expanding the referral practice within Southern California and neighboring states, as well as to meeting previously unmet demand for services within the traditional referral regions. The Division's Clinical Volumes place the program among the largest pediatric and congenital heart disease centers in the United States.

## RESEARCH ACTIVITIES

The Section's basic and translational research program is anchored by Dr. Paul Grossfeld and Dr. Vishal Nigam.

Dr. Grossfeld investigates the genetic basis of congenital heart defects and Jacobsen's Syndrome (11qdel). His additional projects include induced Pluripotent Stem Cells to derive cardiac lineages from human Jacobsen syndrome patient fibroblasts ("Disease in a Dish"); defining gene regulatory pathways involving ETS-1 in cardiac neural crest cell development, and pathways that suppress the development of heart defects; and the genetic basis of cognitive and behavioral defects in Jacobsen syndrome.

Dr. Nigam's laboratory is focused on investigating the molecular and genetic mechanisms involved in aortic valve stenosis and in valve calcification. In addition, he is study-

ing the role of biomechanical stretch on activation of calcification pathways and the role of biomechanical stressors on cardiac defects, and the mechanism of how stretch and shear stress stimulate ventricular growth in utero .

The Section faculty and fellows have also been involved in a large number of clinical research projects. There are currently 24 active IRB approved clinical projects:

#### **Christopher Davis, MD, PhD**

- Outcome of Patients with one-and-a-half ventricles: A comparative assessment of cardiac function, exercise tolerance, morbidity and mortality (Retrospective Chart Review)

#### **Howaida EL-Said, MD**

- Closure of Perimembraneous Ventricular Septal Defects with Aneurysmal Tissue Using the Amplatzer Duct Occluder: Lessons Learned and Medium Term Follow-Up (Retrospective Chart Review)
- The Hybrid Procedure as an Alternative to the Norwood Sano in High Risk Hypoplastic Left Heart (HLHS) Patients (Retrospective Chart Review)
- Coarctation of the aorta stent trial (COAST)
- Transcatheter closure of atrial septal defect using the Amplatzer Septal Occluder with transthoracic echocardiography or transesophageal echocardiography
- Congenital cardiac catheterization outcomes project
- Amplatzer Duct Occluder II – post approval

#### **Jeffrey Frazer, MD**

- Comparison of the Incidence of Coronary Artery Abnormalities in Febrile and Non-Febrile Children (Retrospective Chart Review)

#### **Paul Grossfeld, MD**

- Trial of beta blocker therapy (Atenolol) vs. Angiotensin II Receptor blocker therapy (Losartan) in individuals with Marfan Syndrome
- The role of NOTCH-1 in heart development and congenital heart disease
- Clinical studies related to identification of genes in cardiac development
- Identification of genes that cause mental retardation and behavioral problems in the 11q terminal deletion disorder (Jacobsen syndrome)

- Additional genotyping of patients with Jacobsen syndrome (UCSD Pediatrics Clinical Research Fund)
- The role of ETS01 in the neural crest in cardiac development and disease (Hope 4 Tiny Hearts)
- The role of ETS-1 in the neural crest in cardiac development and disease (Children's Heart Foundation)

#### **John Moore, MD, MPH**

- ADO II Clinical Study
- Coarctation of the Aorta Stent Trial (COAST)
- Closure of Muscular Ventricular Defects with the Amplatzer Muscular VSD Occluder Post Approval Study (VPA)
- Congenital Cardiac Catheterization Outcomes Project (C3PO)
- Use of the Melody Transcatheter Pulmonary Valve as a Humanitarian Use Device under a Humanitarian Device Exemption
- Implantation of the Medtronic Melody Transcatheter Pulmonary Valve (TPV) in Patients with Dysfunctional Right Ventricular Outflow Tract (RVOT) Conduits: A Post Market Approval Study (Medtronic, Inc.)
- Transcatheter Closure of Atrial Septal Defect (ASD) using the Amplatzer Septal Occluder with Transthoracic Echocardiography or Transesophageal Echocardiography
- Percutaneous Coronary Intervention and Coronary Stent Implantation in Children (Retrospective Chart Review)

#### **Vishal Nigam, MD**

- Modeling Hemodynamic Stresses in Congenital Heart Disease (Retrospective Chart Review)
- Mechanisms of Notch1 in Aortic Valve Calcification (NIH)

#### **James Perry, MD**

- Transmural Atrial Leads in Adult Congenital Heart Patients: Lead Performance in Long-Term Follow-Up (Retrospective Chart Review)
- Assessment of Optimal Left Ventricular Myocardial and Blood Flow Kinetics in Patients with Cardiac Pacing Systems: Development of a Practical Clinical Technique to Improve Kinetic Efficiency

## Major Goals and Plans

RCHSD and UCSD Cardiology and Cardiovascular Surgery programs are committed to fulfilling our mission to provide optimal care for infants, children and adults born with Congenital Heart Defects and to advance our knowledge and understanding of Congenital Heart Disease. To implement our strategic plan for Cardiac Services we have:

1. Funded and are in the process of physician recruitment for leadership positions in Cardiac Transplantation and Cardiac Critical Care. Additional faculty are also being recruited in the basic science areas regarding the diagnosis and treatment of congenital and acquired heart disease in infants, children and young adults.
2. Completed the installation of a dedicated pediatric Cardiac MRI Scanner. Completed the planning for the construction of a new dedicated Pediatric Cardiac Catheterization Laboratory. We are now working in our new cardiac operating room. We are creating a dedicated Cardiac Critical Care Unit, and expanding our Heart Center.
3. The Administrative and Board of Directors approval is in place to establish an in-house pediatric heart transplant program. We are preparing our UNOS application for cardiac transplantation with the long range goal of adding a program in lung transplantation.

### Beth Printz, MD

- Echocardiographic Assessment of Cardiac Left Ventricular Strain, Torsion and Blood Flow Analysis in Pediatric and Adult Congenital Heart Patients
- MRI Imaging, Echocardiographic Imaging, and Computational Simulation of Cardiovascular Physiology

### Shai Tejman-Yarden, MD

- Do beta-blockers shorten the QT Interval in patients diagnosed with Long QT Syndrome

## TEACHING ACTIVITIES

The Division provides a comprehensive accredited educational program for fellowship training in pediatric cardiology. Dr. Grossfeld is the Fellowship Program Director, and the Program is supported by all of the faculty/staff. Fellows are offered clinical teaching and mentoring in all aspects of clinical cardiology: Outpatient care and evaluation, Inpatient and ICU care Echocardiography, CT and MRI, Diagnostic and Interventional Cardiac Catheterization, Electrophysiology and Pacing, Exercise Physiology and Clinical Research. A broad schedule of lectures and presentations are offered including: Weekly Surgery Conference, Weekly

Catheterization Conference, Weekly Core Lecture, and Monthly Journal Club and Research Meeting. The three-year program has full ACGME accreditation.

The Division offers a fourth year position for an Advanced Fellow in interventional congenital cardiology. This position includes training and experience as operator or first assistant in approximately 200 procedures, teaching conferences, and training in clinical research.

Faculty/staff cardiologists are also active in training of pediatric residents and medical students. Rotation in pediatric cardiology is not mandatory for residents, but many selected the one month Pediatric Cardiology elective designed by Dr. Perry. This selective provides both inpatient and outpatient experiences.

Dr. Davis participates as an Instructor in the “Clinics” course required for second year medical students.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Christopher Davis, MD, PhD

Screening young athletes to prevent sudden death. Given at Pediatric Grand Rounds, RCHSD, San Diego, CA, August 20, 2010



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Paul David Grossfeld, MD</b>		
Marfan Trial		\$50,000 per year
NHBLI/National Marfan Foundation		Feb. 2009 – Feb. 2014
Children's Heart Foundation		\$75,000 per year
		Jan. 2011 – Dec. 2013
Identification of Genes for Cognition in Distal 11q: Further Genotyping		\$75,000
2009-PEDGENO		June 2009-Dec. 2009
Marfan Trial		\$45,051
New England Research Institute		June 2009-May 2010
<b>Vishal, Nigam, MD</b>		
Mechanisms Of Notch1 In Aortic Valve Calcification		\$85,000
Nih/Nhlbi/7 K08hI086775-03		Oct. 2009-Apr. 2012
AGA Medical Corporation		\$432,567
ADO II Clinical Study		Dec. 2008-Indefinite
<b>John Moore, MD</b>		
STARFlex in Atrial Septal Defect- Long term Status Assessment of Patients		\$2,900
Following Closure of ASD with the STARFlex Septal Occlusion System in IDE Study G-960098 (SALSA)/NMT MEDICAL, INC.		Aug. 2007-Indefinite
Coarctation of the Aorta Trail (COAST)		\$198,865
Johns Hopkins University		Sept. 2007-Indefinite
Closure of Muscular Ventricular Septal Defects with the Amplatzer Muscular VSD		\$26,600
Occluder-Post Approval Study (Muscular VPA) AGA Medical Corporation		Sept. 2008-Indefinite
<b>Peter Pastuszko, MD</b>		
Research Grant		\$10,000
Health Sciences Academic Senate		Jan. 2011-Jan. 2012

Screening young athletes to prevent sudden death. Given at Pediatric Grand Rounds, Scripps Mercy Hospital, San Diego, CA, May 27, 2010

Unusual case presentation: Focal myocarditis. Given at the Advances in the Practice of Pediatrics, San Diego, CA, March 27, 2010

Poster Presentation, Davis CK, Pastuszko P, Lamberti J, Moore J, El Said H. The hybrid procedure for the borderline left heart. World Congress of Pediatric Cardiology and Cardiac Surgery, June 2009

Sudden cardiac death in children. Given at the 2009 Advanced Cardiac Topics, RCHSD, San Diego, CA, June 8, 2009

The cardiologist's role in the evaluation of syncope. Given at the Advances in the Practice of Pediatrics, sponsored by RCHSD, San Diego, CA, February 15, 2009

Prevention of infective endocarditis: The new guidelines. Given at RCHSD Dental Conference, San Diego, CA, January 27, 2009

#### **Howaida EL-Said, MD, PhD**

Prabakaran S, Hegde S, EL-Said H, Moore J. Randomized trial of transthoracic echocardiography versus transesophageal echocardiography for definitive assessment and guidance of transcatheter closure of ASDs in children using the Ampaltzer Septal Occluder. Pediatric Interventional Cardiac Symposium (PICS), Boston, MA, July 2011

Hegde S, Moore J, EL-Said H. Hybrid. A risk stratified algorithm for eclectic use of hybrid palliation in high risk neonates. PICS, Boston, MA, July 2011

Bratincsak A, Moore J, EL-Said H. Use of TPA for femoral artery obstruction post catheterization. PICS, Boston, MA, July 2011

EL-Said H, Hegde S, Moore J. First report of atretic coronary sinus stenting resulting in dramatic improvement of ventricular function in functional single ventricle. PICS, Boston, MA, July 2011

Invited Speaker. EL-Said H. The abnormal fetal echocardiogram and post natal intervention. Genetic ultrasound, basic sonography and hands-on patient scanning. Schaezel Center, San Diego, CA, March 2011

Invited Speaker. EL-Said H. Transcatheter pulmonary valve implantation. Egyptian working group for pediatric cardiologists. The 3rd International Meeting, Cairo, December 2010

Invited Speaker. EL-Said H. PFO closure: What is the latest? Egyptian working group of interventional cardiology. The 15th Annual Scientific meeting, Cairo, December 2010

EL-Said H, Desoki M, Moafy A. Unusual presentation of a huge right coronary artery fistula; technical issues with device closure. PICS/AICS (Pediatric and Adult Interventional Cardiac Symposium) meeting, Chicago, IL, July 2010

EL-Said H, Murphy J, Bergersen L, Foerster S, Torres A, Vincent J, Moore J. 1 Adverse events associated with PDA closure: A prospective multicenter Experience (C3PO). PICS/AICS meeting, Chicago, IL, July 2010

Salkini A, EL-Said H. Bilateral multiple pulmonary arteriovenous malformations associated with a coronary artery fistula - a case Report in a 5-year-old girl. PICS/AICS meeting, Chicago, IL, July 2010

EL-Said H, Moore J. ASD device closure in a 2.7kg infant; feasibility and technical issues. PICS/AICS meeting, Chicago, IL, July 2010

EL-Said H, Gordon B, Bratincsak A, Moore J. Closure of perimembranous ventricular septal defects with aneurismal tissue using the Amplatzer duct occlude. Lessons learned and medium term follow up. Society for Cardiovascular Angiography and Interventions, San Diego, CA, May 2010

Tejman-Yarden S, Molkara D, EL-Said H, Moore J. Echo guided pericardiocentesis of non-circumferential effusions using non-standard catheter entry sites. Society for Cardiovascular Angiography and Interventions, San Diego, CA, May 2010

Bratincsak A, EL-Said H, Moore J. Percutaneous stent placement in the left main coronary artery in infancy. Society for Cardiovascular Angiography and Interventions, San Diego, CA, May 2010

Invited speaker, EL-Said. Starting a hybrid program. Evolving Concepts in the Management of Congenital Heart Disease Conference, San Diego, CA, January 2010.

EL-Said. The hybrid procedure in HLHS. Challenges in Cardiology, Cairo, April 2009

Roa RP, Connolly D, Lamberti J, Frupp R, EL-Said H. A new echocardiographic parameter for management of coarctation of the aorta in the newborn: transverse aortic arch to descending aorta ratio. American Society of Echocardiography, Washington, DC, June 2009

Davis C, Moore J, EL-Said H. Criteria for biventricular

repair in the era of hybrid. The World Congress of Pediatric Cardiology, Australia 2009

Pastuszko P, EL-Said H, Moore J, Lamberti J. Main pulmonary artery dilatation after the hybrid procedure exceeds neo-aortic dilatation after the Norwood/Sano procedure: Is this a cause for concern? The World Congress of Pediatric Cardiology, Australia 2009

EL-Said H, Moore J, Pastuszko P, Lamberti J. Serial Troponin as an early indicator for need to re-intervene after the hybrid procedure. The World Congress of Pediatric Cardiology, Australia 2009

EL-Said H, Hamzeh RK, Lamberti J, Moore J. Catheter balloon de-banding of the pulmonary artery: Feasibility and safety (a hybrid technique). The World Congress of Pediatric Cardiology, Australia 2009

#### **Jeffrey R. Frazer, MD**

Monthly Lecture on echocardiography topic at Echocardiography Conference

Molkara D, Frazer JR, Lin KO, Shimizu C, Jain S, Sun S, Baker AL, Newburger JW, Davila S, Hibberd ML, Burns JC. Transforming growth factor-beta pathway polymorphisms and aortic root dilatation in Kawasaki disease patients. 2nd International Conference Neonatal and Childhood Pulmonary Vascular Disease Conference, San Francisco, CA, March, 2009

#### **Paul D. Grossfeld, MD**

Oral presentation, New basic and genetic insights into HLHS. American Heart Association, Orlando, FL, November 2011

The Marfan syndrome trial: Losartan vs. Atenolol for aortic root dilation (an update): Pediatric Grand Rounds, Children's Hospital of Orange County, Anaheim, CA, March 2011

The genetic basis of congenital heart disease: Clinical implications. Children's Hospital of Orange County Residents' Conference, Anaheim, CA, March 2011

The role of ETS-1 in causing heart defects in Jacobsen Syndrome. 7th biannual 11q Research and Resource Conference, San Diego, CA, July 2010

Oral presentation, Atenolol vs. Losartan for aortic root dilation in patients with Marfan syndrome. Western Society of Pediatric Cardiology, Phoenix, AZ, April 2010

The genetic basis of heart and brain defects in Jacobsen

Syndrome: Implications for the general population. UCSD Department of Pediatrics Grand Rounds, San Diego, CA, April 2010

The genetic basis of congenital heart and brain defects in Jacobsen Syndrome: Implications for the general population. UCLA Pediatric Grand Rounds, Los Angeles, CA, January 2010

Identification of genes for heart and brain defects in Jacobsen Syndrome. UCSD Department of Pediatrics Faculty Research Series, San Diego, CA, November 2009

Oral presentation, Finding the heart gene for Jacobsen Syndrome: A ten-year odyssey. Sixth European 11q Research and Resource Group meeting, Pforzheim, Germany, 2009

Oral presentation, Deletion of ETS-1 in the cardiac critical region causes a subset of the congenital heart defects in Jacobsen Syndrome. Weinstein Meeting on Cardiovascular Development, San Francisco, CA, May 2009

Deletion of ETS-1 in the cardiac critical region causes a subset of the congenital heart defects in Jacobsen Syndrome. Keystone symposium on cardiac development and regeneration, Asheville, NC, March 2009

#### **John W. Moore, MD, MPH**

Invited Speaker, Device closure of VSD, hybrid procedure for treatment of hypoplastic left heart, stent technology in congenital heart disease. 15th Annual Update on Pediatric and Congenital Cardiovascular Disease, Scottsdale, AZ, February 2011

Mullins Lecturer, Past present and future of stents in congenital heart disease. Society for Cardiovascular Angiography and Interventions, San Diego, CA, 2010

Invited Speaker, Difficult vascular access and retrieval of implanted or embolized devices. PICS-AICS, Chicago, IL, July 2010

Invited Speaker, Retrieval of embolized foreign bodies. PICS-AICS 09 at 5th World Congress of Pediatric Cardiology and Cardiac Surgery, Cairns, Australia, June 2009

Invited Speaker, VSD devices—Is the cat out of the bag? Western Society of Pediatric Cardiology, Yosemite, CA, May 2009

Chair and Moderator, ACC (American College of Cardiology) Intervention in Hypoplastic Left Heart

Syndrome session, Orlando, FL, March 2009  
Chair and Organizer, ACC Spotlight Committee for Pediatric and Congenital Live Case Sessions, Orlando, FL, March 2009

### **Delaram Molkara, MD**

S. Tejman Yarden, D. Molkara, H EL-Said, J. Moore. Echo guided pericardiocentesis of loculated pericardial effusions using non-standard approaches. Presented at the Society for Cardiovascular Angiography and Interventions 33rd Annual Scientific Session, San Diego, CA, May 2010

### **Vishal Nigam, MD**

Nigam V, Jensen B, Simpson P, Srivastava D. Translational regulation of Bmp2 and Bmp4 by Let-7 during calcification of aortic valve cells. Weinstein Cardiovascular Development Conference, San Francisco, CA, May 2009

Nigam V, Jensen B, Simpson P, Srivastava D. Transcriptional and translational regulation of Bmp2 by Notch1 and Let-7 during aortic valve calcification. Pediatric Academic Societies Annual Meeting, Baltimore, MD, May 2009

Kwon C, Qian L, Cheng P, Nigam V, Arnold J, Srivastava D. A regulatory pathway involving Notch1/beta-Catenin/Isl1 determines cardiac progenitor cell fate. Weinstein Cardiovascular Development Conference, San Francisco, CA, May 2009

### **James Perry, MD**

Arrhythmias in congenital heart disease. 6th Annual CHD Symposium, Berlin, January 2009

Sudden cardiac death in adult congenital heart disease. Adult Congenital Heart Association Symposium, Boston, MA, April 2009

Arrhythmia, heart failure and sudden death in adult congenital heart patients. San Diego Electrophysiology Society, Sharp Medical Center Grand Rounds, San Diego, CA, March 2010

Practical pediatric cardiology for the office. Temecula Valley Symposium, Temecula, CA, April 2010

Arrhythmias in adult congenital heart patients should (not) be managed by an adult electrophysiologist. Heart Rhythm Society Scientific Session, Denver, CO, May 2010

Multiple topics on Eelectrophysiology. Pediatric Cardiology

Board Review, Laguna Niguel, CA, September 2010  
Sudden cardiac death in adult congenital heart disease. Medtronic/San Diego Fellows Lecture, San Diego, CA, November 2010

Postoperative atrial arrhythmias in adult congenital heart disease. Pediatric Cardiac Intensive Care Society, Miami, FL, December 2010

Sudden cardiac death and malignant arrhythmias: The scope of the problem in adult congenital heart disease. Sudden Cardiac Arrest Symposium, Anaheim, CA, January 2011

Malignant arrhythmias in adult congenital heart disease. Western Society of Pediatric Cardiology, Rancho Palos Verdes, CA, March 2011

Recognition of IART and atypical flutter in adult congenital heart disease. Adult Congenital Heart Association National Symposium, Los Angeles, CA, March 2011

## **PUBLICATIONS**

Bashore T, Balter S, Barac A, Byrne J, Cavendish J, Chambers C, Laskey W, Miller J, Moliterno D, Moore J, Oliver-McNeil S, Popma J, Tommaso C, (Writing Committee). American College of Cardiology Foundation/Society for Cardiovascular Angiography and Interventions Clinical Expert Consensus Document on Cardiac Catheterization Laboratory Standards Update 2011. *J Am College Cardiol Catheter Cardiovasc Interv* (in press).

Beekman RH 3rd, Duncan BW, Hagler DJ, Jones TK, Kugler JD, Moore JW, Jenkins KJ. Pathways to approval of pediatric cardiac devices in the United States: Challenges and solutions. *Pediatrics*, 124(1): e155-62, 2009.

Bergersen L, Gauvreau K, Marshall A, Kreutzer J, Beekman R, Hirsch R, Foerster S, Balzer D, Vincent J, Hellenbrand W, Holzer R, Cheatham J, Moore J, Lock J, Jenkins K. Procedure-type risk categories for pediatric and congenital cardiac catheterization. *Circ Cardiovasc Interv*, 4:188-904, 2011.

Bergersen L, Marshall A, Gauvreau K, Beekman R, Hirsch R, Foerster S, Balzer D, Vincent J, Hellenbrand W, Holzer R, Cheatham J, Moore J, Lock J, Jenkins K.





- Adverse event rates in congenital cardiac catheterization—a multi-center experience. *Catheter Cardiovasc Interv*, 75:389-400, 2010.
- Blessinger JR, Sawyer BJ, Davis CK, Irving BA, Weltman A, Gaesser GA. Reliability of the VmaxST. *Int J Sports Med*, 30(1):22-26, 2009.
- Bratincsak A, EL-Said HG, Bradley JS, Shayan K, Grossfeld PD\*, Cannavino CR\* (\*Co-senior authors). Fulminant myocarditis associated with pandemic H1N1 influenza a virus in children. *J Am Coll Cardiol*, 2;55(9):928-9, 2010.
- Bratincsak A, EL-Said H. Unusual variant of a rare constellation: a left sided scimitar syndrome with connection to the azygos vein. *Congenital Heart Disease*, 5:174-177, 2010.
- Bratincsak A, Salkini A, EL-Said H, Moore JW. Percutaneous stent implantation into coronary arteries in infants. *Catheter Cardiovasc Interv* (in press).
- Coldren CD, Lai Z, Shragg P, Rossi E, Glidewell SC, Zuffardi O, Mattina T, Ivy DD, Curfs LM, Mattson SN, Riley EP, Treier M, Grossfeld PD. Chromosomal microarray mapping suggests a role for BSX and Neurogranin in neurocognitive and behavioral defects in the 11q terminal deletion disorder (Jacobsen syndrome). *Neurogenetics*, 10(2):89-95, 2009.
- Cross KP, Perry JC. Are emergency physicians ready for adults with congenital heart disease? *US Cardiol* (in press).
- Davis CK, Pastuszko P, Lamberti J, Moore J, Hanley F, EL Said H. The hybrid procedure for the borderline left ventricle. *Cardiology in the Young*, 21(1):26-30, 2011.
- Dilawar M, EL-Said HG. Safety and efficacy of low-profile balloons in native coarctation and reoarctation balloon angioplasty for infants. *Pediatr Cardiol*, 30: 404-408, 2009.
- Doyle R, Perry JC, Brennan J, Fahey J. Acute myocardial infarction as the presenting symptom of systemic lupus erythematosus. *Pediatr Cardiol*, 30(6):858-61, 2009.
- EL-Said H, Bratincsak A, Salkini A, Moore JW. Closure of perimembranous ventricular septal defects with aneurysmal tissue using the amplatzer duct occluder I: Lessons learned and medium term follow up. *Catheter Cardiovasc Interv* (in press).
- EL-Said HG, Moore JW. Erosion by the Amplatzer septal occluder: experienced operator opinions at odds with manufacturer recommendations? *Catheter Cardiovasc Interv*, 73(7):25-30, 2009.

- EL-Said H, Hamzeh R, Lamberti J, Moore JW. Catheter balloon adjustment of the pulmonary artery band: Feasibility and safety. *Pediatr Cardiol*, 32:8-13, 2011.
- Esposito G, Butler T, Blue G, Cole A, Sholler G, Kirk E, Grossfeld P, Perryman B, Harvey R, Winlaw S. Somatic mutations in NKX2-5, GATA4 and HAND1 are not a common cause of tetralogy of fallot or hypoplastic left heart syndrome. *Am J Med Genet* (in press).
- Ferandos C, EL-Said HG, Hamzeh R, Moore JW. Adverse impact of vascular stent “mass effect” on airways. *Catheter Cardiovasc Interv*, 74(1):132-6, 2009.
- Fisch GS, Grossfeld P, Falk R, Battaglia A, Youngblom J, Simensen R. Cognitive-behavioral features of Wolf-Hirschhorn syndrome and other subtelomeric microdeletions. *Am J Med Genet C Semin Med Genet*, 154C(4):417-26, 2010.
- Gordon BM, Moore JW. Nickel for your thoughts: Survey of the Congenital Cardiovascular Interventional Study Consortium (CCISC) for nickel allergy. *J Invasive Cardiol*, 21(7):326-9, 2009.
- Gordon BM, Moore JW. Treatment of pulmonary vein stenosis with expanded polytetrafluoroethylene covered stents. *Catheter Cardiovasc Interv*, 75:263-7, 2010.
- Grossfeld P, Greenberg M, Saw S, Cheng G, Stanzi A, Mathewson J, Pises N, Lyda L, Vuthy S, Elias W, Moriarty S, Levy S, Walter D, Panzarella P, Grossfeld S, Kriett J, Madani M. Successful surgical closure of hemodynamically significant ductus arteriosus in 18 children in a third world country. *Cardiol Young*, 20:367-372, 2010.
- Grossfeld PD, Ye M, Harvey R. Hypoplastic left heart syndrome: new genetic insights (guest editorial). *J Am Coll Cardiol*, 53(12):1072-4, 2009.
- Hamzeh R, Danon S, Shah S, Levi DS, Moore J. Wire-target for precise vascular access. *Tex Heart Inst J*, 36(4):321-6, 2009.
- Hamzeh R, EL-Said H, Moore J. Left main coronary artery compression from right pulmonary artery stenting. *Catheter Cardiovasc Interv*, 73(2):197-202, 2009.
- Holland BJ, Printz BF, Lai WW. Baseline correction of phase-contrast images in congenital cardiovascular magnetic resonance. *J Cardiovasc Magn Reson*, 5;12(1):11, 2010.
- Irving BA, Weltman JY, Patrie JT, Davis CK, Brock DW, Swift D, Barrett EJ, Gaesser GA, Weltman A. Effects of exercise training intensity of nocturnal growth hormone secretion in obese adults with the metabolic syndrome. *J Clin Endocrinol Metab*, 94(6):1979-86, 2009.
- Kanegaye J, Wilder M, Molkara D, Frazer J, Pancheri J, Tremoulet AH, Watson VE, Best B, Burns JC. Emergence of Kawasaki disease shock syndrome (KDSS). *Pediatrics*, 123(5):783-789, 2009.
- Krous HF, Ferandos C, Masoumi H, Arnold J, Haas EA, Stanley C, Grossfeld PD. Myocardial inflammation, cellular death, and viral detection in sudden infant death caused by SIDS, suffocation, or myocarditis. *Pediatr Res*, 66(1):17-21, 2009.
- Kwon C, Cheng P, Qian L, Nigam V, Arnold J, Srivastava D. A regulatory pathway involving Notch1/beta-catenin/lsl1 determines cardiac progenitor cell fate. *Nat Cell Biol*, 11(8):951-7, 2009.
- Kwon C, Cheng P, King IN, Andersen P, Shenje L, Nigam V, Srivastava D. Notch post-translationally regulates  $\beta$ -catenin protein in stem and progenitor cells. *Nat Cell Biol* (in press).
- Levi DS, Danon S, Gordon B, Virdone N, Vinuela F, Shah S, Carman G, Moore JW. Creation of transcatheter aortopulmonary and cavopulmonary shunts using magnetic catheters: feasibility study in swine. *Pediatr Cardiol*, 30(4):397-403, 2009.
- Lin AE, Alexander ME, Colan SD, Kerr B, Rauen KA, Noonan J, Baffa J, Hopkins E, Sol-Church K, Limongelli G, Digilio MC, Marino B, Innes AM, Aoki Y, Silberbach M, Delrue MA, White SM, Hamilton RM, O'Connor W, Grossfeld PD, Smoot LP, Padera RF, Gripp KW. Clinical, pathological, and molecular analyses of cardiovascular abnormalities in Costello Syndrome: A Ras/MAPK pathway syndrome. *Am J Med Genet A*, 155A(3):486-507, 2011.
- Mattina T, Perrotta CS, Grossfeld P. Jacobson Syndrome. *Orphanet J Rare Dis*, 4:9, 2009.
- Margossian R, Schwartz ML, Prakash A, Wruck L, Colan SD, Atz AM, Bradley TJ, Fogel MA, Hurwitz LM, Marcus E, Powell AJ, Printz BF, Puchalski MD, Rychik J, Shirali G, Williams R, Yoo SJ, Geva T; Pediatric Heart Network Investigators. Comparison of echocardiographic and cardiac magnetic resonance imaging measurements of functional single ventricular volumes, mass and ejection fraction (from the Pediatric Heart Network Fontan Cross-Sectional Study). *Amer J of Cardiol*, 104:419-28, 2009.

- Margossian R, Lu M, Minich LL, Bradley TJ, Cohen MS, Li JS, Printz BF, Shirali GS, Sleeper LA, Newburger JW, Colan SD. Predictors of coronary artery visualization in Kawasaki disease. *J Am Soc Echocardiogr*, 24:53-9, 2011.
- Mohan UR, Danon S, Levi D, Connolly D, Moore JW. Stent implantation for coarctation of the aorta in children <30 kg. *JACC Cardiovasc Interv*, 2(9):877-83, 2009.
- Molkara D, Tejman-Yarden S, EL-Said H, Moore J. Pericardiocentesis of non-circumferential effusions using non-standard catheter entry sites guided by echocardiography and fluoroscopy. *Congenit Heart Dis* (in press).
- Moore J. Chest pain. In: *Textbook of Clinical Pediatrics*, Edited by Springer-Verlag, Berlin, 2011.
- Moore JW. Transcatheter valve technology: A game changer! *J Am College Cardiol*, 58:123-4, 2011.
- Nigam V, Srivastava D. Notch 1 represses a default osteogenic pathway in aortic valve mesenchymal cells. *JMCC* (in press).
- Perry JC. Clinical perspective: Electrophysiology in the young and in patients with congenital heart disease. In: *Methods and Models in Cardiac Electrophysiology: A Practical Handbook for Scientists, Engineers, and Clinicians*, edited by Sigg, Iazzo, Xiao, He, New York, 2010.
- Perry JC. Cardiac resynchronization therapy in adult congenital heart disease. In: *Adult Congenital Heart Disease*, 2nd ed, edited by Gatzoulis, New York, Elsevier, 2010.
- Perry JC. Postmortem genotyping in sudden cardiac death: Closing the diagnostic gap. *Heart Rhythm*, 7:487-8, 2010.
- Perry JC, Landzberg M, Franklin W, Webb G, Chang AC. Cardiac intensive care of the adult with congenital heart disease: basic principles in the management of common problems. *Cardiology in the Young* (in press).
- Printz BF, Sleeper LA, Newburger JW, Bradley T, Cohen M, Frank D, Herlong R, Margossian R, Minich LL, Shirali G, Takahashi M, Colan SD, for the Pediatric Heart Network Investigators. Early left ventricular dysfunction is associated with coronary artery dilation in Kawasaki Disease. *J Amer Coll Cardiol*, 28:57:86-92, 2010.
- Printz BF. Abnormalities of the ventricles and pericardium. In: *Principles and Practice of Cardiac Magnetic Resonance in Congenital Heart Disease. Form, Function, and Flow*, edited by Fogel MA, Wiley-Blackwell, West Sussex, UK 2010.
- Rao SO, Boramanand NK, Burton DA, Perry JC. Atrial tachycardias in young adults and adolescents with congenital heart disease: Conversion using single dose oral sotalol. *Int J Cardiol*, 136(3):253-7, 2009.
- Salkini A, Moore JW. ASD closure in patients with right to left shunts. In: *Transcatheter Closure of ASD's and PFO's*, edited by Hijazi ZM. Cardiotext Publishing, Minneapolis, MN, 2010.
- Shepard S, Tejman-Yarden S, Khanna S, Davis CK, Batra A. Dexmedetomidine-related atrial standstill and loss of capture in a pediatric patient after congenital heart surgery. *Critical Care Medicine* (in press).
- Shimizu C, Jain S, Lin KO, Molkara D, Frazer JR, Sun S, Baker AL, Newburger JW, Rowley AH, Shulman ST, Davila S, Hibberd ML, Burgner D, Breunis WB, Kuijpers TW, Wright VJ, Levin M, Eleftherohorinou H, Coin L, Popper S, Relman DA, Fury W, Lin C, Mellis S, Tremoulet AH, Burns JC. Transforming growth factor-beta signaling pathway in patients with Kawasaki disease. *Circulation Genetics*, 2010 December; 100.940858.
- Sleeper LA, Minich LL, McCrindle BM, Li JS, Mason W, Colan SD, Atz AM, Printz BF, Baker A, Vetter VL, Newburger JW; Pediatric Heart Network Investigators. Evaluation of Kawasaki Disease risk-scoring systems for intravenous immunoglobulin resistance. *J Pediatr*, 2010 Dec (epub ahead of print).
- Tierney ES, Feingold B, Printz BF, Park SC, Kleinman CS, Mahnke CB, Timchak DM, Neches WH, Gersony WM. Beta-blocker therapy does not alter the rate of aortic root dilation in pediatric patients with Marfan syndrome. *Pediatric Cardiol* (in press).
- Ye M, Coldren C, Benson W, Goldmuntz E, Ostrowski M, Watson D, Perryman B, Grossfeld P. Deletion of ETS-1, a gene in the Jacobsen Syndrome critical region, causes ventricular septal defects and abnormal ventricular morphology in mice. *Human Molecular Genetics*, 19(4):648-56, 2009.
- Ye M, Geddis A, Perryman MB, Grossfeld P. Deletion of JaM-C, a candidate gene for heart defects in Jacobsen Syndrome, results in a normal cardiac phenotype in mice. *Am J Med Genet A*, 149A(7):1438-4, 2009.



Left to right: Peter Pastuszko,  
John J. Lamberti

# The Heart Institute - Cardiothoracic Surgery

The Pediatric Cardiac Surgery Division of the Division of Cardiothoracic Surgery at the University of California, San Diego (UCSD) School of Medicine is based at Rady Children's Hospital-San Diego (RCHSD). The Division, in conjunction with the Division of Pediatric Cardiology, provides cardiovascular surgery services for infants, children and adults with congenital and acquired heart disease. The Division serves the San Diego metropolitan area (population: 3.2 million) and it is a major referral center for Imperial and Orange Counties, Hawaii, New Mexico, Mexico, and the Pacific Rim Islands. Dr. John J. Lamberti is the Joyce and Eugene Klein Director of the Heart Institute at RCHSD. Dr. Lamberti also assumed the role of Division Chief of Cardiovascular Surgery when Dr. Jolene Kriett, the former Director of Cardiac

Transplantation at RCHSD, retired on September 1, 2010. Dr. Peter Pastuszko, Associate Clinical Professor of Surgery at UCSD, is the Medical Director of Pediatric Cardiac Surgery Critical Care at RCHSD.

The Division's clinical volume for the academic year 2009-2011 remained steady when compared to previous academic years. The complexity of the caseload has increased due to increasing referrals from outlying areas in Southern California and the State of Hawaii. RCHSD is a "high volume" pediatric cardiac surgical program according to the Society of Thoracic Surgeons (STS) Congenital Heart Surgery Database. The Division's outcomes are comparable with other leading high volume centers. The STS analysis is based upon risk-adjusted data. The complexity score for RCHSD is





slightly higher than the national average reflecting our role as a major referral center.

## FACULTY

**Jolene M. Kriett, MD**, Professor of Surgery (retired Sept. 2010)

**John J. Lamberti, MD**, *Chief*, Professor of Surgery

**Peter Pastuszko, MD**, Associate Clinical Professor of Surgery

**Kelly R. Scholl, PA**

## POSTDOCTORAL FELLOWS

**Siobhan Horan** 2009-2011

**Michael Sleet** 2010-2011

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division of Cardiothoracic Surgery receives referrals from San Diego, Orange and Imperial counties; the Naval Medical Center, San Diego; the San Diego Regional Kaiser Medical Center; Tripler Army Medical Center, Honolulu, Hawaii; Kapiolani Medical Center for Women and Children, Honolulu, Hawaii; Straub Clinic, Honolulu, Hawaii and the Kaiser Permanente Medical Group, Honolulu, Hawaii. The Division's clinical volume for the academic years 2009-2011 included approximately 265 open-heart, 110 closed-heart and 150 miscellaneous cardiovascular surgical procedures. The faculty provides consultative services at UCSD Medical Center, RCHSD, and at all referral sites in Hawaii. In addition, faculty members provide support for adult patients with congenital heart disease undergoing treatment at all of the adult hospitals in San Diego County.

Dr. John Lamberti and Dr. John Moore organized and coordinated a three day symposium in January 2010. The symposium was entitled "Evolving Concepts in the Management of Complex Congenital Heart Disease II". The symposium represented the second in a series of biennial meetings designed to address the management of the most complex forms of congenital heart

disease. The faculty consisted of multiple experts in surgery and cardiology drawn from the finest programs in North America.

## RESEARCH ACTIVITIES

The Division participates in multiple longitudinal studies of congenital heart disease sponsored by the Congenital Heart Surgeons' Society. Dr. John J. Lamberti is the principal investigator on multiple protocols involving complex congenital heart defects. The studies are designed to evaluate the natural history, including before and after surgical therapy, of relatively rare congenital heart defects in a multi-center collaborative effort.

### **Optimal Management of Critical Left Ventricular Outflow Tract Obstruction: A Congenital Heart Surgeons' Society Study**

IRB# 091156–APPROVED SEP 09

Sponsor: Hospital for Sick Children, Toronto, Ontario, Canada, John J. Lamberti, MD, P.I., Peter Pastuszko, MD, Sub-I

### **Congenital Heart Surgeons' Society (CHSS) Studies of Congenital Heart Disease**

IRB# 091162–APPROVED SEP 09

Sponsor: Hospital for Sick Children, Toronto, Ontario, Canada, John J. Lamberti, MD, P.I., Peter Pastuszko, MD, Sub-I

### **Humanitarian Use of the Contegra Pulmonary Valved Conduit (HDE# H020003)**

IRB# 090357–APPROVED APR 09

Sponsor: Medtronic, Inc., John J. Lamberti, MD, P.I., Jolene Kriett, MD, Sub-I, Peter Pastuszko, MD, Sub-I

### **SGAV HDE Protocol - CryoValve SG Aortic Human Heart Valve Combination Retrospective/Prospective Multi-Center, Cohort Study**

IRB# 100648–APPROVED: MAY 6 2010

CTAS20103993 RCHSD PROJ#12420, CC 221-00957999, John J. Lamberti, MD, P.I.

### **Use of the Melody Transcatheter Pulmonary Valve as a Humanitarian Use Device under a Humanitarian Device Exemption**

IRB#100445–APPROVED MAR 18 2010

RCHSD PROJ#12391 EPIC/SP#127

Sponsor: Medtronic, Inc., John W. Moore, MD, P.I.  
John Lamberti, MD, Co-investigator

Dr. Peter Pastuszko is the primary cardiac surgeon involved in a series of research projects at the University of Pennsylvania in Philadelphia, PA. Dr. Pastuszko travels to Philadelphia five times a year for an intense schedule of experiments designed to evaluate the effects of cardiopulmonary bypass on brain structure and function in a neonatal piglet model.

## TEACHING ACTIVITIES

Drs. Lamberti and Pastuszko participate in the following teaching activities:

- Daily morning and afternoon rounds at RCHSD with cardiac surgery fellows, cardiology fellows, ICU fellows, nurses, nurse practitioners, nurses in training, medical students, pediatric residents and cardiology attendings
- Biweekly teaching rounds with the PICU team and monthly teaching conferences with the NICU team
- Conferences at RCHSD and UCSD Medical Centers including the transplantation conference, adult cardiology/cardiothoracic surgery conference, pediatric cardiology/cardiothoracic surgery conference and cardiothoracic surgery resident teaching conference
- Cardiothoracic surgery outpatient and the Transplant clinics at UCSD and RCHSD
- Medical student rotations in CT surgery and Clinical Anatomy. Dr. Lamberti is the mentor, consultant and advisor to the congenital heart surgery program at Kapiolani Medical Center for Women and Children (KMCWC) in Honolulu, Hawaii.

KMCWC is the primary pediatric teaching hospital of the John A. Burns School of Medicine Department of Pediatrics at The University of Hawaii/Manoa. Since 1994, Dr. Lamberti has spent five weeks each year at KMCWC assisting in surgery, participating in pre and postoperative care and overseeing quality assurance aspects of the cardiac surgery program. Dr. Lamberti makes teaching rounds every morning during Hawaii Heart Week. He also chairs the peer review committee meeting at KMCWC, and participates in the case review conferences.

- In January 2011, Dr. Peter Pastuszko led a surgical team on a humanitarian teaching mission to the Heart and General Hospital in Jaipur, India

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### John J. Lamberti, MD

Best Doctors in America, 2005-2011

Castle Connolly, America's Top Doctors, 2009-2011

The Pat Whinnery Expense Reduction Award: RCHSD, 2010-2011

Invited lecturer, The evolution of congenital heart surgery: The role of technology in advancing state of the art care. Biomechanics Seminar, UCSD Department of Mechanical and Aerospace Engineering, San Diego, CA, January 2009

Lecture and Guided Tour for Rady Children's Hospital Trustees. Heart surgery at RCHSD: Past, present and future, March 2009

Invited lecturer, Progressive dilatation of the aortic root in cono-truncal abnormalities. Western Society of Pediatric Cardiology, Yosemite, CA, May 2009

Invited lecturer, Reoperation to repair the A-V valve after prior repair of an atrio-ventricular canal defect. The 5th World Congress of Pediatric Cardiology and Cardiac Surgery, Cairns, Australia, June 2009

Invited presentation, Heart surgery at the Rady Children's Hospital in 2009. Children's 101 Mini-Internship Program, San Diego, CA, September 2009

Invited lecturer, Surgical care for infants and children with congenital heart disease. Pediatric Grand Rounds at Kapiolani Medical Center for Women and Children, Honolulu, HI, November 2009

Invited lecturer, Mitral valve repair or replacement following atrioventricular canal repair. 46th Annual Meeting of the Society of Thoracic Surgeons, Ft. Lauderdale, FL, January 2010

Invited lecturer, The clinical relevance of CFD modeling: One surgeon's perspective. First International Symposium on Computational Simulation in Congenital Heart Disease, La Jolla CA, February 2010

Guest speaker, Cardiac transplantation at Rady Children's Hospital. Loving Little Hearts fundraiser at the home of Jules and Michelle Arthur, March 2010

Invited presentation, Heart surgery at the Rady Children's Hospital in 2010. Children's 101 Mini-Internship Program. San Diego, CA, April 2010

Invited lecturer/moderator, Joint meeting of CHSS, ECHSA, Castaneda Society, and the Latin American Pediatric and Congenital Heart Surgery Societies, Antigua, Guatemala, July 2010

Invited lecturer, Care the heart: Cure the heart. Sixth Collaborative Neonatal and Pediatric Nurses Conference, Honolulu, HI, September 2010

Invited lecturer, Stage I palliation, pediatric critical care nursing. Contemporary Forums National Nursing Conference, La Jolla, CA, October 2010

Invited speaker, Bonita RCHSD Auxiliary Annual Luncheon by the Bay Meeting, San Diego, CA, December 2010

Invited lecturer, How randomized clinical trials impact pediatric cardiac surgical decision making. Pediatric Cardiac Intensive Care Society Biennial Meeting, Miami Beach, Florida, December 2010

Invited lecturer and moderator, What I have learned about the Fontan Operation in 40 years; Late reoperations after the arterial switch; Détente: Why I like the hybrid procedure. Pediatric Cardiology 2011, Scottsdale, Arizona, February 2011

Invited presentation, Heart surgery at the Rady Children's Hospital in 2011. Children's 101 Mini-Internship Program, San Diego, CA, March 2011

Invited lecturer, Current concepts of surgical repair of tetralogy of fallot. Annual meeting of the Congenital Cardiac Anesthesia Society, San Diego, CA, March 2011

### Peter Pastuszko, MD

Invited lecturer, A quantitative study of simulated bicuspid aortic valves. 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, CA, November 2010

Invited lecturer, Tetralogy of fallot, advanced cardiac topics. RCHSD, San Diego, CA, July 2010

Invited lecturer, Congenital heart surgery: Past progress, current trends and future directions. Grand Rounds

Department of Surgery, UCSD, San Diego, CA, June 2010

Invited lecturer, Congenital heart surgery: Past, present, future. Pediatric Cardiac Surgery Program, Jaipur, India, January 2010

Invited lecturer, Surgical strategies to maximize neurological outcomes after cardiac surgery. Evolving Concepts in the Management of Complex Congenital Heart Disease II, January 2010, San Diego, CA

Invited lecturer, Hybrid HLHS patients have excessive neo-aortic root dilatation. Annual Meeting of the Congenital Heart Surgeons Society, Chicago, IL, November 2009

Invited lecturer, The effect of granulocyte colony-stimulating factor on expression of selected regulatory proteins responsible for cell injury or survival in the brain of newborn piglets following cardiopulmonary bypass and circulatory arrest. The 5th World Congress of Pediatric Cardiology and Cardiac Surgery, Cairns, Australia, June 2009

## PUBLICATIONS

- Ceresnak SR, Liberman L, Chen J, Hordof AJ, Lamberti JJ, Bonney WJ and Pass RH. An epicardial pacing safety net: An alternative pacing technique for the young. *Cardiol Young*, 19: 228-32, 2009.
- Colasacco C, Peterson BP, Worthen M, Lamberti JJ and Spear R. Near infrared spectroscopy (NIRS) to predict post-operative renal insufficiency following repair of congenital heart disease. *World Journal for Pediatric and Congenital Heart Surgery* (in press).
- Davis CD, Pastuszko PP, Lamberti JJ, Moore JM, Hanley FL and EL-Said H. The hybrid procedure for the borderline left ventricle. *Cardiol Young* 21:26-30, 2011.
- EL-Said H, Hamzeh R, Lamberti J and Moore J. Catheter balloon adjustment of the pulmonary artery band: Feasibility and safety. *Pediatr Cardiol*, 32:8-16, 2011.
- Grossfeld P, Greenberg M, Saw S, Cheng G, Stanzi A, Mathewson J, Pises N, Lyda L, Vuthy S, Elias W, Moriarty S, Levy S, Walter D, Panzarella P, Grossfeld S, Kriett J, and Madani M. Successful surgical closure of an arterial duct in 18 children in a third world country. *Cardiol Young*, 20(4):367-372, 2010.
- Lichtenstein BJ, Bichell DP, Connolly DM, Lamberti JJ, Shepard SM and Seslar SJ. Surgical approaches to epicardial pacemaker placement: Does pocket location affect lead survival? *Pediatr Cardiol*, 31:1016-1024, 2010.
- Madani M, Wittine L, Auger W, Fedullo P, Kerr K, Kim N, Test V, Kriett J and Jamieson S. Chronic thromboembolic pulmonary hypertension in pediatric patients. *J Thorac Cardiovasc Surg*, 141:624-630, 2011.
- Mammen A, Kubin J, Greeley WJ, Schears GJ, Pastuszko P, Wilson DF and Pastuszko A. Effect of hypoxia on expression of selected proteins involved in regulation of apoptotic activity in striatum of newborn piglets. *Neurochem Res*, 36:746-53, 2011.
- Pastuszko P, Pirzadeh A, Reade E, Kubin J, Mendoza A, Schears GJ, Greeley WJ, Pastuszko A. Effect of hypothermia on neuronal viability following cardiopulmonary bypass and circulatory arrest in newborn piglets. *Eur J Cardiothorac Surg*, 35:577-581, 2009.
- Pirzadeh A, Schears G, Pastuszko P, Liu H, Kubin J, Reade E, Mendoza-Paredes A, Greeley W, Nadkarni V, Wilson DF and Pastuszko A. Effect of deep hypothermic circulatory arrest followed by cardiopulmonary bypass on brain metabolism in newborn piglets: Comparison of pH-stat and Alpha-stat management. *Pediatr Crit Care Med*, 12(2):e79-86, 2011.
- Punn R, Lamberti JJ, Balise RR and Seslar SP. QTc prolongation in pediatric patients following congenital heart disease surgery. *Cardiol Young*, 21:400-410, 2011.
- Rao RP, Connolly D, Lamberti JJ, Fripp R, and El Said H. Transverse aortic arch to descending aorta ratio: A new echocardiographic parameter for management of coarctation of the aorta in the newborn. *Congenit Heart Dis* (in press).
- Tabbutt S, Jacobs M, Ohye RG, Goldberg C, Morell VO, Hanley FL, Lamberti JJ and Jacobs JP. Can randomized clinical trials impact the surgical approach for hypoplastic left heart syndrome? *World Journal for Pediatric and Congenital Heart Surgery*, July 2011 vol. 2, no. 3, 445-456.





# Hematology/Oncology

The Hematology/Oncology Division provides state-of-the-art care in the Peckham Center for Cancer and Blood Disorders. The division serves all of San Diego and Imperial counties, and patients in South Riverside County.

Through collaboration with the UC San Diego Moores Cancer Center, the division is part of a National Cancer Institute designated Comprehensive Cancer Center. The Division of Pediatric Hematology/Oncology is also devoted to basic, translational, and clinical research, experimental therapeutics, and medical education.

The Division has the following programs:

- Stem Cell Transplantation Program and Comprehensive Clinic
- Sickle Cell Disease Program and Comprehensive Clinic

- Hemophilia Program and Comprehensive Clinic
- Neuro-Oncology Program and Comprehensive Clinic
- Long-Term Follow-Up Program and Comprehensive Clinic for cancer survivors
- Palliative Care Program, funded by a grant from the Peckham Family Foundation
- Integrative Medicine Program

Left to right: Jenny Kim, John Crawford, Deborah Schiff, Kate Madigan, Lanipua Yeh-Nayre, William Roberts, Amy Geddis, Faith Kung, Eric Anderson, Hyunah Ahn, Andrew Dietz, Roberta Romero, Andrew Martin, Jen Yu

- Comprehensive Psychosocial Services Program, funded in part by the Celebration of Champions through the Rady Children's Hospital Auxiliary

In July 2007, an alliance was formed between St. Jude Children's Research Hospital, Rady Children's Hospital-San Diego (RCHSD), and UC San Diego (UCSD). The alliance focuses on the development of clinical, translational, and basic research in the area of childhood cancer. Several joint clinical trials have begun, and collaborations regarding other research efforts are underway.

The faculty is actively involved in teaching through the UCSD/RCHSD Pediatric Residency Program and the UCSD School of Medicine. The division has a Pediatric Hematology/Oncology Fellowship Program accredited by the ACGME.



Left to right: Justine Walker, Kate Reese, Janet Yoon, Jennifer Willert, Lisa Hartman, Donald Durden, Sun Choo

## FACULTY

- William D. Roberts, MD**, *Director*, Clinical Professor of Pediatrics
- Hyunah Ahn, MD**, Assistant Clinical Professor of Pediatrics
- Eric J. Anderson, MD**, Associate Clinical Professor of Pediatrics
- John R. Crawford, MD, MS**, Assistant Professor of Neurosciences
- Mitchell B. Diccianni, PhD**, Associate Project Scientist
- Donald Durden, MD, PhD**, Professor of Pediatrics
- Amy E. Geddis, MD, PhD**, Associate Clinical Professor of Pediatrics
- Jenny M. Kim, MD**, Associate Clinical Professor of Pediatrics
- Faith H. Kung, MD**, Associate Professor of Pediatrics
- Amy Lovejoy, MD**, Associate Clinical Professor of Pediatrics
- Catherine E. Madigan, MD**, Assistant Clinical Professor of Pediatrics
- Deborah E. Schiff, MD**, Clinical Professor of Pediatrics
- Jennifer R. Willert, MD**, Associate Clinical Professor of Pediatrics

**Jing Yang, PhD**, Assistant Professor of Pediatrics and Pharmacology

**Alice L. Yu, MD, PhD**, Professor of Pediatrics

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The clinical program moved in October 2010 to the new RCHSD Acute Care Pavilion, occupying the entire second floor with a 38-bed inpatient unit which includes a 10-bed BMT unit, and an outpatient clinic containing an infusion center, procedure room, and exam rooms. The Center also includes a pharmacy, schoolroom, activity room, adolescent lounge, and conference rooms. The clinical team is made up of dedicated hematology/oncology physicians, nurse practitioners, nurses, pharmacists, psychologists, social workers, child life specialists, parent liaisons, dietitians, and translators.

There are over 14,000 outpatient visits per year and an average daily inpatient census of 35 patients. Approximately 200 new oncology patients are diagnosed per year, 120 patients are seen per year in the Sickle Cell Disease/Hemoglobinopathy program, and 250 in the Hemophilia/Bleeding Disorder/Thrombosis program. Approximately 20 related and unrelated hematopoietic stem cell transplants (HSCT) are performed each year. The program is a National Marrow Donor Program (NMDP) Unrelated Donor Transplant Center, and has achieved accreditation by the Foundation for Accreditation of Cellular Therapeutics (FACT). The HSCT program is a joint program with the adult HSCT program at UCSD, and includes combined endeavors in clinical care, quality, outcomes, and research.

The division also manages the following programs:

- Neuro-Oncology, a multidisciplinary team involved in the care of patients with central nervous system malignancies, as well as a specific Neuro-Oncology Tumor Board.
- Long Term Follow-up, which monitors survivors of childhood cancer who are more than two years from the completion of therapy, and which provides a wide range of services through a multidisciplinary team focused on issues affecting that population.
- Palliative Care, which offers assistance with medical decision-making, clinical care coordination, and family support for patients and their families undergoing intensive therapy and/or facing difficult decisions.
- Integrative Medicine, which offers support for patients through interventions such as biofeedback, acupuncture, and nutrition counseling.
- In addition, a Pain Management Program managed by the Anesthesiology Department works closely with the hematology/oncology patients, and provides sedation for patients undergoing procedures, such as bone marrow aspiration/biopsy and lumbar puncture.

## RESEARCH ACTIVITIES

**Eric J. Anderson, MD** is working on clinical trials in stem cell transplantation. He is the Director of the Stem Cell Transplantation Program. He is a member of the Hematology/Oncology Performance Improvement

Committee. He is the Director of Outpatient and Infusion Services for Hematology/Oncology.

**John R. Crawford, MD, MS** is the director of the Neuro-Oncology Program. He was the RCHSD/UCSD PI for St. Jude SJHG04: A Phase I/II Trial of a New Tyrosine Kinase Inhibitor (Tarceva) During and After Radiotherapy in the Treatment of Patients with Newly Diagnosed High-Grade Glioma and Unfavorable Low-Grade Glioma. He is currently the RCHSD/UCSD PI for St. Jude SJYC07 Risk-Adapted Therapy for Children Less than 3 Years of Age with Embryonal Brain Tumors, High-Grade Glioma, Choroid Plexus Carcinoma or Ependymoma. He is conducting basic science research in the area of neuro-oncology.

**Donald Durden, MD, PhD** of the Durden laboratory is interested in understanding the mechanisms by which signals are transmitted from cell surface receptors to the cytoplasm and nucleus. The efforts are focused on the role of lipid and protein phosphorylation and dephosphorylation in the regulation of signal transduction. They are primarily interested in the regulation of signal transduction pathways in tumor cells as well as similar signaling events in myeloid and endothelial cells as they relate to the control of the tumor microenvironment. They aim to understand how the phosphorylation and dephosphorylation of cellular proteins and lipids results in regulated and coordinated signal relay and how components of other signaling pathways (e.g. PI-3 kinase, small G proteins, phosphatases, serine/threonine kinases, PLC, GAPs, protein kinase A, PKC, etc.) interact to fine tune and regulate cell signaling in the context of other environmental influences or when different receptors are activated at the same time. As more and more information accumulates concerning the fundamental mechanisms controlling specific components of signal relay, perhaps they will be able to propose an integrated model of how cells respond to a complex array of external environmental conditions in a coordinated and controlled manner. They are interested in converting target discovery and validation into drug discovery and drug development in particular as it relates to specific kinases and phosphatases and translating this basic science information from “bench to bedside.” They are actively involved in opening Phase I and Phase II clinical trials of novel targeted therapeutic agents in pediatric diseases including the areas of hematology and oncology.

## Major Goals and Plans

- Strengthen basic, translational, and clinical research in hematology and oncology.
- Further develop the St. Jude Children's Research Hospital/Rady Children's Hospital/UCSD Alliance by developing additional clinical trials and scientific collaborations between investigators in each institution.
- Continue to expand the Hematology/Oncology Clinical Research Center to support enhanced early phase institutional clinical trials.
- Expand access to alternative donor stem cell transplantation at RCHSD.
- Collaborate with the San Diego Consortium for Regenerative Medicine, an entity including The Sanford Burnham Institute for Medical Research, the Salk Institute for Biological Studies, The Scripps Research Institute, and UC San Diego.

**Amy E. Geddis, MD, PhD**'s studies focus on megakaryocyte differentiation, including mechanisms of endomitosis and proplatelet formation and the study of mutations from patients that alter megakaryocyte and platelet development. She was the RCHSD principal investigator for a Randomized, Double-Blind, Placebo-Controlled Phase I/II Study to Determine the Safety and Efficacy of AMG531 in Thrombocytopenic Pediatric Subjects with Chronic Immune (Idiopathic) Thrombocytopenic Purpura, sponsored by Amgen. She will be the RCHSD/UC San Diego PI for an Amgen Phase III Randomized, Double Blind, Placebo Controlled Study to Determine the Safety and Efficacy of Romiplostim in Thrombocytopenic Pediatric Subjects with Immune Thrombocytopenia (ITP). She is the RCHSD/UC San Diego PI for St Jude HOD05: Stanford V Chemotherapy with Low-Dose Tailored Field Radiation Therapy for Intermediate Risk Pediatric Hodgkin Disease. She is the Research Director of the Hemophilia/Bleeding Disorder Program.

**Jenny M. Kim, MD** is the Director of the RCHSD Comprehensive Sickle Cell/Hemoglobinopathy program. She was awarded a UCSD Health Sciences Clinical and Translational Research Institute (CTRI) innovative technology pilot project for 2011-12 for her project "Biomarkers of Sickle Cell Disease". While she is the principal investigator, this project is a collaboration with Don Durden, MD (UCSD), Joel Linden, PhD (La Jolla Institute for Allergy and Immunology), and Kelly Frazer, PhD (UCSD) examining biomarkers of inflammation associated with vaso-occlusive pain in children with sickle cell disease in the hopes of finding new therapies to target

these markers and improve the quality of life for people with sickle cell disease. She is a study committee member for Children's Oncology Group Protocol ACNS0334 for the treatment of supratentorial PNET and medulloblastoma, and was the RCHSD principal investigator for the Novartis EXJADE Expanded Access study.

**Amy E. Lovejoy, MD** is the Director of the Hemophilia/Bleeding Disorder program. She is the principal investigator for the RCHSD/HTC Universal Data Collection Study regarding complications of hemophilia and serum testing/storage, and participates in the HTRS Registry, analyzing the epidemiology and treatment of circulating anticoagulants in patients with hemophilia and von Willebrand's Disease. She is participating in the Kids-DOTT trial to better determine the optimal duration of anticoagulation therapy in pediatric thrombosis patients.

**Catherine E. Madigan, MD** is involved in the Sickle Cell/Hemoglobinopathy Program. She is the RCHSD/UCSD PI for St. Jude HOD08: Reduced Duration Stanford V Chemotherapy with or without Low-Dose Tailored-Field Radiation Therapy for Favorable Risk Pediatric Hodgkin Lymphoma.

**William D. Roberts, MD** is a founding member of the Neuroblastoma & Medulloblastoma Translational Research Consortium (NMTRC). He is a study committee member and the RCHSD/UC San Diego principal investigator for the following NMTRC studies: a Phase II study of Nifurtimox in the treatment of recurrent neuroblastoma and medulloblastoma, and a Phase I study of TPI for the treatment of relapsed and refractory neuroblastoma and Medulloblastoma, a Feasibility Trial using



Molecular-Guided Therapy for the Treatment of Patients with Refractory or Recurrent Neuroblastoma, a Phase I Study of Vinblastine and Sirolimus in Pediatric Patients with Recurrent or Refractory Solid Tumors including CNS tumors, and a Phase I Trial for Refractory or Relapsed Neuroblastoma with DFMO alone and in combination with Etoposide. He is a co-PI of a study of the molecular basis of metastasis in the Ewing's Sarcoma Family of Tumors with Dr. Jing Yang. In conjunction with Dr. Giovanni Paternostro at the Sanford-Burnham Institute, he is the co-PI of a translational study to assess the optimum microenvironment for assessing drug sensitivity of acute leukemia cells. Along with Drs. Paula Arisitzabal, and Raul Ribeiro, he has conducted outcome studies from a joint RCHSD/UCSD/St. Jude Children's Research Hospital pediatric oncology international outreach program in Tijuana, Mexico.

**Deborah E. Schiff, MD** is the Physician Coordinator of the St. Jude Children's Research Hospital/Rady Children's Hospital Alliance. In conjunction with the St. Jude Children's Research Hospital, she is the RCHSD/UCSD principal investigator for the following St. Jude studies: ALLR17 A Study of Pediatric Patients with Relapsed or Refractory Acute Lymphoblastic Leukemia, AML08: A Phase III Randomized Trial of Clofarabine Plus Cytarabine Versus Conventional Induction Therapy and a Phase II Study of Natural Killer Cell Transplantation in Patients with Newly Diagnosed Acute Myeloid Leukemia, SJBC3: Mature B-Cell Lymphoma and Leukemia Study III, and TBANK: A Protocol for Collecting, Banking, and Distributing Human Tissue Samples. She conducts outcome studies related to palliative care in her role as the Medical Director of the Hematology/Oncology Palliative Care Program.

**Jennifer R. Willert, MD** is working on a project to study the role of integrins and caspase 8 in progression of neuroblastoma in patients in collaboration with Dr. Dwayne Stupak of the UCSD Moores Cancer Center. She is the RCHSD/UCSD principal investigator for St. Jude study SJOS2008: A study of bevacizumab, a humanized monoclonal antibody against vascular endothelial growth factor (VEGF) in combination with chemotherapy for treatment of osteosarcoma.

**Jing Yang, PhD** conducts basic science research related to metastases in cancer and Twist mutations in metastatic

cancers full-time. She is involved in the study of the molecular basis of metastasis in the Ewing's Sarcoma Family of Tumors with Dr. Roberts. She was awarded a 2007 NIH Director's New Innovator Award to develop a novel Epithelial-Mesenchymal Transition in Tumor Metastasis detection/selection system in mice to identify, image and isolate migrating carcinoma cells in primary tumors and to explore the signal pathways that promote carcinoma cells to migrate and disseminate into distant organs.

**Alice Yu, MD, PhD** is pursuing translational cancer research. She chairs a multi-national Phase III trial of anti-GD2 in high-risk neuroblastoma, which is considered a pivotal trial for future licensing of this antibody by the FDA. She also serves as a vice chair for a Phase II study of Campath-1H in Children with Acute Lymphoblastic Leukemia in Second Relapse. In addition, Dr. Yu directs a research laboratory, which includes Drs. Diccianni and Batova. Their research focuses on the role of immune effector cells in immunotherapy of cancer, the role of micro-RNA in leukemia, and novel therapy of cancer targeting molecular abnormalities associated with chromosome 9p21, which is frequently altered in many types of cancer.

## TEACHING ACTIVITIES

All faculty members are actively involved in teaching activities for the hematology/oncology fellows, residents in the UCSD/RCHSD Pediatric Residency Program, other residents and fellows working at RCHSD, and UCSD medical students. Clinical teaching occurs in the inpatient and outpatient settings. The faculty provides formal lectures to the residents and students, attend morning report, morbidity & mortality conferences, and other teaching conferences.

### **Eric Anderson, MD**

Dr. Anderson is an advisor for fellows in the Hematology/Oncology Fellowship Program.

### **Amy L. Geddis, MD, PhD**

Dr. Geddis is the coordinator for the hematology/oncology rotation for fourth-year medical students from UCSD,

and is the coordinator for the Hematology/Oncology Fellowship Board Review Course and the Fellowship Scholarship Oversight Committee. She is an advisor for fellows in the Hematology/Oncology Fellowship Program.

#### **Jenny M. Kim, MD**

Dr. Kim is a resident advisor for residents in the UCSD/RCHSD Pediatric Residency Program and an advisor for fellows in the Hematology/Oncology Fellowship Program. She is a CPC Preceptor for UCSD/RCHSD pediatric residents.

#### **Amy E. Lovejoy, MD**

Dr. Lovejoy is an advisor for fellows in the Hematology/Oncology Fellowship Program.

#### **William D. Roberts, MD**

Dr. Roberts is the Director of the Hematology/Oncology Fellowship Program. He is also the coordinator for the hematology/oncology rotation for second-year pediatric residents in the UCSD/RCHSD Pediatric Residency Program. He is a resident advisor for UCSD/RCHSD pediatric residents and a member of the Intern Selection Committee.

#### **Deborah E. Schiff, MD**

Dr. Schiff serves as a faculty advisor for UCSD medical and pharmacy student independent study projects. She supervised a UCSD medical student in analyzing the effect of obesity on event free survival and overall survival of children with acute lymphoblastic leukemia. She supervised a UCSD Pharmacy student in studying Pharmacokinetic Modeling of Dapsone and its Metabolites, as well as a retrospective study of adverse effects of Dapsone when used as pneumocystis carinii pneumonia prophylaxis in children. She supervised a UCSD medical student in Evaluating a Pediatric Hem/Onc Supportive Care Decision-making Tool (DMT) for Families of Children with Life-threatening Illnesses. She is an advisor for fellows in the Hematology/Oncology Fellowship Program.

#### **Jennifer R. Willert, MD**

Dr. Willert is a resident advisor for residents in the UCSD/RCHSD Pediatric Residency Program and for fellows in the Hematology/Oncology Fellowship Program.

## **AWARDS, HONORS, AND MAJOR PRESENTATIONS**

#### **John R Crawford, MD, MS**

The neurological examination: A dying art in the modern era of molecular medicine. Pediatric NeuroPsychology Grand Rounds, RCHSD, UCSD, San Diego, CA, September 2, 2009

Human herpesvirus-6 infection of the CNS: A cause or consequence of CNS disease. Neurosciences Grand Rounds. UCSD, San Diego, CA, February 26, 2010

Genelux Inc. Lecture Series on novel virologic clinical trials. Human herpesvirus-6 infection of the CNS: A cause or consequence? March 13, 2010

National Pediatric Hematology Oncology Conference, Brainstem gliomas in the 21st century, Tijuana, Mexico, May 21, 2010

Brain tumors. 1st Annual Collaborative Care Conference, UCSD Moores Cancer Center, San Diego, CA, January 15, 2011

Sound Wave Symposium American Academy of Audiology. Ototoxicity assessment in children receiving cisplatin chemotherapy. San Diego, CA, February 11, 2011

7th International Conference on HHV-6 and HHV-7 differential gene expression profiling of acute and chronic HHV-6A-infected human malignant astrocytes. Reston VA, February 28, 2011

Chronic viral infection and CNS malignancy: A rebel without a cause? Cleveland Clinic Department of Pediatric Neurology Grand Rounds, April 20, 2011

A team work approach in the management of childhood brain tumors. 2nd Annual Neuro-Oncology Family Day, RCHSD, April 30, 2011

#### **Donald L. Durden, MD, PhD**

The molecular biology of the PI-3 kinase/AKT/mTOR signaling pathway. Seventh International Symposium on Targeted Anticancer Therapies, Amsterdam, The Netherlands, March 23-25, 2009

PI-3 kinase inhibitors in cancer therapeutics. Ninth Annual Molecular Targets in Cancer Therapeutics, Regents Hotel, Washington, DC, August 9, 2010

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Donald L. Durden, MD, PhD</b>		
Vascular Targeted Pan PI-3 Kinase Inhibitor Prodrug, SF1126 for Glioma Therapy NIH-2R01CA094233/NIH		\$250,000 Mar. 2005-Jan. 2011
Role of Syk and Rac2 in Regulation of HIF1alpha and Neovascularization NIH-R21HL091385/NIH		\$150,000 Apr. 2007-Mar. 2010
<b>Amy L. Geddis, MD, PhD</b>		
The Role of P13K in Thrombopoietin Signaling 7 K08 HL04470-03/NIH (NHLBI)	\$112,750	\$507,630 Apr. 2002-Mar. 2007
Resequencing Chip to Discover Novel Mutations in Patients with Inherited Disorders of Platelet Production 200706975/AMGEN	\$22,653	\$34,999 Sept. 2007-Sept. 2009
<b>Amy E. Lovejoy, MD</b>		
Region IX Comprehensive Hemophilia Care Program MCHB 5-H30MC-0036-10HRSA		\$11,350 June 2009-May 2010
Data Collection of Complications of Hemophilia and Serum Testing and Storage CCU0916521-07/CDC U27		\$31,390 Sept. 2009-Sept. 2010
<b>William D. Roberts, MD</b>		
Children's Oncology Group Sub GOG 19636 (CA98543)/NATIONAL CHILDHOOD CANCER FOUNDATION	\$35,125	\$79,357 Mar. 2010-Feb. 2012
Accelerating Clinical Trials of Novel Oncology Pathways-ANBL0931 Sub COG19392 (CA98543)/NATIONAL CHILDHOOD CANCER FOUNDATION	\$36,507	\$45,999 June 2009-May 2012
Environmental and Molecular Epidemiology of Childhood Leukemia Sub 00007206 (ES009137)/(UCB) UC BERKELEY	\$19,019	\$23,964 Aug. 2010-July 2011
A Phase 1 Trial of TPI 287 as a Single Agent and in Combination with Temozolimide in Patients with Refractory or Recurrent Neuroblastoma or Medulloblastoma 20103128/UNIVERSITY OF VERMONT	\$11,905	\$15,000 Mar. 2010-Feb. 2011
Oncology Integrative Medicine Pilot Program Anonymous		\$1,250,000 July 2005-June 2010

### **Amy E. Geddis, MD, PhD**

Co-chair, Non-immune Thrombocytopenia Registry of the International Society of Thrombosis and Hemostasis Medical Advisory Board, Platelet Disorders Support Association

Editorial Board, *Blood*, 2006-present

American Society of Hematology Subcommittee Member, Hematopoietic Cytokines and Factors

Session chair, mouse models in megakaryopoiesis and thrombopoiesis. Gordon Research Conference, March 2009

Pathophysiology of ITP. ASPHO meeting, April 2009

Invited talk, Molecular biology of inherited thrombocytopenia. Nationwide Children's Hospital, Nov. 2009

Scientific committee speaker, Blood disorders in childhood (ontogeny of megakaryopoiesis), December 2009

Molecular basis of inherited thrombocytopenia. Hematology Rounds USC, April 2010

Thrombocytopenia in Paris Trousseau syndrome. 11q23 Family meeting, July 2010

Congenital thrombocytopenia. International Society of Laboratory Hematology, May 2011

ITP, does it run in the family? PDSA meeting, July 2011

### **Jenny M. Kim, MD**

Dr. Kim was the recipient of the Combined Health Agencies 17th Annual Health Heroes Awards on March 16, 2011, honoring local businesses, medical professionals, and media personalities for their contributions, dedication and commitment to better health for all San Diegans. The RCHSD Sickle Cell Disease Program was given this award by the Sickle Cell Disease Association of America, San Diego Chapter, for their dedication to the care of children with sickle cell disease.

### **William D. Roberts, MD**

Aristizabal P, Day S, Velez G, Rivera G, Rodriguez-Galindo C, Ribeiro RC, Roberts W. A novel model of twinning: Outreach programs in the border region. 42 Congress International Society of Paediatric Oncology, Boston, MA, October 2010. Awarded BEST SIOP POSTER AWARD

Aristizabal P, Velez G, Ribeiro RC, Roberts W. Improving cancer care in border countries with profound disparities: The St. Jude, RCHSD and Hospital General de

Tijuana approach. Consortium of Universities in Global Health, University of Washington, September 2010

International Outreach: Development of a pediatric hematology/oncology program in Tijuana, Mexico. Hematology/Oncology Grand Rounds, Children's Hospital Los Angeles, January 2010

Management of immunocompromised and neutropenic patients. Infectious complications of hematopoietic stem cell transplantation. Advances in the Practice of Pediatrics Conference, Hilton San Diego Mission Bay Resort, February 13-15, 2009

### **Deborah E. Schiff, MD**

Dr. Schiff was the recipient of the Emilio Nares Foundation 2011 Excellence in Pediatric Oncology Award

### **Jennifer R. Willert, MD**

Umbilical cord blood: To bank or not to bank? Keynote speaker at Los Angeles Pediatric Society Annual CME meeting, October 9, 2010

Graf, R Newbury, D Stupack, J Willert. Poster Presentation- American Society of Pediatric Hematology/Oncology (ASPHO), Montreal, Canada, May 2010

Early integration of a pediatric supportive care program in pediatric oncology. J Auger, S Faircloth, K Diener, A Reineke, S Bringier, K Bower, J Willert. Accepted for Poster Presentation. American Association of Hospice and Palliative Medicine meeting, Boston, MA, March 2010

The Association of Alpha-Thalassemia with congenital anomalies. Lynne Bird, Val Catanzarite, Tara Shea, Jennifer Willert, 2009 Accepted for poster at David W Smith meeting on Malformations and Morphogenesis, Philadelphia, PA, August 6-9, 2009

Cord blood transplant in pediatrics. Plenary Session, Advances in Pediatrics Meeting RCHSD/UCSD San Diego, CA, February 2009

## **PUBLICATIONS**

Aristizabal P, Velez G, Ribeiro RC, Roberts W, Day S. Developing a nursing education program in pediatric oncology in a low income country: The role of twinning. Accepted for publication in *Pediatric Blood and*



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Jing Yang, PhD</b>		
Epithelial-Mesenchymal Transition in Tumor Metastasis		\$1,500,000
1 DP2 OD002420-01/2007/NIH Director's New Innovator Award		Sept. 2007-Aug. 2012
<b>Alice L. Yu, MD, PhD</b>		
Dissecting the Molecular Basis of Carcinoma Metastasis		\$173,914
SKF-07-080/Kimmel Foundation for Cancer Research/Kimmel Scholars Award from the Sidney		July 2007-June 2009
Immune Monitor for COG Trial of Anti-GD2 in Neuroblastoma	\$172,611	\$1,807,112
5 R01 FD002319-01/PHS (FDA)		Sept. 2003-May 2010
Predicting outcome and Ameliorating Toxicities of the Immunotherapy of Neuroblastoma	\$100,000	\$200,000
20113297/ALEX'S LEMONADE STAND FOUNDATION		July 2011-June 2013
COG Chair's Grant	\$37,695	\$116,476
Sub 18213 (CA098543)/NATIONAL CHILDHOOD CANCER FOUNDATION		Mar. 2008-Feb. 2011
Role of antibodies to non-human glycans in immunotherapy of neuroblastoma	\$81,533	\$81,533
20113706/ST. BALDRICK'S FOUNDATION		July 2011-June 2012
COG Neuroblastoma Immune Monitoring Laboratory	\$35,000	\$35,000
20110056/ST. BALDRICK'S FOUNDATION		July 2009-June 2011
COG Chair's Grant	\$23,810	\$30,000
Sub 021051(CA098543)/NATIONAL CHILDHOOD CANCER FOUNDATION		Mar. 2011-Feb. 2012

*Cancer*, October 2011.

Burke M, Willert J, Desai S, Kadota R. The treatment of pediatric Philadelphia positive (Ph+) leukemias in the Imatinib era. *Pediatric Blood and Cancer*, 53(6):992-5. 2009.

Capers KN, Turnacioglu S, Leshner RT, Crawford JR Antiretroviral Therapy-Associated Acute Motor and Sensory Axonal Neuropathy 2010 Case Rep. *Neurol*, 3:1-6, 2011.

Castellino RC, Barwick BG, Schniederjan M, Wagar N, Liu J, Brat DJ, Durden DL. Heterozygosity for Pten promotes tumorigenesis in a mouse model of medulloblas-

toma *PLoS One*. 26:10849, 2010.

Crawford JR. Advances in Pediatric Neurovirology. *Curr Neurol Neurosci Rep*, 10:47-154, 2010.

Crawford JR. Hemi-aguesia as an initial presentation of demyelinating disease in an adolescent patient. Case report. *The Internet Journal of Neurology*, 11(2), 2009.

Crawford JR, Chang T, Lavenstein BL, Mariani B Acute and Chronic Magnetic Resonance Imaging of Human Herpesvirus-6 Associated Encephalitis. *J Ped Neurol*, 7:367-373, 2009.

Crawford JR, Rood BR, Rossi CT, Vezina G.

- Medulloblastoma associated with novel p53 mutation as primary manifestation of Gorlin Syndrome. *Neurology*, 72:1618, 2009.
- Crawford JR, Santi MR, Cornelison R, Sallinen SL, Haapasalo H, MacDonald TJ. Detection of human herpesvirus-6 in adult central nervous system tumors: Predominance of early and late viral antigens in glial tumors. *J Neuro-Onc*, 95:49-60, 2009.
- Crawford JR, Santi MR, Thorarindottir HK, Cornelison R, Rushing EJ, Zhang H, Jacobson S, MacDonald TJ. Detection of Human Herpesvirus 6 Variants in Pediatric Brain Tumors: Association of Viral Antigen in Low Grade Gliomas. *J Clin Virol*, 46:37-42, 2009.
- Crawford JR, Zaninovic A, Santi MR, Rushing EJ, Olson CH, Keating RF, Vezina G, Kadom N, Packer RJ. Primary spinal cord tumors of childhood: effects of clinical presentation, radiographic features, and pathology on survival. *J Neuro-Onc*, 95:259-269, 2009.
- De P, Su JD, Yoder MC, Durden DL. Expression of RAC2 in endothelial cells is required for the postnatal neovascular response. *Exp Cell Research*, 315, 248, 2009.
- Dehority W, Willert J, Pong A. Zygomycetes infections in pediatric hematology oncology patients: a case series and review of the literature. *J Pediatric Hematol Oncology*. Dec; 31(12):911-9. 2009.
- Du S, Scuderi R, Malicki DM, Willert J, Bastian J, Weidner N. Hodgkin and Non-Hodgkin lymphomas occurring in two brothers with Wiskott-Aldrich Syndrome (WAS) and review of the literature. *Pediatric Dev Pathology*. 2010 Apr 29. Epub.
- Fox NE, Chen R, Hitchcock I, Keates-Baleeiro J, Frangoul H, Geddis AE. Compound heterozygous c-Mpl mutations in a child with congenital amegakaryocytic thrombocytopenia: functional characterization and a review of the literature. *Exp Hematol*, 37(4):495-503, 2009.
- Geddis AE. Congenital amegakaryocytic thrombocytopenia and thrombocytopenia with absent radii. *Hematol Oncol Clin North Am*, 23(2):321-31, 2009.
- Geddis AE. HoxA11 and amegakaryocytic thrombocytopenia with radioulnar synostosis. In: *Inborn Errors of Development*, 2nd ed., edited by Epstein, Erickson and Wynshaw-Boris. Oxford University Press, p. 668-9, 2009.
- Geddis AE. The regulation of proplatelet production. *Haematologica*, 94(6):756-9, 2009.
- Gu L, Zhu N, Zhang HY, Durden DL, Feng Y, Zhou MZ. Regulation of XIAP translation and induction by MDM2 following irradiation. *Cancer Cell*, 15, 363, 2009.
- Gupta, VB, Willert J, Pian M, Stein M. When disclosing a serious diagnosis to a minor conflicts with family values. *J Developmental and Behavioral Pediatrics*, 31 (3 Suppl):S100-2, 2010.
- Lawson EB, Gottschalk M, Schiff DE. Insulin infusion to treat severe hypertriglyceridemia associated with pegaspargase therapy. *J Pediatr Hematol Oncol* 33: 83-86, 2011.
- Lyle CA, Malicki, D, Senac MO, Levy ML, Crawford JR. Congenital Giant Intramedullary Spinal Cord Schwannoma. *Neurology*, 75:152, 2010.
- Lyle CL, Crawford JR. Neurodiagnostic principles. In: *Tumors of the Central Nervous System*, 2nd Edition, Edited by RF Keating, JT Goodrich, RJ Packer, 2nd Edition, Thieme New York (in press).
- Ozbay T, Durden DL, Liu T, O'Regan RM, Nahta R. SF1126 reverses herceptin resistance in breast cancer. *Cancer Chemother Pharmacol*, 2009.
- Peirce SB, Findley HW, Cooper T, Dasgupta A, Durden DL. The PI-3 kinase-Akt-MDM2-survivin signaling axis in high risk neuroblastoma: a target for PI-3 kinase inhibitor intervention (in press), *Cancer Chemother. Pharmacol.*, 2010.
- Rong Y, Belozarov VE, Tucker-Burden C, Chen G, Durden DL, Olson JJ, Van Meir EG, Brat D. EGFR and PTEN modulate tissue factor expression in glioblastoma through JunD/AP-1 transcriptional activity. *Cancer Res*, 69, 2540, 2009.
- Saddawi-Konefka R. Crawford JR. Chronic viral infection in central nervous system malignancy. *J Neuroimmune Therap*, 5:387-403, 2010.
- Schiff D, Kline C, Meltzer H, Auger J. Palliative ventriculo-peritoneal shunt in a pediatric patient with recurrent metastatic medulloblastoma. *J Palliat Med*, 12(4):391-3, 2009.
- Sulit DJ, Tom WL, Willert JR, Nespeca MP, Friedlander SF. Multicentric infantile hemangiopericytoma: Case report and review of the literature. *J Pediatric Hematology and Oncology*, 33(4):e166-70, 2011.
- Yao K, Crawford JR, Komaroff AL, Ablashi DV, Jacobson S. Review part 2: Human herpesvirus-6 in central nervous system disease. *J Med Virol*, 10:1669-1678, 2010.



# Hospital Medicine

The Hospital Medicine program began in 1978, to serve three main functions: caring for unassigned patients, supervising housestaff on the inpatient service, and providing a user-friendly service for primary care providers who were unable to follow their inpatients. Since its inception, the division has grown to 16 physicians and three fellows. The hospitalists provide inpatient care at Rady Children's Hospital-San Diego (RCHSD); Palomar Medical Center, located in the northeastern part of San Diego County; and, Sharp Grossmont Hospital, located in the eastern part of San Diego County.

The hospitalists serve as a clinical resource for community physicians and emergency departments to determine the need for acute care admission, discuss alternatives to admission, and provide a second opinion for patients with

diagnostic challenges. All are board-certified pediatricians with acquired expertise in different fields outside of traditional hospital medicine. Most have had additional post-residency training through chief residency or fellowships.

The hospitalists work closely with hospital staff to optimize patient flow and hospital capacity and to address patient care issues across the organization. Additionally, the hospitalists coordinate transports of acutely ill pediatric patients at risk for clinical deterioration for San Diego and neighboring counties.

Left to right: Laurie Bernard-Stover, Kyung Rhee, Julia Beauchamp-Walters, Erin Stucky-Fisher, Cynthia Kuelbs, Jennifer Davis, Keith Vaux, Waheeda Samady, Premi Suresh, Alicia Cantu, Daniel Hershey, Ami Doshi, Sara Marchese, Heather Pierce, Lisa Benz, Amit Singh, Chris Cannavino

## FACULTY

- Cynthia L. Kuelbs, MD**, Pediatrics and Hospital Medicine Division *Chief*, UCSD Clinical Professor of Pediatrics
- Julia Beauchamp-Walters, MD**, Associate Clinical Professor of Pediatrics
- Laurie Bernard-Stover, MD**, Associate Clinical Professor of Pediatrics
- Christopher Cannavino, MD**, Assistant Clinical Professor of Pediatrics
- Alicia Cantu, MD**, Assistant Clinical Professor of Pediatrics
- Jennifer Davis, MD**, Associate Physician
- Ami Doshi, MD**, Assistant Professor of Pediatrics
- Edward Epstein, MD, MBA, CPE**, Clinical Professor of Pediatrics
- Daniel Hershey, MD**, Assistant Clinical Professor of Pediatrics
- Sara Marchese, MD**, Assistant Professor of Pediatrics
- Heather Pierce, MD**, Assistant Professor of Pediatrics
- Kyung Rhee, MD**, Assistant Adjunct Professor of Pediatrics
- Erin Stucky-Fisher, MD**, Professor of Clinical Pediatrics
- Premi Suresh, MD**, Associate Physician
- Keith Vaux, MD**, Associate Clinical Professor of Pediatrics
- Wendy Wright, MD**, Clinical Professor of Pediatrics

## POSTDOCTORAL FELLOWS

- Lisa M. Benz, MD**  
**Waheeda Samady, MD**  
**Amit Singh, MD**

## CLINICAL ACTIVITIES

The Hospital Medicine Service accounts for approximately 25 per cent of all RCHSD admissions and the vast majority of general pediatric admissions. The average census varies by season, averaging 35 patients in winter months and 20 in the traditionally quieter summer months. Service activities include provision of inpatient care, consultation for sub-specialty and emergency department patients, housestaff and medical student teaching and coordination of approximately 100 emergency transports monthly. Additionally, the hospitalists provide acute and ongoing care to skilled nursing and subacute level convalescent patients at the Bernardy Center, located on the RCHSD campus.

The Hospital Medicine Service at Palomar Hospital began in July 2006, in partnership with local pediatricians. The census at this Rady-licensed unit ranges from 5 to 12 patients. This non-teaching facility is a collaborative program between community pediatricians, the hospitalists and nurse practitioners.

The hospitalists began providing services at the Rady-licensed unit at Sharp Grossmont Hospital in July 2008. This unit has an average daily census of four with plans to expand. This program is also a partnership with community pediatricians and provides families living in the area with easy access to RCHSD resources and hospital medicine physicians.

The hospitalists fulfill many leadership roles at RCHSD, Palomar, Grossmont, and the local community, including:

### For RCHSD:

- Chief Medical Information Officer
- Director of Graduate Medical Education
- Medical Consultant, Home Care Services
- Medical Director, Clinical Documentation Improvement
- Medical Director, Inpatient Services
- Medical Director, Quality and Safety
- Medical Director, Continuing Medical Education
- Medical Staff, Department of Pediatrics Chair
- Medical Director, Chadwick Center for Children and Families
- Medical Director, Subacute Unit Bernardy Center



- Medical Director, RCH at Sharp Grossmont Pediatric Unit
- Medical Staff, Chair, Pharmacy and Therapeutics Committee
- Medical Staff, Chair, Quality Improvement Committee

#### **For RCSSD/Medical Practice Foundation:**

- Board of Directors
- Executive Board
- Board of Governance Committee

#### **For UC San Diego:**

- Pediatric Residency Associate Program Director
- Vice Chair for Clinical Affairs, Department of Pediatrics
- Executive Vice Chair, Department of Pediatrics
- Pediatric Clerkship Director

#### **For Community Facilities:**

- Medical Director, Juvenile Hall Services, San Diego County
- Medical Director, Polinsky Children's Center
- Medical Director, San Diego Center for Children, Door of Hope and Clark Adolescent Center

In addition, hospitalists serve as Chair or members of key RCHSD, RCSSD, Palomar, Sharp Grossmont and UC San Diego (UCSD) committees including:

- Academic Affairs
- Academic Review and Appraisal Committee
- Assessing Medical Staff Quality
- Benefits
- Billing
- Bioethics
- Board of Directors
- Bylaws
- Credentialing
- Clinical Practice
- Clinical Leadership Council
- Clinical Pathway Committees
- Code Blue
- Continuing Medical Education
- Contracts
- Education/Human Resources/Creative Service Transition Committee

- Graduate Medical Education
- Information Technology
- Infection Control
- Intern Selection
- Liaison Committee on Medical Education (LCME), Educational Resources Committee
- Marketing
- Medical Staff Executive Committee
- Morbidity and Mortality Conferences including:
  - CHET
  - Pediatrics
  - PICU
  - Systems
  - Trauma
- New Hospital Building Ancillary Transition Committee; New Hospital Building Education Transition Committee
- Pediatric Leadership Council
- Pediatric Operations and Education
- Pediatric Department
- Peer Review
- Pharmacy and Therapeutics
- Quality Improvement
- Quality Management/Risk Management
- Radiology Task Force
- Sedation
- RCHSD Board Committees including:
  - Information Technology
  - Medical Affairs
  - Quality
  - Recruitment and Retention

## **RESEARCH ACTIVITIES**

- Pediatric Research in the Inpatient Setting (PRIS). Clinical Survey of Pediatric Hospitalist Practice Patterns through the PRIS Network. (In collaboration with Children's Hospital Boston/Harvard Medical School, Children's Hospital Philadelphia, RCHSD/UC San Diego, and Children's Hospital National Medical Center/George Washington Medical School)
- Apparent Life-Threatening Events: Creation of Admission Criteria and Assessment of Clinical Outcomes

- Diagnostic value of immature neutrophils (bands) in the cerebrospinal fluid of children with pleocytosis
- Predictors of respiratory failure in bronchiolitis and use of Heliox
- Orbital Abscess and Cellulitis: Management and Outcome
- An Evaluation of the Safety, Efficacy, and Pharmacokinetics of Daptomycin in Pediatric Subjects Aged Seven to Seventeen Years with Complicated Skin and Skin Structure Infections Caused by Gram-Positive Pathogens
- Fulminant Myocarditis Associated with Pandemic H1N1 Influenza A Virus in Children
- CRP as a Criteria for Transition to Oral Therapy in Bone & Joint Infections
- A Comparison of Anavip & CroFab in the Treatment of Patients with Crotalinae (Pit Viper) Envenomation: A Randomized, Prospective, Blinded, Controlled, Comparative, Multicenter Study
- Comparative Molecular and Genomic Characterization of Invasive and Non-Invasive Pediatric Community-Acquired Methicillin-Resistant Staphylococcus aureus Infections

## TEACHING ACTIVITIES

The hospitalists are the primary teaching faculty for all medical students and residents rotating on the RCHSD inpatient teaching service. All five local training institutions, including the Balboa Naval and Camp Pendleton Medical Centers send their trainees to RCHSD for pediatric training. Teaching instruction is given through both formal didactic and daily bedside sessions. Additionally, the hospitalists serve as pediatric resident advisors, fellowship directors, conference coordinators, rotation directors and participants in the pediatric residency selection process.

## AWARDS, HONORS, AND MAJOR PRESENTATIONS

American Academy of Family Physicians recognition for participation as an Active Teacher in Family Medicine. Award to Division of Pediatrics and Hospital Medicine (Beauchamp J, Bernard-Stover L, Cannavino C, Cantu A, Chang W, Doshi A, Epstein E, Hershey D, Kuelbs C, Marchese S, Pierce H, Rosenthal J, Stucky-Fisher E, Vaux K, Wright W)

### **Christopher Cannavino, MD**

Invited Speaker, Advances in the practice of pediatrics (Cannavino C, Dwek J). When worlds collide-Clinician vs. imagician, March 2010

### **Edward Epstein, MD, MBA**

San Diego Magazine's Top Doctors in San Diego, 2009

### **Daniel Hershey, MD**

Society of Hospital Medicine, Pediatrics: Quality and Safety Committee, July 2009

### **Cynthia L. Kuelbs, MD**

AAP representative to the AMA Council on Violence and Abuse

San Diego Magazine's Top Doctors in San Diego-2009, 2010  
Invited speaker, Abuse and medical care of teen delinquencies. 23rd Annual Conference on Child and Family Maltreatment, San Diego, CA, January 2009

Invited speaker, Sorting through the allegations and evidence of sexual and physical abuse. Juvenile Law Institute, Oakland, CA, February 2009

Consultant, Developing a hospital based child protection team, Karolinska Institute, Stockholm Sweden, 2009

Invited speaker, Chadwick Lecture – Moving Forward, Looking Back Child Maltreatment Conference 2011

### **Kyung Rhee, MD**

Poster Presentation, Is a complete asthma action plan associated with reduced 30 day readmissions? (Yang J, Rhee K, Stucky-Fisher E) PAS 2011: Pediatric Academic Societies' Annual Meeting, April 2011

Strategies for childhood obesity management (CME). 36th Annual Problems in Pediatrics Conference, Colby, ME, July 2010

Behavior change counseling: Effective communication for pediatric weight management (CME). 36th Annual Problems in Pediatrics Conference, Colby, ME, July 2010

UCSD Clinical and Translational Research Institute Course: Why are children overweight and what can we do about it? (CME) April 2011

UCSD/Rady Children's Specialists of San Diego, Grand Rounds: Parent role in childhood obesity, June 2011

### **Erin Stucky-Fisher, MD**

Chair, Pediatric Committee of the Society of Hospital Medicine (SHM)

Pediatric Research in the Inpatient Setting (PRIS) Executive Committee

Institute for Healthcare Improvement (IHI) 5 Million Lives campaign, AAP representative to the Pediatric Node. Node members: NACHRI, CHCA, NICHQ

American Academy of Pediatrics (AAP) Safer For Kids Program: Department of Practice, Division of Healthcare Finance and Quality Improvement—Pediatric Patient Safety Project Advisory Committee

IHI Pediatric Summer Series webcast planning group 2007-2010

Children's Specialty Care Coalition. Statewide Pediatric Specialty Group Coalition lobbying for children's healthcare, Representative for San Diego

Pediatric medication safety in emergency departments. Consensus Meeting of National Experts meeting, Duke University; Subsequent appointment to the National Steering Committee, created via this national meeting; American Academy of Pediatrics representative to the EMSC (Emergency Medical Services for Children), Durham, NC, February 23-24, 2009

AAP Section of Hospital Medicine—Executive Committee, November, 2009-2012

Society of Hospital Medicine—HQPS Quality Improvement Research Sub-Committee, Chair (Co-Chair: Nasim Afsarmanesh, MD), 2009-present

Best Doctors in America, 2009, 2011

The Excellence in Teaching Award for 2008, RCHSD, 2009

Fellow in Hospital Medicine (FHM). Society of Hospital

Medicine. Elected based on longevity in specialty, demonstrated successful continuous work in leadership, quality, advocacy and education, and letters of recommendation, 2009

Senior Fellow in Hospital Medicine (SFHM), Society of Hospital Medicine, 2010

Master in Hospital Medicine Lifetime Achievement Award (MHM), 2011

Moderator, Safer health care for kids. Detection and prevention of healthcare associated infections in children: The new SHEA/IDSA compendium for healthcare associated infections (Classen D, Stucky-Fisher E) American Academy of Pediatrics, April 2009

Invited Plenary, Improving handoffs of care (Stucky-Fisher E, Arora V). Society of Hospital Medicine Annual Meeting, Chicago, IL, May 2009

Invited Plenary, Update in pediatric hospital medicine (Stucky-Fisher E). Society of Hospital Medicine Annual Meeting, Chicago, IL, May 2009

Invited Plenary, Quality Improvement Pre-course: Leadership in quality improvement (Halasyamani L, Novotny M, Stucky-Fisher E) May 2009

Invited Plenary, Special Interest Forum – Meet the expert (Perceley J, Stucky-Fisher E). Society of Hospital Medicine Annual Meeting, Chicago, IL, May 2009

Abstract (Platform) Safe handoffs in clinical care: A systems Approach (Stucky-Fisher E, Marquette A, Popien B, Keeney G, Sacks L, Samady W, Slaymaker L, Kimple K, Pierce H). Pediatric Academic Societies' Annual Meeting, Baltimore, MD, May 2009

Abstract (Poster) Factors associated with respiratory failure in patients treated with heliox for bronchiolitis (Pierce H, Bernard-Stover L, Castillo E, Stucky-Fisher E). Pediatric Academic Societies' Annual Meeting, Baltimore, MD, May 2009

Visiting Professor (Invited), Enhanced education/training in pediatric medication safety: practicing clinicians (Stucky-Fisher E, Snow S). EMSC Pediatric Patient Safety Follow Up Meeting, Bethesda, MD, June 2009

Visiting Professor (Invited), Increasing awareness and enhancing collaboration (Shaw K, Stucky-Fisher E). EMSC Pediatric Patient Safety Follow Up Meeting, Bethesda, MD, May 2009

Quality Improvement Workshop 101: Quality improvement in the hospital setting—What do I need to know and how

## Major Goals and Plans

### The major divisional goals are:

- Develop a robust hospital medicine clinical research program
- Enhance housestaff and medical student education on hospital medicine
- Expand hospital medicine consult services.

do I do it? (Leaders: Muething S, Stucky-Fisher E. Group facilitators: Conway P, Maloney C, Ottolini M, Simmons J). Pediatric Hospital Medicine Tri-Sponsored International Meeting, Tampa, FL, July 2009

Quality Improvement 201: Quality improvement in the hospital setting: Advanced tools, infrastructure, and leadership (Leaders: Muething S, Stucky-Fisher E. Group facilitators: Conway P, Maloney C, Ottolini M, Simmons J). Pediatric Hospital Medicine Tri-Sponsored International Meeting, Tampa, FL, July 2009

Abstract (Platform) Associations with respiratory failure in bronchiolitis patients treated with heliox (Pierce H, Bernard-Stover L, Castillo E, Stucky-Fisher E). Pediatric Hospital Medicine Tri-Sponsored International Meeting, Tampa, FL, July 2009

Pediatric Grand Rounds (Invited), Practical uses of clinical pathways and best practices RCHSD (Erin Stucky-Fisher, MD; Paul Kurtin, MD), August 2009

Visiting Professor (Invited) and Pediatric Hospital Medicine Division Consultation on Program Development in Quality Improvement. Children's Hospital Los Angeles, August, 2009

- Noon Conference: Introduction to quality improvement—language and measures
- Workshop: Junior faculty career development
- Workshop: Welcome to quality improvement—basic tools, metrics and project design
- Workshop: Turning quality projects into scholarship
- Workshop: Strengthening the academic environment
- Pediatric Grand Rounds: Pediatric quality and safety: Who's driving this bus and where's my seat?

Visiting Professor and Pediatric Grand Rounds speaker (Invited), Pediatric hospital medicine and quality

improvement telecast to all children's hospitals in Canada. University of Calgary Faculty of Medicine, Alberta, Canada, February 2010

Visiting Professor (Invited), Alberta Children's Hospital, Calgary, Alberta, Canada, February 2010

- Grand Rounds presenter, Pediatric quality and safety: National trends provider and family challenges
- Workshop: Clinical pathways and best practices
- Workshop: Teaching quality improvement to physicians

Visiting Professor (Invited), Society of Hospital Medicine Annual Meeting, Washington, DC

- Workshop: Teaching quality improvement in academic medical centers (Vidarthi, A, Myers J, Afsarmanesh N, Stucky-Fisher E) April 2010

Visiting Professor (Invited), First Annual Academic Hospitalist Leadership Meeting, Washington, DC, April 2010

Visiting Professor (Invited), Pediatric Academic Societies' Annual Meeting, Vancouver, BC, Canada, May 2010

- Workshop: Quality improvement 101: Quality improvement in the hospital setting: What do I need to know and how do I do it?
- Workshop: How to build an academic general pediatric fellowship program: A practical guide
- Poster: Safety and quality – Improving hospitalist - Primary care communication (Yang J, Hershey D, Epstein E, Stucky-Fisher E)

Association of Pediatric Program Directors (APPD) Annual Meeting, Miami, FL, March 2011

- Workshop: Quality improvement 101: Tools for change (Mann K, Gonzalez J, Stucky-Fisher E, Ferrell C, Moses J, McPhillips H, Garfunkel L,



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Erin Fisher, MD</b>		
Prospective Multicenter Study of Bronchiolitis Admissions: Etiology and Disposition Sub 206190 (AI067693)/Partners Healthcare System, Inc.	\$10,250	\$12,915 Sept. 2009-Aug. 2011
A Randomized, Double-Blind, Multicenter Trial to Evaluate the Safety and Efficacy of Sequential (Intravenous, oral) Moxifloxacin Versus Comparator in Pediatric Subjects with Complicated Intra-Abdominal Infection BAY 12-8039/11643/Bayer Healthcare Pharmaceuticals	\$165,282	\$208,255 July 2010-present
Developmental Aspects of Ampicillin Renal Clearance in Infants Intramural Competitive Grant, RCHSD and UCSD Pediatric Pharmacy Research Unit		\$50,000 2010
Safer Healthcare for Kids [Physicians Foundation for Health Systems Excellence; Pediatric Advisory Committee American Academy of Pediatrics: Landrigan (Boston Children's), Miller (Hopkins), Frush (Duke), Kotagal (Cincinnati Children's), Sharek (Stanford), Stucky-Fisher (RCHSD)]		\$303,051 2006-2009
<b>Cynthia L. Kuelbs, MD</b>		
California Clinical Forensic Medical Training Center (CCFMTC) EM10 14 1141/Cal Governor's Emergency Services	\$1,104,658	\$1,123,776 Dec. 2010-Sept. 2011

Donthi R, Byczkowski T, Mahan J. (NOTE: assisted with workshop preparation; unable to attend meeting)

Visiting Professor (Invited), Developing a pediatric hospital medicine division and quality improvement initiative. Northwestern University, Children's Memorial Chicago, IL, April 2011

Abstract (Poster), Are there race/ethnic or SES disparities in infant hospital readmission rates? (Yang J, Kang E, Stucky-Fisher E, Gahagan S) Pediatric Academic Societies' Annual Meeting, Denver, CO, May 2011

Abstract (Poster), Is a complete asthma action plan associated with reduced 30 day readmissions? (Yang Koh J, Rhee K, Andrews A, Stucky-Fisher E) Pediatric Academic Societies' Annual Meeting, Denver, CO, May 2011

Abstract (Platform presentation), Putting PDSA into action for asthma action plans. (Yang Koh J, Andrews A, Stucky-Fisher E) Pediatric Academic Societies' Annual Meeting, Denver, CO, May 2011

Society of Hospital Medicine Annual Meeting, Workshop: Designing, implementing, and disseminating a successful quality improvement curriculum. (Stucky-Fisher E (lead), Myers J, Asfarmanesh N, Vidyarthi A) Dallas, TX. May 2011

Pediatric Hospital Medicine Tri-Sponsored International Meeting, Kansas City, MO

- Workshop: Revisiting how we think: Innovative ideas for promoting and assessing clinical reasoning. (Blankenburg B, Long M, Rosenbluth G, Marsico N, Johnstone N, Stucky-Fisher E) July 2011

Pediatric Hospital Medicine Tri-Sponsored International Meeting, Kansas City, MO

- Workshop: Fellowships in pediatric hospitalist medicine: A practical guide for development. (Shah N, Maniscalco J, Ottolini M, Gereige R, Mancione P, Bell L, Stucky-Fisher E) July 2011

Pediatric Hospital Medicine Tri-Sponsored International Meeting, Kansas City, MO

- Workshop: Making the pediatric hospital medicine core competencies work for you. (Maniscaco J, Shah N, Chase L, Bauer B, Stucky-Fisher E, Ottolini M July 2011

Excellence in Teaching Award for 2008, RCHSD, 2009  
Fellow in Hospital Medicine. Society of Hospital Medicine, elected based on longevity in specialty, demonstrated successful continuous work in leadership, quality, advocacy and education, and letters of recommendation, 2009

Pediatric medication safety in emergency departments. Consensus Meeting of National Experts Meeting, Duke University. Subsequent appointment to the National Steering Committee created via this national meeting. American Academy of Pediatrics representative to the EMSC (Emergency Medical Services for Children), Durham, NC, February 23-24, 2009

AAP Section of Hospital Medicine–Executive Committee, November, 2009-2012

Society of Hospital Medicine–HQPS Quality Improvement Research Sub-Committee, Chair (Co-Chair: Nasim Afsarmanesh, MD), 2009-present

American Academy of Family Physicians recognition for participation as an Active Teacher in Family Medicine. Award to Division of Pediatrics and Hospital Medicine (Beauchamp J, Bernard-Stover L, Cannavino C, Cantu A, Chang W, Doshi A, Epstein E, Hershey D, Kuelbs C, Marchese S, Pierce H, Rosenthal J, Stucky-Fisher E, Vaux K, Wright W) 2009

Senior Fellow in Hospital Medicine. Society of Hospital Medicine, 2010

Best Doctors in America 2011-2012

Master of Hospital Medicine 2011

### **Premi Suresh, MD**

Munchausen syndrome by proxy. Child Protection Team Training, Sheriff's Department, San Diego, CA, January 2009

Recognizing child abuse. Pediatric Transport Team, RCHSD, San Diego, CA, January 2009

Child physical and sexual abuse. Coordinated response to child abuse training, El Cajon, CA, February, 2008

Evaluation of sexual abuse. Advanced Topics in Emergency Department Conference for ED nurses. RCHSD, San Diego, CA, May 2008

Advanced medical issues in sexual abuse cases. IVAT

Conference Training Institute, San Diego, CA, September 2009

Abusive head trauma. Indications of physical abuse. Training for the Investigator, San Diego, CA, December 2009

### **Wendy Wright, MD**

Chairperson, California DEC Alliance

National Educational Coordinator and Curriculum Committee, National DEC Alliance

Invited speaker, Interpreting medical records and countering defense theories. Investigation and Prosecution of Child Fatalities and Physical Abuse Conference, San Diego, CA, July 2008

Invited speaker, Substance abuse issues in dependency court proceedings. Dependency Counsel Training Program, UCSD, November 2009

San Diego Magazine's Top Doctors in San Diego, 2009

### **Keith Vaux, MD**

The technology dependent child. Pediatrics and Hospital Medicine Fellowship Core Curriculum, April, 2009

Evidence based medicine and leading a health care team, UCSD Pediatric Fellowship Core Curriculum, San Diego CA, October, 2009

New genetics and personalized medicine. World Congress on Disabilities, Jacksonville FL, November, 2009

Genetics primer. UCSD Pediatric Resident Core Curriculum, San Diego CA. February, 2010

Common syndromes and genomic sciences: How genetics will change our understanding of human disease. Southern California Association of Neonatal Nurses (SCANN), San Diego, CA, May 10, 2010

Trisomy 13 and 18, a review and discussion. RCHSD Ethics Forum, San Diego CA, Nov, 2010

Genetic disorders of connective diseases. UCSD Pediatric Resident Core Curriculum. San Diego, Nov 2010

Recognition, management and etiology of pediatric seizures. Pediatrics and Hospital Medicine Fellowship Core Curriculum, 2011

## **PUBLICATIONS**

Baughn MR, Vaux K, Masliah E. Placenta accreta in a separate uterine Hhrn. *Pediatr Dev Pathol*, 28:1, 2009.

- Bernard LA, Eichenfield L. Neonatal eczemas. In: *Textbook of Neonatal Dermatology*, 2nd ed., edited by Eichenfield, Frieden, Esterly. Elsevier (in press).
- Bratincsak A, El-Said H, Bradley J, Shayan K, Grossfeld P, Cannavino C. Fulminant myocarditis associated with pandemic H1N1 Influenza A virus in children. *Journal of the American College of Cardiology*, 2;55(9):928-9, 2010.
- Chadwick DL, Castillo EM, Kuelbs C, Cox SA, Lindsay SP. Missed and missing cases of abusive injuries: the magnitude and the measurement of the problem. *Child Abuse Negl*, 34(12): 943-50, 2010.
- Clay BJ, Halasyamani L, Stucky-Fisher ER, Greenwald JL, Williams MV. Brief communication: Results of a medication reconciliation survey from the 2006 Society of Hospital Medicine national meeting, *J Hosp Med*, 3(6):465-72, 2008.
- Dimmock D, Trapane P, Feigenbaum A, Keegan CE, Cederbaum S, Gibson J, Gambello MJ, Vaux K, Ward P, Rice GM, Wolff JA, O'Brien WE, Fang P. Novel human pathological mutations. Gene symbol: ASS1. Disease: Citrullinaemia. *Hum Genet*, 126(2):341, 2009.
- Dimmock DP, Trapane P, Feigenbaum A, Keegan CE, Cederbaum S, Gibson J, Gambello MJ, Vaux K, Ward P, O'Brien WE, Fang P. The role of molecular testing and enzyme analysis in the management of hypomorphic citrullinemia. *Am J Med Genet A*, 152A(4):1061, 2010.
- Doshi A, Bernard L, Kuelbs C, Castillo E, Stucky-Fisher ER. Apparent life threatening event admissions and gastroesophageal reflux disease: The value of hospitalization. *Pediatric Emergency Care*, accepted Jan. 2011. Research article.
- Doshi AP, Stucky-Fisher ER, Haddad GG. Apparent life threatening event. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G. Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Greenwald JL, Halasyamani L, Greene J, LaCivita C, Stucky-Fisher ER, Benjamin B, Reid W, Griffin FA, Vaida AJ, Williams MV. Making inpatient Medication reconciliation patient centered, clinically relevant and implementable: A consensus statement on key principles and necessary first steps. *Journal of Hospital Medicine*, 2010 Oct; 5(8):477-485. DOI: 10.1002/jhm.849. Dual publication with *The Joint Commission Journal on Quality and Patient Safety*. (CME article).
- Hackett LK, Tarsa M, Wolfson TJ, Kaplan G, Vaux KK, Pretorius DH. Use of multiplanar 3-dimensional ultrasonography for prenatal sex identification. *J Ultrasound Med*, 29(2):195-202, 2010.
- Halasyamani L, Stucky-Fisher ER. Quality improvement for the hospitalist. In: *Hospital Medicine: Just the Facts*, edited by McKean, Bennett, Halasyamani. The McGraw Hill Companies, 2008.
- Jones KL, Webster WS, Vaux KK, Benirschke K. Acardiac fetus: evidence in support of a vascular/hypoxia pathogenesis for isolated oral clefting. *Birth Defects Res A Clin Mol Teratol*, 82(8):597-600, 2008.
- Kanegaye J, Nigrovic L, Malley R, Cannavino C, et al. Diagnostic value of immature neutrophils (Bands) in the cerebrospinal fluid of children with pleocytosis. *Pediatrics*, 123(6):e967-71, 2009.
- Kimmons H, Stucky-Fisher ER. Continuous quality improvement. In: *The Pediatric Hospital Medicine Core Competencies Supplement. Journal of Hospital Medicine*, 5(S2):91-92, 2010. DOI: 10.1002/jhm.764.
- Kuelbs CL. The impact of intimate partner violence on children. In: *Intimate Partner Violence: A Bio-Psycho-Social Approach*, Oxford Publishing (in press).
- Kurtin PS and Stucky-Fisher ER. Standardize to excellence: Improving the quality and safety of care with clinical pathways. In: *Pediatric Clinics of North America*, Carla Holloway, Editor. Leonard G. Feld, Shabnam Jain, Guest Editors. W.B. Saunders Company, 2009 Aug, Volume 56(4), p.893-904.
- Landrigan CP, Conway PH, Stucky-Fisher ER, Chiang VW, Ottolini MC. Variation in pediatric hospitalists' use of proven and unproven therapies: a study from the Pediatric Research in Inpatient Settings (PRIS) Network. *J Hosp Med*, 3(4):292-8, 2008.
- Medzihradsky OF. Acute agitation in the hospitalized child. In: Rauch D and Gershel J, eds. *Hospital Medicine Manual*, 2011. American Academy of Pediatrics, in press.
- Medzihradsky OF, Schiff D, Auger J, Stucky-Fisher E. An end-of-life pathway is associated with improved pain control and less frequent TPN administration among terminally ill inpatients at a tertiary cancer center. *Abstract*, American Academy of Pediatrics National Conference and Exhibition, October 2011, submitted.
- Phillips S, Stucky-Fisher ER. Evidence based medicine. In:

- The Pediatric Hospital Medicine Core Competencies Supplement. Journal of Hospital Medicine*, 2010 Apr; 5(S2):98-99. DOI: 10.1002/jhm.768.
- Pian M, Ryu J, Stucky-Fisher ER. Pneumonias. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y. Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Rafaat KT, Spear RM, Kuelbs CL, Parsapour K, Peterson B. Cranial computed tomographic findings in a large group of children with drowning: Diagnostic, prognostic, and forensic implications, *Pediatr Crit Care Med*, 9:567-572, 2008.
- Revenu N, Boon LM, Mulliken JB, Enjolras O, Cordisco MR, Burrows PE, Clapuyt P, Hammer F, Dubois J, Baselga E, Brancati F, Carder R, Quintal JM, Dallapiccola B, Fischer G, Frieden IJ, Garzon M, Harper J, Johnson-Patel J, Labreze C, Martorell L, Paltiel HJ, Pohl A, Prendiville J, Quere I, Siegel DH, Valente EM, Van Hagen A, Van Hest L, Vaux KK, Vicente A, Webel L, Chitayat D, Vikkula M. Parkes Weber syndrome, vein of Galen aneurismal malformation, and other fast-flow vascular anomalies are caused by RASA 1 mutations. *Hum Mutat*, 29(7):959-65, 2008.
- Rhee KE, Appugliese D, Prisco A, Kaciroti N, Corwyn R, Bradley R, Lumeng J. Controlling maternal feeding practices associated with decreased dieting behavior in 6th grade children. *Journal of the American Dietetic Association*, 110(4):619-623, PMID: 20338289, 2010.
- Rhee KE, Wolf, H. Fever of Unknown Origin. The pediatric hospital medicine core competencies supplement. *Journal of Hospital Medicine*, 2010 Apr; 5(S2):17-18. Published online, 2010 Apr 8; DOI: 10.1002/jhm.728.
- Rutledge T, Stucky-Fisher E, Dollarhide A, Shively M, Jain S, Wolfson T, Weinger MB, Dresselhaus T. A real-time assessment of work stress in physicians and nurses. *Health Psychol*, 28(2):194-200, 2009.
- Shively M, Rutledge T, Rose BA, Graham P, Long R, Stucky-Fisher ER, Weinger MB, Dresselhaus T. Real-time assessment of nurse work environment and stress. Published online: *Journal for Healthcare Quality*, 2011 Jan-Feb;33(1):39-48. DOI: 10.1111/j.1945-1474.2010.00093.x, Research article.
- Stucky-Fisher ER. Bronchiolitis. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Stucky-Fisher ER. Inhalation lung injury. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Stucky-Fisher ER. Patient safety. In: *Pediatric Hospital Medicine Manual*, Publisher American Academy of Pediatrics, accepted Mar 2011.
- Stucky-Fisher ER. Wheezing. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Stucky-Fisher ER, Carlson D, and Ballantine A. Technology dependent children. In: *The Pediatric Hospital Medicine Core Competencies Supplement. Journal of Hospital Medicine*, 2010 Apr; 5(S2):80-81. DOI:10.1002/jhm.759.
- Stucky-Fisher ER, Dresselhaus TR, Dollarhide A, Shively M, Maynard G, Jain S, Wolfson T, Weinger MB, Rutledge T. Intern to attending: assessing stress among physicians. *Acad Med*, 84(2):251-7, 2009.
- Stucky-Fisher ER, Fisher B. Ventilation and intubation. In: *Pediatric Hospital Medicine Manual*, Publisher American Academy of Pediatrics, accepted Mar. 2011.
- Stucky-Fisher ER, Haddad GG. Respiratory failure. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.
- Stucky-Fisher ER, Ottolini MC, Maniscalco J. Pediatric hospital medicine core competencies: Development and methodology. *Journal of Hospital Medicine*, 2010 Jul/Aug 5(6):339-343. DOI: 10.1002/jhm.774.
- Takata G, Stucky-Fisher ER, Miller M. *American Academy of Pediatrics Policy Statement*. Principles of pediatric patient safety: Reducing harm due to medical care, in press, Mar 2011.
- Wilder MS, Stucky-Fisher ER. Drowning. In: *Textbook of Clinical Pediatrics*, Second Edition. Abdelaziz Y Elzouki, Editor-in-Chief; Gabriel G Haddad, Section Editor. Springer Science+Business Media, in press, Aug 2009.





# Infectious Diseases

The Division of Infectious Diseases provides clinical care, teaching, clinical and basic research as well as hospital epidemiology and infection control at Rady Children's Hospital San Diego (RCHSD). The division has excelled in every aspect of its clinical and academic missions. Its reputation is demonstrated by the leadership roles of its divisional members nationally and internationally, and the success of the fellows graduating from the program.

## FACULTY

**Stephen A. Spector, MD**, *Co-Director*, Distinguished Professor of Pediatrics

**John S. Bradley, MD**, *Co-Director*, Professor of Clinical Pediatrics

**Grant Campbell, PhD**, Assistant Project Scientist

**Christopher R. Cannavino, MD**, Assistant Clinical Professor of Pediatrics

**John Leake, MD, MPH**, Associate Clinical Professor of Pediatrics

**Alice Pong, MD**, Associate Clinical Professor of Pediatrics

Left to right: John Leake, John Bradley, Stephen Spector, Alice Pong, Mark Sawyer, Adriana Tremoulet, Rolando Viani, Chris Cannavino

**Mark H. Sawyer, MD**, Professor of Clinical Pediatrics

**Kumud Singh, PhD**, Assistant Research Scientist

**Rolando M. Viani, MD, MTP**, Associate Professor of Clinical Pediatrics

**Dejiang Zhou, PhD**, Assistant Project Scientist

## POSTDOCTORAL FELLOWS

**Amaran Moodley, MD**

**Juan Chaparro, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The division's clinical activity is primarily consultative assisting other medical and surgical divisions in the management of serious, complicated or unusual infections in children in both the inpatient and outpatient settings.

## RESEARCH ACTIVITIES

**John S. Bradley, MD** is involved in Phase I through Phase IV clinical trials of antibacterials, antifungals, and non-HIV antivirals, and currently focuses on novel therapies for CA-MRSA. He has been involved in clinical trial design and evaluation of clinical trial data, as a member of the FDA's Anti-Infective Drug Advisory Committee, incorporating pharmacodynamics and Monte Carlo Simulation into clinical outcome assessment. He is a member of the Foundation of NIH Biomarkers Consortium to create clinical trial design to better evaluate impact of anti-infective therapy.

**John Leake, MD, MPH**, has a primary clinical and research interest in tropical medicine, and has experience in field and laboratory investigation. He is currently collaborating with the UC San Diego (UCSD) Department of Medicine and Scripps Translational Science Institute on

a leptospirosis immunogenetic susceptibility project. Other recent work includes a collaboration with UCSD and The Scripps Research Institute on study of the genetic basis of *Plasmodium vivax* chloroquine resistance in Indonesia. He also represents RCHSD through Baylor University/Texas Children's Hospital in a multi-center U.S. collaborative project on meningococcal disease surveillance with eight other pediatric centers.

**Alice Pong, MD** has a keen interest in pediatric tuberculosis and participates in collaborative studies defining the cellular immune responses of children with acute and latent tuberculosis infections. Current research includes studying the efficacy of an interferon gamma assay to detect tuberculosis infection in children. She is also involved in clinical research studies related to infection control and currently is studying the impact of mupirocin on MRSA colonization in hospitalized children.

**Mark H. Sawyer, MD** focuses his research activities on immunizations through a contract with the San Diego County Health and Human Services Agency Immunization Program. This program is involved in all aspects of immunization including immunization policy, assessment of immunization coverage levels, education of providers and the community about immunizations, promotion of San Diego's computerized regional immunization information system, and focused research into ways to improve immunization delivery.

**Stephen A. Spector, MD** is examining viral pathogenesis with a particular interest in host-viral interactions. He has sought to discover novel approaches for the detection, treatment, prevention and immunopathogenesis of HIV and human cytomegalovirus (CMV). Ongoing projects include the examination of genetic determinants for the risk of HIV mother-to-child transmission and disease progression in children, and pharmacogenetics of antiretrovirals and other compounds. Dr. Spector's research also includes examination of the impact of Tat subtypes on HIV-1 pathogenesis and the role of autophagy in viral mediated disease. His laboratory has also identified an important role for autophagy in HIV pathogenesis, and is examining the ability of vitamin D3 (an inducer of autophagy) to inhibit both HIV and *Mycobacteria tuberculosis*.

**Rolando M. Viani, MD, MTP**, studies bi-national health for pregnant women and children infected with HIV. As part of the UCSD-Tijuana General Hospital Bi-National

## Major Goals and Plans

**Recruitment of laboratory based research faculty:** With the departure of Akihiko Saitoh and Victor Nizet being appointed as the division chief of Pharmacology and Drug Discovery, Stephen Spector is the only infectious diseases faculty member with a laboratory based research program, prompting the recruitment of at least two junior laboratory based researchers over the next 5 years.

**Clinical Program:** The Pediatric Infectious Diseases Division has established an outstanding clinical infectious diseases consultative service as well as an infectious diseases specialty service at RCHSD.

Members of the Division (AP primarily) are responsible for the Hospital Epidemiology Program, as well as the RCHSD Antimicrobial Stewardship Program.

**Molecular Diagnostic Laboratory:** As the medical director of the Molecular Diagnostic Laboratory, Dr. Spector's immediate objective of the laboratory is to implement an RT-PCR for H1N1 influenza. The goal over the next 5 years is to greatly expand the rapid molecular diagnostics capabilities at RCHSD such that the needs of clinicians for clinical care can be met. The objective is to integrate molecular diagnostics into every day clinical practice to facilitate patient care by improving microbial diagnosis and monitoring of bacteria, mycobacteria, viruses, fungi and parasites, and antimicrobial sensitivity testing.

**Teaching:** The Infectious Diseases faculty has an established record of outstanding teaching and mentoring of medical students, residents and fellows, with one of the ID faculty receiving the UCSF Pediatric Resident Attending of the Year Award (2011). The ID service begins rounds in the Microbiology Laboratory of RCHSD each day with traditional "plate rounds" to correlate clinical disease with the actual patient microbiology.

**Fellowship Program:** The Division is an ACGME approved program and has an outstanding track record of training fellows that go on to successful careers in academic medicine.

**Research:** The Infectious Disease Division plans to continue its involvement in developing new antiinfective agents in close collaboration with the Division of Pharmacology and Drug Discovery in the Department of Pediatrics. The clinical research program includes the study of new chemical entities and enhanced structure and function of current classes of therapeutic agents in Phase I through Phase IV development. The division also plans to conduct research with future generations of biologic response modifiers in the treatment of infectious diseases, most notably the sepsis syndrome. The division is currently collaborating with the FDA and the pharmaceutical industry to develop new agents and investigate pharmacokinetic exposure and clinical and microbiologic outcomes in populations not previously investigated. The division's ultimate goal is to provide new, safe and effective agents to neonates, infants and children.

Research into the pathogenesis, diagnosis and treatment of tuberculosis in children is a priority for the division. With Dr. Alice Pong's leadership, pediatric infectious diseases specialists provide care to children with TB at the San Diego County Pediatric Tuberculosis Clinic and the Rady Children's Hospital Clinics.

Dr. Sawyer's relationship with San Diego's HHS Immunization Program allows for studies into the delivery of immunizations including predictors of successful immunization and the evaluation of methods to improve the delivery of immunization in various medical settings. This program provides exposure to a major public health initiative.

## Major Goals and Plans

Dr. Steve Spector's laboratory is examining viral pathogenesis with a particular interest in host-viral interactions, and in particular, discovering novel approaches for the detection, treatment, prevention and immunopathogenesis of HIV and human cytomegalovirus (CMV). Ongoing projects include the examination of genetic determinants for the risk of HIV mother-to-child transmission and disease progression in children, and pharmacogenetics of antiretrovirals and other compounds. Other areas of HIV research include examination of the impact of Tat subtypes on HIV-1 pathogenesis and the role of autophagy in HIV pathogenesis viral mediated disease. Further, the laboratory is examining the ability of vitamin D3 (an inducer of autophagy) to inhibit both HIV and Mycobacteria tuberculosis.

**Expand the UCSD-Tijuana General Hospital Bi-National Program:** The Mother-Child-Adolescent HIV Program has established an excellent collaboration with investigators from Tijuana General Hospital. This program will provide the opportunity to expand research opportunities to other areas including tuberculosis and immunizations.

**The Pediatric Infectious Diseases Research Center at Rady Children's Hospital:** Infectious diseases remain leading causes of morbidity and mortality of children. The recent H1N1 pandemic, methicillin resistant staphylococcus aureus, and multi-drug resistant tuberculosis are just a few examples of new challenges in infectious diseases. In order to meet these and other infectious challenges, the Pediatric Infectious Diseases Research Center at RCHSD was established in 2001.

Program, Dr. Viani has established a model of care that is being replicated throughout Mexico. Dr. Viani and colleagues have determined that over 1.2% of pregnant women tested for HIV during delivery were HIV-infected, more than 10 times the number estimated by Mexican health officials. In addition to demonstrating the higher-than-expected HIV seroprevalence among pregnant women, Dr. Viani also demonstrated that women were willing to be tested for HIV and were interested in learning how to prevent their babies from becoming infected. Dr. Viani's studies at Tijuana General Hospital also identified the risk factors for HIV infection among women and established the current baseline antiretroviral resistance rate among this population. Dr. Viani is also a leader in research involving primary viral resistance in HIV-infected adolescents. In addition, Dr. Viani has been involved as study chair and co-chair in the development of a Phase I/II NIH sponsored studies on the use of novel antiretrovirals with diverse mechanisms of action such as vicriv-

roc, a novel CCR5 antagonist, etravirine, a non nucleoside analogue and dolutegravir, an integrase inhibitor in HIV infected treatment experienced children and adolescents. Recently, Dr. Viani has been studying the cellular immune response to tuberculosis in HIV infected children at both sides of the border.

## TEACHING ACTIVITIES

The Division of Infectious Diseases provides care and on-service direct teaching of students, pediatric and pharmacy residents, and fellows in the diagnosis and management of pediatric infectious diseases. The ID service begins rounds each day in microbiology, where cultures, stains and histology are reviewed, followed by radiology rounds and ward rounds, and visits to the Emergency Department to provide a superb hands-on teaching experience.





**John S. Bradley, MD**

- National Faculty for AAP National Conference (Antibiotic Update)
- National Faculty, AAP PREP Course in Infectious Diseases
- Faculty, Pediatric Infectious Diseases Society Fellow's Day
- Lecturer, RCHSD Noon Conferences
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

**Christopher R. Cannavino, MD**

- Lecturer, RCHSD Noon Conferences
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

**John A. D. Leake, MD, MPH**

- Lecturer, RCHSD Noon Conferences
- Lecturer, UCSD International Health and Microbiology courses

- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases
- ISP student and Pediatric Resident Advisor
- Clinicopathologic correlation preceptor
- Lecturer for Binational Border Health, Bioterrorism Preparedness, and other local and national conferences

#### **Alice Pong, MD**

- Lecturer, RCHSD Noon Conferences
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

#### **Mark Sawyer, MD**

- Directs a focused curriculum on immunizations for primary care residents
- Lecturer, Pediatric Infectious Diseases
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases
- ISP student advisor

#### **Stephen Spector, MD**

- Instructor, Medical Microbiology for second-year medical students
- Instructor, Medical Microbiology Laboratory
- Lecturer, Core Basic Biology for first-year medical students
- Lecturer, Pediatric Infectious Diseases introductory lecture for third-year medical students
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases
- Member of PhD committees for biomedical sciences students
- ISP student advisor

#### **Rolando M. Viani, MD, MTP**

- Lecturer, Pediatric Infectious Diseases introductory lecture for third-year medical students
- Proctors the Objective Structured Clinical Exam for second-year students
- Clinicopathologic correlation preceptor
- Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases
- Lecturer, Pediatric HIV diagnosis and management, Annual CHHC Pediatric Infectious Disease Lecture
- Lecturer, Perinatal HIV Infection, Mercy Hospital Pediatric Infectious Disease Lecture

- ISP student advisor
- Lectures to International military scholars from Eastern Europe, former Soviet Union, Africa, Central Asia and Latin America
- Lectures and bedside training on Pediatric HIV management for physicians in South Africa's Eastern Cape, Mpumalanga and Limpopo on behalf of the International AIDS Education and Training Center

## **AWARDS, HONORS AND MAJOR PRESENTATIONS**

#### **John S. Bradley, MD**

Infectious Diseases Society of America: Task Force on Antimicrobial Drug Availability  
 CDC/IDSA National Guidelines Writing Group for the Diagnosis, Treatment and Prevention of Influenza  
 Chair, PIDS/IDSA Guidelines Writing Committee for Pediatric Community Acquired Pneumonia  
 Member, FNIH Biomarkers Consortium  
 Senior Advisor, PIDS Steering Committee on Antimicrobial Stewardship  
 National Biodefense Science Board, Workshop on Pediatric Anthrax Vaccine  
 UCSD Pediatric Residents Attending of the Year Award 2011

#### **Christopher Cannavino, MD**

Pediatric Residency Program Teaching Award, Attending of the Year 2008 and 2010

#### **John Leake, MD, MPH**

Supervises pediatric infectious diseases travel clinic at RCHSD ICU M and M Committee

#### **Alice Pong, MD**

Chair, Pediatric Tuberculosis Task Force, San Diego County Hospital Epidemiologist, RCHSD  
 Safety officer, Children's Specialists of San Diego

#### **Mark Sawyer, MD**

Member, CDC Advisory Committee on Immunization Practices  
 Chair, California Immunization Committee

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>John A.D. Leake, MD, MPH</b>		
Human Genetic Susceptibility to Tropical Infectious Diseases 1 K23 AI073488-01A1/NIH (NIAID)	\$117,250	\$379,890 Mar. 2009-Feb. 2012
<b>Alice Pong, MD</b>		
A Randomized Controlled Trial on the Effect of Intranasal Mupirocin on Methicillin-Resistant Staphylococcus Aureus (MRSA) Colonization in Hospitalized Pediatric Surgical Patients UCSD/PEDS		\$50,000 Apr. 2008-Mar. 2010
<b>Mark Sawyer, MD</b>		
UCSD/SDSU IMMUNIZATION PARTNERSHIP 45950/San Diego, County Of	\$3,075,874	\$20,785,391 Oct. 2002-June 2011
San Diego HHSA for Immunization Program 519893/San Diego, County Of	\$434,952	\$1,000,000 July 2007-June 2011
Impact of New Adolescent Vaccines 1 U01 IP000136-01/PHS (CDC)	\$157,962	\$398,064 Sept. 2008-Aug. 2011
San Diego-Influenza Coverage Extension (SD-ICE) 1 U01 IP000189-01/PHS (CDC)	\$169,565	\$652,304 Sept. 2008-Sept. 2011
Partnerships to Address IZ Training:Vaccine Safety Communication Materials Sub 20095871 (U01P000375)/American Academy Of Pediatrics	\$99,398	\$124,428 Sept. 2009-Sept. 2011
<b>Stephen Spector, MD</b>		
Coordinated Services for HIV-Infected Pregnant Women, Children and Adolescents and Their Families in San Diego County HA00041/PHS (HRSA)	\$474,307	\$19,356,938 Aug. 1996-July 2013
University of California, San Diego Clinical Trials Unit 1 U01 AI069536-01/NIH (NIAID)	\$557,775	\$7,211,884 Jan. 2007-Nov. 2013
Host Genetic Factors Associated with CNS Disease of HIV-Infected Children 1 R01 NS077874-01/NIH (NINDS)	\$537,929	\$3,797,773 Aug. 2011-Mar. 2016
Pediatric HIV/AIDS Cohort Study Initiative (AMP Study) Sub AMP-PHACS FFP (HD052102)/Harvard University	\$175,350	\$1,610,264 Sept. 2006-July 2010

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Pediatric HIV/AIDS Cohort Study Initiative (SMARTT Study)	\$157,078	\$1,575,445
Sub SMARTT FFP (HD052102)/Harvard University		Sept. 2006-July 2010
Social & Scientific Systems IMPAACT Network Immunology Specialty Laboratory		\$882,814
Sub BRS-IMPCT-Q-06-00118-T002 (AI068632)/Social & Scientific Systems, Inc.		July 2006-May 2011
Intel. Maternal Ped. Adoles. AIDS Clinical Trials Grp. Leadership Award T011	\$120,000	\$870,634
Sub BRS-IMPCT-Q-06-00118-T002 (AI068632)/Social & Scientific Systems, Inc.		Oct. 2006-May 2011
Identifying Genetic Association for Targeted AMP and SMARTT Phenotypes	\$446,602	\$690,000
Sub TUL-HSC-238-10/11(HD052104)/TULANE UNIVERSITY		Sept. 2010-Aug. 2012
Pediatric HIV/AIDS cohort study Initiative (SMARTT Study)	\$348,128	\$536,310
Sub 114074.0730.SMARTT(HD052102)/Harvard University		Aug. 2011-July 2012
Vitamin D Inhibition of HIV and M. Tuberculosis Coinfection in Macrophages	\$150,000	\$466,194
1 R21 AI084573-01/NIH (NIAID)		July 2009-June 2011
Pediatric HIV/AIDS Cohort Study initiative (AMP Study)	\$231,204	\$414,042
Sub 114074.0628 (HD052102)/Harvard University		Sept. 2010-July 2011
Pediatric HIV/AIDS Cohort Study Initiative (SMARTT Study)	\$215,617	\$388,747
Sub 114074.0630 (HD052102)/Harvard University		Sept. 2010-July 2011
RYAN WHITE CARE ACT YR 18	\$117,267	\$386,979
524089/San Diego, County Of		Mar. 2008-Feb. 2011
HIV Research Network	\$45,997	\$369,826
Sub 2000011935 (HSA290200600025C)/Johns Hopkins University		Oct. 2006-Sept. 2011
International Maternal Pediatric Adolescent AIDS Clinical Trials Group IMPAACT	\$165,503	\$249,465
Sub BRS-IMPCT-Q-06-00118-T014 (AI068632)/Social & Scientific Systems, Inc.		Sept. 2009-Sept. 2011
International Maternal Pediatric Adolescent AIDS Clinical Trials Group	\$150,238	\$232,118
Sub BRS-IMPACT-Q-00118-T018/Social & Scientific Systems, Inc.		Sept. 2010-Sept. 2011
International Maternal Pediatric Adolescent AIDS Clinical Trials Group	\$ 18,350	\$229,295
Leadership Award T007 (IMPAACT)		June 2007-May 2011
Sub BRS-IMPCT-Q-06000118-T007 (AI068632)/Social & Scientific Systems, Inc.		



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Int. Maternal Ped Adoles Clinical Trials Group Leadership	\$120,133	\$185,606
Sub BRS-IMPCT-S-11-000016-001251 (AI068632)/Social & Scientific Systems, Inc.		June 2011-May 2012
Int. Maternal Ped. Adolesent AIDS Clinical Trials Group Leadership T011	\$24,265	\$178,302
Sub BRS-IMPCT-Q-06-00118-T011 (AI068632)/Social & Scientific Systems, Inc.		June 2008-May 2011
Ryan White Title IV Program Capacity Building for Electronic Client Information	\$69,093	\$85,445
1 H97HA15284-01-00/PHS (HRSA)		Sept. 2009-Aug. 2010
International Maternal Pediatric Adolescent AIDS Clinical Trial Group (Leadership)	\$25,733	\$39,757
BRS-IMPCT-S-11-000016-001668 (A1-068632)/Social & Scientific Systems, Inc.		June 2011- May 2012
Pediatric HIV/AIDS Cohort Study (PHACS): Enhances Data Collection	\$22,108	\$34,157
Sub 114050.0016 (HD052102)/Harvard University		Sept. 2010-Feb. 2012
Social & Scientific Systems IMPAACT Network Host Genetic Laboratory	\$19,800	\$30,591
Sub BRS-IMPCT-S-11-000016-001578(AI-068632)/Social & Scientific Systems, Inc.		June 2011-May 2012
Vitamin D Suppl. Enhances Immune Response to BCG Vaccination in Infants	\$25,000	\$25,000
Thraser (Moodley)/Thrasher Research Fund (The)		Feb. 2011-Jan. 2013
Int. Maternal Ped. Adolesent AIDS Clinical Trials Group T015	\$14,531	\$22,450
Sub BRS-IMPCT-Q-06-00118-T015 (AI068532)/Social & Scientific Systems, Inc.		Nov. 2009-Nov. 2010
Int. Maternal Ped. Adolesent AIDS Clinical Trials Group T016	\$10,156	\$15,690
Sub BRS-IMPCT-Q-06-00118-T016 (AI068632)/Social & Scientific Systems, Inc.		Nov. 2009-Nov. 2010
Intl. Maternal Ped. Adoles. AIDS Clinical Trials Group Leadership Award - T012	\$9,630	\$14,878
Sub BRS-IMPCT-Q-06-00118-T012 (AI068632)/Social & Scientific Systems, Inc.		June 2009-May 2011
International Maternal Pediatric Adolescent AIDS Clinical Trials Group Leadership Award T008 (IMPAACT)	\$7,770	\$12,005
Sub BRS-IMPCT-Q-06-00118-T008 (AI068632)/Social & Scientific Systems, Inc.		June 2007-May 2010
Mitochondrial Determinants of Metaolic Disease in HIV-Infected Children	\$2,913	\$10,500
Sub none (NR012885)/University Of Miami		Sept. 2010-June 2012
International Maternal Pediatric Adolescent AIDS Clinical Trials Group ("IMPAACT")	\$5,685	\$8,784
Sub BRS-IMPCT-Q-06-00118-T017 (AI068632)/Social & Scientific Systems, Inc.		Nov. 2009-Nov. 2010

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
International Maternal Pediatric Adolescent AIDS Clinical Trials Group Sub CRB-IPHRM-S-09-00347(none)/Social & Scientific Systems, Inc.	\$3,705	\$5,724 Nov. 2009-May 2013
Int. Maternal Ped. Adolescent AIDS Clinical Trials Group CRB-IPHRM-S-10-00208 Sub none (CRB-IPHRM-S-10-00208)/Social & Scientific Systems, Inc.	\$2,242	\$3,463 Nov. 2010-Dec. 2016
Discerning Biographical Ancestry of Domestic IMPAACT NetWork Study Participants Using Ancestry Informative Markers Project 5001 AI68632-05/NIH/Social & Scientific Systems/ARRA Funding		\$150,238 Sept. 2010-Sept. 2011

President, California Immunization Coalition  
Board member, American Immunization Registry Association

### Stephen Spector, MD

Elected to membership in the American Association of Physicians 2009  
Promoted to Distinguished Professor (above scale Professor X)  
Best Doctors in America, 2007-present  
Who's Who in Medical Sciences Education  
Senior advisor, William Jefferson Clinton Foundation for Care and Treatment of Children with HIV/AIDS  
Panelist member, Guidelines for prophylaxis of opportunistic infections in patients with HIV infections, Department of Health & Human Services and Centers for Disease Control Advisory Board  
Panelist member, Perinatal HIV guidelines, Department of Health & Human Services  
External advisory panel, Bone marrow transplantation program project grant, Stanford University, Stanford, CA  
Data Safety Monitoring Board-Collaborative Antiviral Study Group  
Journal Editorial Boards: *AIDS*, *Journal of AIDS*, *Journal of Infectious Diseases*, *Open AIDS Journal*, *Journal of Clinical Virology*

Senior Advisor to the Office of the U.S. Global AIDS Coordinator

### Rolando M. Viani, MD, MTP

Elected to UCSD Standings and Promotions Committee July 2010  
Lecturer, Travel Medicine and Interesting Travel Related ID Cases. Workshop, Advances in the Practice of Pediatrics, AAP San Diego, 2011

## PUBLICATIONS

Arnold JC, Singh KK, Milder E, Spector SA, Sawyer MH, Gavali S, Glaser C. Human metapneumovirus associated with central nervous system infection in children. *Pediatr Infect Dis J*, 28(12): 1057-60, 2009.  
Atkinson JH, Patel SM, Meyer JM, Slater MA, Zisook S, Capparelli E. Is there therapeutic window with some antidepressants for analgesic response? *Curr Pain Headache Rep*, 13(2):93-9, 2009.  
Ballock RT, Newton PO, Evann SJ, Estabrook M, Farnsworth CL, Bradley JS. A comparison of early versus late conversion from intravenous to oral therapy in the treatment of septic arthritis. *J Pediatr Orthop*, 29(6): 636-42, 2009.

- Bradley JS, Garonzik SM, Forrest A, Bhavnani SM. Pharmacokinetics, pharmacodynamics, and Monte Carlo simulation: selecting the best antimicrobial dose to treat an infection. *Pediatr Infect Dis J*, 29(11):1043-6, 2010.
- Bradley JS. Considerations unique to pediatrics for clinical trial design in hospital-acquired pneumonia and ventilator-associated pneumonia. *Clin Infect Dis*, 1;51 Suppl 1:S136-43, 2010
- Bratincsak A, El-Said H, Bradley J, Shayan K, Grossfeld P, Cannavino C. Fulminant Myocarditis Associated with Pandemic H1N1 Influenza A Virus in Children. *Journal of the American College of Cardiology*, 55(9):928-9, 2010.
- Brodine SK, Thomas A, Huang R, Harbertson J, Meththa S, Leake J, Nutman T, Moser K, Wolf J, Ramanathan R, Burbelo P, Nou J, Wilkins P, Reed SL. Community based parasitic screening and treatment of Sudanese refugees: application and assessment of Center for Disease Control guidelines. *Am J Trop Med Hyg*, 80(3): 425-30, 2009.
- Brogly SB, Foca M, Deville JG, Mirochnick M, Mofenson LM, Read JS, Viani RM, Burchett SK, Browning R, Cooper ER. Potential confounding of the association between exposure to nucleoside analogues and mitochondrial dysfunction in HIV-uninfected and indeterminate infants. *J Acquir Immune Defic Syndr*, 53:154-157, 2010.
- Campbell GR, Loret EP, Spector SA: HIV-1 clade B Tat, but not clade C Tat, increases X4 HIV-1 entry into resting but not activated CD4+ T cells. *J Biol Chem*, 285:1681-1691, 2010.
- Campbell GR, Watkins JD, Loret EP, Spector SA: Differential induction of rat neuronal excitotoxic cell death by human immunodeficiency virus type 1 clade B and C Tat proteins. *AIDS Res Hum Retroviruses*, 27:647-54, 2010.
- Campbell GR and Spector SA: Hormonally active vitamin D3 (1?,25-dihydroxycholecalciferol) triggers autophagy in human macrophages that inhibits HIV-1 infection. *J Biol Chem*, 286:18890-902, 2011.
- Chacon-Cruz E, Sugarman D, Ginsberg M, Hopkins J, Hurtado-Montalvo J, Lopez-Viera J, Lara-Muñoz C, Volker M, Leake J. Surveillance for Invasive Meningococcal Disease in Children, US–Mexico Border, 2005–2008. *Emerging Infectious Diseases*, 17(3): 543-6, 2011.
- Committee on Infectious Diseases. Lead Authors: Bradley JS, Jackson MA. The use of systemic fluoroquinolones in children. *Pediatrics* (in press).
- Harper SA, Bradley JS, Englund JA, File TM, Gravenstein S, Hayden FG, McGeer AJ, Neuzil KM, Pavia AT, Tapper ML, Uyeki TM, Zimmerman RK. Seasonal influenza in adults and children—diagnosis, treatment, chemoprophylaxis, and institutional outbreak management: clinical practice guidelines of the infectious diseases society of America. *Clin Infect Dis*, 48(8): 1003-32, 2009.
- Iniguez-Stevens E, Brouwer KC, Hogg RS, Patterson TL, Lozada R, Magis-Rodriguez C, Elder JP, Viani RM, Strathdee SA. Estimating the 2006 Prevalence of HIV by Gender and Risk Groups in Tijuana, México. *Gac Med Mex*, 145:189-95, 2009.
- Kanegaye JT, Nigrovic LE, Malley R, Cannavino CR, Schwab SH, Bennett JE, Mohseni MM, Wang VJ, Katsogridakis YL, Herman MI, Kuppermann N; American Academy of Pediatrics, Pediatric Emergency Medicine Collaborative Research Committee. Diagnostic Value of Immature Neutrophils (Bands) in the Cerebrospinal Fluid of Children with Pleocytosis. *Pediatrics*, 123(6):e967-71, 2009.
- Leake, JAD. 1. Travel organisms and parasites; 2. Vector-Borne Infections. Reuter-Rice K, Bolin B, eds. *Pediatric Acute Care: A Guide for Interprofessional Practice*, in press (July 2011).
- Saitoh A, Capparelli E, Aweeka F, Sarles E, Singh KK, Kovacs A, Burchett SK, Wiznia A, Nachman S, Fenton T, Spector SA. CYP2C19 Genetic Variants Affect Nelfinavir Pharmacokinetics and Virologic Response in HIV-1-Infected Children Receiving Highly Active Antiretroviral Therapy. *J Acquir Immune Defic Syndr*, 2010; 54:285-289..
- Siberry GK, Paige WL, Lujan-Zilbermann J, Warshaw MG, Spector SA, Decker MD, Heckman BE, Demske EF, Read JS, Jean-Philippe P, Kabat W, Nachman SA. Phase I/II, Open-Label Trial of Safety and Immunogenicity of Meningococcal (Groups A, C,Y, and W-135) Polysaccharide Diphtheria Toxoid Conjugate Vaccine in Human Immunodeficiency Virus-Infected Adolescents. *Pediatr Infect Dis J*, 29:391-396, 2010.
- Singh KK, Spector SA. Host genetic determinants of human immunodeficiency virus infection and disease

- progression in children. *Pediatr Res*, 65(5 Pt2):55R-63R, 2009.
- Sleasman JW, Robbins BL, Cross SJ, Lindsey JC, Kraimer JM, Heckman BE, Sprenger HL, Tustin NB, Rose CH, Poston PA, Neal EF, Pakes GE, Nikanjam M, Capparelli EV. Abacavir pharmacokinetics during chronic therapy in HIV-1-infected adolescents and young adults. *Clin Pharmacol Ther*, 85(4):394-401, 2009.
- Singh KK, Gray PK, Wang Y, Fenton T, Trout R, Spector SA. HLA alleles are associated with altered risk for disease progression and central nervous system impairment of HIV-infected children. *J Acquir Immune Defic Syndr* 2011; 57:32-39
- Spector SA. Vitamin D earns more than a passing grade. *J Infect Dis*, 200(7):1015-7, 2009.
- Spector SA, Singh KK, Gupta S, Cysique LA, Jin H, Letendre S, Schrier R, Wu Z, Hong KX, Yu X, Shi C, Heaton RK; HNRC Group. APOE epsilon4 and MBL-2 O/O genotypes are associated with neurocognitive impairment in HIV-infected plasma donors. *AIDS*, 24:1471-1479, 2010.
- Solomkin JS, Mazuski JE, Bradley JS, Rodvold KA, Goldstein EJ, Baron EJ, O'Neill PJ, Chow AW, Dellinger EP, Eachempati SR, Gorbach S, Hilfiker M, May AK, Nathens AB, Sawyer RG, Bartlett JG. Diagnosis and management of complicated intra-abdominal infection in adults and children: guidelines by the Surgical Infection Society and the Infectious Diseases Society of America. *Clin Infect Dis*, 50(2):133-64, 2010.
- Spichler A, Athanazio D, Vilaça P, Seguro A, Vinetz J, Leake J. Comparative Analysis of Severe Pediatric and Adult Leptospirosis in São Paulo, Brazil. *American Journal of Tropical Medicine and Hygiene*, (in press) 2011.
- Viani RM, Ruiz-Calderon J, Lopez G, Chacon-Cruz E, Spector SA. Mother to Child HIV Transmission in a Cohort of Pregnant Women Diagnosed by Rapid HIV testing at Tijuana General Hospital, Baja California, Mexico. *Journal of the International Association of Physicians in AIDS Care*, 9:82-86, 2010.
- Viani RM. Role of Etravirine in the management of Treatment Experienced Patients with Human Immunodeficiency Virus Type 1. *HIV/AIDS-Research and Palliative Care*, 2:141-149, 2010.
- Viani RM, Araneta MR, Lopez G, Chacon-Cruz E, Spector SA. Clinical Outcomes and Hospitalizations Among Children Perinatally Infected with HIV-1 in Baja California, Mexico. *Journal of the International Association of Physicians in AIDS Care*, (in press) 2011.
- Wohl DA, Kendall MA, Andersen J, Crumpacker C, Spector SA, Feinberg J, Alston-Smith B, Owens S, Chafey S, Marco M, Maxwell S, Lurain N, Jabs D, Benson C, Keiser P, Jacobson MA. Low rate of CMV end-organ in HIV-infected patients despite low CD4+ cell counts and CMV viremia: results of ACTG protocol A5030. *HIV Clin Trials*, 10(3):143-52, 2009.
- Wong JK, Campbell GR, Spector SA: Differential induction of interleukin-10 in monocytes by HIV-1 clade B and clade C Tat proteins. *J Biol Chem* 2010; 285:18319-18325.
- Zhou D, Masliah E, Spector SA. Autophagy is increased in postmortem brains of persons with human immunodeficiency virus type-1 associated encephalitis. *J Infect Dis*, 203:1647-57, 2011.





# Neonatology - RCHSD

## RADY CHILDREN'S HOSPITAL-SAN DIEGO

The Division of Neonatology has a full-time faculty of 14 board-certified Neonatologists and 13 neonatal nurse practitioners providing state-of-the-art neonatal services to Rady Children's Hospital-San Diego (RCHSD) NICU and the NICU's within the Scripps and Palomar/Pomerado Healthcare Systems (93 neonatal beds total). The division faculty provides clinical service and medical direction to 5 neonatal intensive care units (NICU's). The division provides a regionalized approach to care, participating with all the major delivery services in San Diego, Imperial and Riverside Counties, and is focused on clin-

ical excellence and evidence-based research and teaching. In addition, the division's physicians provide medical and neuro-developmental evaluations of high-risk infant graduates from the NICUs serviced by the division.

The Neonatology group collaborates with the Academic Division at University of California, San Diego (UCSD)-Hillcrest. This collaboration includes essential teaching of the Neonatal fellows who spend a significant

Left to right: Mark Speziale, Amy Kimball, Crystal Le, Jose Honold, Paul Zlotnik, Charles Sauer, Jane O'Donnell, Brian Lane, Casey Wang, Denise Suttner, Gail Knight, Nabil Fatayerji, David Golembeski

period of time in their three year program at RCHSD NICU. There are only two teaching sites for this program and the rotations at RCHSD NICU allows the trainees to become familiar with neonatal cardiac disorders, including preoperative stabilization and diagnosis, and involve the trainees in post-operative care of these infants. The trainees learn Neonatal Extra Corporeal Membrane Oxygenation (ECMO), and are certified as being ECMO educated and functioning as ECMO specialists and learn about ECMO eligible conditions, criteria, and are involved in all aspects of the delivery of Neonatal ECMO, with a significant exposure to the use of ECMO in the post-operative cardiac neonate. At both sites the trainees are exposed to and become competent in the management of the surgical neonate and are involved in the organization and supervision of Neonatal transports. Our joint rotations involving RCHSD NCICU and the UCSD ISCC has resulted in our trainees having one of the best overall clinical exposures and education compared to any other program in the country. This collaboration is important for the Neonatal Match of recruits. We have expanded the training program with GMEC approval and additional funding for positions from RCHSD and will continue to recruit three new fellows every year.

The other major collaboration between the Academic Unit at UCSD and the RCHSD group involves research.

RCHSD is the only facility in San Diego and Imperial Counties that provides Extra Corporeal Membrane Oxygenation (ECMO), a high-tech therapy that temporarily performs the work of a baby's heart and lungs, giving the organs time to develop and repair themselves.

CSSD Division of Neonatology is responsible for the Medical Directorship of the Children's Hospital Emergency (Neonatal) Transport program which accounts for over 900 transports per year, the largest in California, 662 by ambulance, 59 by plane and 52 by helicopter.

## FACULTY

- Gail Knight, MD**, Clinical Professor of Pediatrics, Chief, Division of Neonatology
- Marva Evans, MD**, Clinical Professor of Pediatrics
- Nabil Fatayerji, MD**, Associate Clinical Professor of Pediatrics

**David Golembeski, MD**, Clinical Professor of Pediatrics

**Jose Honold, MD**, Associate Clinical Professor of Pediatrics

**Amy Kimball, MD**, Associate Clinical Professor of Pediatrics

**Brian Lane, MD**, Associate Clinical Professor of Pediatrics

**Jane O'Donnell, MD**, Associate Clinical Professor of Pediatrics

**Charles Sauer, DO**, Assistant Clinical Professor

**Michael Segall, MD**, Clinical Professor of Pediatrics

**Mark Speziale, MD**, Clinical Professor of Pediatrics

**Denise Suttner, MD**, Associate Clinical Professor of Pediatrics

**Casey Wang, MD**, Assistant Clinical Professor of Pediatrics

**Paul Zlotnik, MD**, Clinical Professor of Pediatrics

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

### Rady Children's Hospital-San Diego

Physicians based at the NICU at RCHSD are "on service" for 18 weeks per year. During this time they provide direct patient care and supervise NNP's and Neonatal Fellows in the care of up to 49 Level IIIC patients per day including pre and post op cardiac and ECMO patients, complex surgical patients and preterm infants.

The physicians at RCHSD write orders, including HAL, gtts, etc., manage ventilators, review ECGs, adjust pacemaker settings, evaluate bedside EEG and NIRS monitoring, prime ECMO circuits, provide "anesthesia" assistance for ECMO cannulations, decannulations and some chest explorations, standby for other operative procedures in the NICU including chest explorations, PDA ligations, bronchoscopy, emergency laparotomies, etc; do admissions, discharge notes and write daily progress notes (in addition to reviewing and cosigning the notes written by fellows and NNPs), put in lines, chest tubes and PD catheters, and occasionally pericardial drains. A member of the Neonatal team writes all the orders on all the patients, including surgical patients.

These physicians also attend a daily radiology conference to review films, US, CT and MRI and review later films during the day via the PACS system or by visiting the radiologist directly for consultation. They also interact with multiple consultants on a daily basis. While on service or post-call they round every morning with the Cardiology/CT surgery team and review all the pre and post-op cardiac patients, with the Neonatal Attending usually presenting the labs, I/Os, vent settings, pressors, etc. and assisting in formulating a plan for daily management. They also interact directly with the other specialty surgeons (Orthopedic Surgery, ENT, Neurosurgery, GI) and the general surgeons as well as the other medical consultants.

These physicians also take transport calls, triage admissions, and provide telephone consults for outside physicians (OBs, Pediatricians, etc.) and their own ER and PICU physicians on occasion. They also, on occasion, go on transports themselves. They are frequently asked to go to the Operating Room or to the cath lab to assist in the management of patients, including “off-site” ECMO cannulations.

While on service these physicians are in the NICU for the entire 10-12 hour day directly involved in patient care/teaching/daily parent conferences. In addition, they are in house at night 5-6 times per month, which involves the same activities as during the day and generally includes little or no time in the “call” room.

The division provides the medical directorship for the outpatient High Risk Infant Follow up Clinic. Dr. Brian Lane is the Medical Director and is involved daily with the patient follow up.

### **RCHSD NICU at Scripps Hospital, La Jolla and Encinitas**

The NICU's at Scripps Memorial Hospital, La Jolla and Encinitas are licensed beds by RCHSD. These units have medical directorship provided by the Division of Neonatology. There is a NICU physician onsite daily for consults, admissions and rounding. Additionally, these physicians provide 24 hour on call services to these NICU's.

### **Palomar Medical Center**

The NICU at Palomar Medical Center is also a licensed RCHSD facility. The physicians at Palomar Medical Center provide coverage for both Palomar Medical Center

and Pomerado Hospital. These physicians are on service for 5 days per week in addition to 7 nights per month and 1 weekend per month. In addition to their direct clinical care for the NICU's these physicians participate in weekly Tuesday morning patient care conferences, Quality Management Committee, Palomar Pomerado Health Executive Committee, Medical Staff Peer Review Committee, Birth Center Operations Committee, Palomar Physician Advisory Committee, Fetal Monitoring Strip Review, and the Department of Pediatrics. The physicians also provide the medical directorship to both of the NICU's serviced. Additionally, Dr. Fatayerji serves as the Chief of Pediatrics at Pomerado Hospital. The group holds OB/Peds M&M lectures every other month in conjunction with Perinatology at Palomar Medical Center and various other teaching lectures throughout the year for staff and community at both Palomar and Pomerado Medical Centers. Dr. Golembeski is a board member of the National Children's Study and a member of the Infection Control Committees at Palomar Pomerado Health as well as Southwest Healthcare.

### **Rancho Springs Medical Center**

The Division of Neonatology also provides clinical coverage for the nursery at Rancho Springs Medical Center in Murrieta, California. These physicians round 3 days out of the month and also serve on the Inland Valley Pediatrics Committee.

## **RESEARCH ACTIVITIES**

We recently concluded a multi-center randomized clinical trial listed below. We have also been major participants in non-network, multi-center clinical studies with publications in the *New England Journal of Medicine*, *Pediatrics*, and *Journal of Pediatrics*.

Co-PI: Golembeski D. Boston University Birth Defects Monitoring Project, Palomar Pomerado Health

PI: Kimball A. Co-Investigator: Speziale, M. Derivation and validation of a risk adjustment paradigm utilizing the Vermont Oxford Network dataset and Child Health Corporation of America's pediatric health information system (PHIS). RCHSD, 2009–present

## Major Goals and Plans

Continue to refine best practices within Neonatology through the Divisions' membership with CPQCC and participation in the state-wide CCS NICU collaborative. This goal will be complimented by the division's continued membership and leadership participation in the California Association of Neonatologists.

Continue to pursue a clinical research agenda as the division remains committed to practicing the highest level of evidence-based medicine. The division remains committed to education the pediatricians of the future and training the neonatal-perinatal fellows, instilling in them the desire to evaluate unproven therapies and develop evidence for the best interventions for the unstable critically ill newborn infant.

PI: Kimball A. Inhaled nitric oxide, INOmax® IK-3001-BPD-301 for the prevention of bronchopulmonary dysplasia (BPD) in preterm infants requiring mechanical ventilation or positive pressure support on days 5-14 after birth. INO Therapeutics, LLC and RCHSD, 2009–present

PI: Knight GK. Impact of music on physiological measures of stress in neonates in the neonatal intensive care unit. RCHSD and The Neuroscience Institute, La Jolla, 2010–present

PI: Speziale M. Quality improvement initiative – neonatology. RCHSD, 2009–present

PI: Speziale M. Children's Hospital Neonatology Consortium (CHNC): data sharing and quality improvement initiative. RCHSD, 2010–present

Physician site leader: Speziale M. CPQCC patent ductus arteriosus observational study. RCHSD, 2011

PI: Suttner D. Clarinet-clopidogrel to lower arterial thrombotic risk in neonates and infants. Sanofi Aventis. RCHSD, 2006–2010

## TEACHING ACTIVITIES

Dr. Michael Segall and the Division of Neonatology annually co-sponsor the Fetus and Newborn: State of the Art Care Conference. This year the conference celebrated its

25th Anniversary. The conference provides attendees with the latest innovations and therapies in neonatal care. Below, listed by site, are a variety of teaching activities.

### RCHSD

**Marva Evans, MD**

**Jose Honold, MD**

**Amy Kimball, MD**

**Gail Knight, MD**

**Brian Lane, MD**

**Jane O'Donnell, MD**

**Michael Segall, MD**

**Mark Speziale, MD**

**Denise Suttner, MD**

**Casey Wang, MD**

**Paul Zlotnik, MD**

RCHSD physicians have 1-2 Neonatal fellows in the NICU every month and on call at night that they directly teach on a daily basis. When they are “on service” with them they are directly involved in patient care of the fellows. In addition, there is daily teaching of NNP's, RNs, RTs, ALS nurses, etc. while on service and on twice a day bedside rounds. The physicians also teach neonatal Advanced Life Support Intubation Cat Lab to incoming pediatric residents.

Additionally, the group routinely teaches in the annual 3 day ECMO training course for fellows, nurses, cardi-



ologists and outside physicians every year from 1987 to the present time. The group also routinely lectures at the Neonatal Fellow Series. The group also hosts an Annual directed day symposium for community physicians on Post-Discharge Care of the High Risk NICU graduate in December 2007, which is planned to be offered on a recurrent basis every 1-2 years.

The physicians at RCHSD are also actively involved in teaching to other physicians within the RCHSD system as well as in the community and nationwide via invited lectures at The International Fetus and Newborn Conference among many other conferences. Locally they also present at RCHSD Grand Rounds. They are involved in a monthly lecture series for medical students that rotate at RCHSD.

The Neonatal Chet Medical Directorship is provided by Dr. Mark Speziale. He conducts teaching sessions with the CHET providers on a reoccurring basis.

Dr. Jose Honold is the International Liaison for RCHSD. In addition to attending and speaking at many international conferences he teaches medical student shadows and residents from Tijuana, Mexico.

### **Palomar/Pomerado**

**Nabil Fatayerji, MD**

**David Golembeski, MD**

**Charles Sauer, DO**

The physicians based within the Palomar Pomerado Health System provide daily education to RN's, RT's, ALS Nurses and NNP's. Additionally, every Wednesday the physicians conduct a weekly conference with social workers, Dietary, Nursing and various other specialties to review and discuss cases. The group additionally speaks frequently to providers in the community such as the statewide NANN conference. They mentored 3 NNP students during their clinical rotations and mentored Dr. Catherine Nakibuule from Uganda while here on an exchange program.

Dr. Golembeski and Dr. Fatayerji have both been voted Physician of the Year at Palomar and Pomerado Medical Centers.

## **AWARDS, HONORS AND MAJOR PRESENTATIONS**

### **Marva Evans, MD**

Director, RCHSD Hearing Screen

Chair, NICU M&M Committee, RCHSD

Co-Chair, Annual San Diego Regional Extracorporeal

Membrane Oxygenation Program Conference

Member, QIC Committee, RCHSD

Member, RSV/Immunization Committee, RCHSD

Member, Transfusion Committee, RCHSD

Member, Pediatric Surgery M&M, RCHSD

### **Nabil Fatayerji, MD**

Chief of Pediatrics, Pomerado Medical Center

Member, Birth Center Operations Committee, Pomerado Medical Center

Member, Executive Committee, Pomerado Medical Center

Member, Medical Staff Peer Review Committee, Pomerado Medical Center

Member, Quality Management Committee, Pomerado Medical Center

Presenter, Congenital syphilis. Palomar Medical Center, June 2010

Presenter, Fetal hydrops. Palomar Medical Center, February 2011

Presenter, Hyperbilirubinemia in the newborn. December 2009

Presenter, Impact of diabetes on the fetus and newborn. Pomerado Medical Center, April 2011

Presenter, Necrotizing enterocolitis. Palomar Medical Center, July 2009

Presenter, Necrotizing enterocolitis. Pomerado Medical Center, July 2009

Presenter, Neonatal jaundice. Palomar Medical Center, August 2009

### **David Golembeski, MD**

Medical Director, Palomar Medical Center NICU

Board Member, California Association of Neonatologists

Board Member of the National Children's Study, San Diego Chapter

Member, American Academy of Pediatrics

Member, Biomedical Ethics Committee, Palomar Medical Center

Member, Breastfeeding Taskforce Committee, Palomar Medical Center

Member, Division of Neonatology Steering Committee, RCSSD

Member, Infection Control Committee, Palomar and Rancho Springs Medical Centers

Member, Interdisciplinary Practice Committee, Palomar Medical Center

Member, Medical Staff Peer Review Committee, Palomar Medical Center

Member, Physician Advisory Committee PMC Downtown, Palomar Medical Center

Member, Professional Advisory Committee, Palomar Pomerado Home Care

Member, Program Services Committee, March of Dimes, San Diego-Imperial Division

Member, Quality Management Committee, Palomar Medical Center

Voted San Diego Top Doc three years: 2007, 2008, 2009

March of Dimes Recognition from State Assemblywoman

Presenter, Maternal PIH and neonatal consequences. Palomar Medical Center, October 2009

Presenter, Later preterm birth. March of Dimes, Chula Vista, November 2009

Presenter, Neonatal Abstinence Syndrome. Palomar Medical Center, January 2010

Presenter, Fetomaternal hemorrhage and Twin to Twin Transfusion Syndrome. Palomar Medical Center, March 2010

Presenter, Hyperbilirubinemia. Rancho Springs Medical Center, April 2010

Presenter, Von Willibrands Disease. Palomar Medical Center, April 2010

Presenter, Neonatal hyperbilirubinemia. Palomar Medical Center, April 2010

Presenter, Pediatric care of the NICU graduate. Grand Rounds Palomar Medical Center, October 2010

Presenter, Neonatal nutrition. Palomar Medical Center, December 2010

### **Jose Honold, MD**

Coordinator, Neonatal Nurses Education, RCHSD  
 Director, International Relations, RCHSD

Liaison, Imperial Valley Medical Center

Member, QIC Committee, RCHSD

Member, Physician Leadership Committee, RCHSD

Member, NICU M&M Committee, RCHSD

Member, Perinatal M&M Committee, RCHSD

Member, IT Committee, CSSD

Member, Marketing Committee, CSSD

President of Fundacion Castro-Limon America

Presenter, Complicated cases in the delivery room. Northwestern Pediatric Conference Ensenada, Mexico, July 2009

Presenter, The late preterm infant: A national epidemic. Fetus & Newborn Conference, San Francisco, CA, October 2009

Presenter, Evaluation and Management Of Infants With Suspected Heart Disease. Fetus & Newborn Conference, San Francisco, CA, October 2009

Presenter, Current treatment approaches for a PDA. Indomethacin, ibuprofen or no treatment. National Neonatal Medicine Conference, Tijuana, Mexico, March 2010

Presenter, Post surgical management of the neonate with congenital heart disease repair. National Neonatal Medicine Conference, Tijuana, Mexico, March 2010

Presenter, Hypoxic ischemic encephalopathy, management with total body hypothermia. Instituto Mexicano Del Seguro Social Conference, Mexicali, BC, September 2010

Presenter, Is there a use of steroids in the management of severe hypotension in the neonate. Instituto Mexicano Del Seguro Social Conference, Mexicali, BC, September 2010

Presenter, Newer therapies in the management of persistent pulmonary hypertension of the newborn. Instituto Mexicano Del Seguro Social Conference, Mexicali, BC, September 2010

Presenter, Post surgical management of the infant with congenital heart disease. Regional Neonatal Conference, Mazatlan, Mexico, September 2010

Presenter, Hypoxic ischemic encephalopathy, management with total body hypothermia. Regional Neonatal Conference, Mazatlan, Mexico, September 2010

Presenter, Newer Therapies in the management of persistent pulmonary hypertension of the newborn. Regional Neonatal Conference, Mazatlan, Mexico, September 2010

Presenter, Ikaria National Meeting. Mexico City, October 2010

Presenter, Practical approaches to ventilator strategies. Fetus & Newborn Conference, Chicago, IL, October 2010

Presenter, Evaluation and management of infants with suspected heart disease. Fetus & Newborn Conference, Chicago, IL, October 2010

Presenter, Evaluation and management of infants with suspected heart disease. XVI Neonatal National Congress Conference, Cancun, Mexico, February 2011

Presenter, The late preterm infant. XVI Neonatal National Congress Conference, Cancun, Mexico, February 2011

Presenter, Resuscitation of complicated cases. XVI Neonatal National Congress Conference, Cancun, Mexico, February 2011

Presenter, Evaluation and management of infants with suspected heart disease. Annual Congressional Pediatric Conference, Saltillo, Mexico, June 2011

Presenter, The late preterm infant. Annual Congressional Pediatric Conference, Saltillo, Mexico, June 2011

Presenter, Resuscitation of complicated cases. International Neonatal Congress Conference, Puebla, Mexico, June 2011

Presenter, Necrotizing enterocolitis, is there something new? International Neonatal Congress Conference, Puebla, Mexico, June 2011

Presenter, Hypothermia for the management of perinatal asphyxia. International Neonatal Congress Conference, Puebla, Mexico, June 2011

### **Amy Kimball, MD**

Neonatology Fellowship Coordinator, RCHSD

Member, Pain Committee, RCHSD

Member, Sedation Committee, RCHSD

Member, IRB Committee, UCSD

Member, MedImmune Advisory Board/RSV Synagis, Lectures given to medical community regarding RSV Prophylaxis, 2007-present

Director of Neonatal Respiratory Care Program, RCHSD

Presenter, Idiopathic persistent pulmonary hypertension: Congenital alveolar dysplasia

### **Gail Knight, MD**

Chief, Division of Neonatology, RCSSD

NICU Medical Director, RCHSD

Chief of Staff Elect, RCHSD

Member, Academic Council Workgroup/Teaching Committee, RCHSD

Member, Benefits Committee, CSSD

Member, Board of Directors, CSSD

Member, Board of Trustees Finance Committee, RCHSD

Member, Board of Trustees IDS IT Task Force Committee, RCHSD

Member, Board of Trustees Quality, Safety and Medical Affairs Committee, RCHSD

Member, Board of Trustees, RCHSD

Member, Clinical Information Advisory Council, RCHSD

Member, Clinical Leadership Council, RCHSD

Member, Compensation Committee, CSSD

Member, Compensation Oversight Task Force, CSSD

Member, Developmental Committee, RCHSD

Member, Compensation Division of Neonatology Steering Committee, RCSSD, RCHSD

Member, Emergency Medicine Division Chief Search Committee, RCHSD

Member, High Risk Infant Follow-Up Committee, RCHSD

Member, Infectious Disease Committee, RCHSD

Member, Medical Staff Credentialing Committee, RCHSD

Member, Medical Staff Executive Committee M&M, RCHSD

Member, Medical Staff Executive Committee, RCHSD

Member, Medical Staff Quality Improvement Council, RCHSD

Member, NICU M&M Committee, RCHSD

Member, NICU Move Task Force, RCHSD

Member, NICU Operations Committee, RCHSD

Member, NICU Quality Improvement Council Committee, RCHSD

Member, NICU Transition Committee, RCHSD

Member, PAAT Committee, RCHSD

Member, Scripps Encinitas Joint Operations Committee, RCHSD

Member, Scripps La Jolla Joint Operations Committee, RCHSD

### **Brian Lane, MD**

Executive Vice Chief, Neonatology, RCHSD

Medical Director, High Risk Infant Follow-Up Program, RCHSD

Member, Code Blue Committee, RCHSD

Member, Transfusion Committee, RCHSD  
Member, Breastfeeding Task Force, RCHSD  
Member, Pediatric Airway and Aerodigestive Team, RCHSD  
Member, Q12 Quality Initiative Task Force, RCHSD  
Member, Anticoagulation Task Force, RCHSD  
Evaluation of Neonatal Lab Values for PICU CHET Team, RCHSD, October 2009

### **Jane O'Donnell, MD**

NICU Medical Director, Scripps Memorial Hospital La Jolla  
Member, Bioethics Committee, RCHSD  
Member, Board of Directors, CSSD  
Member, Contracts Committee, CSSD  
Member, Division of Neonatology Steering Committee, RCHSD  
Member, Neonatology Scheduling Committee, RCSSD  
Member, Pediatric Supervisory Committee, Scripps Memorial Hospital La Jolla  
Member, Pediatric Supervisory Committee, Scripps Memorial Hospital Encinitas  
Member, Scripps Encinitas Joint Operations Committee, RCHSD  
Member, Scripps La Jolla Joint Operations Committee, RCHSD

### **Charles Sauer, DO**

Member, American Academy of Pediatrics  
Member, Biomedical Ethics Committee, Palomar Medical Center  
Member, Breastfeeding Taskforce Committee, Palomar Medical Center  
Annenberg Center Scholarship Recipient, 2009  
CBS Evening National News report by Dr. Sanjay Gupta "Mother's Milk a Lifesaver for Preemies," 2009  
MedImmune Pediatric Fellowship Grant \$35,000 for research in follow-up care of the premature infant during the first twelve months of life  
Pediatric Academic Society Young Investigator's Travel Grant, 2009  
Pediatric Academic Society Young Investigator's Travel Grant, 2010  
Presenter, Pregnant Mother with Maternal Liver Disease and Care of the Infant, Palomar Medical Center, 2010  
Presenter, Nutrition in the NICU, Southern California Association of Neonatal Nurses, 2011

### **Research Presentations/Other work:**

Individualized adjustable fortification of breast milk, a randomized blinded controlled trial, Charles W. Sauer and Jae H. Kim. Project Synopsis presented at the American Academy of Pediatrics Conference, 2008 and 2009  
Increasing human milk intake with the formation of a combined nutrition and lactation team in the Neonatal Intensive Care Unit, Lisa Stellwagen, Charles W. Sauer, Jae H. Kim. Abstract presented in a Poster Presentation at the Pediatric Academic Society Conference, May 2009  
Wide variability in caloric density of expressed human milk can lead to major under- and overestimation of nutrient content, Charles W. Sauer, and Jae H. Kim. Abstract presented in a Poster Presentation at the Pediatric Academic Society Conference, May 2009  
Routine human milk analysis in the Neonatal Intensive Care Unit, Charles W. Sauer, Lisa Stellwagen, Jae Kim. Abstract presented at a Poster Symposium at the Pediatric Academic Society Conference, May 2009; Poster Symposium at the Mead-Johnson 74th Perinatal & Developmental Medicine Symposium, May 2009; Rady Children's 2009 Pediatric Translational Research Symposium, November 2009; and Western Conference on Perinatal Research, January 2010  
Neonatal intubation attempts do not increase risk for intraventricular hemorrhage in very low birthweight infants, Charles Sauer, Juin Kong, Neil Finer, and Tina Leone, MD. Abstract presented in a Poster Symposium at the Pediatric Academic Society Conference, May 2010

### **(Work In Progress)**

Wide variability in caloric density of expressed human milk can lead to major under- and overestimation of nutrient content, Charles W. Sauer and Jae H. Kim  
Neonatal intubation attempts do not increase risk for intraventricular hemorrhage in very low birthweight infants, Charles Sauer, Juin Kong, Neil Finer, and Tina Leone  
Individualized adjustable fortification of breast milk, a randomized blinded controlled trial, Charles W. Sauer, and Jae H. Kim

### **Michael Segall, MD**

Physician's Medical Group (PMG), President Board of Directors (term ended 12/31/10)



Conference Co-Chair, Fetus & Newborn State of the Art Care Conference

Executive Board Member, California Coalition for Children's Physicians Medical Group (Pediatric I.P.A.)

Executive Board Member, Children's Specialty Care Coalition

Governance Committee Member, Integrated Delivery System, RCHSD

Member, Advisory Committee Miracle Babies

Member, Board of Directors, CSSD

Member, CHN IDS Steering Committee, RCHSD

Member, Clinical Practice Committee, RCHSD

Member, Marketing Committee, RCSSD

Member, QM/Risk Management Committee, RCSSD

Member, Neonatology Search Committee, UCSD

Member, NICU Reimbursement Models Subcommittee, CCS/CAN

Member, Perinatology Strategic Planning Committee, RCHSD

Member, Physician Advisory Council, Palomar Medical Center

Member, Program Planning Committee, CAN

Member, QM/Risk Management Committee, RCHSD

Member, Regional Development Workgroup, RCHSD

Member, Scripps Encinitas Joint Operations Scripps Encinitas Committee, RCHSD

Member, Scripps La Jolla Joint Operations Scripps La Jolla Committee, RCHSD

Member, Integrated Delivery System, RCHSD

Past President and Board Member, California Association of Neonatologists

Regional Trainer, Neonatal Resuscitation Program

Presenter, Neonatal emergencies and other surprises in the delivery room: Case studies of complex situations. Fetus and Newborn State of the Art Care Conference, San Francisco, CA, October 2009

Presenter, Respiratory distress in a term newborn. Fetus and Newborn State of the Art Care Conference, San Francisco, CA, October 2009

Presenter, Neonatal emergencies and other surprises in the delivery room: Case studies of complex situations. Fetus and Newborn State of the Art Care Conference, Chicago, IL, October 2010

Presenter, Neonatal hematology: Why should we strive for a transfusion-free nursery? Fetus and Newborn State of the Art Care Conference, Chicago, IL, October 2010

## Mark Speziale, MD

Medical Director, Neonatal Emergency Transport Program, RCHSD

Chair, Infection Control Committee, RCHSD

Lead Physician, NICU Blood Stream Infection Committee, RCHSD

Member, Allied Health Professional/Interdisciplinary Practice Committee, RCHSD

Member, Antimicrobial Stewardship Committee, RCHSD

Member, Benefits and Pension Committee, RCHSD

Member, CCS NQI Committee, RCHSD

Member, Contracts Committee, CSSD

Member, Division of Neonatology Steering Committee, RCHSD

Member, Electronic Medical Record Committee, RCHSD

Member, Interdisciplinary Practice Committee, RCHSD

Member, Medical Staff Quality Improvement Council, RCHSD

Member, NICU M&M Committee, RCHSD

Member, NICU Quality Improvement Committee, RCHSD

Member, Revenue Cycle Committee, RCSSD

Member, Vascular Access and Devices Committee, RCHSD

Physician Liaison, Extremely Low Birth Weight Committee

Regional Trainer, Neonatal Resuscitation Program

Regional Trainer

STABLE Instructor

Team Leader, Vermont-Oxford Neonatal Network and California Perinatal Quality Care Collaborative, RCHSD (2001) and Rady Children's Hospital at Scripps Encinitas (2008), CHND (2007-present)

Expert Panel, Speaking the same language: The role of the antenatal, perinatal and neonatal provider in the high risk event. March Of Dimes 10th Annual Conference for the Health Professional: Toward Improving the Outcome of Pregnancy: Best Practices in Maternal and Neonatal Care, Hyatt Regency, Irvine, CA, March 2010

Presentation, Operative and postop management of hypoplastic left heart syndrome and the single ventricle. Neonatal Fellows' Lecture Series, RCHSD, San Diego, CA, March 2010

Presentation, Proven and unproven management for persistent pulmonary hypertension of the newborn. 1st Annual Regional Congress of Northeast Neonatology, Tijuana, Mexico, March, 2010

### Denise Suttner, MD

Medical Director, San Diego Regional Extracorporeal Membrane Oxygenation (ECMO) Program  
Director, Neonatal Cardiac Intensive Care Unit, RCHSD  
Executive Vice Chief, Neonatology, RCHSD  
Scheduling Coordinator, NICU, RCHSD  
Member, of QIC Committee, RCHSD  
Member, NICU M&M Committee, RCHSD  
Member, Extracorporeal Life Support Organization (ELSO) International Conference  
Member, Pharmacy and Therapeutic Committee, RCHSD  
Member, Quality and Risk Management Committee, RCHSD  
Member, Q12 Task Force for Quality Improvement, RCHSD  
Member, Cardiac Institute Executive Board Committee, RCHSD  
Presenter, hypoxic respiratory failure in term and near-term neonates. INOmax Conference, Honolulu, HI, February 2011  
Presenter, Failure to wean from ECMO: Role of adjunctive therapies. Annual ELSO Conference and AMSECT Perfusion Conference, St. Petersburg, FL, September 2010  
Presenter, The great debate: Questions from ECLS-Net. CNMC Symposium: ECMO and advanced therapies for respiratory failure, Keystone, CO, February 2010

### Casey Wang, MD

Medical Director, NICU, RCHSD at Scripps Encinitas  
Chair, NICU M&M Committee, RCHSD at Scripps La Jolla  
Member, Pediatric Supervisory Committee, Scripps La Jolla  
Member, Joint Venture Committee, RCHSD at Scripps La Jolla  
Member, Joint Venture Committee, RCHSD at Scripps Encinitas  
Member, Late Preterm Committee, Scripps La Jolla  
Member, Ethics Committee, RCHSD

### Paul Zlotnik, MD

Quality Improvement Committee, CPQCC  
Database Committee, CPQCC  
Chief Medical Informatics Officer, Children's Specialists of San Diego  
Member, Integrated Delivery System Steering Committee, RCHSD  
Certificate in Biomedical Informatics

## PUBLICATIONS

Wirtschafter DD, Pettit J, Kurtin P, et al. A statewide quality improvement collaborative to reduce neonatal central line-associated blood stream infections. *J Perinatol*, 30(3):170-81, 2010.

Stankiewicz P, Sen P, Bhatt SS, et al. Genomic and gene deletions of the FOX gene cluster on 16q24.1 and inactivating mutations of FOXF1 cause alveolar capillary dysplasia and other malformations. *Am J Hum Genet*, 84(6):780-91, 2009. *Erratum in Am J Hum Genet*, October 9; 85(4): 537, 2009.



# Neonatology - UC San Diego

## UC SAN DIEGO MEDICAL CENTER

The following represents an overview of the activity of the Division of Neonatology at UC San Diego (UCSD) Medical Center and School of Medicine. The Neonatal Division at UCSD provides leadership and coverage for the Infant Special Care Center (ISCC) of the UCSD Medical Center. Initially, this medical center was set up as approximately a forty bed Neonatal Intensive Care Unit, primarily to provide care for the high risk infants born through the Perinatology Service at the medical center and to provide the support for infants transported from other centers. The overall program is a largely inborn perinatal serv-

ice, with a concentration of very low birth weight and extremely low birth weight infants, and also provides care to near term and term infants with disorders of transition, congenital anomalies, infections, hypoxic-ischemic injuries, and provides surgical support for general surgical disorders. There is a focus on neonatal resuscitation, clinical nutrition, hypoxia-ischemia, and clinical trials to evaluate newer approaches and treatments including medications.

Left to right: Douglas Blank, Erin Studer, Lars Bode, Jennifer Shepherd, Jae Kim, Tina Chan, Lisa Stellwagen, Anup Katheria, Amber Pope, Tina Leone, Delene Richburg, Neil Finer, Greg Heldt, Rich Song, Bheru Gandhi

## FACULTY

- Neil N. Finer, MD**, *Chief*, Division of Neonatology, UCSD, Professor of Pediatrics
- Gregory P. Heldt, MD**, Professor of Pediatrics
- Jae Hong Kim, MD, PhD**, Assistant Clinical Professor of Pediatrics
- Tina A. Leone, MD**, Assistant Clinical Professor of Pediatrics
- Frank L. Mannino, MD**, Director, Infant Special Care Center, Professor of Pediatrics
- Evan Y. Snyder, MD, PhD**, Professor, Director, Stem Cell and Regeneration Program, Sanford-Burnham Institute for Medical Research
- Yvonne E. Vaucher, MD, MPH**, Director, Infant Special Care Follow-Up Program, Professor of Pediatrics
- Donna M. Garey, MD**, Associate Physician
- Anup Katheria, MD**, Associate Physician
- Krishelle T. Leong, MD**, Associate Physician
- Lars Bode, PhD**, Assistant Professor of Pediatrics  
In-Residence

## POSTDOCTORAL FELLOWS

- Anup Katheria, MD** (2007-2010)
- Krishelle Leong, MD** (2007-2010)
- Charles Sauer, DO** (2007-2010)
- Juin Yee Kong, MD** (2008-2011)
- Carl Shangle, MD** (2008-2011)
- Crystal Le, MD** (2008-2011)
- Aleksandra Zabrocki, MD** (2008-2011)
- Delene Richburg, MD** (2009-2012)
- Bheru Gandhi, MD** (2009-2012)
- Christina Chan, MD** (2010-2013)
- Amber Pope, MD** (2010-2013)
- Richard Song, MD** (2010-2013)

## RESEARCH ACTIVITIES

The UCSD ISCC, Dr. Finer and Wade Rich are the lead site, PI and lead coordinator for the SUPPORT trial which randomized extremely low birthweight infants to the treatment with either CPAP following delivery or early surfactant, and using a factorial design, randomized infants to a lower or higher range of pulse oximetry management. This trial completed enrollment by the beginning of March 2009 with a total of 1316 infants enrolled in this trial. This remains the largest study of its kind ever done and is unique with its factorial design. In addition, it is the first trial to prospectively randomize infants to different levels of oximetry to determine the most optimal range for such infants. We have now been able to analyze the results and the two initial papers were published in the *New England Journal of Medicine*. I anticipate that there will be at least 10-20 manuscripts arising from the SUPPORT trial because of the multiple secondaries involved in that study. The secondaries included comparison of ultrasound evaluation at 36 weeks post conceptional age with MRI, with over 600 infants in that study. Other secondaries include a pulmonary evaluation follow-up study, which looks at the infants' pulmonary morbidity, and readmission to hospital and later pulmonary status, a nutritional study, which evaluated growth of infants in this trial, and monitoring secondaries, which looked at the occurrence of intermittent events on the basis of the pulse oximetry data.

Our research in resuscitation has continued to progress. We have published additional studies on the use of a carbon dioxide disposable sensor and demonstrated that airway obstruction is very frequent in the extremely low birthweight infant (Finer et al, *Pediatrics*, 123(3):865-9, 2009) and the newest iteration of the NRP guidelines, 2011, now uses the duration of 30 seconds for intubation as we reported in a number of studies, and the use of targeted SpO<sub>2</sub> during resuscitation which we were the first to pioneer in the USA.

The division had made a commitment to recruit a full-time basic/translational scientist and, with assistance from the department, we were able to recruit **Dr. Lars Bode** who was previously at The Burnham Institute. Dr. Bode is now a full-time member of the division, a PhD whose interest is in nutrition and, specifically, in human milk oligosaccha-



rides. Dr. Bode has developed a model of necrotizing enterocolitis. He has already been successful in obtaining additional grant funding, and actively collaborates with **Dr. Jae Kim** in a number of research studies relating to nutrition and we are excited to have Dr. Bode as a part of our faculty. Dr Bode has been accepted for the next NCLAM class.

In the spring of 2009, **Dr. Tina Leone** became the Director for the Neonatal-Perinatal Fellowship Training Program. Dr. Leone is enthusiastic in her role as leader of this program and is totally committed to improving the training program of our neonatal fellows.

Our Program has become unique in that we now train our neonatal fellows to perform functional echocardiography. We have now seen the first class of fellows who have been successfully trained in this area, and their expertise is truly impressive and clinically useful. We believe that this is the direction of the future for training of such individuals and that UCSD is a leader in this area.

Our Fellowship Program expanded to nine trainees for July 2010. We are very fortunate that we matched well in the 2011 competition for neonatology fellows. We had placed two positions in the match and both positions were filled among our top choices. One of the three incoming fellows, for the coming year, is **Dr. Jennifer Shepherd**, who is a graduate of the UCSD Pediatric Residency Training Program.

**Neil N. Finer, MD** continues as the Principal Investigator of the SUPPORT Trial. The SUPPORT Trial has completed enrollment, but will be continuing for the completion of the follow-up for these infants. We believe the trial will have a significant impact on care for extremely low birthweight infants. He leads our research in resuscitation and we have developed a laboratory lie environment in our dedicated resuscitation room in which we video record all resuscitations and also acquire analogue data from all monitored parameters. These are reviewed every 2 weeks in our QA approved Video Review, the only one of its kind in the USA. In addition, Dr. Finer was a consultant for the Vermont Oxford Network (NICQ 2009 Initiative) and Dr. Finer served as the expert for the seven centers who chose to develop improvement in neonatal resuscitation. In 2010, CPQCC in California decided to develop a neonatal Resuscitation Quality Improvement initiative and Dr Finer was asked to be one of the two experts to work with this group. In

addition, Dr. Finer remains active in publishing the results of his research and has presented the results of these activities both in the USA and abroad, which can be seen from the attached appendices.

**Gregory P. Heldt, MD** continues to evaluate newer surfactants and his laboratory continues to provide biologic assays for the synthetic surfactant, KL-4. In addition he is utilizing video-microscopy of the lung to evaluate the actual biological effects of administered liquid surfactant and aerosolized surfactant. Dr Heldt has a large contract with Discovery Laboratories and we believe that this contract will continue for at least the next 2-3 years, which allows us to keep this very important laboratory not only functional but available and partially funded for other trials involving neonatal faculty and fellows. This laboratory is supervised by Raymond Ward and he is assisted by Tracy Mitchell, Daniella Steele, and John Freiling. Dr. Heldt has continued to work in the Steering Committee of the Asthma Care Network, which is sponsored by the NHLBI.

**Jae Hong Kim, MD, PhD** is the Principal Investigator for a number of local trials and is the Director of our SPIN (Supporting Premature Infant Nutrition), which focuses on the utilization of breastmilk. Dr. Kim is now involved in studies looking at the effectiveness of probiotics, and has worked with the industry to calibrate a milk analyzer that will provide detailed information about the nutritional and caloric contents of actual mothers' milk. In addition, Dr. Kim is evaluating the use of impedance evaluations for infants with potential reflux. He is an active mentor of a neonatal training research and is the lead organizer for a meeting on pediatric gastroenterology, which is held in Southern California on an annual basis. Dr. Kim also continues to evaluate and perfect techniques for the ultrasound examination of the intestine, both its motility and perfusion and is working with General Electric to develop improved devices for the determination of catheter positions in neonates. Dr. Kim has also developed an active collaboration with Dr. Lars Bode and together they continue to develop further clinical and translational protocols.

**Lars Bode, MD** is dedicated to research on the biosynthesis and functions of Human Milk Oligosaccharides (HMO). In the past two years, Dr. Bode's lab has successfully established a rat model of necrotizing enterocolitis

## Major Goals and Plans

The division is involved in actively designing the new NICU for the Jacobs Medical Center on the Thornton site. This design is almost complete and this facility will include a dedicated neonatal MR, a procedures room, and family centered care areas throughout. For the future, our division will be recruiting for additional academic clinicians/scientists to service the needs of our expanding NICU population as well as providing increased support for translational research and mentorship for neonatal fellows. We are preparing for the retirement of our senior staff and the majority of such recruitments into the future will be for such replacements. We are actively involved in the design and testing of potentially useful new unique equipment for the critically ill neonate and are working with industry to develop dedicated neonatal ultrasound devices, laryngoscopes, delivery room monitors, and an appropriate integrated monitor for the resuscitation environment.

(NEC), and has shown that HMO in general and a single HMO in particular can prevent NEC in this animal model. To investigate the underlying mechanisms, Dr. Bode's lab has developed a tagged probe of this particular oligosaccharide that is currently used to identify receptors and response pathways. In addition, the lab has shown that the particular oligosaccharide strengthens the intestinal barrier and prevents bacterial translocation in vivo and reduces barrier disruption in vitro. The lab shown that the particular oligosaccharide prevents formula-induced microbiota changes in the ileum prior to pathological signs of NEC. The lab has shown that HMO induce the expression of antimicrobial peptides in human goblet cells and alters the glycocalyx composition in human intestinal epithelial cells, which might be explain for changes in bacterial colonization and microbiota composition. With support of Dr. Jae Kim in the division, the Bode lab has initiated a prospective clinical study with multiple centers around the country to assess whether the concentration of the particular oligosaccharide in the mother's milk inversely correlates with NEC incidence in the breast-fed neonate. To our knowledge, this is the most comprehensive study that aims to link NEC with milk composition. We anticipate that the combined results of the in vitro model and the human study will provide a rationale for an oligosaccharide supplement for formula-fed infants as well as a new, non-invasive biomarker for breast-

fed infants at risk to develop NEC. A patent for the use of the particular oligosaccharide to treat or prevent NEC is pending, and a manuscript is in preparation.

In addition, the Bode lab has had a breakthrough in developing a model that will allow the dissection of how HMO are synthesized in the human mammary gland. In collaboration with Dr. Peter Hartmann's group in Australia, the Bode lab developed a model based on human mammary gland epithelial cells that were derived from progenitor cells that Dr. Hartmann's lab isolated from fresh human milk. Upon stimulation with prolactin, these cells synthesize the entire array of HMO and the lab now develops a strategy to use small molecules and siRNA to dissect the biosynthetic pathway of HMO.

The Bode lab is collaborating with Dr. Mark McGuire's lab at the University of Idaho and has shown that the oligosaccharide composition in human milk strongly correlates with the lactobiota composition, i.e. the bacteria that are present in the milk before it is excreted. The Bode lab has shown that this correlation is not merely based on bacteria metabolizing the oligosaccharides, and has evidence that suggests that the oligosaccharides trigger a metabolic switch in certain bacteria that may reduce their virulence.

The Bode lab is collaborating with Dr. Fances Gillin's lab at UCSD and has shown that HMO reduce *E. histolytica* attachment and cytotoxicity. *E. histolytica*, a colon parasite, causes amebiasis, the third most common parasitic

disease worldwide. The Bode lab has identified individual HMO that are responsible for the protective effect and has shown that Galactooligosaccharides, currently used to supplement infant formula, also inhibit *E. histolytica* attachment and cytotoxicity. These Galactooligosaccharides are inexpensive and proven safe for the use in infants, and the Bode lab is currently exploring opportunities to test these oligosaccharides in human field studies in areas where amebiasis is endemic. A patent for the use of Galactooligosaccharides to treat or prevent amebiasis is pending, and a manuscript is in preparation.

The Bode lab has shown that HMO inhibit the binding of the HIV-1 envelop gp120 to human DC-SIGN, which led to the hypothesis that HMO might contribute to the low mother-to-child HIV-1 transmission rate via breast-feeding. The Bode lab is now collaborating with Dr. Louise Kuhn at Columbia University to gain access to valuable milk samples from an HIV-1 cohort in Zambia to address the question whether a certain HMO composition correlates with HIV-1 transmission risk. A pilot project was supported by the UCSD Center for AIDS Research and the generated data allowed us to secure R01 funding (PI: Louise Kuhn; subawardee: Lars Bode).

The Bode lab as also secured an R21 from NIAID to develop a novel antimalarial drug based on the notion that G6PD-deficiency protects from malaria. The Bode lab has established a high-throughput assay and screen several pilot compound libraries for enzyme inhibitors and is currently validating these hits parasite culture assays. In addition, the Bode has secured an NIH FastTrack Award that provides free resources from a NIH MLCPN high-throughput screening center, the screening of their 350,000 compound library as well as several rounds of hit-to-lead optimization by medicinal chemistry.

**Frank L. Mannino, MD** is the Medical Director of the Infant Special Care Center and, as such, is actively involved in all treatment protocols within the Unit. He has led the Quality Improvement Initiative on nosocomial infections and this has resulted in a dramatic decrease in our nosocomial infection rates. We have gone as long as 280 days without a single infection. Our overall rates have fallen dramatically so that we are in the lowest quartile of the Vermont Oxford Network and much of this success is related to Dr. Mannino's enthusiastic leadership of this Program. Dr. Mannino remains the Chair

of the Neonatal Technical Advisory Committee for the California Dept. of Health.

**Evan Y. Snyder, MD, PhD** provides part-time coverage to our Unit and is an internationally recognized leader in stem cell research. He remains extremely productive and is an excellent clinician who stimulates significant ideas for research. He continues to lead our monthly Bench-to-Bedside discussions and stimulates fellows to think about areas in need of research and works with them to trim these ideas into actual projects.

**Yvonne E. Vaucher, MD, MPH** is the Director of our Neonatal Follow-up Program. This program has now taken on the responsibility of following infants from the Sharp Mary Birch Nursery. With her MPH in Statistics and Epidemiology, Dr. Vaucher helps almost all of the neonatal residents design their research projects and assists them with any needed statistical evaluations.

Dr. Vaucher is the sole neonatologist serving on the San Diego County Fetal and Infant Mortality Review (FIMR) Work Group and the FIMR advisory council, and also serves as a Chapter 3 representative to the District IX Section on Perinatal Pediatrics and is the AAP Chair of the Fetus and Newborn Committee for our local Chapter 3. In addition, she serves as a Neonatal/Perinatal consultant at the Mulago Hospital Special Care Nursery (SCN) at the University of Makerere. She continues to teach resuscitation to medical, residents and nursing staff at Makerere University, Mulago Hospital and also at the Lira Regional Hospital which is the only referral maternity unit in a large district in Northern Uganda. As the Pediatric Program Director of Health Volunteers Overseas ([www.hvovusa.org](http://www.hvovusa.org)) at Makerere University, Dr Vaucher works with the Department of Paediatrics and Child Health to provide health professional education and training.

Dr. Vaucher is also co-chair of the APA International Health Special Interest Group Steering Committee. She has organized an annual meeting at PAS to discuss global health topics of interest, and has been responsible for coordinating the APA International Health Award.

**Donna Garey, MD** has been a neonatal attending at UCSD since 2009. She helped design the longitudinal neonatal resuscitation curriculum, which is completed by all pediatric residents at UCSD. In addition, she is trained in functional echocardiography. In July 2011, she began

her role as Director of the UCSD High Risk Infant Follow-up Clinic. Her role in the HRIF clinic includes performing developmental evaluations and neurologic exams, coordinating interventions for these high risk infants, and participating in research projects that involve neurodevelopmental evaluations. Her research interests include long-term developmental outcomes in pre-term infants and resident education. Furthermore, Dr. Garey is currently completing her Masters of Public Health at John Hopkins Bloomberg School of Public Health.

## TEACHING ACTIVITIES

The Infant Special Care Center at UCSD remains the core teaching unit for our pediatric residents and is the lead program for our Neonatal-Perinatal Training Program. In addition, we work with other facilities to help train neonatal nurse practitioners, nurses, and respiratory therapists. Our NICU remains a member of both of the California Perinatal Quality Care Collaborative (CPQCC) and Vermont Oxford Network. The entire faculty is active in the training programs, both in teaching at the bedside for all trainees as well as medical students that rotate through the Unit, and for our full-day Wednesday conferences, as well as our morning video resuscitation reviews held alternate Tuesdays and Fetal Diagnosis held on alternate Tuesdays. We also provide a four week resuscitation simulation training program for all pediatric residents.

In community activities, our division continues to be active in supporting local, regional, and national CME activities. Dr. Vaucher is active in the San Diego Breastfeeding Coalition, Fetal and Infant Mortality Advisory Committee and the CCS/CPQCC/HRIF Quality Care Initiative. Dr. Neil Finan continues his activity in CPQCC and PQIP working to develop new projects to improve perinatal outcomes and evaluate outcomes. Drs. Finan and Leone were two of the principal authors of the CPQCC toolkit for neonatal resuscitation, and Dr. Finan is the lead author of two other CPQCC toolkits on postnatal steroids and CPAP and surfactant. Dr. Mannino continues his essential role as Chair of the CCS Neonatal Intensive Care Technical Advisory Committee.

Dr. Frank Mannino is the Medical Director of the Neonatal Intensive Care Unit at the University of California, San Diego Medical Center, and spends about 30% of his time as the attending physician in the NICU. Outside of the unit, Dr. Mannino also serves as Chair of the CCS Neonatal Intensive Care Technical Advisory Committee (TAC), and has in this past year, created an infection control initiative (the CCS Quality Improvement Project), a rigorous program designed to improve the rate of infection across regional centers and decrease the rate of infection in neonatal intensive care units. In addition, he serves as Chair of the March of Dimes State Program Services Committee, and is on the March of Dimes State Board.

Dr. Yvonne Vaucher is the Director of the Infant Special Care Follow-up Program and was successful in recently receiving a state grant to assist the Follow-Up Program. She has worked with RCHSD and Sharp Mary Birch to begin the development of a single city-wide broad based neonatal neurodevelopmental follow-up program. In addition, Dr. Vaucher is a member of Health Volunteers Overseas. She has maintained a close working relationship with the Department of Paediatrics and Child Health at Makerere University, School of Medicine where she returns annually to teach Neonatal/Perinatal medicine to Pediatric residents and medical students and to supervise housestaff and medical students during their NICU rotation. This annual award gives young pediatric faculty from developing countries the opportunity to travel to the US to present their clinical research at PAS and then visit programs in the US in order to meet colleagues with similar interests and to foster collaborative research. For the past five years, Dr. Vaucher has worked with Dr. Alvin Zipursky to participate in the Pediatric Program for Global Research Workshop and Symposium, presented in conjunction with PAS, which focuses on identifying important issues for global pediatric research.

Dr. Evan Snyder continues to lead an active basic science laboratory, in addition to active participation on the neonatology clinical service; directs both the Stem Cell and Regenerative Biology Program and the Stem Cell Research Center at the Sanford-Burnham Institute for Medical Research; and is a member of the Scientific Steering Committee of the San Diego Consortium for



Regenerative Medicine. He served on the FDA's Cell, Tissue and Gene Therapy Advisory Committee; is a charter member of the NIH Clinical Neuroplasticity & Neurotransmitter (CNNT) study section; serves on the editorial board of a number of journals including Cell Stem Cells, Current Protocols in Stem Cell Biology, and Experimental Neurology (as the Development Section Head). He was elected President of the American Society for Neural Therapy and Repair (ASNTR) and serves on the scientific advisory boards of a number of foundations, including the Brain Tumor Society, the World Congress of the Tissue Engineering & Regenerative Medicine International Society (TERMIS), and American Society for Gene Therapy (Embryonic/Somatic Stem Cell & Tissue Engineering Committee). Locally, he sits on the BioTech Advisory Committee of the Reuben H. Fleet Science Center (San Diego), is an Advisor for NIH-sponsored Medical Scientist Training Program (MSTP) program at UCSD School of Medicine, is on the faculty of UCSD Biomedical Sciences Graduate Program, and sits on the UCSD Genetics Training Grant Retreat Committee. One of his most important contributions to the Department of Pediatrics and the Division of Neonatology has been launching and running an innovative program for trainees called "Bedside-to-Bench" rounds in which fellows are taught to break down clinical problems into testable hypotheses and then design studies to do so.

Dr. Tina Leone is a clinical neonatologist in the department and has instituted the clinical program for the use of functional echocardiography in the neonatal intensive care unit. She is currently providing an educational program for the neonatal fellows to learn functional echocardiography. Dr. Leone has been participating as a faculty member for a functional echocardiography course at the University of Southern California/Los Angeles County Hospital. She is also mentoring fellows in ongoing research projects in both functional echocardiography and neonatal resuscitation. Dr. Leone is the Program Director of the Neonatal Training Program and the Chairperson of the Scholarship Oversight Committee for the neonatal fellows. She is also the Division representative to the Pediatrics Department Residency Committee, a member of the Graduate Medical Education Committee and is the faculty advisor for the neonatal nurse practitioner group. Dr. Leone is a Co-Chairperson for the annual workshop

for California neonatology fellows, conducted at the California Association of Neonatologists meeting.

Dr. Bode serves the international and national science community as an elected executive board member for the International Society for Research in Human Milk and Lactation (ISRHML) and as the Chair of the Lactation Research Interest Section of the American Society for Nutrition (ASN). Dr. Bode has chaired several scientific sessions at national and international conferences, including Experimental Biology in Washington D.C. and the first International Conference on the Glycobiology of Human Milk Oligosaccharides in Copenhagen, Denmark.

Locally, Dr. Bode has chaired the "Pathway to Independence" event organized by the UCSD Postdoctoral Office and designed to help junior scientists on their path to an independent investigator. Dr. Bode is also an active member of a UCSD committee that works with the Dean's office to improve the infrastructure at the Hillcrest research campus.

### Newborn Nursery

The Newborn Service at UCSD Medical Center, Hillcrest, is part of the UCSD Division of Neonatology. The medical director, Dr. Lisa Stellwagen, and faculty, Drs. Eustratia "Tia" Hubbard and Michelle Roy, care for well and at-risk newborns in a family-centered care environment. The unit is the main newborn teaching site for UCSD Pediatric Residents and Medical Students. Residents learn about newborn care, breastfeeding, car seat safety, and a variety of newborn medical conditions. The interns receive one-on-one teaching from Dr. Ken Lyons Jones on the finer aspects of the newborn physical exam, as well as attending a weekly fetal/placental pathology lecture given by Dr. Kurt Benirschke. The Neonatology Fellows and pediatric subspecialists provide daily educational lectures to the interns on the Newborn and NICU rotations. The interns, in turn, provide educational lectures for the nursing staff as well as completing a program improvement project during their month rotation.

The newborn unit of the Family Maternity Care Center (FMCC) is a leader in the care of the Late Preterm Infant, whose special needs and vulnerabilities are receiving increasing attention in the past years. Our materials on breastfeeding support, medical management, and parental education are widely used and available on the SPIN website. We also

screen all infants for hyperbilirubinemia, and this combined with our intensive lactation support has led us to have a very low newborn readmission rate.

As one of only a few academic medical centers in the US to be certified as a Baby Friendly Hospital, UCSD Medical Center continues to strive to optimally support lactation on all our mother baby units and has been recently recertified. Starting in the prenatal period, and continuing to Labor and Delivery, the Birth Center, and the postpartum unit, mothers are provided with support and education to breastfeed their child. Mothers who deliver ill or high-risk infants receive additional support for expression of their milk to assure human milk nutrition for these compromised infants. Pediatric medical staff work closely with nursing and lactation to provide these services. Recently, national attention is being focused on the rates of exclusive breastfeeding at newborn discharge, both CHART and The Joint Commission have quality measures for exclusive breastfeeding rates and we rank high in these measures.

The Supporting Premature Infant Nutrition (SPIN) Program in our Infant Special Care Center has continued to develop. Drs. Lisa Stellwagen, Jae Kim, and Yvonne Vaucher provide leadership on this innovative nutritional program for the very low birth weight infant. Our early program development has led to improvements in nutrition, reduction in necrotizing enterocolitis, and high levels of human milk feeding in our unit. Research on human milk nutrition concerning improving maternal milk production and composition, improving methods of milk handling, human milk analysis and fortification are underway. We are sharing our methods and outcomes with other units through educational lectures and on the SPIN Website: [spin?program.ucsd.edu](http://spin?program.ucsd.edu) (supported by March of Dimes). The Premature Infant Nutrition Clinic (PINC) staffed by Dr. Eyla Boies has been operating for 1 year now and provides post-discharge nutrition and lactation assistance for NICU grads and Late Preterm Infants, the only clinic of its kind in San Diego. Our program was nationally featured in April of 2009 by Dr. Sanjay Gupta on the CBS evening news. We continue to work on program improvement and research to improve neonatal outcomes by optimization of nutrition.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Lars Bode, PhD

- Presenter, Human milk oligosaccharides: A research perspective. Abbott Nutrition. Columbus, OH, 2010
- Presenter, Human milk oligosaccharides in the prevention of necrotizing enterocolitis. Pediatric Grand Rounds, UCSD, San Diego, CA, 2010
- Presenter, Human milk oligosaccharides prevent necrotizing enterocolitis in a rat model. Selected Speaker, Experimental Biology, Anaheim, CA, 2010
- Presenter, Human milk oligosaccharides prevent necrotizing enterocolitis in an animal model. Annual Meeting of the Pediatric Academic Societies, Vancouver, Canada, 2011
- Presenter, Human milk oligosaccharides. Every Baby Needs a Sugar Mama. San Diego Glycobiology Symposium, San Diego, CA, 2011
- Presenter, Human milk oligosaccharides. 5th Glycan Forum, Berlin, Germany, 2011
- Presenter, Human milk oligosaccharides in amebiasis and necrotizing enterocolitis. The first International Conference on the Glycobiology of Human Milk Oligosaccharides. Copenhagen, Denmark, 2011
- Presenter, Human milk oligosaccharides prevent necrotizing enterocolitis in neonatal rats. Selected Speaker and Poster of Distinction. ESPGHAN Annual Meeting, Sorrento, Italy, 2011

### Neil N. Finer, MD

- Presenter, The concept of DR intensive care and whole body hypothermia for neonates with HIE. XXII Congreso de Neonatología y Medicina Perinatal, Valencia, Spain, October 2009
- Presenter, Potpourri on neonatal resuscitation. ANOSC Conference, Children's Hospital of Orange County, Orange County, CA, November 2009
- Presenter, Current issues in DR resuscitation. Santa Clara Valley Medical Center Neonatology Conference, San Jose, CA, November 2009
- Presenter, Crew resource management. UCSD Patient Safety Conference, San Diego, CA, November 2009

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Neil Finer, MD</b>		
Cooperative Multicenter Neonatal Research Network HD40461/NIH (NICHD)	\$250,139	\$2,798,126 May 2001-Mar. 2016
Single Subject Meta-Analysis of Nitric Oxide Treatment in Premature Infants with Respiratory Distress 20071039/Ino Therapeutics	\$323,770	\$377,495 Dec. 2006-Dec. 2009
Monitoring Visits for the NICHD Neonatal Research Network Support Trial Sub 1-312-0208838 (HD036790)/Research Triangle Institute	\$13,499	\$262,823 June 2006-Mar. 2011
Multiple Dose Pharmacokinetic Study of Meropenem in Young Infants(<91 days) with Suspected or Complicated Intra-abdominal Infections Sub (HHSN267200700051C)/Duke University	\$120,793	\$161,999 Aug. 2008-Mar. 2010
Fluconazole Prophylaxis for the prevention of Candidiasis in Infants <750 Grams Birth Weight Sub none (HD057956)/Duke University	\$100,295	\$154,956 Jan. 2009-Sept. 2009
Planning Grant for PRESOX Trial 1 R34 HD060736-01/NIH (NICHD)	\$100,000	\$154,500 May 2009-Apr. 2011
Non-Invasive iNO in Preterm Infants Sub FY11.032.008 (HL084923)/Children's Hospital Of Denver	\$4,568	\$5,756 Jan. 2011-Dec. 2011
<b>Lars Bode, PhD</b>		
Identification of G6PD Inhibitors for the Development of Novel Antimalarial Drugs 1 R21 A1082434-01/NIH (NIAID)	\$125,240	\$426,875 Aug. 2009-July 2012
Fusing Glycobiology and Nutritional Sciences to Prevent Necrotizing Enterocolitis 4 R00 DK078668-03/NIH (NIDDK)	\$184,093	\$939,715 Sept. 2009-June 2012
Screening for Human Milk Oligosaccharides that Protect Infants from HIV Infection 7 R03 HD059717-02/NIH (NICHD)	\$13,939	\$46,537 July 2009-Aug. 2011
FELLOWSHIP MKF BRODE MKF-Jantscher-Krenn/Max Kade Foundation	\$56,000	\$56,000 Feb. 2010-Jan. 2011
Milk oligosaccharide profiling of ST3Gal knockout mice 20100543/Pfizer	\$54,052	\$291,093 May 2010-Dec. 2012

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Effect and Mechanisms of Disialylated HMO in a rat NEC model 20104112/Abbott Laboratories	\$290,992	\$449,582 July 2010-July 2012
Oral transmission of HIV through breastfeeding Sub 2 (ACCT. #5-39431) (DE021238)/Columbia University	\$98,865	\$275,842 Sept. 2010-May 2012
Human Milk Screening 20120362/Abbott Laboratories	\$232,569	\$293,037 Nov. 2011-Nov. 2013
<b>Gregory P. Heldt, MD</b>		
DEVELOPMENT OF AN IMPROVED TRIGGER FOR INFANT SIMV Sub 958048 (HL65121)/Jaycor	\$66,137	\$223,729 July 2009-July 2003
An Acoustic Respiratory Movement Sensor (ARMS) for Non-invasive SIMV in Infants RHL102940A/Biodata Innovation Systems, LLC	\$57,786	\$89,280 Aug. 2011-July 2012
<b>Sanjay Nigam, MD</b>		
FACTORS MEDIATING URETERIC MIGRATION AND MORPHOGENESIS DK57286/NIH (NIDDK)	\$207,000	\$3,672,384 Sept, 2000-Nov. 2010
Systems Biology of Anionic Drug and Metabolite Handling 1 R01 GM088824-01/NIH (NIGMS)	\$250,000	\$1,923,564 Aug. 2009-June 2013
SNPs in Handling of Small pox Antivirals & Other Drugs 1 R01 AI057695-01A2/NIH (NIAID)	\$191,250	\$1,835,083 July 2005-Mar. 2011
Mechanism of Fetal and Neonatal Handling of HIV Drugs 1 R01 DK079784-01A1/NIH (NIDDK)	\$212,500	\$1,473,459 Mar. 2008-Feb. 2013
Combined Computational and Wet Lab Screening for Drugs Tested via OATs. 1 R01 NS062156-01/NIH (NIDDK)	\$218,750	\$1,010,528 Apr. 2008-Mar. 2012
Defining the effects of Uloric (Febuxostat) on chronic renal disease, kidney stones and hypertension due to hyperuricemia 20120657/Takeda Chemical Industries, Ltd.	\$330,992	\$417,050 Sept. 2011-Mar. 2014
FELLOWSHIP SOT NIGAM SOT (DNYANMOTE)/Soc Of Toxicology	\$38,500	\$77,000 Apr. 2009-Mar. 2011



## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Yvonne Vaucher, MD, MPH</b>		
CCS High Risk Infant Follow-up Program (HRF) Sub 06-55274 (none)/CAL H&W Health Care Services	\$249,000	\$500,000 July 2006-June 2011
Long-term Followup After Head Cooling for Neonatal Encephalopathy 414095-G/University Of Rochester	\$1,112	\$1,400 Sept. 2007-Apr. 2009

Presenter, Pediatric Grand Rounds. University of Colorado School of Medicine, Denver, CO, November 2009

Presenter, Pulmonary concurrent sessions at American Academy of Pediatrics NeoPrep. Newport Beach, CA, February 2010

Presenter, Pediatric Grand Rounds and enhancing delivery room management of the ELBW. University College Cork, Cork, Ireland, February 2010

Presenter, Neonatal resuscitation: New program guidelines and the evidence. 10th Annual March of Dimes Conference, Irvine, CA, March 2010

Presenter, Revised CPQCC toolkits: Surfactant. Pre-CAN (California Association of Neonatologists) meeting, Coronado, CA, March 2010

Presenter, Pediatric Grand Rounds. Schneider Children's Hospital, NS-LIJ Health Care System, New York, NY, March 2010

Presenter, Reanimacion del recién nacido and manejo con hipotermia del RN con EHI. Es factible nuestro media? Congreso Regional de Neonatología del Noroeste Conference, Tijuana, MX, March 2010

Presenter, Oxygen at birth: What do we know? Academy of Neonatal Nurses Advanced Practice Conference, San Francisco, CA, March 2010

Presenter, The first golden minutes. 25th International Workshop on Surfactant Replacement, Moscow, Russia, June, 2010

Presenter, SUPPORT Trial. REaSoN Conference, University of Warwick, Coventry, UK, July 2010

Presenter, Enhancing delivery room management. 4th Annual Neonatology Conference, Scott & White Hospital, Temple, TX, November 2010

Presenter, Neonatal intensive care. PCICS 8th International Conference, Miami, Florida, December 2010

Presenter, Surfactant or CPAP in the delivery room - Is there a rational choice? Western Perinatal Research Meeting, Banff, Canada, February 2011

Presenter, Bags, cries and videotape: Neonatal resuscitation—the reality show. National Canadian Association of Neonatal Nurses Conference, Calgary, Canada, February 2011

Presenter, CPAP versus surfactant for the ELBW infant- the argument for CPAP. California Association of Neonatologists meeting, Coronado, CA, March 2011

Presenter, Neonatology: The first golden minutes of life of the preterm infants. Pediatric Academic Societies meeting, Denver, CO, April and May 2011

Presenter, Videorecording in the DR. European Scientific Collaboration Neonatal Resuscitation meeting, Berlin, Germany, May 2011

Presenter, SUPPORT Trial: Focusing on ROP and BPD. German Society of Neonatology and Pediatric Intensive Care Medicine, Mannheim, Germany, May 2011

Presenter, Neonatal Resuscitation . neoFORUM 2011 meeting, Morristown, NJ, June 2011

### **Donna Garey, MD**

Presenter, Supplemental neonatal resuscitation training for pediatric residents. Neonatal Joint Fellows' Conference (Southern California), Tri-City Medical Center, Oceanside, CA, May 2009

### **Gregory P. Heldt, MD**

Member, Human Research Protection Program  
Member, Review and Appraisal Committee  
Member, Scholastic Oversight Committee in the Division of Neonatology

### **Eustratia "Tia" Hubbard, MD**

Monthly Pediatric/OB Rounds with the medical students, nurses, and residents on Labor & Delivery  
Advisor to current and past UCSD Pediatric Residents  
Presenter, Growing the late preterm infant-from delivery room to home. Academy of Breastfeeding Medicine, 14th Annual International Meeting, Williamsburg, VA, November 2009  
Presenter, Nutrition of the late preterm infant in a baby friendly hospital. Contemporary Forums, Neonatal & Pediatric Nutrition: Update 2010, San Diego, CA, May 2010  
Presenter, Proper nourishment of the late preterm infant-is breastfeeding enough? Continuing education presentation at Women of Many Backgrounds, Women's Services at Scripps Memorial Hospital, La Jolla, CA, October 2010  
Presenter, Is breastfeeding late preterm infants enough? General Pediatric Grand Rounds, Scripps Mercy Hospital, January 2011

### **Anup Katheria, MD**

Fellow of the Year Teaching Award—Department of Pediatrics at UCSD, 2010  
Presenter, Improving neonatal care: The use of cardiac ultrasound. 14th Annual Conference Inland Counties Association of Neonatal Nurses, Riverside, CA, October 2009

### **Jae Hong Kim, MD, PhD**

Director, Neoventure (UC San Diego Neonatal and Pediatric Device Consortium)  
Board Executive for California Association of Neonatologists

Conference Chair, Neonatal and Pediatric Nutrition Conference: Update 2009, San Francisco, CA  
Conference Chair, Neonatal and Pediatric Nutrition Conference: Update 2010, San Diego, CA  
Conference Co-Chair, Neonatal Pharmacology 2011, San Francisco, CA  
Presenter, Necrotizing enterocolitis: Current trends and understanding including probiotics. Scripps Mercy Grand Rounds, San Diego, CA, March 2009  
Presenter, Life after fellowship: Academic neonatology. California Association of Neonatologist Annual Meeting, San Diego, CA, March 2010  
Presenter, Ask the expert: Gastroenterology. American Academy of Pediatrics: Uniformed Services Pediatric Seminar. San Diego, CA, March 2010  
Presenter, Optimizing parenteral nutrition: Room for improvement. Congreso Regional de Neonatología del Noroeste. Tijuana, MX, March 2010  
Presenter, Nutrient fortification for the preterm infant. Neonatal Rounds, Naval Medical Center San Diego (Balboa). San Diego, CA, August 2009  
Presenter, Necrotizing enterocolitis: Sounding out the bowel. USC Pediatric Grand Rounds, Los Angeles, CA, October 2010  
Presenter, Approaches to eliminating NEC. Loma Linda Neonatology Rounds, Loma Linda, CA, October 2010  
Presenter, The Supporting Premature Infant Nutrition (SPIN) Program. Pediatric Grand Rounds, Kaiser Permanente, Oakland, CA, April 2011

### **Michelle Leff, MD**

Presenter, The national children's study. Mercy Hospital Pediatric Grand Rounds, San Diego, CA, March 2009  
Presenter, The national children's study. UCSD/RCHSD Grand Rounds, July 2009  
Presenter, Newborn orthopedic issues. Mercy Hospital Pediatric Grand Rounds, San Diego, CA, January 2011

### **Tina A. Leone, MD**

Chair, Neonatology Scholastic Oversight Committee and in services for neonatal resuscitation  
Presenter, DR Management: Current evidence from the SUPPORT trial. European Respiratory Society. Barcelona, Spain, September 2010

Presenter, PPHN and assessment of pulmonary arterial pressure and cyanotic infant without congenital heart disease. Functional echocardiography in the neonate course. USC Medical Center, Los Angeles, CA, September 2010

Presenter, Early respiratory SUPPORT for the extremely preterm infant. Academic Day for Neonatologists of Southern California, Orange, CA, November 2010

### **Frank L. Mannino, MD**

Past Chairman, March of Dimes

Member, Point of Care Testing Committee, Capital Equipment Committee, Critical Care Committee, Perinatal Practices Committee, Regional Task Force on Perinatal Care, Grossmont Community College-Respiratory Therapy School Advisory Committee, and California Perinatal Quality Improvement Panel

Presenter, The prevention of pre-term birth. California Association of Neonatologists Annual Meeting: Current topics and controversies in perinatal/neonatal medicine. Coronado, CA, March 6-8, 2009.

Presenter, The newborn worth rearing: Infant resuscitation from Aristotle to Apgar. California Association of Neonatologists Annual Meeting: Current topics and controversies in perinatal/neonatal medicine, Coronado, CA, March 2010

### **Evan Y. Snyder, MD, PHD**

Speaker, What is critical for advancing regenerative therapies in the immature brain? Neuronal regeneration/degeneration: Response to injury in developing and mature nervous systems, International Symposium on Cerebral Blood Flow, Metabolism, and Function and 9th International Conference on Quantification of Brain Function with PET, Chicago, IL, July 2009

Speaker, New developments and ethical challenges in stem cell research. UCSD Biomedical Ethics Seminar Series, San Diego, CA, July 2009

Keynote Speaker, Cross-talk and developmental programs in stem cell biology – a key to regenerative medicine. 2nd World Congress of the Tissue Engineering and Regenerative Medicine International Society in conjunction with the 2009 Seoul Stem Cell Symposium, Seoul, Korea, September 2009

Speaker, Cross-talk and developmental programs – a key to stem cell-mediated approaches to CNS pathology.

25th annual Goldberg Family, Dept. of Neurology and Center for Translational Neuromedicine, University of Rochester, Rochester NY, September 2009

Speaker, Cross-talk and developmental programs in stem cell biology – a key to regenerative medicine. The LM Stephenson Lectureship (Annual Discovery Day Featured Speaker), Drexel University College of Medicine, Philadelphia, PA, October 2009

Presenter, Cross-talk and developmental programs – a key to stem cell-mediated approaches to neurological abnormalities of the newborn. Inaugural Gerald Merenstein Keynote Speaker, 2009 American Academy of Pediatrics National Conference & Exhibition (NCE), Washington DC, October 2009

Chairman, Nanosymposium on Stroke, 2009 Annual Meeting of the Society for Neuroscience. Chicago, IL, October 2009

Speaker, Breaking through tomorrow: Science pushes the limits of the imagination and health care & regenerative medicine. 2nd Annual Israeli Presidential Conference: Facing Tomorrow 2009, Jerusalem, Israel, October 2009

Speaker, Cross-talk and developmental programs in stem cell biology – a key to regenerative medicine. University of Florida-Gainesville, Dept. of Pediatrics and McKnight Brain Institute, Gainesville, FL, October 2009

Keynote Speaker, Is there a role for stem cells in neuro-genetic diseases? Late Onset Tay-Sachs Disease Research and Education Foundation, Los Angeles, CA, November 2009

Chairman, Session on Epigenetics, 4th Annual Stem Cell Meeting on the Mesa, La Jolla, CA, November 2009

Speaker, Cross-talk in stem cell biology and developmental programs. Hot Topics in Neonatology, Washington DC, December 2009

Keynote Speaker, The future role of stem cell biology in newborn care. American Academy of Pediatrics NeoPrep Course, Newport Beach, CA, February 2010

Panelist, Stem cells – what does the future hold? Leadership, Legacy, Life Organization (Leaders Building Legacies for Life), San Diego, CA, March 2010

Presenter, Cross-talk and developmental programs in stem cell biology. Brain Awareness Symposium, St. Louis University School of Medicine, St. Louis, MO, March 2010

Chairman, Session on use of large animal models in stroke,

2nd Stem Cell Therapies as an Emerging Paradigm for Stroke (STEPS) Workshop on stroke therapeutics, Houston, TX, March 2010

Seminar Speaker, Cross-talk and developmental programs in stem cell biology—a key to regenerative medicine. Dept. of Anatomy and Neurobiology, Medical College of Virginia, Richmond, VA, April 2010

Chairman, Session on Movement Disorders, 34th Annual Meeting of the American Academy of Neurology, Toronto, ON, Canada, April 2010

Presenter, Cross-talk and developmental programs in stem cell biology—a key to regenerative medicine. University of Nebraska Medical Center, Omaha, Nebraska, April 2010

Presenter, Neural stem cells for CNS repair and neurodegeneration International Child Neurology Congress (ICNC), Cairo, Egypt, May 2010

Chairman and Speaker, Lineage-mapping the development of a brain tumor. 13th Annual Meeting of the American Society of Gene and Cell Therapy, Washington, D.C., May 2010

Presenter, Cross-talk and developmental programs in stem cell biology—a key to regenerative medicine. Emerging Field Review: Progress Towards Using ES/iPS Cells for Regenerative Medicine, 13th Annual Meeting of the American Society of Gene and Cell Therapy, Washington, D.C., May 2010

Presenter, Stem cells: The role in brain tumor genesis and therapy. Danny Thomas Lecture Series, St. Jude's Children's Research Hospital, Memphis, TN, June 2010

Keynote Speaker, Cross-talk and developmental programs in stem cell biology—a key to translational neuroscience. 6th International Symposium of Neuroprotection and Neurorepair, Rostock-Warnemünde, Germany, October 2010

### **Lisa Stellwagen, MD**

Presenter, Supporting premature infant nutrition. The UCSD SPIN Program. San Diego Breastfeeding Coalition Conference, San Diego, CA, October 2009

Presenter, Supporting premature infant nutrition. March of Dimes community presentation at California Border Healthy Start-EHQ, San Diego, CA, November 2009

Presenter, SPIN Workshop. Long Beach, CA, December 2009

Presenter, Newborn Update Workshop for Family Medicine at UCSD, March 2010

Presenter, Got human milk? Improving milk production in mothers of NICU infants. Neonatal and pediatric nutrition: Update 2010, San Diego, CA, May 2010

Presenter, UCSD's supporting premature infant nutrition program: working together to improve premature infant outcomes. Neonatal and Pediatric Nutrition: Update 2010, San Diego, CA, May 2010

Presenter, SPIN Workshop. Walnut Creek, CA, June 2010

Presenter, SPIN Workshop. Little Rock, AK, June 2010

Presenter, Milk production in the mother of NICU infants. Breastfeeding taskforce of greater LA; Clinical updates for health care providers, Los Angeles, CA, August 2010

Presenter, Supporting premature infant nutrition; the UCSD SPIN Program. Breastfeeding taskforce of greater LA; Clinical updates for health care providers, Los Angeles, CA, August 2010

Presenter, Breastfeeding support at a baby friendly hospital; WIC regional event. UCSD Medical Center, San Diego, CA, August 2010.

Presenter, SPIN Workshop. Natick, MA, September 2010

Presenter, SPIN Workshop. Queens, NY, September 2010

Presenter, Working together, UCSD SPIN Program Workshop. Oregon Breastfeeding Coalition, Portland, OR, October 2010

Presenter, Breastfeeding the late preterm infant. Academy of Breastfeeding Medicine National Meeting, San Francisco, CA, October 2010

Presenter, Evaluation of antenatal hydronephrosis. UCSD Family Medicine Grand Rounds, San Diego, CA, January 2011

Presenter, Evaluation of antenatal hydronephrosis. UCSD Fetal Diagnosis Meeting, February 2011

Presenter, SPIN Program. Imperial County Breastfeeding Coalition, Brawley, CA, March 2011

### **Yvonne E. Vaucher, MD, MPH**

Member, Perinatal Practices Committee at UCSD; Perinatal Morbidity and Mortality Committee at Scripps Mercy Hospital; Fetal Infant Mortality Case Review Committee, County of San Diego, Department of Health Services; Fetal and Infant Mortality Advisory Committee

Member, Regional Perinatal System for Perinatal/ Neonatal Health, San Diego and Imperial Counties; San Diego County Breastfeeding Coalition



Presenter, Neonatal brain injury. 6th Annual Perinatal-Neonatal Symposium, San Diego, CA, April, 2009

Presenter, SPIN: Supporting premature infant nutrition in the NICU. UCSD Medical Center, San Diego, CA, August 2009

Presenter, Neonatal brain injury. CA Dept. of Health Care Services, San Diego, CA, March 2010

Presenter, Management and treatment of the late preterm infant; Why are they different? Pediatrics Conference, Grossmont Hospital, San Diego, CA, February 2011

## PUBLICATIONS

- Ahmed SJ, Rich WD, Finer NN. The effect of averaging time on oximetry values in the premature infant. *Pediatrics*, 125(1):e115-21, 2010; Epub 2009 Dec 21.
- Askie LM, Ballard RA, Cutter G, Dani C, Elbourne D, Field D, Hascoet JM, Hibbs AM, Kinsella JP, Mercier JC, Rich WD, Schreiber MD, Srisuparp P, Subhedar NV, Van Meurs KP, Voysey M, Barrington K, Ehrenkranz RA, Finer NN, the Meta-Analysis of Preterm Patients on inhaled Nitric Oxide (MAPPiNO) Collaboration. Inhaled nitric oxide in preterm infants: a systematic review and individual patient data meta-analysis. *BMC Pediatrics*, 10:15, 2010 (Dr. Finer Lead investigator- Senior Author).
- Askie LM, Brocklehurst P, Darlow BA, Finer NN, Schmidt B, Tarnow-Mordi W, NeOProM Collaborative Group (NeOProM). NeOProM: Neonatal oxygenation prospective meta-analysis collaboration study protocol. *BMC Pediatrics*, 11:6, 2011.
- Baker K, Tremblay E, Karp J, Ford J, Finer NN, and Rich WD. Anatomy-driven design of a prototype video laryngoscope for extremely low birth weight infants. *J Biomed Opt*, 15(6):066023, 2010 Nov-Dec 31.
- Benjamin DK Jr, Stoll BJ, Gantz MG, Walsh MC, Sánchez PJ, Das A, Shankaran S, Higgins RD, Auten KJ, Miller NA, Walsh TJ, Laptook AR, Carlo WA, Kennedy KA, Finer NN, Duara S, Schibler K, Chapman RL, Van Meurs KP, Frantz ID 3rd, Phelps DL, Poindexter BB, Bell EF, O'Shea TM, Watterberg KL, Goldberg RN, for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Neonatal candidiasis: epidemiology, risk factors, and clinical judgment. *Pediatrics*, 126(4):e865-73, 2010; Epub 2010 Sep 27.
- Bhandari V, Finer NN, Ehrenkranz RA, Saha S, Das A, Walsh MC, Engle WA, VanMeurs KP; Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Synchronized nasal intermittent positive-pressure ventilation and neonatal outcomes. *Pediatrics*, 124(2):517-26, 2009; Epub 2009 Jul 27.
- Bhatt DR, White R, Martin G, Van Marter LJ, Finer NN, Goldsmith JP, Ramos C, Kukreja S, and Ramanathan R. Transitional hypothermia in preterm newborns. *Adv Neonatal Care*, 10(5 Suppl):S15-7, 2010.
- Bode L Human Milk Oligosaccharides: Prebiotic and beyond. Special edition on nutrition immunology, Metagenomics and Nutrigenomics. *Nutrition Reviews*, 67: S183-91, 2009.
- Evans N, Gournay V, Cabanas F, Kluckow M, Leone T, Groves A, McNamara P, Mertens L. Point-of-care ultrasound in the neonatal intensive care unit: international perspectives. *Semin Fetal Neonatal Med*, 16:61-8, 2011.
- Finer NN, Rich WD. Neonatal resuscitation for the preterm infant: Evidence versus practice. *J Perinatol*, 30 Suppl:S57-66, 2010.
- Finer NN, Saugstad O, Vento M, Barrington K, Davis P, Duara S, Durand D, Leone T, Lui K, Martin R, Morley C, Rabi Y, Rich WD. Use of oxygen for resuscitation of the extremely low birth weight infant. *Pediatrics*, 125(2):389-91, 2010 Feb.
- Finer NN and Rich WD. Neonatal resuscitation for the preterm infant: evidence versus practice. *J Perinatol*, 30 Suppl:S57-66, 2010.
- Finer NN, Merritt TA, Bernstein G, Job L, Mazela J, and Segal R. An open label, pilot study of Aerosurf(R) combined with nCPAP to prevent RDS in preterm neonates. *J Aerosol Med Pulm Drug Deliv*, 23(5):303-9, 2010.
- Finer NN, Rich WD. Unintentional variation in positive end expiratory pressure during resuscitation with a T-piece resuscitator. *Resuscitation*, 82(6):717-9, 2011; Epub 2011 Apr 9 .
- Jandial R, Persson A, Ho A, Levy ML, Snyder EY. Stem cells and CNS repair in Lemke G (ed). *Developmental Neurobiology*, Academic Press, San Diego, 2010, pp. 653-651.
- Jandial R, Snyder EY. A safer stem cell: On guard against cancer, *Nature Medicine*, 15: 999-1001, 2009.

- Jandial R, Snyder EY. On the origin of glioneural neoplasms after neural cell transplantation, *Nature Med*, 16:157-8, 2010.
- Jortzik E, Mailu BM, Preuss J, Fischer M, Bode L, Rahlfs S, Becker K. Glucose-6-phosphate dehydrogenase 6-phosphogluconolactonase: a unique bifunctional enzyme from *Plasmodium falciparum*. *Biochem J*, 436:641-50, 2011.
- Laughon MM, Langer JC, Bose CL, Smith PB, Ambalavanan N, Kennedy KA, Stoll BJ, Buchter S, Laptook AR, Ehrenkranz RA, Cotten CM, Wilson-Costello DE, Shankaran S, Meurs KP, Davis AS, Gantz MG, Finer NN, Yoder BA, Faix RG, Carlo WA, Schibler KR, Newman NS, Rich WD, Das A, Higgins RD, Walsh MC, for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Prediction of bronchopulmonary dysplasia by postnatal age in extremely premature infants. *Am J Respir Crit Care Med*, 183(12):1715-1722, 2011; Epub 2011 Mar 4.
- Leone TA, Finer NN. Shock: A common consequence of neonatal asphyxia. *J Pediatr*, 158(2 Suppl):e9-12, 2011.
- Rich WD, Auten K, Gantz M, Hale E, Hensman A, Newman N, Finer NN. Antenatal consent in the SUPPORT trial: Challenges, costs, and representative enrollment. *Pediatrics*, 126: e215-e221, 2010 (published online June 2010).
- Rich WD, Finer NN. T-piece resuscitators in the delivery room. *Johns Hopkins eLiterature Review Series* (in Press).
- Rich WD, Leone T, Finer NN. Delivery room intervention: Improving the outcome. *Clin Perinatol*, 37(1):189-202, 2010.
- Ryu J, Heldt GP, Nguyen M, Gavrialov O, Haddad GG. Chronic hypercapnia alters lung matrix composition in mouse pups. *J Appl Physiol*, 109(1):203-10, 2010; Epub 2010 Apr 1.
- Sauberan JB, Anderson, PO, Lane JR, Rafie, S, Nguyen N, Rossi SS, Stellwagen LS. Breast milk hydrocodone and hydromorphone levels in mothers using hydrocodone for postpartum pain. *Obstet Gynecol*, 117(3):611-7, 2011.
- Shankaran S, Pappas A, McDonald SA, Laptook AR, Bara R, Ehrenkranz RA, Tyson JE, Goldberg R, Donovan EF, Fanaroff AA, Das A, Poole WK, Walsh M, Higgins RD, Welsh C, Salhab W, Carlo WA, Poindexter B, Stoll BJ, Guillet R, Finer NN, Stevenson DK, Bauer CR; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Predictive value of an early amplitude integrated electroencephalogram and neurologic examination. *Pediatrics*, 128(1):e112-e120, 2011; Epub 2011 Jun 13.
- Stoll BJ, Hansen NI, Bell EF, Shankaran S, Laptook AR, Walsh MC, Hale EC, Newman NS, Schibler K, Carlo WA, Kennedy KA, Poindexter BB, Finer NN, Ehrenkranz RA, Duara S, Sanchez PJ, O'Shea TM, Goldberg RN, Van Meurs KP, Faix RG, Phelps DL, Frantz ID 3rd, Watterberg KL, Saha S, Das A, Higgins RD. Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. *Pediatrics*, 126(3):443-56, 2010; Epub 2010 Aug 23.
- SUPPORT Study Group of the Eunice Kennedy Shriver NICHD Neonatal Research Network, Carlo WA, Finer NN, Walsh MC, Rich WD, Gantz MG, Laptook AR, Yoder BA, Faix RG, Das A, Poole WK, Schibler K, Newman NS, Ambalavanan N, Frantz ID 3rd, Piazza AJ, Sánchez PJ, Morris BH, Laroia N, Phelps DL, Poindexter BB, Cotten CM, Van Meurs KP, Duara S, Narendran V, Sood BG, O'Shea TM, Bell EF, Ehrenkranz RA, Watterberg KL, Higgins RD. A randomized trial of oxygen saturation targets in extremely preterm infants. *N Engl J Med*, 27;362(21):1959-69, 2010.
- SUPPORT Study Group of the Eunice Kennedy Shriver NICHD Neonatal Research Network, Finer NN, Carlo WA, Walsh MC, Rich WD, Gantz MG, Laptook AR, Yoder BA, Faix RG, Das A, Poole WK, Schibler K, Newman NS, Ambalavanan N, Frantz ID 3rd, Piazza AJ, Sánchez PJ, Morris BH, Laroia N, Phelps DL, Poindexter BB, Cotten CM, Van Meurs KP, Duara S, Narendran V, Sood BG, O'Shea TM, Bell EF, Ehrenkranz RA, Watterberg KL, Higgins RD. Early CPAP versus surfactant in extremely preterm infants. *N Engl J Med*, 27;362(21):1970-9, 2010.
- Weiss S, Goldlust E, Vaucher YE. Improving parent satisfaction: an intervention to increase neonatal parent-provider communication. *J Perinatol*, 30:425-420.



# Nephrology

The Division of Pediatric Nephrology is active in patient care, research and education.

Clinically, the division is the only service in San Diego and Imperial County that provides comprehensive care to children with kidney diseases, including acute and chronic dialysis and renal transplantation. The new clinical facilities and arrival of outstanding clinical faculty have energized and revitalized the clinical practice. In 2011, we are recognized as the top 29th program in Pediatric Nephrology in the *U.S. News and World Report*.

The laboratory of Dr. Robert Mak is focused on the neuroendocrinology of cachexia and cardiovascular complications of chronic kidney diseases as well as biomarker discovery for non-invasive novel diagnostic tests for vesi-

coureteral reflux. Dr. Wilson Cheung is a research scientist who works in Dr. Mak's laboratory. Dr. Vivian Reznik is part of the leadership of the NIH funded Center of Excellence in Research in Health Disparities which is conducting research on genetic, biochemical and environmental aspects of health disparities in hypertension, the metabolic syndrome and HIV. In addition, the division is actively involved in clinical research in a variety of diseases and conditions.

Left to right: Sujana Gunta, Wilson Cheung, Caitlin Carter, Nadine Benador, Robert Mak, Peter Yorgin, Elizabeth Ingulli, Elliot Pevens

The division has a three-year accredited subspecialty fellowship designed to prepare fellows for a career in academic pediatric nephrology. The fellowship program was reviewed by the ACGME in 2008 and was accredited for an additional five years. We have been successful in consistently recruiting outstanding fellowship candidates. Medical students and pediatric residents take electives in pediatric nephrology, spending two to four weeks on both the inpatient and outpatient services with kidney conditions.

## FACULTY

**Robert Mak MD, PhD**, Professor of Pediatrics and *Division Chief*, UCSD, RCHSD

**Nadine Benador, MD**, Clinical Associate Professor of Pediatrics, Director of Hemodialysis, Peritoneal Dialysis and Apheresis programs, RCHSD

**Elizabeth Ingulli, MD**, Associate Clinical Professor of Pediatrics, Director of Renal Transplantation, RCHSD

**Vivian Reznik, MD, MPH**, Clinical Professor of Pediatrics, Assistant Vice-Chancellor

**Peter Yorgin, MD**, Clinical Professor of Pediatrics, Clinical Director, RCHSD

## POSTDOCTORAL FELLOWS

**Caitlin Carter, MD**

**Sujana Gunta, MD**

**Anna Mathew, MD**

## RECENT GRADUATES

**Sun-Young Ahn, MD**

**James Tee, MD**

## RESEARCH SCIENTIST

**Wilson Cheung, PhD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

Most children from San Diego and Imperial Counties with kidney diseases are hospitalized at Rady Children's Hospital- San Diego (RCHSD). In addition, the division provides consultations for inpatients with kidney diseases, hypertension and fluid and electrolyte abnormalities. The average inpatient census is 12.

There are six half-days of outpatient clinics weekly, each staffed by two faculty members. One clinic is primarily for the follow-up of patients after renal transplantation. In the other five clinics, the division sees new and established patients with kidney diseases. In addition, there is a fellows' continuity clinic, which is staffed with an attending. The division has a contract with Kaiser Permanente to see new and established patients with kidney diseases in three weekly half-day clinics. The division performs 10-15 transplants annually and follows more than 80 transplantation patients. The division also sees inpatient consults at Kaiser Permanente and in the Newborn Intensive Care Units at UCSD Medical Center and Sharp Mary Birch Hospital.

Children are treated with either chronic hemodialysis or peritoneal dialysis at UCSD Medical Center and RCHSD. There are daily hemodialysis unit rounds. There are two monthly peritoneal dialysis clinics. The average census of patients on chronic dialysis is 25. We have also taken over the acute dialysis services previously provided by UCSD Medical Center. We are also taking over the apheresis services previously provided by an outside company. The dialysis/apheresis unit is being renovated and expanded. This is now adjacent to the outpatient nephrology clinics so that we are moving towards our long-term goal of a Comprehensive Kidney Care Center.



## RESEARCH ACTIVITIES

**Nadine Benador, MD** is active in clinical research. She participated in the development of the protocol for the national Chronic Kidney Disease in Children Study, and was the local investigator for two multicenter trials of IV iron in pediatric hemodialysis patients. Dr. Benador is the central principal investigator for ongoing clinical studies.

**Elizabeth Ingulli, MD** is active in clinical research. She is conducting outcomes studies in pediatric renal transplantation. She is a recognized expert on immune aspects of renal transplant rejection and is frequently invited speaker in national meetings.

**Robert Mak, MD, PhD** is active in basic and translational research: (1) Pathophysiology of uremic cachexia. Dr. Mak recently published a number of papers on the significance of cytokine signaling in the pathogenesis of uremic cachexia. Pharmacologic blockade of cytokine signaling through the central melanocortin system as well as the sympathetic nervous system are exciting novel therapeutic strategies; (2) Novel mechanism of cardiovascular complications in chronic kidney disease involving vitamin D and inflammatory pathways; (3) Biomarkers for Vesicoureteral Reflux (VUR). Dr. Mak has discovered novel urine biomarkers for VUR. He is working on developing novel non-invasive diagnostic tests for VUR; (4) Epidemiology of chronic kidney disease (CKD) in children. Dr. Mak is a co-Principal Investigator for a NIH funded national study of CKD in children, which follows 540 patients. He also chairs the progression committee. This study has gone extremely well and the investigator team has been renewed for another five years.

**Vivian Reznik, MD, MPH** is a recognized expert in the use of prenatal ultrasound examinations to diagnose congenital renal disease, focusing on research into longitudinal outcomes of children with congenital renal disease. She has an interest in the newly emerging field of children with chronic renal disease who are beginning to transition to adulthood.

This year, she examined and presented the largest longitudinal patient cohort with VATER syndrome and chronic kidney disease. She is currently engaged in a study to improve patient physician communication using systems redesign.

This work has been presented to the Pediatric Academic Society meetings and the current subject of several manuscripts. Dr. Reznik is the Scientific Director and Co PI of a Center of Excellence in Health Disparities from the Office of Minority Health and Health Disparities (NIMHD).

The Center supports research in hypertension and cardiovascular disease focused on issues of health disparities including providing pilot funding to young investigators. It also has designed, implemented and evaluated efforts to promote and integrate URM junior faculty in the School of Medicine.

**Peter Yorgin, MD** is active in clinical research. He is conducting outcomes studies in pediatric dialysis. He is working on the creation of a Southern California Quality Initiative for pediatric hemodialysis patients. He is a recognized expert on anemia in chronic kidney disease and is frequently invited speaker in national meetings.

## EDUCATIONAL ACTIVITIES

### **Robert Mak, MD, PhD**

- Director of the Pediatric Nephrology Fellowship Program; Accredited by the ACGME for an additional five years until 2013.
- Director, Peds Course 434, Medical Student Pediatric Nephrology Rotation Program; Curriculum recently revised (2011)
- Actively involved in training medical students, pediatric residents and fellows in Nephrology; An average of 12 pediatric residents per year elect to spend a month in nephrology, and between three and four medical students a year take the nephrology elective
- Participates in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology
- Member of the Education Committee of the American Society of Pediatric Nephrology

## Major Goals and Plans

1. National recognition for care of children with kidney disease
2. Recruitment of two additional faculty to meet clinical and research needs
3. Increase nurse coordinator staffing
4. Expand current dialysis and apheresis services
5. NIH T32 training grant for fellowship program

### Nadine Benador, MD

- Actively involved in training medical students, pediatrics residents and fellows in nephrology
- Part of the clinical teaching service for inpatient and outpatient pediatrics training for medical students
- Participates in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology
- Teaches nursing staff in the dialysis area

### Elizabeth Ingulli, MD

- Coordinates Grand Rounds for RCHSD starting 2011
- Actively involved in training medical students, pediatrics residents and fellows in renal transplantation; is the Medical Director of the Pediatric Renal Transplant Program
- Participates in clinical teaching for medical students, pediatric resident trainees, nephrology fellows, and pharmacy students; participates in didactic lectures for medical students, pediatric resident trainees, and nephrology fellows in general nephrology.
- Participates in didactic lectures to PICU, IMU and clinic nursing staff in the Management of Pediatric Transplant Patient and Transplant Immunology, The Basics

### Vivian Reznik, MD, MPH

- Director of the UCSD junior faculty development program, the National center of Leadership in Academic Medicine [NCLAM]
- Lecturer for the following courses: Principles to Practice, UCSD SOM; Problem Solving in Healthcare, California Western School of Law

- Actively involved in training medical students, pediatrics residents and fellows in Nephrology
- Part of the clinical teaching service for inpatient and outpatient pediatrics training for medical students
- Participates in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology
- A regular advisor for medical student Independent Student Projects (ISPs)

### Peter Yorgin, MD

- Actively involved in training medical students, pediatrics residents and fellows in nephrology
- Part of the clinical teaching service for inpatient and outpatient pediatrics training for medical students
- Participates in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology.

## AWARDS, HONORS, AND MAJOR PRESENTATIONS

In 2011, we are recognized as the top 29th program in Pediatric Nephrology in the *U.S. News & World Report*.

### Robert Mak, MD, PhD

Who's Who in America, 2011  
Editorial Board, *Nature Reviews Nephrology*, 2005–present  
Consulting Editor, *Pediatric Research*, 2004–2010

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Nadine Benador, MD</b>		
Chronic Kidney Disease in Children Study (CKiD)	\$17,400	\$66,133
Sub 04-0036 (DK066143)/Children's Mercy Hospital		Aug. 2004-Sept. 2011
<b>Robert Mak, MD, PhD</b>		
Chronic Renal Insufficiency in NAPRTCS Patients	\$10,980	\$67,866
Sub 07-005 (DK066143)/Children's Mercy Hospital		Aug. 2007-July 2011
Therapeutic Benefit of Vitamin D on Cachexia, Cardiovascular Disease and Survival in CKD	\$235,445	\$363,763
20084569/Abbott Laboratories		May 2009-May 2012
Energy Homeostasis and Muscle Wasting in Nephropathic Cystinosis	\$136,364	\$150,000
20101653/Cystinosis Research Foundation		Jan. 2010-Dec. 2011
<b>Vivian Reznik, MD, MPH</b>		
San Diego Comprehensive Research Center of Excellence in Minority Health and Health Disparities	\$950,000	\$11,027,550
2 P 60 MD000220-06/NIH (NCMHD)		Sept. 2002-Apr. 2012
Hispanic Center of Excellence	\$524,354	\$1,120,347
D34HP18954/PHS (HRSA)		July 2010-June 2012



Associate Editor, *Pediatric Nephrology*, 2006–2010  
 Editorial Board, *World Journal of Pediatrics*, 2010–present  
 Editorial Board, *World Journal of Hypertension*, 2010–present  
 Editorial Board, *World Journal of Nephrology*, 2010–present  
 Co-chair, Kidney Disease Progression Committee, NIH U01 on Chronic Kidney Disease in Children, 2003–2013  
 Invited lecturer, Energy homeostasis and muscle wasting in cystinosis: Role of inflammation. International Cystinosis Research Symposium. Newport Beach, CA, April 2010  
 Invited lecturer, Obesity and the kidney. Western Society of Pediatric Nephrology Meeting. Pasadena, CA, April, 2010  
 Invited lecturer, Growth retardation and muscle wasting in cystinosis. Cystinosis Research Foundation symposium. Newport Beach, CA, April 2010  
 Oral platform presentation, Vitamin D receptor activation ameliorates cachexia and inflammation in chronic kidney disease. Society for Pediatric Research Annual Meeting, Vancouver, Canada, May 2010  
 Invited lecturer, Impact of leptin on bone density in health and chronic kidney disease. International Pediatric Nephrology Association Congress, New York, NY, August 2010  
 Oral platform presentation, Paracalitol ameliorates cachexia by suppression of inflammation in chronic kidney disease. International Pediatric Nephrology Association Congress, New York, NY, August 2010  
 Oral platform presentation, Vitamin D receptor activation ameliorates cachexia and muscle wasting in chronic kidney disease. American Society of Nephrology Annual Meeting, Denver, CO, November 2010  
 Co-chair, Western Society of Pediatric Nephrology Annual Meeting, San Diego, CA, February 2011  
 Invited lecturer, Extraskelatal effects of vitamin D in health and disease. Western Society of Pediatric Nephrology Annual Meeting, San Diego, CA, February 2011  
 Invited lecturer, Energy homeostasis and muscle wasting in cystinosis. International Cystinosis Research Symposium, Newport Beach, CA, April, 2011  
 Invited lecturer, Cachexia, malnutrition and obesity: the vicious triangle in chronic kidney disease. International Meeting on Nutrition and Growth in Chronic Kidney Disease, Heidelberg, Germany, May 2011  
 Oral platform presentation, Ghrelin ameliorates cachexia

and inflammation in chronic kidney disease. Society for Pediatric Research Annual Meeting, Denver, CO, May 2011

### **Nadine Benador, MD**

Thomas S, Poyuzina A, Benador N. A single center review of vascular access (VA) for pediatric chronic hemodialysis central venous catheters may not be so bad. 30th Annual Dialysis Conference, Seattle, WA, February 2010; Abstract. *Hemodialysis International*, 1:2010

### **Elizabeth Ingulli, MD**

Best Doctors in America, National Award, 2009–2010  
 Best Doctors in America, National Award, 2011–2012  
 Post transplant care of the pediatric renal transplant recipient. Solid Organ Transplantation Conference, UCSD/RCHSD, July 23, 2009  
 Caring for the pediatric transplant recipient. 44th Annual Uniformed Services Pediatric Seminar, American Academy of Pediatrics, San Diego, CA, March 7, 2010  
 Antibody-mediated rejection. Western Society of Pediatric Nephrology Annual Meeting, Pasadena, CA, April 18, 2010  
 Special considerations for the young transplant recipient. American Society of Nephrology Annual Meeting, Denver, CO, November 20, 2010  
 Evaluation and therapy of essential hypertension in children and adolescents. American Association of Clinical Endocrinology Annual Meeting, San Diego, CA, April 15, 2011  
 The role of vitamin D in the immune system. PAS/SPR Annual Meeting, Denver, CO, May 1, 2011

### **Vivian Reznik, MD, MPH**

Who's Who Among Executives and Professionals Honors Edition. 2008-2009  
 Best Doctors of San Diego, 2009, 2010  
 Inducted into San Diego County Women's Hall of Fame, 2011  
 AAMC Task Force on Financial Conflict of Interest in Clinical Care—In the Interest of Patients: Recommendationa for Physician Financial Relationship and Clinical Decision Making, June 2010  
 AAMC [www.AAMC.org](http://www.AAMC.org)  
 Sonnino R, Loveland K, Mylona E, Nelson K, Reznik V, Wadland W. Partnering in faculty affairs research: A



new process for GFA collaborative proposals. AAMC Faculty Affairs Professional Development Conference San Francisco, CA, August 7-9 2009

Reznik V, Morton L. Teaching interdisciplinary collaboration between law and medicine. Center for Law, Health and Society Conference on Interdisciplinary Clinical Education, Atlanta, GA, September 24, 2009

Reznik V. Leadership in academic medicine women in nephrology. American Association of Nephrology, San Diego, CA, October 31, 2009

Reznik V. Promoting equity and leadership for women in academic medicine. American Society of Nutrition, Experimental Biology 2010, Anaheim, April 27, 2010

Daley S, Reznik V. The science of eliminating health disparities: Bridging research, teaching, interventions and policy for junior faculty promotion and tenure. AAMC Minority Faculty Career Development Seminar, Carlsbad, CA, September 26, 2010

Sonnino R, Nelson K, Reznik V, Wadland W, Mylona E, Loveland K, Thorndyke L, Neutens J. New opportunities for faculty affairs scholarship and authorship group on faculty affairs. AAMC, Toronto, Canada, August 6, 2010

### Peter Yorgin, MD

CARES Award, RCHSD, 2011

Chair, Western Society of Pediatric Nephrology Annual Meeting, San Diego, CA, February 2011

Invited lecturer, Crisis in the dialysis unit: How do we respond? Western Society of Pediatric Nephrology Annual Meeting, San Diego, CA, February 2011

### Wilson Cheung, PhD

Young Investigator Award, National Kidney Foundation 2008-2010

## PUBLICATIONS

### Robert Mak, MD, PhD

Cheung W, Mak RH. Ghrelin and its analogues as therapeutic agents for anorexia and cachexia in end-stage renal disease. *Kidney International*, 76:135-137, 2009.

Mak RH, Cheung W. Transforming growth factors and insulin-like growth factors in chronic kidney disease. *Journal of Organ Dysfunction*, 5:59-64, 2009.

Mak RH. Recent advances in chronic dialysis and renal transplantation in children. *Pediatric Nephrology*, 24:459-461, 2009.

Schwartz GJ, Munoz A, Schneider MF, Mak RH, Kaskel F, Warady BA, Furth S. New equations to estimate GFR children with CKD. *Journal of the American Society of Nephrology*, 20:629-637, 2009.

Wong C, Pierce CB, Cole SR, Warady BA, Mak RH, Benador NM, Kaskel F, Furth SL, Schwartz G. Association of proteinuria with race, cause of chronic kidney disease and glomerular filtration rate in the chronic kidney disease in children study. *Clinical Journal of the American Society of Nephrology*, 4:812-819, 2009.

Ingulli E, Mistry K, Mak RH. Acid-base homeostasis. In: *Pediatric Nephrology*, 6th Edition, Avner ED, Harmon WE, Niaudet P, Yoshikawa N Springer (eds.). pp 205-230, 2010.

Mak RH, Flynn J, Bakris G. Pediatrics: Blood pressure target for renoprotection in children. *National Review Nephrology* 6:67-68, 2010.

Mak RH, Bakris G. Pediatrics: Marked hypertension: A risk factor in children with CKD. *National Review Nephrology*, 6:132-134, 2010.

Cheung WW, Paik KH, Mak RH. Inflammation and cachexia in chronic kidney disease. *Pediatric Nephrology*, 25:711-724, 2010.

Santos F, Kaskel F, Mak RH, Caldas A. 8th International Symposium on Growth and Nutrition in Children with Renal Disease. *Pediatric Nephrology*, 25:581-582, 2010.

Querfeld U, Mak RH. Vitamin D deficiency and toxicity in chronic kidney disease: In search of the therapeutic window. *Pediatric Nephrology*, 25:2413-2430, 2010.

Cheung W, Mak RH. Ghrelin in chronic kidney disease. *International Journal of Peptides*, 2010: 2010 pii:567343

Cheung W, Zhang JY, Paik KH, Mak RH. The impact of inflammation on bone mass in children. *Pediatric Nephrology*, 26: 1937-1946, 2011.

Mak RH, Cheung WW. Is ghrelin a biomarker for mortality in end-stage renal disease? *Kidney International*, 79:697-699, 2011.

Mak RH, Ikizler TA, Kovesdy CP, Raj DS, Stenvinkel P,

Kalantar-Zadeh K. Wasting in chronic kidney disease. *J Sarcopenia, Cachexia and Muscle*, 2:9-25, 2011.

Kalantar-Zadeh K, Cano NJ, Buddle K, Chazot C, Kovesdy CP, Mak RH, Mehrotra R, Raj DS, Sehgal AR, Stenvinkel P, Ikizler TA. Diets and enteral supplements for improving outcomes in chronic kidney disease. *Nature Rev Nephrology*, 7:369-384, 2011.

### **Nadine Benador, MD**

Wong C, Pierce CB, Cole SR, Warady BA, Mak RH, Benador NM, Kaskel F, Furth SL, Schwartz G. Association of proteinuria with race, cause of chronic kidney disease and glomerular filtration rate in the chronic kidney disease in children study. *Clin J Am Soc Neph*, 4:812-819, 2009.

### **Elizabeth Ingulli, MD**

Ingulli E, Funatake C, Jacovetty EL, Zanetti M. Cutting Edge: Antigen presentation of CD8 T cells after influenza A virus infection. *Journal of Immunology*, 182:29-33, 2009.

Makale M, McElroy M, O'Brien P, Hoffman RM, Guo S, Bouvet M, Barnes L, Ingulli E, Cheresch D. Extended-working-distance multiphoton micromanipulation microscope for deep-penetration imaging on live mice and tissue. *Journal of Biomedical Optics*, 14:024032, 2009.

Hurwitz KA, Ingulli EG, Krous HF. Levetiracetam induced interstitial nephritis and renal failure. *Pediatric Neurology*, 41:57-58, 2009.

Ingulli E, Mistry K, Mak RH. Acid-base homeostasis. In: *Pediatric Nephrology Sixth Edition, Volume 1*, Avner ED, Harmon WE, Niaudet P, Yoshikawa N Springer (eds.) pp 205-230, 2009.

Ingulli, E, Alexander S, Briscoe DM. Transplant Immunology. In: *Pediatric Nephrology, Sixth Edition, Volume 2*, Avner E, Harmon W, Niaudet P, Yoshikawa N (eds.) Chapter 74, pp 1835-1866, 2009.

Ingulli E. Mechanism of cellular rejection in transplantation. *Pediatr Nephrol*, 25:61-74, 2010.

Zanetti M, Castiglioni P, Ingulli E. Principles of memory CD8 T-cells generation in relation to protective immunity. *Adv Exp Med Biol*, 684:108-125, 2010.

Ingulli E. Transitioning from pediatric to adult care. In: *Kidney Transplantation: A Guide to the Care of Kidney*

*Transplant Recipients*, (eds. McKay DB, Steinber SM) Chapter 23, pp 383-394, 2010.

### **Vivian Reznik, MD, MPH**

Ahn SY, Mendoza S, Kaplan G, Reznik VM. Chronic kidney disease in the VACTERL association: clinical course and outcomes. *Pediatr Nephrol*, 24:1047-1053, 2009.

Fontanesi J, Mendoza S, Bowers D, Reznik VM. Translating operational research to the medical community: Using "guiding measurements" to improve the quality of health care delivery. *J Med Pract Manage*, 24:248-253, 2009.

Ries AL, Wingard DL, Morgan C, Farrell E, Letter S, Reznik V. Retention of junior faculty in academic medicine. *Academic Medicine*, 84:37-41, 2009.

Tee JB, Reznik VM, Krous HF. Overlapping presentation of fungal tubulointerstitial nephritis in an immunosuppressed pediatric patient. *Pediatr Nephrol*, 24:1573, 2009.

Daley S, Broyles S, Rivera L, Reznik V. Increasing the capacity of health sciences to address health disparities. *JNMA*, 101:1-5, 2009.

Morton L, Tara H, Reznik VM. Teaching interdisciplinary collaboration: Theory, practice and assessment. *Health Law Journal*, 13:175-201, 2010.

### **Peter Yorgin, MD**

Sahney S, Yorgin P, Zuppan C, Cutler D, Kambham N, Chinnock R. BK virus nephropathy in the native kidneys of a pediatric heart transplant recipient. *Pediatr Transplant*, 14:E11-15, 2009.



# Neurology

The Division of Pediatric Neurology provides comprehensive consultation, assessment, and management of disorders of the brain, spinal cord, nerves and muscles, that affect infants, children and adolescents. In addition to general childhood neurological disorders, special areas of expertise among the division members include neurodevelopmental disabilities (e.g. autism, developmental delay), epilepsy, metabolic disorders, brain tumors, neurogenetic disorders, headache, movement disorders, neuromuscular disorders, pediatric stroke, gait disturbances, ataxia, cerebral palsy, and neonatal neurology.

Members of the division are also actively engaged in basic, translational, and clinical research to better understand the mechanisms of brain development and disease, and to advance treatment modalities for children with

neurological disorders. The division provides inpatient and outpatient clinical services, including consultations, ongoing care, advice and support regarding neurological issues for the greater San Diego area and contiguous counties. Members of the division also receive referrals for consultations from all parts of the United States and from many other countries around the world.

Left to right: Mary Jo Harbert, Robert Leshner, Sonya Wang, John Crawford, Carla Grosman, Andrew Mower, Jennifer Friedman, Richard Haas, Gail Reiner, Doris Trauner, Mark Nespeca, Kathy Romine, William Lewis, Jonathan Bui

## FACULTY

**Doris Trauner, MD**, Professor of Neurosciences and Pediatrics, Co-Director

**William Lewis, MD**, Clinical Professor of Neurosciences, Co-Director

**Angela Ballantyne, PhD**, Project Scientist

**Jonathan Bui, MD, PhD**, Assistant Adjunct Professor of Neurosciences

**John R. Crawford MD**, Assistant Adjunct Professor of Neurosciences

**Jennifer Friedman, MD**, Associate Clinical Professor of Neurosciences

**Joseph Gleeson, MD**, Professor of Neurosciences and Pediatrics

**Carla Grossmann, MD**, Associate Clinical Professor of Neurosciences

**Richard Haas, MD**, Professor of Neurosciences and Pediatrics

**MJ Harbert, MD**, Assistant Clinical Professor of Neurosciences

**Robert Leshner, MD**, Clinical Professor of Neurosciences

**David Lieberman, MD, PhD**, Assistant Adjunct Professor of Neurosciences

**Andrew Mower, MD**, Assistant Clinical Professor of Neurosciences

**Mark Nespeca, MD**, Clinical Professor of Neurosciences

**Sharon Nichols, PhD**, Project Scientist

**Michelle Sahagian, MD**, Assistant Clinical Professor of Neurosciences

**Sonya Wang, MD**, Assistant Clinical Professor of Neurosciences

**Michael Zimbric, MD**, Assistant Clinical Professor of Neurosciences

## PEDIATRIC NEUROLOGY FELLOWS

**Shifteh Sattar, MD**

**Ana Grijalvo-Perez, MD**

**Jeffrey J. Gold, MD PhD**

**Marisela Dy, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division of Pediatric Neurology has an active outpatient clinic adjacent to Rady Children's Hospital-San Diego (RCHSD), and sees approximately 13,000 patient visits per year. Faculty members also see patients at satellite clinics in Escondido, Encinitas, Murietta, and Oceanside, California.

Inpatient admissions and consultations to the pediatric neurology service number approximately 1,400 per year. In addition to inpatient coverage at RCHSD, the division provides neurologic consultation services to the Neonatal Intensive Care Units at the University of California, San Diego (UCSD) Medical Center, Sharp Mary Birch Hospital, and Scripps Mercy Hospital in San Diego.

The Clinical Neurophysiology Laboratory provides comprehensive EEG and EMG services and conducts over 2,000 EEGs and 100 EMGs annually. An active inpatient epilepsy monitoring unit provides continuous EEG monitoring for epilepsy patients. Continuous EEG monitoring is provided in the Pediatric Intensive Care Unit and the Neonatal Intensive Care Unit as well.

Patients with all types of neurological conditions are seen by our faculty. In addition to general neurology clinics, there are a number of specialty clinics at the main site, including autism, new onset seizures, headache, movement disorders, neuromuscular disorders, Rett syndrome, neuro-metabolic, cerebrovascular, neuro-oncology/brain tumor, and neurocutaneous syndrome clinics.

## FACULTY AREAS OF CLINICAL INTEREST

**Jonathan Bui, MD, PhD**

Dr. Bui has broad clinical interests with a focus on neuroimaging, as well as cerebrovascular and behavioral neurology.

**John Crawford, MD**

Dr. Crawford is a pediatric neuro-oncologist who specializes in diagnosis and management of children with brain



tumors. These include children with neuro-cutaneous syndromes such as neurofibromatosis and tuberous sclerosis. He also has interests in immunological disorders affecting the brain, such as demyelinating diseases. Dr. Crawford is also the Director of the Pediatric Neurology Training Program.

#### **Jennifer Friedman, MD**

Dr. Friedman is a specialist in movement disorders in children and adults. Her clinical interests include movement disorders (including but not limited to dystonia and Tourette syndrome), neurogenetics and neurometabolic disorders.

#### **Joseph Gleeson, MD**

Dr. Gleeson's clinical interests focus particularly on neuro-genetic disorders and parallel his extensive research interests.

#### **Carla Grosmann, MD**

Dr. Grosmann specializes in neuromuscular disorders and electromyography. She directs the Muscular Dystrophy Clinic at RCHSD and coordinates a monthly neuromuscular pathology conference for clinicopathological correlation of neuromuscular pathology. She participates in the Mutation Registry for Dystrophinopathies. She also has an active clinical practice in adolescent neurology.

#### **Richard Haas, MD**

Dr. Haas' clinical interests include neurometabolic disease, Rett syndrome, neuromuscular disease and neonatal neurology. He directs the UCSD Mitochondrial and Metabolic Disease Center where the research focus is on improving diagnostic testing for mitochondrial disease, the role of mitochondrial DNA in disease and the mitochondrial role in neurodegenerative disease.

#### **William Lewis, MD**

Dr. Lewis is the Co-Director of the Division of Child Neurology (RCHSD). He is an active clinician with broad clinical interests, and specific interests in pediatric headache syndromes.

#### **David Lieberman, MD, PhD**

Dr. Lieberman sees children with general neurological problems, and has particular interests in neurogenetic disorders and autism.

#### **Andrew Mower, MD**

Dr. Mower is a pediatric epileptologist who specializes in children with seizure disorders.

#### **Mark Nespeca, MD**

Dr. Nespeca is the program consultant/medical director of the Clinical EEG laboratory at RCHSD. He is an active clinician with specific expertise in childhood epilepsy.

#### **Michelle Sahagian, MD**

Dr. Sahagian provides consultation and follow-up care for a wide variety of neurological disorders. She has an interest in cerebral palsy and neuromuscular disorders as well.

#### **Doris Trauner, MD**

Dr. Trauner is the Co-Director of the Division of Pediatric Neurology. Her clinical interests encompass neurodevelopmental disorders, including autistic spectrum disorders, language and neurobehavioral disorders, epilepsy and epileptic behavior syndromes, and neurocutaneous syndromes.

#### **Michael Zimbric, MD**

Dr. Zimbric is a general pediatric neurologist with a wide range of interests in clinical neurological disorders affecting children.

## **RESEARCH ACTIVITIES**

**Jonathan Bui, MD, PhD** conducts neuroimaging research with an emphasis on the development of new magnetic resonance imaging techniques to facilitate neurological diagnosis and therapeutics.

**John Crawford, MD** focuses his research on immune mechanisms involved in brain tumor formation, with a goal of developing more effective treatments for childhood brain tumors. He also conducts clinical trials in neuro-oncology in collaboration with St Jude's Hospital, the University of Vermont Consortium, and the Children's Oncology Group.

**Jennifer Friedman, MD** conducts research on movement disorders and neurogenetics. Her current research involves motor learning in DYT1 dystonia.

## Major Goals and Plans

The division has recruited three additional faculty members this year (Drs. Harbert, Leshner and Wang). We have expanded our neonatal neurology and clinical neurophysiology/epilepsy programs as well as our neuromuscular program. We hope to identify additional funding so that we can expand our training program. We plan to recruit at least one additional faculty member within the next year. Particular emphasis on recruitment of physician scientists and clinician-teachers specializing in neurodevelopmental disorders is planned.

### Outpatient

We plan to expand our specialty clinics to include neonatal neurology follow-up clinic, expansion of neurocutaneous syndromes clinic, and vagus nerve stimulator clinic. We also plan to expand our clinical services into the community by increasing the numbers of clinics and clinicians at remote sites, including Escondido, Encinitas, Murietta and Oceanside.

### Inpatient

Dedicated neonatal neurology and Pediatric Intensive Care Unit coverage and enhanced teaching in those areas is being implemented.

We plan to recruit additional clinician-scientists to expand the areas of research interests within the division.

**Joseph Gleeson, MD** is focusing his research on understanding the genetic and molecular basis of pediatric brain disorders, with a particular focus on cerebellar and cortical malformations.

**Richard Haas, MD** directs the UCSD Mitochondrial and Metabolic Disease Center. The UCSD Mitochondrial Disease Laboratory is one of only four laboratories in the United States routinely handling fresh tissue for mitochondrial isolation and diagnostics. The laboratory is essential to the clinical activities of the Mitochondrial and Metabolic Disease Center at UCSD and Rady Children's Hospital San Diego. The research focus is on improving diagnostic testing for mitochondrial disease, the role of mitochondrial DNA in disease and the mitochondrial role in neurodegenerative disease. Another active research project is the study of the pharmacokinetics of intravenous lev-  
etiracetam in neonates.

**David Lieberman, MD, PhD** is conducting research on the role of synapse formation and function in animal models of neurodevelopmental disorders, including autism.

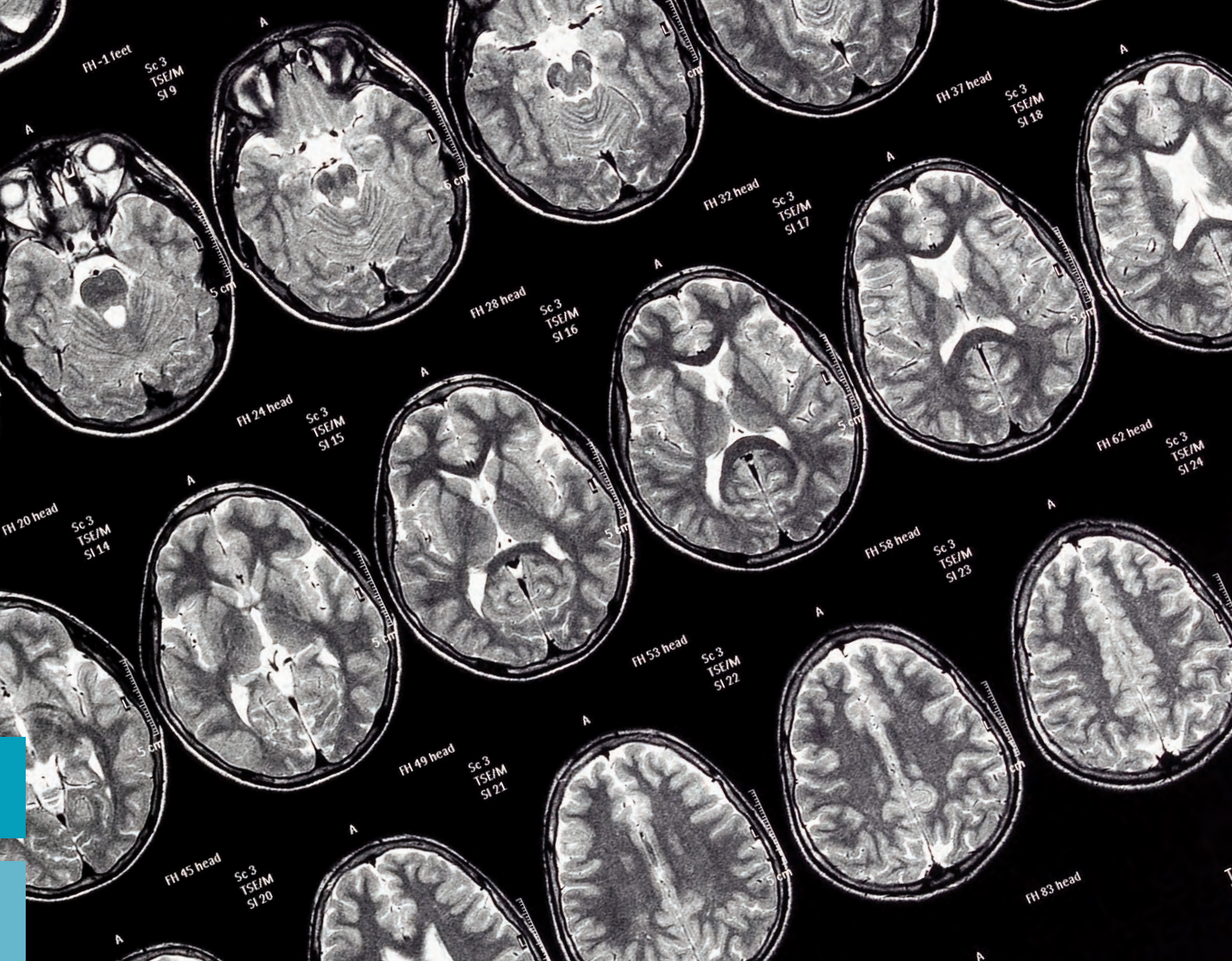
**Mark Nespeca, MD** participates in clinical investigations relating to childhood epilepsies and conducts research on Angelman's syndrome.

**Doris Trauner, MD** focuses her research on cognitive development in children, with specific interests in plasticity in the developing nervous system following perinatal stroke, and cognitive impairments associated with genetic/metabolic disorders and autistic spectrum disorders.

## TEACHING ACTIVITIES

The division runs an ACGME-accredited training program in pediatric neurology in conjunction with the adult neurology training program at UCSD Medical Center and UCSD School of Medicine. Trainees rotate at UCSD Medical Center and the San Diego Veterans Administration Medical Center for adult neurology training, and at RCHSD for pediatric neurology training.





Graduate students and postdoctoral research fellows are also an active part of the divisional teaching activities. Faculty members participate in several graduate programs, including the UCSD Neurosciences Program, the UCSD-SDSU Joint Doctoral Program in Clinical Psychology, the UCSD-SDSU Joint Doctoral Program in Speech-Language Pathology, and the UCSD Graduate Program in Cognitive Science.

The division faculty also provides both formal lectures and bedside/clinic teaching to residents in Pediatrics, Neurology, Psychiatry, Emergency Medicine, and Family Practice, and to medical students both in the preclinical and clinical years. An elective rotation that includes both inpatient and outpatient training is open to fourth year medical students.

The faculty in pediatric neurology provides daily teaching rounds on the inpatient service at RCHSD, as well as weekly teaching rounds in the three major Neonatal Intensive Care Units for which they provide neurological coverage.

Didactic sessions in child neurology include weekly lecture series for child neurology trainees, monthly journal club, monthly noon lecture series for pediatrics house staff and students, monthly case conferences, monthly neuro-radiology rounds, monthly neuropathology conference, monthly quality improvement activities, and yearly lecture series to adult neurology residents and child psychiatry fellows.

One of the most recent additions is the establishment of a formal curriculum for Pediatric Neuro-Oncology Rotation for residents and fellows.

Neurology Skills Workshop for Pediatrics Housestaff: This is a newly developed addition to the training of pediatric housestaff. As part of an educational study, pediatric housestaff perform a neurological examination on selected neuro-oncology patients with interesting findings. Following a 15 minute exam, the residents document their findings on a blank progress note. The patient is then examined by a Neurology Attending with the resident and feedback is given. The residents' neurological examinations will be analyzed to determine relative strengths and weaknesses in the neurological examination during pediatrics residency. The goal is to track the progress of residents during their entire training period. It is the hope that the project can serve as a model for other pediatric residency programs.

## LEADERSHIP OF EDUCATIONAL PROGRAMS

John Crawford MD, Director, Child Neurology Training Program

Michael Zimbric MD, Director, Fourth Year Medical Student Elective

Andrew Mower MD, Coordinator, Third Year Medical Student Rotations in Pediatric Neurology and monthly case conferences

Richard Haas MD, Faculty Coordinator, Pediatric Neurology Journal Club

Mark Nespeca MD, Coordinator, monthly Pediatric Neurology lectures for Pediatric housestaff

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Jonathan Bui MD, PhD

- Keck Graduate Institute (The Claremont Colleges), Center for Rare Diseases-Therapies, Board of Experts, 2008-present

- Junior Faculty Teaching Award, UCSD Department of Neurosciences, 2009
- Board Certification in Vascular Neurology, 2009

### John Crawford MD, MS

- The Neurological Examination: A Dying Art in the Modern Era of Molecular Medicine. Pediatric NeuroPsychology Grand Rounds, RCHSD, UCSD, September 2, 2009
- Human Herpesvirus-6 Infection of the CNS: A Cause or Consequence of CNS Disease. Neurosciences Grand Rounds, UCSD, February 26, 2010
- Genelux Inc. Lecture Series on Novel Virologic Clinical Trials Human herpesvirus-6 Infection of the CNS: A Cause of Consequence? March 13, 2010
- Brainstem Gliomas in the 21st Century. National Pediatric Hematology Oncology Conference, Tijuana Mexico, May 21, 2010
- Brain Tumors: 1st Annual Collaborative Care Conference, UCSD, Moores Cancer Center, January 15, 2011
- Sound Wave Symposium American Academy of Audiology Ototoxicity Assessment in Children Receiving Cisplatin Chemotherapy, San Diego, CA, February 11, 2011
- 7th International Conference on HHV-6 and HHV-7 Differential Gene Expression Profiling of Acute and Chronic HHV-6A-Infected Human Malignant Astrocytes. Reston, VA, February 28, 2011
- Chronic Viral Infection and CNS Malignancy: A Rebel Without a Cause? Cleveland Clinic Department of Pediatric Neurology Grand Rounds, April 20, 2011
- A Team Work Approach in the Management of Childhood Brain Tumors. 2nd Annual Neuro-Oncology Family Day, RCHSD, San Diego, CA, April 30, 2011

### Jennifer Friedman, MD

- California School Board Golden Bell Award—Understanding Differences Program (K-6 educational program teaching about disabilities and tolerance), December 2010
- VO Games Patient Presentation, First Place/Gold. 15th International Congress of Parkinson's Disease and Movement Disorders. Toronto, Canada, June 2011
- BH4 Disorders with Normal Phenylalanine-PKU and BH4. Scientific Development Summit, New York, NY, April 2011



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Joseph Gleeson, MD</b>		
Doublecortin in Neuronal Migration		\$175,000
R01 NS41537/NINDS		Apr. 2001-Feb. 2015
Molecular Characterization of Joubert Syndrome		\$299,993
R01 NS048453/NINDS		July 2004-June 2014
UCSD Neuroscience Microscopy Imaging Core		\$382,348
P30 NS047101		Sept. 2003-Nov. 2013
Molecular characterization of inbred families with autism and epilepsy		\$291,667
Simons Foundation Autism Research Initiative		Oct. 2010-Sept. 2013
<b>Doris Trauner, MD</b>		
Center for the Study of the Neural Bases of Language and Learning		\$1,033,442
NINDS/P50 NS022343		May 1997-June 2013
An Integrated Neuroimaging Study for Diagnosing and Monitoring Mild TBI in Football Players		\$99,741
Natl Football League/20105076		Jan. 2011-June 2012
Childhood Absence Epilepsy		\$46,060
NIH-NINDS/Children's Hospital Cincinnati/U01NS045911		Sept. 2003-Aug. 2012

- Fraternal twins with sepiapterin reductase deficiency, a rare form of dopamine responsive dystonia (DRD). 15th International Congress of Parkinson's Disease and Movement Disorders, Toronto, Canada, June 2011
- Sepiapterin Reductase Deficiency-Treatment Options in Phenylketonuria and Related Pediatric Neurotransmitter Disorders. Satellite Meeting for the 11th International Congress of Inborn Errors of Metabolism, San Diego, CA, August 2011
- Non-Surgical Treatments for Dystonia. John H. Menkes Children & Family Dystonia Symposium, Chicago, IL, August 2011

### Joseph Gleeson, MD

- Investigator, Simons Foundation Autism Research Initiative, 2010

- Presidential Lecture, Sanford-Burnham Medical Research Institute, 2010
- Inaugural Keynote Lecture, Dorris Neuroscience Center, TSRI, 2010
- Guroff Memorial Lecture, NINDS, NIH, 2011
- Keynote UCSD Neuroscience Graduate Student Lecture

### Carla Grosmann, MD

- Member, Muscular Dystrophy Association Executive Committee
- Annual appearance on televised MDA Jerry Lewis Telethon

### Richard Haas, MD

- America's Top Doctors, 2009, 2010, 2011



### **Robert Leshner, MD**

- Best Doctors in America 2009, 2010 (Child Neurology and Neuromuscular Diseases)
- Visiting Professor, Pompe Disease. University of Indiana, March 2009
- Visiting Professor, Metabolic Myopathies. Cleveland Clinic, June 2010
- Treatment of Pompe Disease. XII International Congress on Neuromuscular Diseases, Naples, Italy, July 17, 2010
- Guest Lecturer, 33rd Annual Carrell-Krusen Neuromuscular Symposium, Dallas, TX, February 2011

### **Andrew Mower, MD**

- Professional Advisory Board for the Epilepsy Foundation

### **Mark Nespeca, MD**

- Best Doctors in America, 2009

### **Doris Trauner, MD**

- America's Top Doctors, 2009, 2010, 2011
- Bruce Berg lectureship, University of California San Francisco Division of Pediatric Neurology, April 2009
- Women Who Mean Business Award, San Diego Business Journal, October 2009
- American Academy of Neurology Awards Committee, 2009-present
- Invited speaker, Perinatal cerebrovascular disease. American Society of Pediatric Hematology/Oncology annual meeting, San Diego, CA, May 14, 2009

- Invited speaker, Neuropsychological disturbances in nephropathic cystinosis. 40th European Working Group on Psychosocial Aspects of Children with Chronic Renal Failure, College De Valk, Leuven, Belgium, June 4, 2009
- Invited speaker, Second International Cystinosis Research Symposium, Irvine, CA, April 8, 2010
- Invited speaker, Cystinosis Research Foundation, Newport Beach, CA, May 2010

### Michael Zimbric, MD

- Golden Neuron Award for Excellence in Teaching, UCSD Department of Neurosciences, 2009

## PUBLICATIONS

- Abdel Aleem A, Abu-Shahba N, Swistun D, Silhavy J, Bielas SL, Sattar S, Gleeson JG, Zaki MS. Expanding the clinical spectrum of SPG11 gene mutations in recessive hereditary spastic paraplegia with thin corpus callosum. *Eur J Med Genet*, 54(1):82-5, 2011.
- Bainbridge MN, Wiszniewski W, Murdock DR, Friedman J, Gonzaga-Jauregui C, Newsham I, Reid JG, Fink JK, Morgan MB, Gingras MC, Muzny DM, Hoang LD, Yousaf S, Lupski JR, and Gibbs RA. Whole Genome Sequencing for Optimized Patient Management. *Science Translational Medicine* (2011 in press).
- Bava S, Theilmann RJ, Sach M, May SJ, Frank L, Hesselink J, Vu D, Trauner DA. Developmental changes in cerebral white matter microstructure in a disorder of lysosomal storage. *Cortex*, 46(2):206-16, 2010.
- Bielas SL, Silhavy JL, Brancati F, Kisseleva MV, Al-Gazali L, Sztriha L, Bayoumi RA, Zaki MS, Abdel-Aleem A, Rosti O, Kayserili H, Swistun D, Scott LC, Bertini E, Boltshauser E, Fazzi E, Travaglini L, Field SJ, Dallapiccola B, Majerus PW, Valente EM, Gleeson JG. Mutations in the inositol polyphosphate-5-phosphatase E gene link phosphatidyl inositol signaling to the cilopathies. *Nat Genet*, 41(9):1032-6, 2009.
- Bussing R, Siddiqi S, Janicke DM, Harbert MJ, Trauner D, Taylor T, Stein MT. Late onset autistic symptoms and other fluctuating behaviors. *J Dev Behav Pediatr*, 30:593-6, 2009.
- Butko MT, Drobizhev M, Makarov NS, Rebane A, Brinkman BC, Gleeson JG. Simultaneous multiple-excitation multiphoton microscopy yields increased imaging sensitivity and specificity. *BMC Biotechnol*, 2;11:20, 2011.
- Cantagrel V, Lefeber DJ, Ng BG, Guan Z, Silhavy JL, Bielas SL, Lehle L, Hombauer H, Adamowicz M, Swiezewska E, De Brouwer AP, Blümel P, Sykut-Cegielska J, Houliston S, Swistun D, Ali BR, Dobyns WB, Babovic-Vuksanovic D, van Bokhoven H, Wevers RA, Raetz CR, Freeze HH, Morava E, Al-Gazali L, Gleeson JG. SRD5A3 is required for converting polyprenol to dolichol and is mutated in a congenital glycosylation disorder. *Cell*, 142(2):203-17, 2010.
- Capers KN, Turnacioglu S, Leshner RT, Crawford JR. Antiretroviral therapy-associated acute motor and sensory axonal neuropathy 2010 Case. *Rep Neurol*, 3:1-6, 2011.
- Chen X, Thorburn DR, Wong LJ, Vladutiu GD, Haas RH, Le T, Hoppel C, Sedensky M, Morgan P, Hahn SH. Quality improvement of mitochondrial respiratory chain complex enzyme assays using caenorhabditis elegans. *Genet Med*, (Epub ahead of print) 2011 May 30.
- Crawford JR, Chang T, Lavenstein BL, Mariani B. Acute and chronic magnetic resonance imaging of Human Herpesvirus-6 associated encephalitis. *J Ped Neurol*, 7:367-373, 2009.
- Crawford JR, Zaninovic A, Santi M, Rushing EJ, Olson CH, Keating RF, Vezina G, Kadom N, Packer RJ. Primary spinal cord tumors of childhood: Effects of clinical presentation, radiographic features, and pathology on survival. *J Neuro-Onc*, 95(2):259-269, 2009.
- Crawford JR, Santi MR, Cornelison R, Sallinen S-L, Haapasalo H, MacDonald TJ. Detection of Human Herpesvirus-6 in adult central nervous system tumors: Predominance of early and late viral antigens in glial tumors. *J Neuro-Onc*, 95(1):49-60, 2009.
- Crawford JR, Santi MR, Thorarinsdottir HK, Cornelison R, Rushing EJ, Zhang H, Jacobson S, MacDonald TJ. Detection of Human Herpesvirus 6 Variants in pediatric brain tumors: association of viral antigen in low grade gliomas. *J Clin Virol*, 46(1):37-42, 2009.
- Crawford JR. Hemi-agusia as an initial presentation of demyelinating disease in an adolescent patient. Case report. *The Internet Journal of Neurology*, 11(2), 2009.
- Crawford JR, Rood BR, Rossi CT, Vezina G.



- Medulloblastoma associated with novel PTCH mutation as primary manifestation of Gorlin syndrome. *Neurology*, 72(18):1618, 2009.
- Crawford JR, Chang T, Lavenstein BL, Mariani B Acute and Chronic Magnetic Resonance Imaging of Human Herpesvirus-6 Associated Encephalitis. *J Ped Neurol*, 7:367-373, 2009.
- Crawford JR, Santi MR, Thorarinsdottir HK, Cornelison R, Rushing EJ, Zhang H, Jacobson S, MacDonald TJ Detection of Human Herpesvirus 6 Variants in Pediatric Brain Tumors: Association of Viral Antigen in Low Grade Gliomas. *J Clin Virol*, 46:37-42, 2009.
- Crawford JR. Advances in Pediatric Neurovirology. *Curr Neurol Neurosci Rep*, 10:47-154, 2010.
- Davis EE, Zhang Q, Liu Q, Diplas BH, Davey LM, Hartley J, Stoetzel C, Szymanska K, Ramaswami G, Logan CV, Muzny DM, Young AC, Wheeler DA, Cruz P, Morgan M, Lewis LR, Cherukuri P, Maskeri B, Hansen NF, Mullikin JC, Blakesley RW, Bouffard GG; NISC Comparative Sequencing Program, Gyapay G, Rieger S, Tönshoff B, Kern I, Soliman NA, Neuhaus TJ, Swoboda KJ, Kayserili H, Gallagher TE, Lewis RA, Bergmann C, Otto EA, Saunier S, Scambler PJ, Beales PL, Gleeson JG, Maher ER, Artig-Bitach T, Dollfus H, Johnson CA, Green ED, Gibbs RA, Hildebrandt F, Pierce EA, Katsanis N. TTC21B contributes both causal and modifying alleles across the ciliopathy spectrum. *Nat Genet*, 43(3):189-96, 2011.
- Dhar SU, Scaglia F, Li FY, Smith L, Barshop BA, Eng CM, Haas RH, Hunter JV, Lotze T, Maranda B, Willis M, Abdenur JE, Chen E, O'Brien W, Wong LJ. Expanded clinical and molecular spectrum of guanidinoacetate methyltransferase (GAMT) deficiency. *Mol Genet Metab*, 96(1):38-43, 2009.
- Dixon-Salazar TJ, Gleeson JG. Genetic regulation of human brain development: lessons from Mendelian diseases. *Ann NY Acad Sci*, 1214:156-67, 2010; doi:10.1111/j.1749-6632.2010.05819.x; Epub 2010 Nov 9.
- Du A, Naviaux RK, Le T, Xu C, Sommer SS, Haas RH. Fibroblast immuno-diagnosis of cytochrome oxidase (COX) deficiency in mitochondrial disease. *Mitochondrion*, 11(3):430-6, 2011.
- Elsheikh B, Prior T, Zhand X, Miller R, Kolb SJ, Moore D, Bradley W, Barohn R, Bryan W, Gelinas D, Iannaccone S, Leshner R, Mendell J, Mendoza M, Russman B, Smith S, King W, Kissel JT. An analysis of disease severity based on SMN2 copy numbers in adults with Spinal Muscular Atrophy. *Muscle Nerve*, 40(4):652-6, 2009.
- Escobar DM, Leshner RT. *Muscular Dystrophies in Pediatric Neurology: Principals and Practice*, 4th Edition, edited by KF Swaiman, S Ashwal and DM Ferriero; Mosby, Elsevier Philadelphia. 2006, pp 1969-2015, 5th Edition, now in press for release 2011.
- Escobar DM, Leshner RT. *Muscular Dystrophies in Neuromuscular Disorders: Treatment and Management*, edited by T Bertorini, Elsevier Philadelphia, 2010.
- Flink M, Trauner D. *Toxic and Metabolic Encephalopathies*, edited by RB David, 2009.
- Flint J, Lee CH, Hansen B, Fey M, Schmidig D, Bui JD, King MA, Vestergaard-Poulsen P, Blackband SJ. Magnetic resonance microscopy of mammalian neurons. *Neuroimage*, 46(4):1037-40, 2009.
- Glauser TA, Cnaan A, Shinnar S, Hirtz DG, Dlugos D, Masur D, Clark PO, Capparelli EV, Adamson PC; Childhood Absence Epilepsy Study Group. Ethosuximide, valproic acid, and lamotrigine in childhood absence epilepsy. *N Engl J Med*, 4;362(9):790-9, 2010.
- Haas RH, Armstrong-Wells J. Vascular disease in infants and children. In: *Clinical Pediatric Neurology*. 3rd ed, edited by Ronald B. David, John B. Bodensteiner, David E. Mandelbaum and Barbara Olson. Demos Medical Publishing, LLC. Chapter 14: 237-262, 2009.
- Haas RH. Autism and mitochondrial disease. *Dev Disabil Res Rev*, 16(2):144-53, 2010.
- Hanna RM, Marsh SE, Swistun D, Al-Gazali L, Zaki MS, Abdel-Salam GM, Al-Tawari A, Bastaki L, Kayserili H, Rajab A, Boglárka B, Dietrich RB, Dobyns WB, Truwit CL, Sattar S, Chuang NA, Sherr EH, Gleeson JG. Distinguishing 3 classes of corpus callosal abnormalities in consanguineous families. *Neurology*, 25;76(4):373-82, 2011.
- Huang M, Theilmann RJ, Robb A, Angeles A, Nichols S, Drake A, Dandrea J, Levy M, Holland M, Song T, Ge S, Hwang E, Yoo K, Cui L, Baker DG, Trauner D, Coimbra R, Lee RR. Integrated imaging approach with MEG and DTI to detect mild traumatic brain injury in military and civilian patients. *J Neurotrauma*, 26(8):1213-26, 2009.
- Iannaccone ST, Hynan LS, Morton A, Buchanan R,



- Linbers CA, Varni JW; AmSMART Group. The Peds QOL in pediatric patients with spinal muscular atrophy: Feasibility, reliability, and validity of the Pediatric Quality of Life Inventory Generic Core Scales and Neuromuscular Module. *Neuromuscul Disorders*, 19 (12): 805-12, 2009.
- Iannicelli M, Brancati F, Mougou-Zerelli S, Mazzotta A, Thomas S, Elkhartoufi N, Travaglini L, Gomes C, Ardissino GL, Bertini E, Boltshauser E, Castorina P, D'Arrigo S, Fischetto R, Leroy B, Loget P, Bonnière M, Starck L, Tantau J, Gentilin B, Majore S, Swistun D, Flori E, Lalatta F, Pantaleoni C, Penzien J, Grammatico P; International JSRD Study Group, Dallapiccola B, Gleeson JG, Attie-Bitach T, Valente EM. Novel TMEM67 mutations and genotype-phenotype correlates in meckelin-related ciliopathies. *Hum Mutat*. 31(5):E1319-31, 2010.
- Kerjan G, Koizumi H, Han EB, Dube CM, Djakovic SN, Patrick GN, Baram TZ, Heinemann SF, Gleeson JG. Mice lacking doublecortin and doublecortin-like kinase 2 display altered hippocampal neuronal maturation and spontaneous seizures. *Proc Natl Acad Sci USA*, 106(16): 6766-71, 2009.
- Kim J, Lee JE, Heynen-Genel S, Suyama E, Ono K, Lee K, Ideker T, Aza-Blanc P, Gleeson JG. Functional genomic screen for modulators of ciliogenesis and cilium length. *Nature*, 15;464(7291):1048-51, 2010.
- Koizumi H, Gleeson JG. Sun proteins enlighten nuclear movement in development. *Neuron*, 64(2):147-9, 2009.
- Lancaster MA, Louie CM, Silhavy JL, Sintasath L, DeCambre M, Nigam SK, Willert K, Goldstein LS, Gleeson JG. Impaired Wnt/beta-catenin signaling disrupts adult renal homeostasis and leads to cystic kidney ciliopathy. *Nat Med*, 15(9):1046-54, 2009.
- Lancaster MA, Gleeson JG. The primary cilium as a cellular signaling center: lessons from disease. *Curr Opin Genet Dev*, 19(3):220-9, 2009.
- Lancaster MA, Gopal D, Kim J, Saleem SN, Silhavy JL, Louie CM, Thacker BE, Williams Y, Zaki MS, Gleeson JG. Defective Wnt-dependent cerebellar midline fusion in Joubert syndrome in humans and mice. *Nat Med*, 17(6):726-31, 2011.
- Lancaster MA, Schroth J, Gleeson JG. Subcellular spatial regulation of canonical Wnt signalling at the primary cilium. *Nat Cell Biol*, 13(6):702-9, 2011.
- Lancaster MA, Gleeson JG. Cystic kidney disease: the role of Wnt signaling. *Trends Mol Med*, 16(8):349-60, 2010; Epub 2010 Jun 22.
- Lee JE, Gleeson JG. Cilia in the nervous system: linking cilia function and neurodevelopmental disorders. *Curr Opin Neurol*, 24(2):98-105, 2011.
- Lee JH, Gleeson JG. The role of primary cilia in neuronal function. *Neurobiol Dis*, 38(2):167-72, 2010.
- Lefkowitz GK, Gleeson JG. Aurora A moonlights in neurite extension. *Nat Cell Biol*, 11(9):1053-4, 2009.
- Levisohn PM, Mintz M, Hunter SJ, Yang H, Jones J; N01103 Levetiracetam Study Group. Neurocognitive effects of adjunctive levetiracetam in children with partial-onset seizures: a randomized, double-blind, placebo-controlled, noninferiority trial. *Epilepsia*, 50:2377-2389, 2009.
- Lim KS, Naviaux RK, Haas RH. Determination of DNA mutation load in human tissues using denaturing HPLC-based heteroduplex analysis. *Methods Mol Biol*, 554:287-99, 2009.
- Louie CM, Caridi G, Lopes VS, Brancati F, Kispert A, Lancaster MA, Schlossman AM, Otto EA, Leitges M, Gröne HJ, Lopez I, Gudiseva HV, O'Toole JF, Vallespin E, Ayyagari R, Ayuso C, Cremers FP, den Hollander AI, Koenekoop RK, Dallapiccola B, Ghiggeri GM, Hildebrandt F, Valente EM, Williams DS, Gleeson JG. AHI1 is required for photoreceptor outer segment development and is a modifier for retinal degeneration in nephronophthisis. *Nat Genet*, 42(2):175-80, 2010.
- Lyle CL, Crawford JR Neurodiagnostic Principles. In: *Tumors of the Central Nervous System*, 2nd Edition, edited by RF Keating, JT Goodrich, RJ Packer, 2nd Edition, Thieme New York (in press).
- Lyle CA, Malicki D, Senac MO, Levy ML, Crawford JR. Congenital giant intramedullary spinal cord schwannoma. *Neurology*, 75:152, 2010.
- Marín O, Gleeson JG. Function follows form: understanding brain function from a genetic perspective. *Curr Opin Genet Dev*. 21(3):237-9, 2011.
- Morava E, Wevers RA, Cantagrel V, Hoefsloot LH, Al-Gazali L, Schoots J, van Rooij A, Huijben K, van Ravenswaaij-Arts CM, Jongmans MC, Sykut-Cegielska J, Hoffmann GF, Bluemel P, Adamowicz M, van Reeuwijk J, Ng BG, Bergman JE, van Bokhoven H, Körner C, Babovic-Vuksanovic D, Willemsen MA, Gleeson JG, Lehle L, de Brouwer AP, Lefeber DJ. A

- novel cerebello-ocular syndrome with abnormal glycosylation due to abnormalities in dolichol metabolism. *Brain*, 133(11):3210-20, 2010; Epub 2010 Sep 17.
- Nass R, Trauner DA. Developmental language disorders. In: *Pediatric Neurology: Principles and Practice*, Stephen Ashwal, ed. Elsevier Publ., 2010.
- Parikh S, Saneto R, Falk MJ, Anselm I, Cohen BH, Haas R, Medicine Society TM. A modern approach to the treatment of mitochondrial disease. *Curr Treat Options Neurol*, 11(6):414-30, 2009.
- Pegoraro E, Hoffman EP, Piva L, Gavassini BF, Cagnin S, Ermani M, Bello L, Soraru G, Pacchioni B, Bonifati MD, Lanfranchi G, Angelini C, Kesari A, Lee I, Gordish-Dressman H, Devaney JM and McDonald CM on behalf of the Cooperative International Neuromuscular Research Group: SSP1 genotype is a determinant of disease severity in Duchenne muscular dystrophy: *Neurology*, 18 (3) 219-26, 2011.
- Powers WJ, Haas RH, Le T, Videen TO, Markham J, Perlmutter JS. Platelet mitochondrial complex I and I+III activities do not correlate with cerebral mitochondrial oxidative metabolism. *J Cereb Blood Flow Metab*, 31(1):e 1-5, 2011.
- Saddawi-Konefka R, Crawford JR. Chronic viral infection in central nervous system malignancy. *J Neuroimmune Therap*, 5:387-403, 2010.
- Sharpe C, Haas RH. Levetiracetam in the treatment of neonatal seizures. *Journal of Pediatric Neurology*, 7:79-83, 2009.
- Sharpe CM, Wolfson T, Trauner DA. Weight gain in children treated with valproate. *Journal of Child Neurology*, 24(3):338-41, 2009.
- Singh RK, Leshner RT, Kadom N, Vanderver AL. Isolated cranial nerve enhancement in metachromatic leukodystrophy. *Pediatr Neurol*, 40(5) 380-2, 2009.
- Spilkin A, Ballantyne A, Trauner D. Visual and verbal learning in a genetic metabolic disorder. *Neuropsychologia*, 47:1883-992, 2009.
- Thibert RL, Conant KD, Braun EK, Bruno P, Said R, Nespeca MP, Thiele EA. Epilepsy in Angelman Syndrome: a questionnaire-based assessment of the natural history and current treatment options. *Epilepsia*, 50(11):2369-76, 2009.
- Trauner DA. *Neurologic and Cognitive Consequences of Nephropathic Cystinosis*, edited by Nass R, 2010.
- Trauner DA, Williams J, Ballantyne AO, Spilkin AM, Crowhurst J, Hesselink J. Neurological impairments in nephropathic cystinosis: Motor coordination deficits. *Journal of Nephrology*, 25(10):2061-6, 2010.
- Valente EM, Logan CV, Mougou-Zerelli S, Lee JH, Silhavy JL, Brancati F, Iannicelli M, Travaglini L, Romani S, Illi B, Adams M, Szymanska K, Mazzotta A, Lee JE, Tolentino JC, Swistun D, Salpietro CD, Fede C, Gabriel S, Russ C, Cibulskis K, Sougnez C, Hildebrandt F, Otto EA, Held S, Diplas BH, Davis EE, Mikula M, Strom CM, Ben-Zeev B, Lev D, Sagie TL, Michelson M, Yaron Y, Krause A, Boltshauser E, Elkhartoufi N, Roume J, Shalev S, Munnich A, Saunier S, Inglehearn C, Saad A, Alkindy A, Thomas S, Vekemans M, Dallapiccola B, Katsanis N, Johnson CA, Attié-Bitach T, Gleeson JG. Mutations in TMEM216 perturb ciliogenesis and cause Joubert, Meckel and related syndromes. *Nat Genet*, 42(7):619-25, 2010.
- van der Ploeg AT, Clemens PR, Corzo D, Escolar D, Florence J, Groeneveld GJ, Herson S, Kishnani PS, Laforet P, Lake SL, Lange DJ, Leshner RT, Mayhew JE, Morgan C, Nozaki K, Park DJ, Pestronk A, Rosenbloom B, Skrinar A, van Capelle CI, van der Beek NA, Wasserstein M, Zivkovic SA : A randomized, placebo-controlled study of Alglucosidase Alph for the treatment of late-onset Pompe disease. *N Eng J Med*, 15: 362(15); 1396-406, 2010.
- Yao K, Crawford JR, Komaroff AL, Ablashi DV, Jacobson S. Review part 2: Human herpesvirus-6 in central nervous system disease. *J Med Virol*, 10:1669-1678, 2010.
- Zimbric M, Sharpe C, Albright K, and Nespeca M. Three-channel electroencephalogram montage in neonatal seizure detection and quantification. *Pediatric Neurology*, Vol 44 (1); pg 31-34.



# Pathology

The Pathology Division is responsible for all anatomic and clinical pathology diagnostic services and the educational programs in pediatric pathology for medical students, residents, and fellows. Additionally, the pathology staff contributes to and supports an array of activities including professional societies, public service agencies, and media productions. The pathologists are actively engaged in collaborative research occurring within the institution, at the University of California, San Diego (UC San Diego) School of Medicine, and with investigators from other institutions around the country. The pathologists are also intimately involved in the day-to-day administrative management of the laboratories.

## FACULTY

**Robert O. Newbury, MD**, *Director*, Clinical Professor of Pathology

**Henry F. Krous, MD**, Director of Pathology Research, Clinical Professor of Pathology

**Eric Breisch, PhD**, Associate Clinical Professor of Surgery

Left to right: Hart Isaacs, Denise Malicki, Henry Krous, Linda Ellis, Robert Newbury, Katayoon Shayan

**Hart Isaacs, Jr., MD**, Clinical Professor of Pathology  
**Denise Malicki, MD, PhD**, Associate Clinical Professor of Pathology  
**Katayoon Shayan, MD**, Associate Clinical Professor of Pathology  
**Linda Ellis, MD**, Associate Clinical Professor of Pathology

## POSTDOCTORAL FELLOWS AND RESIDENTS

**Pamela Archuletta, MD**  
**Dave Azar, MD**  
**William Ryan, MD**  
**Catherine Nguyen, MD**  
**Bradly Harward, MD**  
**Allen Kremp, MD**  
**Lawrence Willes, MD**  
**Shouying Du, MD**  
**Mariah Baughn, MD**  
**Parham Minoo, MD**  
**Khaing Win, MD**  
**Caron Steinmetz, MD**  
**Angela Bachman, MD**  
**Lily Jih, MD**  
**Lisa Smith, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

- The Pathology Division successfully maintained licensure by the State of California and Federal Drug Administration (FDA), is certified by CLIA, and maintained accreditations from the College of American Pathologists, American Association of Blood Banks, and the Joint Commission on Accreditation of Hospital Organizations (JCAHO).
- The pathologists serve as CAP inspectors of pathology departments at other children's hospitals in the U.S.

- Annually, the clinical laboratory performs more than 1,500,000 tests, and transfuses over 13,000 blood products to more than 2,500 patients.
- Diagnostic services include bacterial and fungal cultures, molecular diagnostic testing for infectious diseases, routine chemistry, sweat chloride testing, glucose tolerance testing, serology, urinalysis, hematology, selected coagulation studies, toxicology, and blood banking.
- The Division uses polymerase chain reaction (PCR) to identify enteroviruses, HSV, VZV, CMV, and Bordatella pertussis, which serves not only Rady Children's Hospital-San Diego (RCHSD), but other community hospitals including Naval Medical Center San Diego, Paradise Valley, Sharp Memorial, Scripps Clinic, UC San Diego, Tri-City, Palomar/Pomerado, Alvarado, Grossmont, and Scripps Chula Vista.
- The Division also participates in the Drug Endangered Children (DEC) Forensic Pathology Program for detecting drug exposure in children.
- The Division provided diagnostic services on approximately 55,000 separate surgical specimens from over 13,000 accessioned cases.
- Greater than 100 new malignancies were identified annually.
- The pathologists performed approximately 300 frozen section diagnoses from over 200 patients.
- Approximately 20 postmortem examinations are performed annually and the findings of many of them are presented at various medical staff conferences.
- Electron microscopy was performed on nearly 220 specimens.
- The Division continues to provide electron microscopy services to Naval Medical Center San Diego, Children's Hospital Central California, and Children's Hospital in Omaha, NE.
- The Division also provides renal biopsy consultations and interpretations and technical support to many hospitals in San Diego County.



## Major Goals and Plans

- Provide anatomic and clinical pathology consultations and services to all of the clinical programs at RCHSD.
- Continue to moderate and/or support medical staff educational, clinicopathologic, and quality assurance conferences.
- Continue to serve as the pediatric pathology training experience for medical students, pathology residents, and surgical pathology fellows.
- Continue to support extramural and community activities involving professional societies and governmental agencies.
- Continue research efforts as reflected by: Continued participation in the "CJ SIDS Without Walls," a multidisciplinary, multi institutional research project involving Harvard, Yale, Dartmouth, Columbia, and in San Diego SIDS/SUDC Research Project directed by Dr. Henry Krous.
- Continued participation in sudden unexplained death in childhood (SUDC) research through the San Diego SIDS/ SUDC Research Project, directed by Dr. Henry Krous.
- Continue collaborative efforts with investigators, particularly in dermatology, gastroenterology, and hematology/oncology.

## RESEARCH ACTIVITIES

### Robert O. Newbury, MD

Eosinophilic esophagitis  
Tufting enteropathy

### Hart Isaacs, Jr., MD

Neoplasia of the fetus and early childhood

### Eric Breisch, PhD

Morphometry of infant cranium and dura  
Foreign body response to spinal implants

### Henry F. Krous, MD

Sudden infant death syndrome (SIDS)  
Sudden unexplained death in childhood (SUDC)  
Sudden death in infancy and childhood

### Linda Ellis, MD

Angiogenesis and neovascularization in osteosarcoma

## TEACHING ACTIVITIES

The pathologists participate in numerous educational activities including conferences and lectures within and across departments and institutions. They are:

- Tumor Board
- Neuro-Oncology Tumor Board
- Neuropathology Conference
- Otolaryngology Conference
- Uropathology Conference
- Orthopedics Conference
- Gastrointestinal Pathology and Hepatic Pathology Conference
- Renal Pathology Conference
- UC San Diego Pediatric Department CPCs
- Morbidity and Mortality Conferences
- UC San Diego SOM 208 Human Disease Course
- UC San Diego SOM 213 Histology Course
- UC San Diego SOM first year problem based learning curriculum

- UC San Diego Clinical Laboratory Scientist program lectures
- CME course for Dermatologic Surgeons
- Superficial Anatomy and Surgery of the Head and Neck
- UC San Diego SOM medical students Gross Anatomy

The pathologists also teach UC San Diego surgical pathology fellows, residents, medical students and Naval Medical Center pathology residents who rotate through the department.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Henry F. Krous, MD

Guest editor, *Journal of Forensic and Legal Medicine*

Presenter, Forensic considerations in sudden infant death.

Dartmouth University School of Medicine, Hanover, NH, August 20, 2009

Presenter, Epidemiology of sudden infant death in San Diego County. Harvard Medical School, Boston, MA, August 21, 2009

## PUBLICATIONS

Aceves SS, Newbury RO, Dohil MA, Bastian JF, Dohil R.

A symptom scoring tool for identifying pediatric patients with eosinophilic esophagitis and correlating symptoms with inflammation. *Ann Allergy Asthma Immunol*, 103(5):401-6, 2009.

Aceves SS, Newbury RO, Chen D, Mueller J, Dohil R, Hoffman H, Bastian JF, Broide DH. Resolution of remodeling in eosinophilic esophagitis correlates with epithelial response to topical corticosteroids. *Allergy*, 65(1):109-116, 2009.

Aceves SS, Newbury RO, Chen D, Mueller J, Dohil R, Hoffman H, Bastian JF, Broide DH. Resolution of remodeling in eosinophilic esophagitis correlates with epithelial response to topical corticosteroids. *Allergy*, 65(1):109-116, 2010.

Aceves SS, Chen D, Newbury RO, Dohil R, Bastian JF, Broide DH. Mast cells infiltrate the esophageal smooth muscle in patients with eosinophilic esophagitis, express TGF- $\beta$ 1, and increase esophageal smooth muscle contraction. *J Allergy Clin Immunol*, 126(6):1198-204, 2010.

Bratincsák A, El-Said HG, Bradley JS, Shayan K, Grossfeld PD, Cannavino CR. Letter to the editor. Fulminant myocarditis associated with pandemic H1N1 influenza A virus in children. *J Am Coll Cardiol*, 55(9):928-9, 2010.

Breisch, E, Haas EA, Masoumi, H, Chadwick AE, Krous HF. Morphometric maturation of the calvarium and dura in infants. *Forensic Sci Med Pathol*, 6(4):249-54, 2010.

Broadbelt KG, Barger MA, Paterson DS, Holm IA, Haas EA, Krous HF, Kinney HC, Markianos K, Beggs AH. Serotonin-related FEV gene variant in the sudden infant death syndrome is a common polymorphism in the African-American population. *Pediatr Res*, 66(6):631-5, 2009.

Byard RW, Haas E, Marshall DT, Gilbert JD, Krous HF. Characteristic features of pediatric firearm fatalities-comparisons between Australia and the United States. *J Forensic Sci*, 54(5):1093-6, 2009.

Castro EC, Blazquez C, Boyd J, Correa H, de Chadarevian JP, Felgar RE, Graf N, Levy N, Lowe EJ, Manning JT Jr, Proytcheva MA, Senger C, Shayan K, Sterba J, Werner A, Surti U, Jaffe R. Clinicopathologic features of histiocytic lesions following ALL, with a review of the literature. *Pediatr Dev Pathol*, 13(3):225-37, 2010.

Dohil R, Newbury R, Fox L, Bastian J, Aceves S. Oral viscous budesonide is effective in children with eosinophilic esophagitis in a randomized, placebo-controlled trial. *Gastroenterology*, 139(2):418-29, 2010.

Du S, Scuderi R, Malicki DM, Willert J, Bastian J, Weidner N. Hodgkin and Non-Hodgkin lymphomas occurring in two brothers with Wiskott-Aldrich Syndrome (WAS) and review of the literature. *Pediatr Dev Pathol*, 14(1):64-70, 2011.

Duncan JR, Paterson DS, Hoffman JM, Mokler DJ, Borenstein NS, Belliveau RA, Krous HF, Haas EA, Stanley C, Nattie EE, Trachtenberg FL, Kinney HC. Brainstem serotonergic deficiency in sudden infant death syndrome. *JAMA*, 303(5):430-7, 2010.

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Henry F. Krous, MD</b>		
San Diego SIDS/SUDC Research Project		\$56,250
Grant RS09-01/CJ Foundation for SIDS		2009
San Diego SIDS/SUDC Research Project		\$56,250
Grant RS09-02/CJ Foundation for SIDS		2009
San Diego SIDS/SUDC Research Project		\$14,000
Children's Specialist Foundation Internal Award		2009



- Ellis LS, Mullins ME, Galvin N, Scalzo AJ. Detection of elemental mercury in abdominal wall soft tissue. *J Med Toxicol*, 5(4):205-8, 2009.
- Garcia MA, Kling KM, Newbury RO, Huang JS. Complicated diverticular disease in a child with Williams syndrome. *J Pediatr Gastroenterol Nutr*, 48(2):233-6, 2009.
- Hurwitz KA, Ingulli EG, Krous HF. Levetiracetam induced interstitial nephritis and renal failure. *Pediatr Neurol*, 41(1):57-8, 2009.
- Isaacs H. Perinatal (fetal and neonatal) tuberous sclerosis: A review. *Am J Perinatol*, 26(10):755-60, 2009.
- Isaacs H. Fetal brain tumors: A review of 154 cases. *Am J Perinatol*, 26(6):453-66, 2009.
- Isaacs H Jr. Fetal and neonatal rhabdoid tumor. *J Pediatr Surg*, 45:619-626, 2010.
- Isaacs H Jr. Perinatal neurofibromatosis: Two case reports and review of the literature. *Am J Perinatol*, 27:285-292, 2010.
- Isaacs H Jr. Fetal and newborn adrenocortical tumors. *Fetal Pediatr Pathol*, 29:99-107, 2010.
- Isaacs H Jr. Cutaneous metastases in neonates: a review. *Pediatr Dermatol*, 28:85-93, 2011.

- Keshavarzi S, Ben-Haim S, Malicki D, Shayan K, Volk H, Levy ML. A nine-year-old boy with temporal lobe enhancing mass. *Neuropathology*, 29(6):744-7, 2009.
- Kinney HC, Chadwick AE, Crandall LA, Grafe M, Armstrong DL, Kupsky WJ, Trachtenberg FL, Krous HF. Sudden death, febrile seizures, and hippocampal and temporal lobe maldevelopment in toddlers: a new entity. *Pediatr Dev Pathol*, 12(6):455-63, 2009.
- Krous HF, Haas E, Hampton CF, Chadwick AE, Stanley C, Langston C. Pulmonary arterial medial smooth muscle thickness in sudden infant death syndrome: an analysis of subsets of 73 cases. *Forensic Sci Med Pathol*, 5(4):261-8, 2009.
- Krous HF, Langlois NE. A commentary on the possible association of Ljungan virus and SIDS and issues in SIDS research. *Forensic Sci Med Pathol*, 5(4):318-20, 2009.
- Krous HF, Ferandos C, Masoumi H, Arnold J, Haas EA, Stanley C, Grossfeld PD. Myocardial inflammation, cellular death, and viral detection in sudden infant death caused by SIDS, suffocation, or myocarditis. *Pediatr Res*, 66(1):17-21, 2009.
- Krous HF. Sudden unexpected death in infancy and the dilemma of defining the sudden infant death syndrome. *Current Pediatric Reviews*, 6:5-12, 2010.
- Krous HF, Langlois NE. Ljungan virus: a commentary on its association with fetal and infant morbidity and mortality in animals and humans. *Birth Defects Res A Clin Mol Teratol*, 88(11):947-52, 2010.
- Krous HF, Byard RW. Sudden infant death syndrome or asphyxia? In: *Child Abuse and Neglect: Diagnosis, Treatment and Evidence*, edited by Carole Jenny. Elsevier Saunders, St. Louis, 2011, pp. 337-346.
- Lucas JR, Haas EA, Masoumi H, Krous HF. Sudden death in a toddler with laryngotracheitis caused by human parainfluenza virus-1. *Pediatr Dev Pathol*, 12(2):165-8, 2009.
- Lyle CA, Malicki D, Senac MO, Levy ML, Crawford JR. Congenital giant intramedullary spinal cord schwannoma. *Neurology*, 75(19):1752, 2010.
- Paterson DS, Rivera KD, Broadbelt KG, Trachtenberg FL, Belliveau RA, Holm IA, Haas EA, Stanley C, Krous HF, Kinney HC, and Markianos K. Lack of association of the serotonin transporter polymorphism with the sudden infant death syndrome in the San Diego dataset. *Pediatr Res*, 68(5):409-13, 2010.
- Puga Yung GL, Fidler M, Albani E, Spermon N, Teklenburg G, Newbury R, Schechter N, van den Broek T, Prakken B, Billelta R, Dohil R, Albani S. Heat shock protein-derived T-cell epitopes contribute to autoimmune inflammation in pediatric Crohn's disease. *PLoS One*, 4(11):e7714, 2009.
- Stankiewicz P, Sen P, Bhatt SS, Storer M, Xia Z, Bejjani BA, Ou Z, Wiszniewska J, Driscoll DJ, Maisenbacher MK, Bolivar J, Bauer M, Zackai EH, McDonald-McGinn D, Nowaczyk MM, Murray M, Husted V, Mascotti K, Schultz R, Hallam L, McRae D, Nicholson AG, Newbury R, Durham-O'Donnell J, Knight G, Kini U, Shaikh TH, Martin V, Tyreman M, Simonic I, Willatt L, Paterson J, Mehta S, Rajan D, Fitzgerald T, Gribble S, Prigmore E, Patel A, Shaffer LG, Carter NP, Cheung SW, Langston C, Shaw-Smith C. Genomic and genic deletions of the FOX gene cluster on 16q24.1 and inactivating mutations of FOXF1 cause alveolar capillary dysplasia and other malformations. *Am J Hum Genet*, 84(6):780-91, 2009.
- Tee JB, Reznik V, Krous HF. Overlapping presentation of fungal tubulointerstitial nephritis in an immunosuppressed pediatric patient. *Pediatr Nephrol*, 24(8):1573-5, 2009.
- Walsh SL, Kryscio R, Holsinger JW, Krous HF. Statewide systemic evaluation of sudden, unexpected infant death classification: Results from a national pilot project. *Matern Child Health J*, 14(6):950-7, 2010.
- Yu EL, Sivagnanam M, Ellis L, Huang JS. Acute hepatotoxicity after ingestion of morinda citrifolia (Noni Berry) juice in a 14-year-old boy. *J Pediatr Gastroenterol Nutr*, 52(2):222-224, 2011.





# Pharmacology and Drug Discovery

The Division of Pediatric Pharmacology and Drug Discovery comprises four integrated components that establish bridges between the University of California, San Diego (UCSD) Department of Pediatrics and the new Skaggs School of Pharmacy and Pharmaceutical Sciences.

1) Basic and translational research programs in microbial pathogenesis and immunology focuses on novel treatment strategies for infectious diseases are sought from novel natural product chemical resources, targeted neutralization of bacterial virulence phenotypes, pharmacologic upregulation of host innate immune functions, and modulation of host inflammatory responses.

(2) A Pharmacometrics Unit, recognized internationally for its leadership in pharmacokinetic and pharmaco-

dynamic modeling, including sparse data collection techniques and population analysis methodologies that enable appropriate dosing in pediatric subpopulations. The UCSD Pharmacometrics Unit leads the NICHD Pediatric Trials Network in clinical pharmacology modeling and simulation activities.

Left to right: Mary Hensler, Steve Rossi, Victor Nizet, Brookie Best, Edmund Capparelli

(3) The Clinical Pharmacology and Assay Laboratory (CPAL), a dynamic working unit with the capability, experience and expertise to analyze quantitatively and qualitatively a large number of drugs in a variety of sample matrices, including many core services for the NIAID/NIH International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPAACT) pharmacology program.

## FACULTY

**Victor Nizet, MD**, *Chief*, Professor of Pediatrics and Pharmacy  
**Brookie Best, PharmD, MAS**, Associate Professor of Clinical Pharmacy & Pediatrics  
**Edmund Capparelli, PharmD**, Professor of Clinical Pediatrics  
**Kelly Doran, PhD**, Associate Adjunct Professor of Pediatrics  
**Mary Hensler, PhD**, Assistant Project Scientist  
**Stephen Rossi, PhD**, Project Scientist  
**George Sakoulas, MD**, Assistant Adjunct Professor of Pediatrics  
**Adriana Tremoulet, MD**, Assistant Adjunct Professor of Pediatrics  
**Jennifer Le, PharmD**, Assistant Professor of Clinical Pharmacy

## POSTDOCTORAL FELLOWS

**Ericka Anderson, PhD**  
**Kathryn Akong, MD, PhD**  
**Federico Beasley, PhD**  
**Yung-Chi Chang, PhD**  
**Jason Cole, PhD**  
**David Gonzalez, PhD**  
**Andrew Hollands, PhD**  
**Cheryl Okumura, PhD**  
**Michael Preziosi, MD**  
**Markus Roupé, PhD**  
**Ismael Secundino-Velasquez, PhD**  
**Nina Van Sorge, PharmD, PhD**  
**Masaya Yamaguchi, DDS, PhD**

## GRADUATE STUDENTS

**Nina Haste**, SSPPS/UCSD PharmD/PhD Program  
**Tamara Bhandari**, Biomedical Sciences PhD Program  
**Paige Pancoast, PharmD**, Pharmacy Resident  
**Morgan Pence**, Biomedical Sciences PhD Program  
**Julie Bagby, PharmD**, Pharmacy Resident  
**Michael Rochon-Duck, MS**, UCSD Medical Student  
**Stephanie Natale, PharmD**, Pharmacy Resident  
**Jonathan Faldasz, PharmD**, Pharmacy Resident  
**Angela Berry, PharmD**, Pharmacy Resident  
**Karen Chen, PharmD**, Pharmacy Resident  
**Mary Moss**, Pharmacy Student  
**Jack Yeung**, Pharmacy Student  
**Nicole Barshop**, Medical Student  
**Emma Liere**, Master of Science Student  
**Kirsten Kuipers**, Master of Science Student  
**Simon Döhrmann**, Master of Science Student  
**Jennifer Lundergan**, Master of Science Student  
**Yuichiro Sato**, Master of Science Student

## CLINICAL ACTIVITIES

The Division interacts closely with pediatricians and pediatric subspecialty physicians at Rady Children's Hospital-San Diego (RCHSD) and UCSD through its Clinical Trials Unit, which develops and executes phase I - III trials of new and existing therapeutic agents for pediatric populations. Dr. Victor Nizet serves as the interim medical director of this unit in close collaboration with the other faculty of the division. The consultative expertise of Drs. Edmund Capparelli and Brookie Best are provided on issues of therapeutic drug monitoring and HIV pharmacology locally and across the country. Dr. Adriana Tremoulet attends on the inpatient infectious disease service, as well as the Kawasaki disease service. She also provides follow up for infectious disease and Kawasaki disease patients in the outpatient setting.

## Major Goals and Plans

The broad objectives of our Division remain to perform basic, translational and clinical research into pediatric studies to ensure optimal and safe therapies for pediatric patients, and to discover new drugs and drug targets through basic studies of biological processes. Because of research backgrounds and interests of Divisional Faculty, we continue to place a major focus on infectious diseases and immunological therapies. Dr. Nizet is spearheading the launch of the new UCSD Center for Immunity, Infection & Inflammation (Center for II&I), a multi-disciplinary program that has > 140 participants at UCSD and close collaborative interactions with neighboring research centers: La Jolla Institute for Allergy & Immunology, Salk Institute, Sanford-Burnham Medical Research Institute, and the J. Craig Venter Institute. The Center is organized in 12 research themes spanning Immunology (Immune Regulation, Innate Immunity, Tumor Immunology, Allergy & Autoimmunity), Infectious Diseases (Host-Pathogen Interactions, Viral Pathogenesis, Vaccine Innovation, Global Infectious Diseases) and Inflammation (Inflammation & Cancer, Inflammation & Metabolism, Inflammation & Tissue Injury, Neuroinflammation). The campus-wide program will have its administrative base in the Division of Pediatric Pharmacology and Drug Discovery, will forge collaborations with local biotechnology and pharmaceutical interests and international academic partners, and host a variety of academic forums including conferences, seminar series and retreats.

In previous years, the division participated in the national research network of NIH-funded Pediatric Pharmacology Research Units (PPRUs), which were designed to conduct the work of Best Pharmaceuticals for Children Act (BPCA). The PPRU framework has now been reinvented in the form of the new NICHD-sponsored Pediatrics Trials Network (PTN). Our UCSD Pediatric Pharmacology & Drug Discovery Division partnered with Duke University and others in securing this award and serving as the Pharmacometrics Core (Dr. Capparelli, PI). An additional program of Specialized Centers in Research in Pediatric Developmental Pharmacology Program is currently being competed to contribute to a variety of translational proj-

## RESEARCH ACTIVITIES

**Victor Nizet, MD** leads a basic research laboratory focused on microbial pathogenesis and the innate immune system, with a special focus on invasive bacterial infections. Using molecular genetic approaches, the laboratory seeks to discover and characterize microbial virulence determinants involved in cytotoxicity, adherence, invasion, inflammation, molecular mimicry and resistance to immunologic clearance. The group also investigates the contribution of host factors such as antimicrobial peptides, leukocyte surface receptors, signal transduction pathways, and transcription factors in defense against invasive bacterial infection. Novel treatment strategies for infectious diseases are sought from natural product libraries, targeted neutralization of bacterial virulence phenotypes, and pharmacologic augmentation of host phagocyte function.

**Brookie Best, PharmD, MAS** specializes in the clinical pharmacology of antiretroviral agents, with expertise in antiretroviral therapeutic drug monitoring, treatment of HIV-infected pregnant women and children, and antiretroviral central nervous system penetration. She serves as principal investigator or co-investigator on projects with the International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPAACT), the California Collaborative Treatment Group (CCTG) and the UCSD HIV Neurobehavioral Research Center (HNRC).

**Edmund Capparelli, PharmD** focuses his research on pharmacokinetic and pharmacodynamic modeling while specializing in pediatric clinical pharmacology and population pharmacokinetic modeling. His clinical research expertise is widely recognized, as evidenced by his service to the following groups in this past year: (1) World Health Organization (WHO) Pediatric Antiretroviral

ects in developmental pharmacology. Dr. Capparelli and Nizet submitted as joint principal investigators a U54 application for this program focused on the Developmental Pharmacology Pediatric Antibacterial Therapy. Drs. Best, Sakoulas, Tremoulet and Le are likewise investigators in this program. Dr. Best and Dr. Capparelli will continue to play important roles as PK/PD experts for the activities of the International Maternal Pediatric Adolescent AIDS Clinical Trail (IMPAACT) group, the UCSD HIV Neurobehavioral Research Center, and the UCSD Antiviral Research Center. Dr. Tremoulet will serve as a center PI for the Pediatric Trials Network. Given her fluency in Spanish and interest in Kawasaki disease, Dr. Tremoulet is establishing a Latin American consortium to understand the incidence of Kawasaki disease in this part of the world.

Immediate goals and plans of the Division of Pediatric Pharmacology & Drug Discovery are to fulfill our unique status as a division that spans the School of Medicine/Department of Pediatrics and the Skaggs School of Pharmacy & Pharmaceutical Sciences. Jennifer Le, a clinical pharmacologist with active research program in Pediatric Antimicrobial Therapy has joined the SSPPS faculty and our Division, and recently received K23 award with Drs. Capparelli and Nizet as co-advisors. Dr. George Sakoulas, MD a talented physician and clinical investigator from Harvard and New York Medical also joined the Division as Assistant Adjunct Professor, with an active research interest in evaluating novel antibiotic agents and therapeutic approaches against drug-resistant pathogens such as MRSA and VRE. Two additional senior recruitments of well established, extensively published, and highly NIH funded investigators at the Professor level are nearing completion - one in the area of malaria genomics and drug discovery and the other in the field of systems biology of metabolic and infectious diseases. These talented investigators with robust research portfolios will solidify the divisional research mission and firmly establish the division a national leader in innovative translational research in pharmacology and drug discovery.

The division's ultimate goal remains for UCSD and Rady Children's Hospital-San Diego to have a permanent place in the top echelon of pediatric pharmacology research and training nationwide.

Dosing Working Group; (2) Pediatric Antiretroviral Guidelines Working Group, US Department of Health and Human Services; (3) Study Panel Review for International Pharmaceutical Services NIAID; (4) FDA Clinical Pharmacology Subcommittee (CPSC) of the Advisory Committee on Pharmaceutical Sciences and (5) is on the Organizing Committee for the Annual International Pediatric HIV Workshop.

**Kelly Doran, PhD** has a joint appointment in the division and is an Assistant Professor of Biology at San Diego State University. Her research focuses on the pathogenesis of neonatal meningitis, with examination of the mechanisms by which certain bacteria can enter the central nervous system and the inflammatory response of the blood-brain barrier to infection. Through these studies, she seeks to inform novel strategies for treatment and prevention of these potentially life-threatening infections.

**Mary Hensler, PhD** Assistant Project Scientist spearheads a collaborative research project between the division and marine natural product chemists at the Scripps Institution of Oceanography that explores the chemical diversity of actinomycete bacteria harvested from the ocean floor to discover novel antibiotics with activity against drug-resistant pathogens such as methicillin-resistant *Staphylococcus aureus* (MRSA).

**Jennifer Le, PharmD** is Associate Professor of Clinical Pharmacy and is developing a research program focused on the clinical pharmacology, including PK/PD relationships, of antimicrobial therapies for infants, children and adolescents..

**Stephen Rossi, PhD** directs the Clinical Pharmacology and Assay Laboratory, and develops state-of-the art methodologies to analyze quantitatively and qualitatively a large number of drugs in several sample matrices (e.g.



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Victor Nizet, MD</b>		
Genetic Modulation of Blood and Vascular Glycosylation 5 P01 HL057345-14/NIH (NHLBI)	\$1,474,026	\$28,106,972 Sept. 1997-Dec. 2012
Microbial Glycan Mimicry and Glycosidases in Inflammatory Responses 1 P01 HL107150-01/NIH (NHLBI)	\$1,315,247	\$16,847,180 July 2011-May 2018
Boosting Innate Immunity Through HIF to Treat Antibiotic-Resistant Infections 1 R01 AI093451-01/NIH (NIAID)	\$749,998	\$5,032,039 Apr. 2011-Mar. 2016
Cathelicidins and Skin Immunity 2 R01 AI052453-06/NIH (NIAID)	\$250,000	\$2,287,944 Sept. 2007-Aug. 2012
Discovery of Antibiotics from Deep Sea Actinomycete Bacteria 3 R01 GM084350/NIH (NIGMS)	\$292,565	\$2,273,009 Apr. 2008-Aug. 2013
Proteolysis and Skin Antimicrobials 7 R01 AR052728-05/NIH (NIAMS)	\$243,316	\$2,196,250 Feb. 2010-Jan. 2016
Mechanisms of the M Protein in Group A Streptococcus Virulence 1 R01 AI096837-01/NIH (NIAID)	\$344,885	\$1,909,906 July 2011-June 2016
GAS Switch from Colonizing Bacterium to Invasive Pathogen 1 R01 AI077780-01A1/NIH (NIAID)	\$254,000	\$1,847,924 Sept. 2008-Aug. 2013
Sialic Acid O-acetylation in GBS Pathogenesis and Immunity 1 R01 HD051796-01/NIH (NICHD)	\$200,000	\$1,567,960 Apr. 2006-Feb. 2012
HIF Control of Inflammatory Responses in Asthma 08-0251/American Asthma Foundation	\$250,000	\$750,000 July 2008-June 2012
Boosting Innate Immunity to Combat Wound Infections Sub 20111282 (W81XWH-11-2-0096)/Akebia Therapeutics, Inc.	\$236,511	\$366,000 Feb. 2011-Jan. 2013
Evaluation of HIF Boosting Drugs for Treatment of Bacterial Infections 20100542/Akebia Therapeutics, Inc.	194,175	300,000 Sept. 2009-Aug. 2010
Proteolysis and Skin Antimicrobials Sub 266922 (AR052728)/Veterans Medical Research Foundation	70,400	252,882 Apr. 2006-Jan. 2010

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
DTRA Natural Product Antibiotic Screening Effort Sub 20110266 (HDTRA1-10-C-0004)/Trius Therapeutics Inc.	\$74,999	\$115,874 Dec. 2010-Sept. 2014
Characterization of mutations in groups A and B streptococci causing decreased susceptibility to penicillin 20090365/PHS (CDC)	\$35,243	\$108,900 Oct. 2008-Sept. 2010
Monitoring Bacterial Pathogen Interactions as a Novel Paradigm for Therapeutic Discovery David Gonzalez-Fellow/Bank Of America-Giannini Foundation	\$45,000	\$45,000 Apr. 2011-Mar. 2012
<b>Brookie Best, PharmD, MAS</b>		
HIV Neurocognitive Disorders—CSF HIV RNA and CHEMOKINES 5 R01 MH058076-13/NIH (NIMH)	\$920,292	\$11,082,173 Sept. 1997-July 2012
International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPAACT) Sub BRS-IMPCT-Q-06-00118-T10 (AI068632)/Social & Scientific Systems, Inc.	\$5,850	\$24,488 June 2008-May 2010
International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPAACT) Sub BRS-IMPCT-S-11-000016-000838(AI068632)/Social & Scientific Systems, Inc.	\$10,000	\$15,450 June 2010-May 2011
Predoctoral Research Training in Maternal and Pediatric Pharmacology 1T35HD064385/NIH/NICHD		\$171,315 Apr. 2010-Mar.e 2015
Urinary Excretion Pharmacokinetics in Pain Medications - Student Pharmacists Research Training Program Millenium Research Institute		\$132,000 June 2009-May 2012
P1080: A Pilot Study of Psychiatric and Antiretroviral Medication Concentrations in HIV-Infected and Uninfected Children and Adolescents NIAID/NICHD		\$50,000 June 2008-May 2013
HIV Neurobehavioral Research Center 2 P30 MH62512-11/NIH/NIMH		\$6,137,520 Apr. 2011-Mar. 2016
<b>Edmund Capparelli, PharmD</b>		
Pediatric Pharmacology Research Unit 2 U10 HD031318-11/NIH (NICHD)	\$312,659	\$6,038,967 Jan. 1994-Dec. 2009

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Developmental and Translational Pharmacology of Pediatric Antimicrobial Therapy 1 U54 HD071600-01/NIH (NICHD)	\$498,999	\$2,873,865 Sept. 2011-June 2016
International Maternal Pediatric Adolescent AIDS Clinical Trial Sub BRS-IMPCT-Q-06-00118-T005 (AI068632)/Social & Scientific Systems, Inc.	\$100,100	\$845,734 July 2006-May 2011
IMPAACT Pharmacology Core Laboratory Sub BRS-IMPCT-Q-06-00118-T006 (AI068632)/Social & Scientific Systems, Inc.	\$30,118	\$671,217 July 2006-May 2011
Pharmacokinetic Study of Praziquantel During Pregnancy Sub 701-1513 (AI066050)/Rhode Island Hospital	\$71,049	\$379,097 Apr. 2009-Mar. 2012
IMPAACT Pharmacology Core Lab Sub BRS-IMPCT-S-11-000016-00906(AI068632)/Social & Scientific Systems, Inc.	\$128,360	\$264,056 June 2010-May 2011
Pharmacokinetic Study in Young Infants with Suspected or Complicated Intra-abdominal Infections Sub Duke 303-7870 (HHSN267200700051C)/Duke University	\$64,790	\$100,100 Sept. 2007-Sept. 2010
Exposure-Response Comparison of Lisinopril to Amlodipine in Hypertensive Children Sub RES504811 (RR022498)/Case Western Reserve University	\$36,146	\$55,846 Sept. 2009-May 2011
Development of a pharmacokinetic algorithm to improve outcomes in Neonates Sub 162883 (RR024128)/DUKE UNIVERSITY	\$28,797	\$44,491 Sept. 2009-June 2010
A Multi-Center, Single-Dose, Open-Label Clinical Trial to Determine the Absorption and Metabolism of Oral Codeine in Mechanically Ventilated Term Sub 48157 (HD057566)/Research Fdn Of State University OF	\$2,394	\$18,702 Sept. 2008-Aug. 2010
Lorazepam Efficacy and Safety Study Sub 7928-04-22 (N01-HD-4-3393)/Children's Hospital National Medical	\$9,736	\$15,042 Sept. 2010-Aug. 2011
Identification of New Mechanistic Biomarkers of Adverse Responses to Acetaminophen in Children and Adolescents Sub 034465 (DK081406)/Arkansas Children's Hospital	\$6,744	\$10,419 June 2009-Mar. 2010
HIV Neurobehavioral Research Center - B: Neurological Core 2 P30 MH62512/NIH/NIMH		\$1,461,251 Apr. 2011-Mar. 2016

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Pediatric Trials Network (PTN) - Pharmacometric Core (Benjamin, PI)		\$1,372,898
CRMC-2010-02/NICHD		Sept. 2010-Sept. 2015
<b>Adriana H. Tremoulet, MD</b>		
Pharmacologic Determinants for Optimized Therapy in HIV-Infected Children	\$112,750	\$608,850
1 K23 HD056939-01/NIH (NICHD)		Sept. 2007-Aug. 2012
Biomarker Panels for Diagnosis of Kawasaki Disease and Prediction of Treatment Response	\$375,000	\$420,000
67066/Robert Wood Johnson Foundation		Jan. 2010-Dec. 2013
Biomarkers for Kawasaki Disease	\$300,000	\$300,000
20113929/Hartwell Foundation, The		Jan. 2011-Mar. 2014

blood, urine, spinal fluid). Research analyses are conducted for the NIAID/NIH International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPAACT) pharmacology program and a variety of other investigator-initiated pharmacology studies.

**George Sakoulas, MD** Assistant Adjunct Professor performs translational and clinical research on the treatment of Gram-positive bacterial infections, including methicillin-resistant *Staphylococcus aureus* (MRSA). He has been able to translate pharmacodynamic interactions observed with antibiotics in the laboratory into successful treatments for patients with refractory infections. His current efforts examine genotypic and phenotypic markers and host characteristics that can predict clinical outcome and identifying relationships between virulence mechanisms and antibiotic resistance patterns.

**Adriana H. Tremoulet, MD, MAS** is the Associate Director of the Kawasaki Disease Research Center. Her research has concentrated on developing a scoring method to identify IVIG-resistant Kawasaki Disease patients, identifying the role of IgG glycosylation to determine the anti-inflammatory mechanism of intra-

venous immunoglobulin, and on the development of a diagnostic test for Kawasaki disease. She is the Center PI of the FDA Orphan Drug Grant funded Phase III clinical trial evaluating the use of infliximab in primary treatment of Kawasaki disease. Dr. Tremoulet is the site PI of a study of the Pediatric Trials Network to study the pharmacokinetics of understudied drugs used in pediatrics, and conducts research on the pharmacokinetics of ampicillin.

## TEACHING ACTIVITIES

**Victor Nizet, MD** is Track Leader for Microbiology and Immunology in the UCSD Biomedical Sciences Graduate Program, Section Leader for the Biomedical Sciences 200 Course (Fall Quarter) Course Director for the Biomedical Sciences course Microbial Pathogenesis & Host Response (BIOM 253), and Director for the Anti-Infective/Anti-Inflammatory Therapy Module Principles and Practice of Pharmacology Course Dr. Nizet





is Chair of the Medical Scientist Training Program Admissions Committee and Co-Director of the UCSD PharmD/PhD program. Ten students have completed the PhD degree in his laboratory.

**Brookie M. Best, PharmD, MAS** teaches Biopharmaceutics and Clinical Pharmacokinetics and Pharmacodynamics to first-year student pharmacists in the UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences. Dr. Best is also Course Director for the required independent study research project for all PharmD students. Further, Dr. Best is Principal Investigator of an NICHD-supported T35 training grant for Predoctoral Student Research in Pediatric and Maternal Pharmacology, and has developed and directs a Summer Research Program for student pharmacists that awards approximately \$200,000 per year in scholarships for student research training.

**Edmund Capparelli, PharmD** teaches pharmacology topics to both pharmacy and medical students in the School of Medicine and the Skaggs School of Pharmacy and Pharmaceutical Sciences. During the past year, Dr. Capparelli led eight pharmaceutical workshops, taught Clinical Pharmacology, delivered lectures on clinical pharmacology in 3 courses, and led two pharmacokinetics conferences.

**Adriana H. Tremoulet, MD** lectures about Kawasaki Disease to pediatric pharmacologists and nursing staff at RCHSD. She also lectures about pediatric infectious diseases and gives nurses orientation at RCHSD. Dr. Tremoulet gives inpatient rounds and weekly case conferences on pediatric infectious diseases.

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Victor Nizet, MD

- Elected to the Association of American Physicians, 2010  
Annual Student Selected Speaker, Graduate Program in Immunobiology, University of Arizona, Tucson, AZ, October 2009  
Opening Plenary Speaker, 50th European Society for Pediatric Research Congress, Hamburg, Germany, October 2009  
Keynote Speaker, 4th Annual Infection and Immunity Research Forum, University of Western Ontario, London, Ontario, November 2009  
Invited Lecture, Institute of Biological Chemistry, Academia Sinica, Nankang, Taipei, Taiwan, November 2009  
Invited Speaker, Institute of Molecular Medicine, National Taiwan University, Taipei, Taiwan, November 2009  
Invited Speaker, International Symposium on Pathogen-Host Interaction, Chinese Academy of Microbiology, Beijing, China, November 2009  
Keynote Speaker, Jan Verhoef Farewell Symposium, Eijkman-Winkler Institute of Utrecht University, Zeist, The Netherlands, December 2009  
Keynote Speaker, Mark Wilson Conference on Oral Microbiology & Immunology, Cancun, Mexico, February 2010  
Keynote Speaker, International Conference on Gram+ Pathogens, Omaha, NB, October 2010  
Distinguished Lecture in Life Sciences, Northwestern University, Chicago IL, November 2010  
Featured Speaker, 50th Anniversary of the University of California San Diego Celebration, School of Medicine Founder's Day, November 2010  
Grand Rounds Speaker, Department of Pediatrics, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, February 2011  
Margaret Walsh Visiting Professorship, Children's Hospital Boston and Harvard University, June 2011  
Keynote Speaker, 20th Annual Philadelphia Infection & Immunity Forum, Philadelphia, PA, June 2011  
Invited Seminar, Centre D'Immunologie de Marseille-Luminy, Marseille, France, June 2011

Invited Seminar, Department of Microbial Pathogenesis, Institut Pasteur, Paris, France, June 2011

### Brookie M. Best, PharmD, MAS

- Faculty of 1000 Medicine selected article, *AIDS*, 23:83-87, 2009  
Research Article nominated (1 of 13) for 2009 JMCP Award of Excellence, *Journal of Managed Care Pharmacy*, 15:32-41, 2009  
Professor of the Year Award, Associated Students, UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences, 2010  
Section Speaker and Closing Plenary Speaker, International Maternal Pediatric and Adolescent Clinical Trials (IMPAACT) Network and HIV Prevention Trials Network (HPTN) Joint 2009 Annual Meeting, National Harbor, MD, May 2009  
Genentech Custom Biotech Demystified Program, Genentech, Inc., Vacaville, CA, May 2009  
Invited Speaker, California Society for Health-Systems Pharmacists Seminar Meeting, San Diego, CA, October 2009  
Biotech Demystified Executive Education Program, Rady School of Management, La Jolla, CA, June 2009  
Reach MD XM 160 Radio Talk Show, Diabetes Discourse- Diabetes Radio Program. "Emerging Drug Delivery Technologies in Diabetes"

### Edmund Capparelli, PharmD

- Invited Lecture, WHO Pediatric Antiviral Working Group, London, UK, September 2009  
Invited Speaker, NIAID/NICHD IMPAACT Meeting, Washington, DC, June 2010  
Invited Lecture, TRIUMPH (NIAID/NICHD/NIMH) Conference on Tuberculosis, Bethesda, MD, July 2010  
Invited Speaker, Symposium on Pediatric Clinical Pharmacology, ICAAC, Boston MA, September 2010  
Invited Lecture, Paediatric European Network for Treatment of AIDS (PENTA) Annual Meeting, Venice Italy, May 2011

### Adriana Tremoulet, MD

- Harold Amos Award, Robert Wood Johnson Foundation, 2009  
Hartwell Foundation Award, 2011



## PUBLICATIONS

- Ali SR, Timmer AM, Bilgrami S, Park EJ, Eckmann L, Nizet V, Karin M. Anthrax toxin induces macrophage death by p38 MAPK inhibition but leads to inflammasome activation via ATP leakage. *Immunity* 2011 (online early)
- Amelung S, Nerlick A, Rohde M, Spellerberg B, Cole JN, Nizet V, Chhatwal GS, Talay SR. The FbaB-type fibronectin-binding protein of *Streptococcus pyogenes* promotes specific invasion into endothelial cells. *Cell Microbiol*, 2011 (online early).
- Atkinson JH, Patel SM, Meyer JM, Slater MA, Zisook S, Capparelli EV. Is there therapeutic window with some antidepressants for analgesic response? *Curr Pain Headache Rep*, 13(2): 93-9, 2009.
- Aweeka FT, Stek A, Best B, Hu C, Holland D, Hermes A, Burchette SK, Read J, Mirochnick M, Capparelli EV. Lopinavir protein binding during pregnancy. *HIV Medicine*, 11, 232–238, 2010.
- Aziz RK, Nizet V. Pathogen microevolution in high resolution. *Sci Transl Med.*, 2:16ps4, 2010.
- Banerjee A, van Sorge, NM, Sheen, TR, Uchiyama S, Mitchell TJ, and Doran, KS Activation of brain endothelium by pneumococcal neuraminidase NanA promotes bacterial internalization. *Cellular Microbiol*, 12: 1576-1588, 2010.
- Barshop NJ, Capparelli EV, Sirlin CB, Schwimmer JB, Lavine JE. Acetaminophen pharmacokinetics in children with nonalcoholic fatty liver disease. *J Ped Gastroent Nutr*, 52:198-202, 2011.
- Berends ET, Horswill AR, Haste NM, Nizet V, von Köckritz-Blickwede M. Nuclease expression by *Staphylococcus aureus* facilitates escape from neutrophil extracellular traps. *J Innate Immun*, 2:576-586, 2010.
- Best B, Koopmans P, Letendre S, Capparelli E, Rossi S, Clifford D, Collier A, Gelman B, Mbeo G, McCutchan J, Simpson D, Haubrich, R, Ellis R, Grant I. Efavirenz concentrations in cerebrospinal fluid exceed wild-type HIV I. *J Antimicrob Chemother*, 66: 354–357, 2011.
- Best BM, Letendre SL, Brigid E, Clifford DB, Collier AC, Gelman BB, McArthur JC, McCutchan JA, Simpson DM, Ellis R, Capparelli EV, Grant I; CHARTER Group. Low atazanavir concentrations in cerebrospinal fluid. *AIDS*, 23: 83-7, 2009.
- Best BM, Stek AM, Mirochnick M, Hu C, Li H, Burchett SK, Rossi SS, Smith E, Read JS, Capparelli EV, for the IMPAACT 1026 Study Team. Lopinavir tablet pharmacokinetics with an increased dose during pregnancy. *J Acquir Immune Defic Syndr*, 1;54:381-8, 2010.
- Broderick L, Tremoulet AH, Burns JC, Hoffman H. Recurrent fever syndromes in patients after recovery From Kawasaki Syndrome. *Pediatrics*, 127(2):e489-93, 2011.
- Capparelli EV. Pediatric Pharmacokinetics. In: *Neonatal and Pediatric Pharmacology – Therapeutic Principles in Practice*, 4th ed. Editors Yaffe SJ, Aranda JV. Lippincott Williams & Wilkins, Philadelphia, PA:21-33, 2010.
- Carland TM, Locke JB, Nizet V, Gerwick L. Differential expression and intrachromosomal evolution of the *sgH*C1q genes in zebrafish (*Danio rerio*). *Dev Comp Immunol* 2011 (online early).
- Carlin AF, Chang YC, Areschoug T, Lindahl G, Hurtado-Ziola N, King CC, Varki A, Nizet V. Group B *Streptococcus* suppression of phagocyte functions by protein-mediated engagement of human Siglec 5. *J Exp Med*, 206:1691-1699, 2009.
- Carlin AF, Uchiyama S, Chang YC, Lewis AL, Nizet V, Varki A. Molecular mimicry of host sialylated glycans allows a bacterial pathogen to engage neutrophil Siglec-9 and dampen the innate immune response. *Blood*, 113:3333-3336, 2009.
- Chadwick EG, Pinto J, Yogev R, Alvero CG, Hughes MD, Palumbo P, Robbins B, Hazra R, Serchuck L, Heckman BE, Purdue L, Browning R, Luzuriaga K, Rodman J, Capparelli E; International Maternal Pediatric Adolescent Clinical Trials Group (IMPAACT) P1030 Team. Early initiation of lopinavir/ritonavir in infants less than 6 weeks of age: pharmacokinetics and 24-week safety and efficacy. *Pediatr Infect Dis J*, 28(3): 215-9, 2009.
- Chadwick EG, Yogev R, Alvero CG, Hughes MD, Hazra R, Palumbo PJ, Pinto JA, Robbins B, Heckman BE, Capparelli EV and IMPAACT P1030 Team. Long-term outcomes for HIV-infected infants <6 months of age at initiation of lopinavir/ritonavir combination antiretroviral therapy. *AIDS*, 25:643-649, 2011.
- Chang YC, Wang Z, Flax LA, Xu D, Esko JD, Nizet V, Baron MJ. Glycosaminoglycan binding facilitates entry of a bacterial pathogen into central nervous systems. *PLoS Pathogens* 2011, 7:e1002082.
- Chantarangsu S, Cressey TR, Mahasirimongkol S, Capparelli E, Tawon Y, Ngo-Giang-Huong N, Jourdain G, MD, Lallemand, M, Chantratita W. Influence of

- CYP2B6 polymorphisms on the persistence of plasma nevirapine concentrations following a single intra-partum dose for the prevention of mother to child transmission in HIV-infected Thai women. *J Antimicrob Chemother*, 64(6):1265-73, 2009.
- Chokephaibulkit C, Cressey TR, Capparelli E, Sirisanthana V, Muresan P, Hongsiwon S, Ngampiyaskul C, Limwongse C, Wittawatmongkol O, Aulpibul L, Kabat B, Toye M, Eksaengri A, McIntosh K and Yogev R for the IMPAACT P1069 Team. Pharmacokinetics and safety of a new paediatric fixed-dose-combination of zidovudine/lamivudine/nevirapine compared to the branded liquid formulations in HIV-infected children. *Antiviral Therapy*, 2011 (in press).
- Chow OA, von Köckritz-Blickwede M, Bright AT, Hensler ME, Zinkernagel AS, Cogen AL, Gallo RL, Monestier M, Wang Y, Glass CK, Nizet V. Statins enhance formation of phagocyte extracellular traps. *Cell Host Microbe*, 8:445-454, 2010.
- Cogen AL, Yamasaki K, Muto J, Sanchez KM, Crotty-Alexander L, Tanios J, Lai Y, Kim JE, Nizet V, Gallo RL. Staphylococcus epidermidis antimicrobial  $\beta$ -toxin (phenol soluble modulins) cooperates with host antimicrobial peptides to kill Group A Streptococcus. *PLoS One*, 5:e8557, 2010.
- Cogen AL, Yamasaki K, Sanchez KM, Dorschner RA, Lai Y, McLeod D, Torpey J, Otto M, Nizet V, Kim JE, Gallo RL. Selective antimicrobial action is provided by phenol soluble modulins derived from Staphylococcus epidermidis, a normal resident of the skin. *J Invest Derm*, 130:192-200, 2010.
- Cohen-Wolkowicz M, Benjamin DK Jr, Capparelli E. Immunotherapy in neonatal sepsis: advances in treatment and prophylaxis. *Curr Opin Pediatr*, 21(2):177-81, 2009.
- Cohen-Wolkowicz M, Smith PB, Piper L, Moran C, Liu P, Kashuba A, Capparelli E, Walsh TJ, Hope WW, Benjamin Jr DK. Safety and pharmacokinetics of multiple-dose anidulafungin in infants and neonates. *Clin Pharmacol Therap*, 2011 (online early).
- Cole JM, Best BM, Pesce AJ. Variability of transdermal fentanyl metabolism and excretion in pain patients. *Journal of Opioid Management*, (1):29-39., 2010.
- Cole JN, Pence MA, von Köckritz-Blickwede M, Hollands A, Gallo RL, Walker MJ, Nizet V. M protein and hyaluronic acid capsule are essential for in vivo selection of covR/S mutations characteristic of invasive MIT1 group A Streptococcus. *MBio*, 1: e00191-10, 2010.
- Courtney HS, Ofek I, Penfound T, Nizet V, Pence MA, Kreikemeyer B, Podbielski A, Hasty DL, Dale JB. Relationship between expression of the family of M proteins and lipoteichoic acid to hydrophobicity and biofilm formation in Streptococcus pyogenes. *PLoS One*, 4(1):e4166, 2009.
- Cox KH, Ruiz-Bustos E, Courtney HS, Dale JB, Pence MA, Nizet V, Aziz RK, Gerling I, Price SM, Hasty DL. Inactivation of DltA modulates virulence factor expression in Streptococcus pyogenes. *PLoS One*, 4(4):e5366, 2009.
- Croteau D, Letendre S, Best BM, Ellis RJ, Breidinger S, Clifford D, Collier A, Gelman B, Marra C, Mbeo B, McCutchan JA, Morgello S, Simpson D, Way L, Ueland S, Capparelli E, and Grant I, for the CHARTER Group. Raltegravir concentrations in cerebrospinal fluid exceed the 50% inhibitory concentration for wild-type HIV-1. *Antimicrob Agent Chemother*, 54:5156-60, 2010.
- Crotty-Alexander LE, Maisey HC, Timmer AM, Rooijackers SHM, Gallo RL, Von Köckritz-Blickwede M, Nizet V. MIT1 group A streptococcal pili promote epithelial colonization but diminish systemic virulence through neutrophil extracellular entrapment. *J Mol Med*, 88:371-881, 2010.
- Derbal S, Hensler M, Fang W, Nizet V, Ghedira K, Nefti A. On resin amino acid side chain attachment strategy for the head to tail synthesis of new glutamine containing gramicidin-S analogs and their antimicrobial activity. *Bioorg Med Chem Lett*, 20:5701-5704, 2010.
- Dhand A, Bayer AS, Pogliano J, Yang SJ, Bolaris M, Nizet V, Wang G, Sakoulas G. Use of antistaphylococcal  $\beta$ -lactams to increase daptomycin activity in eradicating persistent bacteremia due to methicillin-resistant Staphylococcus aureus: role of enhanced daptomycin binding. *Clin Infect Dis*, 53:158-163, 2011.
- Dominguez A, Anderson P, Lane J, Capparelli E, Sanchez JL. Population pharmacokinetics of vancomycin in adult and geriatric patients: Comparison of eleven approaches. *Int J Clin Pharmacol Ther*, 48(8):525-33, 2010.
- Ebrahimi, C.M., Kern, J.W., Sheen, T.R., Ebrahimi-Fardooee, M.A., van Sorge, N.M., Schneewind, O., and Doran, K.S. Penetration of the blood-brain barrier by Bacillus anthracis requires the pXO1-encoded BslA protein. *J Bacteriol*, 191(23): 7165-7173, 2009.



- Ebrahimi, C.M., Sheen, T.R., Renken, C.W., Gottlieb, R.A., and Doran, K.S. Contribution of lethal toxin and edema toxin to the pathogenesis of anthrax meningitis. *Infect. Immun*, 2011 (online early).
- Edwards MS, Nizet V, Baker CJ. Group B streptococcal infections. In: *Infectious Diseases of the Fetus and Newborn Infant*, 7th Edition (J Remington, JO Klein, CB Wilson, V. Nizet, B. Maldonado, eds.) Elsevier, Philadelphia, p. 419-469, 2011.
- Fine AM, Nizet V, Mandl KD. Improved diagnosis of group A streptococcal pharyngitis using real-time bio-surveillance. *Ann Intern Med* 2011 (in press).
- Fischer A, Yang SJ, Bayer AS, Vaezzadeh AR, Herzig S, Stenz L, Girard M, Sakoulas G, Scherl A, Yeaman MR, Proctor RA, Schrenzel J, François P. Daptomycin resistance mechanisms in clinically derived *Staphylococcus aureus* strains assessed by a combined transcriptomics and proteomics approach. *J Antimicrob Chemother*, 2011 (online early).
- Franco A, Shimizu C, Tremoulet AH, Burns JC. Memory T-cells and characterization of peripheral T-cell clones in acute Kawasaki disease. *Autoimmunity*, 4:317-24, 2010.
- Fury W, Tremoulet A, Watson VE, Best BM, Shimizu C, Hamilton J, Kaneguye JT, Wei Y, Kao C, Mellis S, Lin C, Burns JC. Transcript abundance patterns in Kawasaki disease patients with IVIG-resistance. *Human Immunology*, 71:865-873, 2010.
- Glaser TA, Cnaan A, Shinnar S, Hirtz DG, Dlugos D, Masur D, Clark PO, Capparelli EV, Adamson PC for the Childhood Absence Epilepsy study team. Ethosuximide, valproic acid and lamotrigine in childhood absence epilepsy. *N Engl J Med*, 362:709-19, 2010.
- Gonzalez DJ, Lee SW, Hensler ME, Dahesh S, Markley AL, Mitchell DA, Bandeira N, Nizet V, Dixon JE, Dorrestein PC. Clostridiolysin S: A post-translationally modified biotoxin from *Clostridium botulinum*. *J Biol Chem*, 285:27798-27805, 2010.
- Gonzalez D, Haste NM, Hollands A, Fleming T, Hambya M, Pogliano K, Nizet V, Dorrestein PC. Microbial competition between *Bacillus subtilis* and *Staphylococcus aureus* monitored by imaging mass spectrometry. *Microbiology* 2011 (online early).
- Guichard A, McGillivray SM, Moreno BC, van Sorge NM, Nizet V, Bier E. Anthrax toxins cooperatively inhibit endocytic recycling by the Rab11/Sec15 exocyst. *Nature*, 467:854-858, 2010.
- Haste NM, Farnaes L, Perera VR, Fenical W, Nizet V, Hensler ME. Bactericidal kinetics of marine-derived napyradiomycins against contemporary methicillin-resistant *Staphylococcus aureus*. *Marine Drugs*, 9:680-689, 2011.
- Haste NM, Hughes CC, Tran DN, Fenical W, Jensen PR, Nizet V, Hensler ME. Pharmacological properties of the marine natural product marinopyrrole A against methicillin-resistant *Staphylococcus aureus*. *Antimicrob Agents Chemother*, 55:3305-3312, 2011.
- Haste NM, Perera V, Maloney KN, Tran DN, Jensen PR, Fenical W, Nizet V and Hensler ME. Activity of the streptogramin antibiotic etamycin against methicillin-resistant *Staphylococcus aureus*. *J Antibiotics*, 63:219-224, 2010.
- Hirsch JD, Gonzales M, Rosenquist A, Miller TA, Gilmer TP, Best BM. Antiretroviral therapy adherence, medication use, and health care costs during 3 years of a community pharmacy medication therapy management program for Medi-Cal beneficiaries with HIV/AIDS. *J Manag Care Pharm*, 17:213-223, 2011.
- Hirsch JD, Rosenquist A, Best BM, Miller TA, Gilmer TP. Evaluation of the first year of a pilot program in community pharmacy: HIV/AIDS medication therapy management for Medi-Cal beneficiaries. *J Manag Care Pharm*, 15(1):32-41, 2009.
- Hollands A, Pence MA, Timmer AM, Osvath SR, Turnbull L, Whitchurch CB, Walker MJ, Nizet V. Genetic switch to hypervirulence reduces colonization phenotypes of the globally disseminated group A *Streptococcus* MIT1 clone. *J Infect Dis*, 202:11-19, 2010.
- Hong D, Tremoulet AH, Burns JC, Lewis DB. Cross-reactive neutralizing antibody against pandemic 2009 H1N1 influenza A virus in intravenous immunoglobulin Preparations. *Pediatr Infect Dis J*, 30:67-69, 2010.
- Hruz P, Zinkernagel AS, Jenikova G, Botwin GJ, Hugot JP, Karin M, Nizet V, Eckmann L. NOD2 contributes to cutaneous defense against *Staphylococcus aureus* through alpha-toxin-dependent innate immune activation. *Proc Natl Acad Sci USA*, 106:12873-8, 2009.
- Hsu LC, Enzler T, Seita J, Timmer AM, Lee CY, Lai TY, Yu GY, Lai LC, Temkin V, Nizet V, Weissman IL, Karin M. IL-1 $\beta$ -driven neutrophilia preserves antibacterial defense in the absence of the kinase IKK $\beta$ . *Nat Immunol*, 12:144-50, 2011.
- Iamdar SR, Best BM. Otitis media and sinusitis. In:

- Pharmacotherapy in Primary Care*, edited by Linn WD, Wofford MR, O'Keefe ME, Posey LM. McGraw-Hill, New York, 2009, pp. 407-17.
- James LP, Letzig L, Simpson PM, Capparelli E, Roberts DW, Hinson JA, Davern TJ, Lee WM. Pharmacokinetics of acetaminophen-protein adducts in adults with acetaminophen overdose and acute liver failure. *Durg Metab Dispos*, 37(8):1779-84, 2009.
- Jann N, Schmalzer M, Kristian S, Gallo R, Nizet V, Peschel A, Landmann R. Neutrophil antimicrobial defense against *Staphylococcus aureus* is mediated by phagolysosomal but not extracellular trap-associated cathelicidin. *J Leukocyte Biol*, 86:1159-1169, 2009.
- Kanegaye JT, Wilder MS, Molkara D, Frazer JR, Pancheri J, Tremoulet AH, Watson VE, Best BM, Burns JC. Recognition of a Kawasaki disease shock syndrome. *Pediatrics*, 123:e783-9, 2009.
- Kaur SJ, Nerlich A, Rohde M, Fulde MA, Zähler D, Hanski E, Zinkernagel A, Nizet V, Chhatwal GS, Talay SR. The CXC chemokine-degrading protease SpyCep of *Streptococcus pyogenes* promotes its uptake into endothelial cells. *J Biol Chem*, 285: 27798-27805, 2010.
- Kisseleva T, von Köckritz-Blickwede M, Reichart D, McGillvray SM, Wingender G, Kronenberg M, Glass CK, Nizet V, Brenner DA. Fibrocyte-like cells recruited to the spleen support innate and adaptive immune responses to acute injury or infection. *J Mol Med* 2011 (online early).
- Kohr C, Davila S, Shimizu C, Sheng S, Matsubara T, Suzuki Y, Newburger J, Baker A, Burgner D, Berunis W, Kuijpers T, Wright V, Levin M, Hibber M, Burns JC, US and International KD Genetic Consortium. Genome wide linkage and association mapping identify susceptibility alleles in ABCC4 for Kawasaki disease. *J Med Gen*, 2011 (in press)
- Koopmans PP, Ellis R, Best BM, Letendre S. Should antiretroviral therapy for HIV infection be tailored for intracerebral penetration? *Neth J Med*, 67(6):206-11, 2009.
- Kurupati P, Turner CE, Tziona I, Nohadani M, Stamp GW, Zinkernagel AS, Nizet V, Edwards RJ, Srisikandan S. Chemokine-cleaving *Streptococcus pyogenes* protease SpyCEP is necessary and sufficient for bacterial dissemination within soft tissues and the respiratory tract. *Mol Microbiol*, 76:1387-1397, 2010.
- Lauth X, von Köckritz-Blickwede M, McNamara CW, Myskowski S, Zinkernagel AS, Beall B, Ghosh P, Gallo RL, Nizet V. M1 protein allows group A streptococcal survival in phagocyte extracellular traps through cathelicidin inhibition. *J Innate Immun*, 1:202-214, 2009.
- Le J, Bookstaver PB, Rudisill CN, Hashem MG, Iqbal R, James CL, Sakoulas G. Treatment of meningitis caused by vancomycin-resistant *Enterococcus faecium*: high-dose and combination daptomycin therapy. *Ann Pharmacother*, 44:2001-6, 2010.
- Lembo, A., Gurney, M.A., Burnside, K., Banerjee, A., de Los Reyes, M., Connelly, J.E., Lin, W.J., Jewell, K.A., Vo, A., Renken, C.W., Rajagopal. L., Doran, K.S.. Regulation of CovR expression in Group B *Streptococcus* impacts blood-brain barrier penetration. *Mol. Microbiol.* 77(2): 431-443, 2010.
- Letendre S, Ellis RJ, Best B, Bhatt A, Marquie-Beck J, LeBlanc S, Rossi S, Capparelli E, McCutchan JA. Penetration and effectiveness of antiretroviral therapy in the central nervous system. *Anti-inflammatory & Anti-allergy Agents in Medicinal Chemistry*, 8:169-183, 2009.
- Lewis A, Desa N, Hansen E, Knirel Y, Gordon J, Gagneux P, Nizet V, Varki A. Innovations in host and microbial sialic acid biosynthesis revealed by phylogenomic prediction of nonulosonic acid structure. *Proc Natl Acad Sci USA*, 106:13552-13557, 2009.
- Liu GY, Nizet V. Color me bad: Microbial pigments as virulence factors. *Trends Microbiol*, 17:406-413, 2009.
- Liu WT, Yang YL, Xu Y, Lamsa A, Haste NM, Yang JY, Ng J, Gonzalez DJ, Ellermeier CD, Straight PD, Pevzner P, Pogliano J, Nizet V, Pogliano K, Dorrestein PC. Imaging mass spectrometry of intraspecies metabolic exchange revealed the cannibalistic factors of *Bacillus subtilis*. *Proc Natl Acad Sci USA*, 107:16286-16290, 2010.
- Locke JB, Ostland VE, Vicknair MR, Nizet V, Buchanan JT. Evaluation of *Streptococcus iniae* killed bacterin and live-attenuated vaccines in hybrid striped bass through injection and bath immersion. *Dis Aquat Org*, 89:117-123, 2010.
- Malloy J, Capparelli E, Gottschalk M, Guan X, Kothare P, Fineman M. Pharmacology and tolerability of a single dose of exenatide in adolescent patients with type 2 diabetes mellitus being treated with metformin: a randomized, placebo-controlled, single-blind, dose-escalation, crossover study. *Clin Ther*, 31(4): 806-15, 2009.
- Maamary P, Sanderson-Smith M, Aziz R, Hollands A,

- McKay F, Cole J, McArthur J, Kirk J, Cork A, Keefe R, Kansal R, Sun H, Taylor W, Chhatwal C, Ginsburg D, Nizet V, Kotb M, Walker MJ. Parameters governing invasive disease propensity of non-M1 serotype group A streptococci. *J Innate Immun*, 2:596-606, 2010.
- Macheboeuf P, Buffalo C, Fu CY, Zinkernagel AS, Cole JN, Johnson JE, Nizet V, Ghosh P. Streptococcal M1 protein constructs a pathological host fibrinogen network. *Nature*, 472:64-68, 2011.
- McGillivray SM, Ebrahimi CM, Fisher N, Sabet M, Zhang DX, Chen Y, Haste NM, Aroian RV, Gallo RL, Guiney DG, Friedlander AM, Koehler TM, Nizet V. ClpX contributes to innate defense peptide resistance and virulence phenotypes of *Bacillus anthracis*. *J Innate Immun*, 1(5):494-506, 2009.
- Milani CJ, Aziz RK, Locke JB, Dahesh S, Nizet V, Buchanan JT. The novel polysaccharide deacetylase homologue Pdi contributes to virulence of the aquatic pathogen *Streptococcus iniae*. *Microbiology*, 156:543-554, 2010.
- Mirochnick M, Best BM. Antiretroviral pharmacology in pregnant women and newborns. In: Yaffe SJ, Aranda JV, editors. *Neonatal And Pediatric Pharmacology: Therapeutic Principles In Practice*. 4th Ed. Philadelphia: Lippincott Williams & Wilkins, p. 264-286, 2010.
- Mirochnick M, Best BM, Clarke DF. Antiretroviral pharmacology: special issues regarding pregnant women and neonates. *Clinics in Perinatology*, 37:907-927, 2010.
- Mirochnick M, Best BM, Stek AM, Capparelli EV, Hu C, Burchett SK, Rossi SS, Hawkins E, Basar M, Smith E, Read JS, IMPAACT 1026s Study Team. Atazanavir pharmacokinetics with and without tenofovir during pregnancy. *J Acquir Immune Defic Syndr*, 56:412-419, 2011.
- Mitchell DA, Lee SW, Pence MA, Markley AL, Limm JD, Nizet V, Dixon JE. Structural and functional dissection of the heterocyclic peptide cytotoxin streptolysin S. *J Biol Chem*, 284:13004-12, 2009.
- Moise PA, Forrest A, Bayer AS, Xiong YQ, Yeaman MR, Sakoulas G. Factors influencing time to vancomycin-induced clearance of nonendocarditis methicillin-resistant *Staphylococcus aureus* bacteremia: role of platelet microbicidal protein killing and agr genotypes. *J Infect Dis*, 201:233-40, 2010.
- Morello CM, Singh RF, Chen KJ, Best BM. Enhancing an introductory pharmacy practice experience at free medical clinics. *International Journal of Pharmacy Practice*, 18:51-57, 2010.
- Morris CA, Onyamboko MA, Capparelli E, Koch MA, Atibu J, Lokomba V, Douoguih M, Hemingway-Foday J, Wesche D, Ryder RW, Bose C, Wright L, Tshefu AK, Meshnick S Fleckenstein L. Population pharmacokinetics of artesunate and dihydroartemisinin in pregnant and non-pregnant women with malaria. *Malaria J*, 2011 (in press).
- Navarini AA, Lang KS, Verschoor A, Recher M, Zinkernagel AS, Nizet V, Odermatt B, Hengartner H, Zinkernagel RM. Innate immune-induced depletion of bone marrow neutrophils aggravates systemic bacterial infections. *Proc Natl Acad Sci USA*, 106(17):7107-12, 2009.
- Newfield RS, Cohen D, Capparelli EV, Shragg P. Rapid weight gain in children soon after diagnosis of type 1 diabetes: is there room for concern? *Pediatr Diabetes*, 10(5):310-5, 2009.
- Nicolaou KC, Simmons NL, Chen JS, Haste NM, Nizet V. Total synthesis and biological evaluation of marinopyrrole A and analogs. *Tetrahed Lett*, 52:2041-2043, 2011.
- Nizet V. Accentuate the (Gram) positive. *J Mol Med*, 88:93-95, 2010.
- Nizet V. Bacteria and phagocytes: Mortal enemies. *J Innate Immun*, 2:505-507, 2010.
- Nizet V, Bradley JS. Staphylococcal infections. In: *Infectious Diseases of the Fetus and Newborn Infant*, 7th Edition. (J Remington, JO Klein, CB Wilson, V. Nizet, B. Maldonado, eds.) Elsevier, Philadelphia, p. 489-515, 2011.
- Nizet V, Esko J. Bacterial and viral infections. Chapter 39. In: *Essentials of Glycobiology*, 2nd Edition (A Varki, R Cummings, J Esko, H Freeze, G Hart, J Marth, eds.) Cold Spring Harbor Press, Boston, 2009.
- Nizet V, Johnson RS. Interdependence of hypoxic and innate immune responses. *Nat Rev Immunol*, 9:609-617, 2009.
- Nizet V, Klein JO. Bacterial sepsis and meningitis. In: *Infectious Diseases of the Fetus and Newborn Infant*, 7th Edition. (J Remington, JO Klein, CB Wilson, V. Nizet, B. Maldonado, eds.) Elsevier, Philadelphia, p. 222-275, 2011.
- Onyamboko MA, Meshnick SR, Fleckenstein L, Koch MA,

- Atibu J, Lokomba V, Douougih M, Hemmingway-Foday J, Wesche D, Ryder RW, Bose B, Wright L, Tshetu AK, Capparelli EV. Pharmacokinetics and pharmacodynamics of artesunate and dihydroartemisinin following oral treatment in pregnant women with asymptomatic *Plasmodium falciparum* infections in Kinshasa DRC. *Malaria J*, 28;10:49, 2011.
- Pence MA, Rooijackers SH, Cogen AL, Cole JN, Hollands A, Gallo RL, Nizet V. Streptococcal inhibitor of complement (SIC) promotes innate immune resistance phenotypes of invasive M1T1 group A *Streptococcus*. *J Innate Immun*, 2:587-595, 2010.
- Pinheiro da Silva F, Gallo RL, Nizet V. Differing effects of exogenous or endogenous cathelicidin on macrophage toll-like receptor signaling. *Immunol Cell Biol*, 87(6):496-500, 2009.
- Pinheiro da Silva F, Nizet V. Cell death during sepsis: Integration of disintegration in the inflammatory response to overwhelming infection. *Apoptosis*, 14:509-521, 2009.
- Quach D, Van Sorge NM, Kristin S, Bryan J, Shelver DW, Doran KS. The CiaR response regulator in group B streptococcus promotes intracellular survival and resistance to innate immune defenses. *J Bacteriol*, 191: 2023-2032, 2009.
- Rahkmanina NY, Capparelli EV. Current research issues in the pharmacokinetics of antiretroviral drugs in children. *Current Pediatric Reviews* 2011 (in press).
- Reiß A, Braun JS, Jäger K, Freyer D, Laube G, Bühner C, Felderhoff-Müser U, Nizet V, Weber JR. Bacterial pore-forming cytolysins induce neuronal damage in a rat model of neonatal meningitis. *J Infect Dis*, 3:393-400, 2011.
- Rooijackers SM, Rasmussen SL, McGillivray SM, Bartnikas TB, Mason AB, Friedlander AM, Nizet V. Human transferrin confers serum resistance against *Bacillus anthracis*. *J Biol Chem*, 285:27609-27613, 2010.
- Rosenquist A, Best BM, Miller TA, Gilmer TP, Hirsch JD. Medication therapy management services in community pharmacy: a pilot program in HIV specialty pharmacies. *J Eval Clin Prac*, 16:1142-6, 2010.
- Sakoulas G, Brown J, Lamp KC, Friedrich LV, Lindfield KC. Clinical outcomes of patients receiving daptomycin for the treatment of *Staphylococcus aureus* infections and assessment of clinical factors for daptomycin failure: a retrospective cohort study utilizing the Cubicin Outcomes Registry and Experience. *Clin Ther*, 31:1936-45, 2009.
- Sakoulas G. Clinical outcomes with daptomycin: a post-marketing, real-world evaluation. *Clin Microbiol Infect*, 15 Suppl 6:11-6, 2009.
- Sakoulas G, Wormser GP, Visintainer P, Aronow WS, Nadelman RB. Relationship between population density of attorneys and prevalence of methicillin-resistant *Staphylococcus aureus*: is medical-legal pressure on physicians a driving force behind the development of antibiotic resistance? *Am J Ther*, 16:e1-6, 2009.
- Saitoh A, Capparelli E, Aweeka F, Sarles E, Singh KK, Kovacs A, Burchett SK, Wiznia A, Nachman S, Fenton T, Spector SA. CYP2C19 genetic variants affect nelfinavir pharmacokinetics and virologic response in HIV-1 infected children receiving HAART. *J Acquir Immune Defic Syndr*, 54:285-9, 2010.
- Saitoh A, Dominguez D, Stani TM, Rossi S, Capparelli E, Spector SA. Intracellular concentrations of non-nucleoside Reverse transcriptase inhibitors and its potential role on apoptosis in peripheral blood mononuclear cells. *J Antivir Antiretrovir* 2011 (in press).
- Sato Y, Molkara D, Daniels L, Tremoulet A, Shimizu C, Kanegaye J, Best B, Snider J, Frazer J, Maisel A, Burns JC. Cardiovascular biomarkers in acute Kawasaki disease. *International Journal of Cardiology* 2011 (in press)
- Schweizer ML, Furuno JP, Harris AD, Johnson JK, Shardell MD, McGregor JC, Thom KA, Sakoulas G, Perencevich EN. Empiric antibiotic therapy for *Staphylococcus aureus* bacteremia may not reduce in-hospital mortality: a retrospective cohort study. *PLoS One*, 5:e11432, 2010
- Schweizer ML, Furuno JP, Sakoulas G, Johnson JK, Harris AD, Shardell MD, McGregor JC, Thom KA, Perencevich EN. Increased mortality with accessory gene regulator (*agr*) dysfunction in *Staphylococcus aureus* among bacteremic patients. *Antimicrob Agents Chemother*, 55:1082-7, 2011
- Seidl K, Bayer AS, Fowler VG Jr, McKinnell JA, Abdel Hady W, Sakoulas G, Yeaman MR, Xiong YQ. Combinatorial phenotypic signatures distinguish persistent from resolving methicillin-resistant *Staphylococcus aureus* bacteremia isolates. *Antimicrob Agents Chemother*, 55:575-82, 2011.
- Sendi P, Johansson L, Dahesh S, Van-Sorge NM,



- Darenberg J, Norgren M, Sjölin J, Nizet V, Norrby-Teglund A. Bacterial phenotype variants in group B streptococcal toxic shock syndrome. *Emerg Infect Dis*, 15:223-32, 2009.
- Sheen TR, Ebrahimi CM, Hiemstra I, Barlow S, Peschel A, Doran KS. Penetration of the blood-brain barrier by *Staphylococcus aureus*: Contribution of lipoteichoic acid membrane anchoring. *J Mol Med*, 88:633-639, 2010.
- Shike H, Kanegaye JT, Best BM, Pancheri J, Burns JC. Pyuria associated with acute Kawasaki disease and fever from other causes. *Pediatr Infect Dis J*, 28:440-3, 2009.
- Shimizu C, Jain S, Lin KO, Molkara D, Frazer JR, Sun S, Baker AL, Newburger JW, Rowley AH, Shulman ST, Davila S, Hibberd ML, Burgner D, Breunis WB, Kuijpers TW, Wright VJ, Levin M, Eleftherohorinou H, Coin L, Popper SJ, Relman DA, Fury W, Lin C, Mellis S, Tremoulet AH, Burns JC. Transforming growth factor- $\beta$  signaling pathway in patients with Kawasaki disease. *Circ Cardiovasc Genet*, 4:16-25, 2010.
- Sjögren J, Collin M, Nizet V, Hollands A. Study of the IgG endoglycosidase EndoS in group A streptococcal phagocyte resistance and virulence. *BMC Microbiol*, 11:120 2011.
- Sleasman JW, Robbins BL, Cross SJ, Lindsey JC, Kraimer JM, Heckman BE, Sprenger HL, Tustin NB, Rose CH, Poston PA, Neal EF, Pakes GE, Nikanjam M, Capparelli EV. Abacavir pharmacokinetics during chronic therapy in HIV-1-infected adolescents and young adults. *Clin Pharmacol Ther*, 85:394-401, 2009.
- Smith PB, Cohen-Wolkowicz M, Castro LM, Poindexter B, Bidegain M, Weitkamp JH, Schelonka RL, Ward RM, Wade K, Valencia G, Burchfield D, Arrieta A, Bhatt-Mehta V, Walsh M, Kantak A, Rasmussen M, Sullivan JE, Finer N, Brozanski BS, Sanchez P, van den Anker J, Blumer J, Kearns GL, Capparelli EV, Anand R, Benjamin DK on behalf of the Meropenem Study Team. Population pharmacokinetics of meropenem in plasma and cerebrospinal fluid of infants with suspected or complicated intra-abdominal infections. *Ped Infect Dis J*, 2011 (in press).
- Son MB, Gauvrea K, Burns JC, Corinaldesi E, Tremoulet AH, Watson VE, Baker A, Fulton DR, Sundel RP, Newburger JW. Infliximab for IVIG resistance in Kawasaki Disease: A retrospective two-center study. *J Peds*, 2010.
- Song Y, Lin FY, Yin F, Hensler M, Rodríguez Poveda CA, Mukkamala D, Cao R, Wang H, Morita CT, González Pacanowska D, Nizet V, Oldfield E. Phosphonosulfonates are potent, selective inhibitors of dehydrosqualene synthase and staphyloxanthin biosynthesis in *Staphylococcus aureus*. *J Med Chem*, 52: 976-88, 2009.
- Song Y, Liu CI, Lin FY, No JH, Hensler M, Liu YL, Jeng WY, Low J, Liu GY, Nizet V, Wang AH, Oldfield E. Inhibition of staphyloxanthin virulence factor biosynthesis in *Staphylococcus aureus*: in vitro, in vivo, and crystallographic results. *J Med Chem*, 52:3869-80, 2009.
- Stockmann C, Kerdiles Y, Nomaksteinsky M, Weidemman A, Takeda N, Doedens A, Torres-Collado AX, Iruela-Arispe L, Nizet V, Johnson RS. Loss of inflammatory cell-derived vascular endothelial growth factor accelerates fibrosis. *Proc Natl Acad Sci USA*, 107:4329-4334, 2010.
- Sun P, Maloney KN, Nam SJ, Haste NM, Rajux R, Aalsbersberg W, Jensen PR, Nizet V, Hensler ME, Fenical W. Fijimycins A-C, three new etamycin-class depsipeptides from a marine-derived *Streptomyces* sp. *Bioorg Med Chem*, 2011, in press.
- Tabor-Godwin J, Ruller C, Bagalso N, An N, Pagarigan R, Harkins S, Gilbert P, Kiosses W, Gude N, Cornell C, Doran KS, Sussman M, Whitton LJ, Feuer R. A novel population of myeloid cells responding to coxsackievirus infection assists in the dissemination of virus within the neonatal CNS. *Journal of Neuroscience*, 30(25) 8676, 2010.
- Taylor RE, Gregg C, Padler-Karavani V, Ghaderi D, Yu H, Sorensen RU, Chen X, Inostroza J, Nizet V, Varki A. Novel mechanism for the generation of human xenauto-antibodies against the non-human sialic acid N-glycolylneuraminic acid. *J Exp Med*, 207:1637-1646, 2010.
- Timmer AM, Timmer JC, Pence MA, Hsu LC, Ghochani M, Frey TG, Karin M, Salvesen GS, Nizet V. Streptolysin O promotes group A *Streptococcus* immune evasion by accelerated macrophage apoptosis. *J Biol Chem*, 284(2):862-71, 2009.
- Tremoulet AH, Devera G, Best BM, Fernandez S, Sun X, Jain S, Burns JC. Increased incidence and severity of Kawasaki disease among Filipino-Americans in San Diego County. *Pediatr Infect Dis J*, 30:1-2, 2011 (online early).
- Tseng CW, Kyme P, Low J, Rocha MA, Alsabeh R, Miller LG, Otto M, Arditi M, Diep BA, Nizet V, Doherty

- TM, Beenhouwer DO, Liu GY. Staphylococcus aureus Panton-Valentine leukocidin contributes to inflammation and muscle tissue injury. *PLoS One*, 4:e6837, 2009.
- Uchiyama S, Carlin AF, Khosravi A, Weiman S, Banerjee A, Quach D, Hightower G, Mitchell TJ, Doran KS, Nizet V. The surface-anchored NanA protein promotes pneumococcal brain endothelial cell invasion. *J Exp Med*, 206 (9): 1845-1852, 2009.
- Vanprapar N, Cressey TR, Choekphaibulkit K, Muresan P, Plipat N, Sirisanthana V, Prasitsuebsai W, Hongsiwan W, Chotpitayasunondh T, Eksaengsr A, Toye M, Smith ME, McIntosh K, Capparelli E, Yogev R for the IMPAACT P1056 Team. A chewable pediatric fixed-dose-combination tablet of stavudine, lamivudine and nevirapine: pharmacokinetics and safety compared with the individual liquid formulations in HIV-infected children in Thailand. *Pediatr Infect Dis J*, 29:940-4, 2010.
- van Sorge NM, Quach D, Gurney MA, Sullam PM, Nizet V, Doran KS. The group B streptococcal serine-rich repeat 1 glycoprotein mediates penetration of the blood-brain barrier. *J Infect Dis*, 199(10):1479-87, 2009.
- van Sorge, NM, Zialcita P, Browne SH, Quach D, Guiney D, Doran KS. Penetration and activation of brain endothelium by Salmonella enterica serovar Typhimurium. *J Infect Dis*, 203(3): 401-405, 2011.
- Von Köckritz-Blickwede M, Chow O, Ghochani M, Nizet V. Visualization and functional evaluation of phagocyte extracellular traps. In: *Methods in Microbiology (Volume 37) Immunology of Infection*, 3rd Edition (D Kabelitz and SH Kaufmann, eds). Academic Press, London, p. 139-160, 2010.
- Von Köckritz-Blickwede M, Chow OA, Nizet V. Fetal calf serum contains heat-stable nucleases that degrade neutrophil extracellular traps. *Blood*, 114:5245-5246, 2009.
- Von Köckritz-Blickwede M, Nizet V. Innate immunity turned inside-out: antimicrobial defense by phagocyte extracellular traps. *J Mol Med*, 87(8):775-83, 2009.
- Wang S, Best BM, Burns JC. Periungual desquamation in patients with Kawasaki disease. *Pediatr Infect Dis J*, 28(6):538-9, 2009.
- Weiman S, Dahesh S, Carlin AF, Varki A, Nizet V, Lewis AL. Genetic and biochemical modulation of sialic acid O-acetylation on group B Streptococcus: Phenotypic and functional impact. *Glycobiology*, 19:1204-1213, 2009.
- Weiman S, Uchiyama S, Lin FY, Chaffin D, Varki A, Nizet V, Lewis AL. O-Acetylation of sialic acid on group B Streptococcus inhibits neutrophil suppression and virulence. *Biochem J*, 428:163-168, 2010.
- Wong A, Reddy SP, Smyth DS, Aguero-Rosenfeld ME, Sakoulas G, Robinson DA. Polyphyletic emergence of linezolid-resistant staphylococci in the United States. *Antimicrob Agents Chemother*. 54:742-8, 2010
- Yang H, Sikavi C, Tran K, McGillivray SM, Nizet V, Yung M, Chang A, Miller JH. Papillation in Bacillus anthracis colonies: a tool for finding new mutators. *Mol Microbiol*, 79:1276-1293, 2011.
- Yang SJ, Kreiswirth BN, Sakoulas G, Yeaman MR, Xiong YQ, Sawa A, Bayer AS. Enhanced expression of dltABCD is associated with the development of daptomycin nonsusceptibility in a clinical endocarditis isolate of Staphylococcus aureus. *J Infect Dis*, 200:1916-20, 2009.
- Yee DA, Hughes MM, Atayee RS, Best BM, Pesce AJ. Observations on the relationship between opiate medications, illicit drugs and heroin use in pain patients. *American Journal of Pharmacology and Toxicology*, 5(4):5-10, 2011.
- Zhao HW, Zhou D, Nizet V, Haddad GG. Experimental selection for Drosophila survival in extremely high O<sub>2</sub> environments. *PLoS One*, 5:e11701, 2010.
- Zinkernagel AS, Hruz P, Uchiyama S, von Köckritz-Blickwede M, Schuepbach RA, Hayashi T, Carson DA, Nizet V. Importance of Toll-like receptor 9 in host defense against MIT1 group A Streptococcus infections. *J Innate Immun*, 2011 (in press).



# Psychiatry

This is an exciting era in Child and Adolescent Psychiatry and related disciplines at Rady Children's Hospital-San Diego (RCHSD) and UC San Diego (UCSD). The Department and the Division of Child and Adolescent Psychiatry at UCSD has greatly increased the size and scope of its training programs, clinical services and research programs. The amalgamation between RCHSD and UCSD has facilitated a series of notable changes, including the recruitment of new faculty, establishing innovative clinical programs, embarking on major research, and adding new seminars, conferences, training and weekly Grand Rounds. The Division has accomplished these changes in a relatively short time.

The Department offers a comprehensive range of ambulatory, consultation-liaison, inpatient and school-

based programs, and is by far the largest mental health provider for children and adolescents in San Diego County. The Department works closely with numerous other hospital and community programs, including: The Chadwick Center (child abuse); Developmental Evaluation Center and Autism Discovery Institute (Autism and PDD); Neurology; Behavioral Pediatrics; Juvenile Hall, Adolescent Medicine, and Child and Adolescent Research Services Center. Our important

Left to right: Jeffrey Max, Ann Garland, Lauren Brookman-Frazer, Greg Aarons, Gabrielle Cerda, Saul Levine, Barent Mynderse, Clarence Perry, Jeanne Hong

Latino Services program won the Mental Health Program of the Year Award from San Diego County and the Rieger Service Program Award for Excellence from the American Academy of Child and Adolescent Psychiatry. The Division of Child and Adolescent Psychiatry at UCSD also runs Child and Adolescent Psychiatry Services (CAPS), a major inpatient hospital for children and adolescents. The division pursues comprehensive and cutting-edge clinical services, teaching and research in all of our locations (four outpatient clinics in Kearny Mesa, Escondido, Oceanside, as well as the walk-in clinic, with a mobile assessment team and telepsychiatry).

The Child and Adolescent Services Research Center (CASRC), sponsored by the National Institute of Mental Health (NIMH), is the only children's mental health services research center in the country. In addition, department faculty have received National Mental Health RO1 and K Awards (Career Scientist Development) from the NIMH and numerous other grants and have contributed to professional and academic literature.

RCHSD and UCSD are formally affiliated, which consolidates the clinical, teaching, research and public service psychiatry programs of RCHSD with UCSD School of Medicine's Department of Psychiatry.

The faculty in the Division of Child and Adolescent Psychiatry at UCSD consists of psychiatrists and psychologists, all graduates of major training programs and universities. Many are renowned specialists in their fields. The department is also affiliated with many academic institutions of higher learning, providing training to child psychiatry fellows, psychology interns, MSW interns, and MFT trainees.

## FACULTY

**Saul Levine, MD**, *Chief*, Professor of Clinical Psychiatry

**Gregory A. Aarons, PhD**, Associate Professor of Psychiatry

**Natacha Akshoomoff, PhD**, Associate Professor of Psychiatry

**Lauren Brookman-Frazee, PhD**, Assistant Professor of Psychiatry

**Sandra J. Brown, PhD**, Clinical Professor of Psychiatry

**Gabrielle Cerda, MD**, Associate Clinical Professor of Psychiatry

**Ann F. Garland, PhD**, Professor of Psychiatry

**Ellen Heyneman, MD**, Clinical Professor of Psychiatry

**Jeanne Hong, MD**, Assistant Clinical Professor

**Brett Johnson, MD**, Assistant Clinical Professor of Psychiatry

**Peter Kim, MD**, Staff Psychiatrist

**Jeffrey E. Max, MD**, Professor of Psychiatry

**Kristen M. McCabe, PhD**, Associate Professor

**Clarence Perry, MD**, Assistant Clinical Professor of Psychiatry

**Christopher Rich, MD**, Assistant Clinical Professor

**Susan Tapert, PhD**, Associate Professor of Psychiatry Research

**Michael Tramell, MD**, Assistant Clinical Professor

**Katherine Williams, PhD**, Assistant Clinical Professor

**Tony T. Yang, MD, PhD**, Assistant Professor of Psychiatry

**May Yeh, PhD**, Associate Professor of Psychology

**Edward Lau, MD**, Staff Psychiatrist

**Willard Connor, MD**, Staff Psychiatrist

## FELLOWS IN CHILD AND ADOLESCENT PSYCHIATRY

**Anju Hurria, MD**

**Benjamin Maxwell, MD**

**Maria Carolina Court, MD**

**Nadia Nassar Kuhn, MD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The Division of Psychiatry provides mental health services to children, adolescents, and families in four regionally-based clinics and school-based programs



via outreach to more than 40 schools in 12 school districts. The Division delivers more than 50,000 outpatient visits per year, provided by 64 master's level and PhD clinical staff, nine psychiatrists, and 30 fellows and interns. We are proud to report the opening of the new walk-in clinic and mobile assessment team in North San Diego County which has facilitated more logistical efficiency and rapid interventions for children, youth, and families. Additional services include an inpatient consultation/liaison program that provides psychiatric consultation, treatment, and recommendations to patients hospitalized in RCHSD inpatient units, as well as in the emergency department.

#### **Greg Aarons, PhD**

Dr. Aarons is a Research Scientist at the Child and Adolescent Research Services Center.

#### **Natacha Akshoomoff, PhD**

Dr. Akshoomoff is a Psychologist at the Developmental Evaluation Clinic and the Autism Discovery Institute. She serves as a consultant to RCHSD's Outpatient Psychiatry.

#### **Lauren Brookman-Fraze, PhD**

Dr. Brookman-Fraze provides supervision to practicum students at RCHSD's Outpatient Psychiatry and consults with clinic staff on the treatment of children with autistic spectrum disorders.

#### **Sandra J. Brown, PhD**

Dr. Brown is the Lead Psychologist at the Child and Adolescent Psychiatry Services (CAPS), where she assesses and cares for child and adolescent inpatients with a wide variety of diagnoses. She is the Co-Director of the UCSD/VA Psychology Internship Training Program.

#### **Gabrielle Cerda, MD**

Dr. Cerda is the Clinical Director at RCHSD's Outpatient Psychiatry which includes three clinic-based sites, one urgent care/ walk-in center (BCC), 50 schools, and the Latino Mental Health Services Program. Dr. Cerda sees patients at the main San Diego Clinic, Escondido Clinic, and the Behavioral Crisis Center (BCC) in Oceanside.

#### **Willard Connor, MD**

Dr. Connor is the Staff Psychiatrist for the North Inland Outpatient Psychiatry Clinic and the Poway School District ED Intensive Outpatient Program.

#### **Ann Garland, PhD**

Dr. Garland is a Co-Investigator of the Implementation Methods Research Group (IMRG) funded by an Advanced Center award from NIMH to the Child and Adolescent Research Services Center (CASRC). She is also the PI of CASRC's contract to provide research services to the County Department of Health and Human Services, and is a Co-Investigator for several additional projects. She conducts research on community-based mental health care for children and families.

#### **Ellen K. Heyneman, MD**

Dr. Heyneman is the Director, Consultation-Liaison, at RCHSD and is the Residency Training Director at the Division of Child and Adolescent Psychiatry at UCSD.

#### **Jeanne Hong, MD**

Dr. Hong is a Staff Psychiatrist at Child and Adolescent Psychiatry Services (CAPS), where she assesses and cares for child and adolescent inpatients with a wide variety of diagnoses.

#### **Brett Johnson, MD**

Dr. Johnson is the Staff Psychiatrist for the Behavioral Crisis Center in Oceanside.

#### **Edward Lau, MD**

Dr. Lau is the Staff Psychiatrist for the North Coastal Outpatient Psychiatry Clinic.

#### **Saul Levine, MD**

Dr. Levine is Professor of Clinical Psychiatry and Director of the Division of Child and Adolescent Psychiatry at UCSD and is also Head of the Department of Psychiatry at RCHSD.

#### **Peter Kim, MD**

Dr. Kim is a Staff Psychiatrist for the North Coastal Outpatient Psychiatry Clinic where he sees patients.

## Major Goals and Plans

Notwithstanding the significant growth in quality and volume in our clinical and academic programs, the department intends to maintain its trajectory of excellence and is embarking on new planned new ventures and achievements:

- Research and Clinicians working with Developmental Evaluation Clinic (DEC) and Child and Adolescent Services Research Center (CASRC) in the exciting new Autism Development Institute (ADI)
- Expanding the new Medical-Psychiatric Unit at RCHSD
- Beginning a Community Psychiatry Fellowship in Child & Adolescent Psychiatry
- Pursuing the UC San Diego Child and Adolescent Psychiatry Services (CAPS) contract and relocating the entire program to Rady Children's Hospital.
- Developing a mechanism for private pay and HMO patients to be seen in Outpatient Psychiatry.
- Initiating a Research Fellowship in Child & Adolescent Psychiatry
- Recruiting more full-time academic faculty with demonstrated track records in areas of research in child and adolescent psychiatry
- Instituting more evidenced-based interventions
- Continuing our extensive school programs (EPSDT: Early and Periodic Screening, Diagnosis and Treatment) to enhance prevention and early interventions with at-risk populations, and providing training for our fellows.
- Expanding our telepsychiatry program to facilitate better triage and timely interventions in rural, isolated or underserved areas, and far-flung emergency departments
- Increasing the department's close collaboration with the Child and Adolescent Services Research Center (CASRC), scientists who are faculty members (Drs. Aarons, Akshoomoff, Baker, Brookman-Fraze, Garland, McCabe, Yeh, and Corsello)
- Developing additional services for Latino patients and families, especially in the area of multi-generational services (Dr. Gabrielle Cerda)
- Establishing specialty clinics for children and adolescents
- New ROI submissions
- Reinitiating the search for a new Department and Division head in Child & Adolescent Psychiatry

### Jeffrey E. Max, MD

Dr. Max is Professor, Department of Psychiatry, UCSD and Director, Neuropsychiatric Research, RCHSD. He conducts research on psychiatric and neuropsychological aspects of pediatric traumatic brain injury and pediatric stroke.

### Clarence Perry, MD

Dr. Perry is the Medical Director of Riley School's Mental Health Program, where he sees patients and supervises fellows. He is also Consulting Psychiatrist to the EPSDT Treatment Team at RCHSD Outpatient Psychiatry.

### Christopher Rich, MD

Dr. Rich is the Medical Director at Child and Adolescent Psychiatry Services, (CAPS), where he supervises medical students, residents and fellows and assesses and cares for child and adolescent inpatients with a wide variety of diagnoses. .

### Susan Tapert, PhD

Dr. Tapert is the Program Director of the Substance Abuse Mental Illness Program at the VA San Diego Healthcare System.



### **Michael Tramell, MD**

Dr. Tramell is a Staff Psychiatrist for the North Coastal Outpatient Psychiatry Clinic where he sees patients.

### **Katherine Williams, PhD**

Dr. Williams provides supervision to psychology interns, coordination of psychological testing, and clinical practice with children and adolescents.

### **Tony Tung-I Yang, MD, PhD**

Dr. Yang is the Physician Treatment Team Leader for two outpatient treatment teams at RCHSD at Children's Plaza and is an outpatient physician at RCHSD's Child and Adolescent Psychiatry Clinic at Children's Plaza.

### **May Yeh, PhD**

Dr. Yeh conducts research on issues of cultural competence in outpatient mental health services for adolescents.

## **TEACHING ACTIVITIES**

### **Natacha Akshoomoff, PhD**

- Instructs clinical psychology graduate students, interns, and postdoctoral fellows and child psychiatry fellows
- Serves on dissertation committees
- Faculty, SDSU-UCSD Joint Doctoral Program in Clinical Psychology Group
- Supervises undergraduate research at UCSD
- Faculty, UCSD Human Development Program

### **Lauren Brookman-Frazer, PhD**

- Provides clinical supervision to doctoral practicum students
- Lectures on topics including autism, parent training, and behavior management to child psychiatry fellows and pre-doctoral psychology interns
- Provides research mentoring to doctoral students and postdoctoral fellows

### **Sandra J. Brown, PhD**

- Training director of the Psychology Internship Training Program in the Department of Psychiatry at UCSD
- Supervising psychologist at Child and Adolescent Psychiatry Services (CAPS) for pre-doctoral psychology interns and joint doctoral students at UCSD and SDSU
- Active in teaching and training residents and fellows

### **Gabrielle Cerda, MD**

- Active in all aspects of the Fellowship Training Program: recruitment/training/supervision
- Organizes/teaches Quality Assurance Monitoring, Cultural Psychiatry, Therapeutic Interventions and Advanced Psychopharmacology Courses for psychiatry fellows
- Supervises all psychiatry fellows during outpatient rotation
- Consults in difficult clinical cases
- Supervises licensed clinical social workers, marriage and family therapists and psychologists, as well as trainees and unlicensed staff from these disciplines
- Member of the Residency Education Committee

### **Ann Garland, PhD**

- Research mentorship for four early career investigators (all which are NIMH K awardees), two post-doctoral fellows, one psychiatry resident, and two pre-doctoral candidates
- Clinical Teaching/Supervision for one post-doctoral fellow, two psychology interns and two psychology practicum students

### **Ellen K. Heyneman, MD**

- Director of Training for the Child and Adolescent Fellowship
- Oversees the fellowship educational experience
- Chairs the Residency Education Committee in the Division of Child and Adolescent Psychiatry
- Active in all aspects of teaching, including clinical, case conferences, didactics, lectures, and seminars
- Director of the Consult Liaison Service at RCHSD

### **Saul Levine, MD**

- Head, Department of Psychiatry at RCHSD
- Program Director of the Division of Child and Adolescent Psychiatry at UCSD
- Director of the Child and Adolescent Psychiatry Service (CAPS) at UCSD

- Sits on the Residency Education Committee
- Chairs the Psychiatry Grand Rounds Series

### **Jeffrey E. Max, MD**

- Provides individual supervision for residents
- Leads the Child and Adolescent Neuropsychiatry course

### **Kristen McCabe, PhD**

- Teaches three undergraduate courses per year at UCSD
- Supervises approximately eight students per year on independent research projects
- Supervised two Honors Theses

### **Clarence Perry, MD**

- Supervises all the child psychiatry fellows in the school-based mental health rotation, as well as individual fellows on their outpatient therapy cases
- Lectures to third-year medical students for their psychiatry clerkship
- Lectures to second-year fellows in the School Consultation Seminar

### **Christopher Rich, MD**

- Member of Residency Education Committee, Division of Child and Adolescent Psychiatry
- Supervise all child psychiatry fellows during inpatient rotation at CAPS as Medical Director
- UCSD General Psychiatry Graduate Education Committee
- UCSD General Psychiatry Residency Training Selection Committee
- UCSD Psychiatry PGY-2 Residency Didactics, Child Psychiatry Module, Coordinator
- UCSD School of Medicine, Course Director, PSYCH 429, Child Psychiatry

### **Tony T. Yang, MD, PhD**

- Supervises and teaches Child and Adolescent fellows, psychology interns and social worker interns at Rady Children's Plaza
- Teaches second-year general adult psychiatry residents and third-year medical students at UCSD
- Teaches and supervises first- and second-year medical students working on research projects, and fourth-year medical students working on their ISP projects



### May Yeh, PhD

- Teaches the Cultural Psychology course in the SDSU/UCSD Joint Doctoral Program in clinical psychology
- Supervised trainees (doctoral level, undergraduate level, postdoctoral level)
- Served on dissertation committees and guidance committees
- SDSU/UCSD JDP in Clinical Psychology EP Track Co-Chair
- SDSU/UCSD JDP in Clinical Psychology Curriculum Committee Member

## AWARDS, HONORS AND MAJOR PRESENTATIONS

### Natacha Akshoomoff, PhD

Editorial Board, *Developmental Neuropsychology* and *Child Neuropsychology*

Ad Hoc Reviewer, *Autism Research*, *Biological Psychiatry*, *Child Development*, *Journal of Autism and Developmental Disorders*, *Journal of Child Psychology and Psychiatry*, *Journal of the International Neuropsychological Society*

Special Panel NIMH Grant Reviewer, 2010, 2011

### Lauren Brookman-Frazee, PhD

Fellow, Implementation Research Institute, Center for Mental Health Services Research at Washington University in St. Louis, 2010-2012

Associate Editor, *Journal of Positive Behavior Interventions*

Ad hoc reviewer, *Journal of Early Childhood Services*, *Administration and Policy in Mental Health and Mental Health Services Research*, *Journal of Autism and Developmental Disorders*, *Child and Youth Care Forum*

Parent Education for Children with Autism Spectrum Disorders. One-day workshop for the Collaboration of Autism Specialists Training. California State University, Los Angeles, CA, July 21, 2010

### Ann Garland, PhD

2010 Excellence in Teaching Award from the Department of Psychiatry, UCSD (voted on by trainees)

Associate Editor, *Administration and Policy in Mental Health and Mental Health Services Research*

Member of Ad Hoc NIH Review Committees

Member, Research Network on Youth Mental Health, John D. and Catherine T. MacArthur Foundation

Ad Hoc Reviewer, *Archives of General Psychiatry*, *Journal of Abnormal Child Psychology*, *Journal of the American Academy of Child and Adolescent Psychiatry*, *Child Abuse and Neglect*, *Child Maltreatment*, *Children and Youth Services Review*, *Psychiatric Services*, *Journal of Community Psychology*, *American Journal of Psychiatry*, *Journal of Behavioral Health Services and Research*

### Ellen K. Heyneman, MD

AADPRT Regional Representative- California, 2011

AACAP News Features Editor, 2011

San Diego Top Doctors and Dentists Award, 2011

Doctors in America, 2011 - 2012

Best Doctors in America, 2009 - 2010

America's Top Psychiatrists, 2010

ABPN Examination CAP Video and Vignette Committee, 2009-2012

USMLE/NBME Step 1 Test Material Development Committee for Behavioral Sciences, 2006 - 2010

New Training Directors' Symposium Break Out Group Leader AADPRT Annual Meeting. San Juan, Puerto Rico, March 2010

Remediation of Clinical Skills Examination. AADPRT Annual Meeting, San Juan, Puerto Rico, March 2010

Invited lecturer, Infant and toddler development. Social and Behavioral Science, Human Growth and Development Course, UCSD School of Medicine, March 2010

Successful transition to practice. AACAP Annual Meeting, New York, NY, October 2010

Successful transition to practice. AACAP Annual Meeting, Toronto, Canada, October 2011

### May Yeh, PhD

SDSU Outstanding Faculty Member in Psychology, 2010

## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Natacha Akshoomoff, PhD</b>		
Evaluation of Diagnostic and Services Practice in Autism		\$764,977
K23-MH71796 (Akshoomoff, PI)/NIH		July 2004-June 2010
<b>Lauren Brookman-Fraze, PhD</b>		
Translating Autism Interventions for Mental Health Services via Knowledge Exchange		\$780,384
NIH/K23-MH077584 (Brookman-Fraze, PI)		May 2007-March 2010
<b>Tony T. Yang, MD, PhD</b>		
Functional MRI to understand how the underlying neural circuitry is affected in adolescent suffering from depression		\$771,769
K23 - 5K23MH07091-03/NIMH		Feb. 2005-Present
<b>Gregory A. Aarons, PhD</b>		
Cascading Diffusion of an Evidence-Based Child Maltreatment Intervention		\$621,289
R18-CE001334 (Aarons, PI)/CDC		Sept. 2007-Sept. 2010
ACISIR for Older People with Schizophrenia and Other Psychoses		\$123,027
P30-MH066248 (Aarons, PI)/NIH		Sept. 2007-Aug. 2012
Dynamic Adaptation to Implement an Evidence-Based Child Maltreatment Intervention		\$1,107,033
R01-CE001556 (Aarons, PI)/CDC		Sept. 2009-Aug. 2012
Evaluation of Pregnant and Parenting Women Program		\$232,893
T1018361 (Aarons, PI)/SAMHSA		July 2007-June 2010
Leadership Development for Evidence Based Practice Implementation		\$312,390
R21-MH082731 (Aarons, PI)/NIH		Jan. 2009-Nov. 2010
Mixed Methods Study of a Statewide EBP Implementation		\$1,677,439
R01-072961 (Aarons, PI)/NIH MH		Sept. 2005-June 2010
<b>May Yeh, PhD</b>		
Cognitive Consensus in Cross-Cultural Competence		\$2,100,000
R01 MH071483/NIH		Dec. 2005-May 2010
Race/Ethnicity, Parental Involvement, and Youth Mental Health Service Outcomes (sponsor)		\$146,885
F31 MH079741/National Institute of Mental Health		Nov. 2006-Nov. 2011

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Symptom Severity, Treatment Engagement, and Outcomes for Culturally-Diverse Youth (sponsor)		\$137,825
F31/National Institute of Mental Health		Mar. 2008-Mar. 2013
<b>Ann Garland, PhD</b>		
Research Services for Children's Mental Health Care in San Diego/System of Care Evaluation (SOCE)		\$894,183
County of San Diego, Department of Health Services (Garland, PI)		Sept. 2010-Aug. 2011
Building Collaborations to Address Disparities in Psychoactive Medication Use		\$10,000
UCSD Division of Child Development and Community Health Planning Grant		Jan. 2011-Dec. 2011

## PUBLICATIONS

Aarons GA, Cafri G, Lugo L, Sawitzky A. Expanding the domains of attitudes towards evidence-based practice: The Evidence Based Practice Attitude Scale-50 (EBPAS-50). *Administration and Policy in Mental Health and Mental Health Services Research* (in press).

Aarons GA, Covert J, Skriner LC, Green A, Marto D, Garland AF, Landsverk JA. The eye of the beholder: Youths and parents differ on what matters in mental health services. *Administration and Policy in Mental Health and Mental Health Services*, 37(6):459-467, 2010.

Aarons GA, Fettes DL, Flores L, Sommerfeld D. Evidence-based practice implementation and staff emotional exhaustion in children's services. *Behavior Research and Therapy*, 47(11):954-960, 2009.

Aarons GA, Glisson C, Hoagwood K, Kelleher K, Landsverk J, Cafri G, The Research Network on Children's Mental Health. Psychometric properties and United States national norms of the Evidence-Based Practice Attitude Scale (EBPAS). *Psychological Assessment*, 22(2):356-365, 2010.

Aarons GA, Green A, Miller E. Researching readiness for implementation of evidence-based practice: A comprehensive review of the Evidence-Based Practice Attitude Scale (EBPAS). In: *Cambridge Handbook of*

*Implementation Science for Psychology in Education*, edited by B Kelly, D Perkins. Cambridge University Press (in press).

Aarons GA, Horowitz J, Dlugosz L, Ehrhart M. The role of organizational process in dissemination and implementation. In: *Dissemination and Implementation Research in Health: Translating Science to Practice*, edited by R Brownson, G Colditz, E Proctor. Oxford University Press (in press).

Aarons GA, Hurlburt M, Horwitz SM. Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, 38:4-23, 2011.

Aarons GA, James S, Monn AR, Raghavan R, Wells R, Leslie LK. Behavior problems and placement change in a national child welfare sample: A prospective study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(1):70-80, 2009.

Aarons GA, Sommerfeld D, Hecht DB, Silovsky JF, Chaffin MJ. The impact of evidence-based practice implementation and fidelity monitoring on staff turnover: Evidence for a protective effect. *Journal of Consulting and Clinical Psychology*, 77(2):270-280, 2009.

Aarons GA, Sommerfeld DH, Walrath-Greene C. Evidence-based practice implementation: The impact of private ver-

- sus public sector organizations on organizational support, provider attitudes, and adoption of evidence-based practice. *Implementation Science*, 4:83, 2009.
- Aarons GA, Wells RS, Zagursky K, Fettes DL, Palinkas LA. Implementing evidence-based practice in community mental health agencies: A multiple stakeholder analysis. *American Journal of Public Health*, 99(11):2087-2095, 2009.
- Accurso EC, Taylor RM, Garland AF. Evidence-based practices addressed in community-based children's mental health clinical supervision. *Training and Education in Professional Psychology* (in press).
- Akshoomoff N, Stahmer AC, Corsello C, Mahrer NE. What happens next? Follow-up from the Children's Toddler School Program. *Journal of Positive Behavioral Interventions*, 12:245-253, 2010.
- Akshoomoff N, Stahmer AC, Corsello C., Mahrer NE. What happens next? Follow-up from the Children's Toddler School Program. *Journal of Positive Behavioral Interventions*, 12, 245-253, (2010)
- Baker-Ericzén M, Hurlburt M, Brookman-Frazee L, Jenkins M, Hough RL. Comparing child, parent and family characteristics in usual care and EST research samples for children with disruptive behavior disorders. *Journal of Emotional and Behavioral Disorders*, 18:82-99, 2010.
- Baker-Ericzén MJ, Jenkins M, Brookman-Frazee L. Clinician and parent perspectives on parent and family contextual factors that impact community mental health services for children with behavior problems. *Child and Youth Care Forum*, 39(6):397-419, 2010.
- Belmonte MK, Bonneh YS, Adini Y, Iversen PE, Akshoomoff NA, Kenet T, Moore CI, Simon HJ, Houde JF, Merzenich MM. Autism overflows with syntheses. *Neuropsychology Review*, 19, 273-4, 2009.
- Brookman-Frazee L, Baker-Ericzen M, Stadnick N, Taylor R. Parent perspectives on community mental health services for children with autism spectrum disorders. *Journal of Child and Family Studies*, 2011;20.
- Brookman-Frazee L, Baker-Ericzén MJ, Stahmer A, Mandell D, Hough RL. Involvement of youths with developmental disabilities in multiple public service systems. *Journal of Mental Health Research in Intellectual Disabilities*, 2:210-219, 2009.
- Brookman-Frazee L, Drahotka A, Stadnick N, Palinkas LA. Therapist perspectives on community mental health services for children with autism spectrum disorders. *Adm Policy Ment Health*, May 1 2011.
- Brookman-Frazee L, Garland AF, Taylor R, Zoffness R. Therapists' attitudes towards psychotherapeutic strategies in community-based psychotherapy with children with disruptive behavior problems. *Administration and Policy in Mental Health and Mental Health Services*, 36:1-12, 2009.
- Brookman-Frazee L, Haine RA, Baker-Ericzén M, Zoffness R, Garland AF. Factors associated with use of evidence-based practice strategies in usual care youth psychotherapy. *Administration and Policy in Mental Health and Mental Health Services Research*, 37:254-269, 2010.
- Brookman-Frazee L. Examining the feasibility of training community-based mental health providers to use a package of EBPs for autism spectrum disorders. Paper presentation at the annual meeting of the Association of Behavior and Cognitive Therapies. San Francisco, CA, November, 2010.
- Brookman-Frazee L, Stadnick N, Drahotka A. (May, 2010). Training community-based mental health providers to use a research-based intervention for children with autism spectrum disorders. Presentation at the International Meeting for Autism Research (IMFAR). Philadelphia, PA.
- Chavira DA, Arnold E, Garland A, Hough RL. Suicidal behavior among youth in five public sectors of care. *Child and Adolescent Mental Health*, 15:44-51, 2010.
- Chavira DA, Garland A, McCabe K, Yeh M, Hough RL. (2009). Child Anxiety Disorders in Public Systems of Care: Co-Morbidity and Service utilization. *Journal of Behavioral Health Services & Research*, e-pub.
- Fettes DL, Aarons GA. Smoking behavior of youths in the USA: A comparison between child welfare system and community populations. *American Journal of Public Health* (in press).
- Garland AF, Bickman L, Chorpita BF. Change what? Identifying quality improvement targets by investigating usual mental health care. *Administration and Policy in Mental Health and Mental Health Services*, 37:15-26, 2010.
- Garland AF, Brookman-Frazee L, Chavira DA. Are we doing our homework? Commentary on Kazantzis, Whittington, & Dattilio. Meta-analyses of homework effect. *Clinical Psychology: Science and Practice*, 17: 162-165, 2010.



- Garland AF, Brookman-Frazee L, Hurlburt MS, Accurso EC, Zoffness R, Haine RA, Ganger W. Mental health care for children with disruptive behavior problems: A view inside therapists' offices. *Psychiatric Services*, 61:788-795, 2010.
- Garland AF, Hurlburt MS, Brookman-Frazee L, Taylor RM, Accurso EC. Methodological challenges of characterizing usual care psychotherapeutic practice. *Administration and Policy in Mental Health and Mental Health Services*, 37(3):208-220, 2010.
- Green AE, Aarons GA. A comparison of mental health policy and direct practice stakeholder perceptions of factors impacting evidence-based practice implementation. *Implementation Science* (in press).
- Green AE, Bekman NM, Miller EA, Perrott JA, Brown SA, Aarons GA. Parental Awareness of Substance Use among Youth in Public Service Sectors. *Journal of Studies on Alcohol and Drugs*, 72(1):44-52, 2011.
- Gudiño OG, Lau AS, Yeh M, McCabe KM, Hough RL. Understanding racial/ethnic disparities in youth mental health services: Do disparities vary by problem type? *Journal of Emotional and Behavioral Disorders*, 17(1), 3-16, 2009.
- Ho J, McCabe K, Yeh M, Lau A. Evidence-based treatments for conduct problems among ethnic minorities. In: *Clinical Handbook of Assessing and Treating Conduct Problems in Youth*, RC Murrihy, AD Kidman, TH Ollendick (Eds.) (pp. 455-488, (2010). New York: Springer.
- Hurlburt MS, Garland AF, Nguyen K, Brookman-Frazee L. Child and family therapy process: Concordance of therapist and observational reports. *Administration and Policy in Mental Health and Mental Health Services*, 37(3):230-244, 2010.
- Landsverk J, Garland A, Rolls Reutz J, Davis I. Bridging science and practice in child welfare and children's mental health service systems through a two-decade research center trajectory. *Journal of Social Work*, 11(1):80-98, 2011.
- Lau AS, Gudino O, Yeh M, Garland AF, McCabe KM, Hough RL. Understanding racial disparities in youth mental health services: Do disparities vary by problem type? *Journal of Emotional and Behavioral Disorders* (in press).
- Leslie LK, James S, Monn A, Doerfer M, Zhang J, Aarons GA. Health-risk behaviors in young adolescents in child welfare. *Journal of Adolescent Health*, 47(1):26-34, 2010.
- Leslie LK, Raghavan R, Hurley M, Zhang J, Landsverk J, Aarons GA. Investigating geographic variation in use of psychotropic medications among youth in child welfare. *Child Abuse and Neglect* (in press).
- Leslie LK, Raghavan R, Zhang J, Aarons GA. Rates of psychotropic medication use over time among youth in child welfare/child protective services. *Journal of Child and Adolescent Psychopharmacology*, 20(2):135-143, 2010.
- Lim SL, Yeh M, Liang J, Lau A, McCabe K. Acculturation gap, intergenerational conflict, parenting style, and youth distress in immigrant Chinese American families. *Marriage and Family Review*, 45(1), 84-106, 2009.
- Lindamer LA, Liu L, Sommerfeld D, Folsom DP, Hawthorne W, Garcia P, Aarons GA, Jeste DV. Predisposing, enabling, and need factors associated with high service use in a public mental health system. *Administration and Policy in Mental Health and Mental Health Services Research* (in press).
- McCabe K, Yeh M. Parent child interaction therapy for Mexican Americans: A randomized clinical trial. *Journal of Clinical Child and Adolescent Psychology*, 38(5), 753-759, 2009.
- McCabe K, Yeh M, Lau A, Argote CB, Liang J. Parent-child interactions among low-income Mexican-American parents and preschoolers: Do clinic-referred families differ from non-referred families? *Behavior Therapy*, 41(1), 82-92, 2010.
- McCleery JP, Akshoomoff N, Dobkins KR, Carver LJ. Atypical face processing in 10-month-old infants at risk for autism. *Biological Psychiatry*, 66:950-957, 2009.
- Miller E, Green AE, Aarons GA. Prevalence of maltreatment among youths in public sectors of care. *Child Maltreatment* (in press).
- Novins DK, Aarons GA, Conti SG, Dahlke C, Daw R, Fickenscher A, Fleming C, Love C, Massis K, Spicer, P. Use of the evidence base in substance abuse treatment programs for American Indians and Alaska natives: Pursuing quality in the crucible of practice and policy. *Implementation Science* (in press).

- Palinkas LA, Aarons GA, Chorpita B, Hoagwood K, Landsverk JA, Weisz JR. Cultural exchange and the implementation of evidence-based practice: Two case studies. *Research on Social Work Practice*, 19:602-612, 2009.
- Palinkas LA, Aarons GA, Horwitz SM, Chamberlain P, Hurlburt M, Landsverk J. Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 38:44-53, 2011.
- Palinkas LA, Aarons GA. A view from the top: Executive and management challenges in a statewide implementation of an evidence-based practice to reduce child neglect. *International Journal of Child Health and Human Development*, 2(1):47-55, 2009.
- Proctor E, Landsverk JA, Aarons GA, Chambers D, Glisson CA, Mittman B. Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research*, 46:24-34, 2009.
- Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons GA, Bunger A, Griffey R, Hensley M. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research questions. *Administration and Policy in Mental Health and Mental Health Services Research*, 47:1-10, 2011.
- Raghavan R, Shi JS, Aarons GA, Roesch SC, Leslie LK. Effects of placement changes on health insurance stability among a national sample of children in the child welfare system. *Journal of Social Service Research*, 35:352-363, 2009.
- Raghavan R, Shi P, Aarons GA, Roesch SC, McMillen JC. Health insurance discontinuities among adolescents leaving the foster care. *Journal of Adolescent Health*, 44:41-47, 2009.
- Ruble LA, Akshoomoff N. Autism spectrum disorders: Identification and diagnosis. National Association of School Psychologists Communique Handout, 38, 1-4, 2010.
- Schoenwald SK, Garland AF, Chapman JE, Frazier SL, Sheidow AJ, Southam-Gerow, MA. Toward the effective and efficient measurement of implementation fidelity. *Administration and Policy in Mental Health and Mental Health Services*, 38:32-43, 2011.
- Schumann CM, Bloss CS, Barnes CC, Wideman GM, Carper RA, Akshoomoff N, Pierce K, Hagler D, Schork N, Lord C, Courchesne E. Longitudinal MRI study of cortical development through early childhood in autism. *Journal of Neuroscience*, 30, 4419-4427, 2010.
- Seidman E, Chorpita BF, Reay WE, Stelk W, Garland AF, Kutash K, Mullican C, Ringeisen H. A framework for measurement feedback to improve decision-making in mental health. *Administration and Policy in Mental Health and Mental Health Services*, 37(1-2), 2010.
- Stahmer AC, Aarons GA. Attitudes toward adoption of evidence-based practices: A comparison of autism early intervention providers and children's mental health providers. *Psychological Services*, 6:223-234, 2009.
- Stahmer AC, Akshoomoff N, Cunningham A. Inclusion for toddlers with autism spectrum disorders: The first ten years of a community program. *Autism: International Journal of Research and Practice*, Published online 12 April 2011.
- Trask E, Garland A. Are children improving? Results from outcome measurement in a large mental health system. *Administration and Policy in Mental Health and Mental Health Services Research* (in press).
- Tsai K, Yeh M. Mental health services for Asian American children and adolescents. In: *Asian American Child Psychology and Mental Health, Vol 2: Treatment and Prevention* (pp. 201-223), 2011, F Leong, L Juang, D Qin, H Fitzgerald (eds.). Santa Barbara, CA, Praeger.
- Zoffness R, Garland AF, Brookman-Frazee L, Roesch SC. Case management in usual care psychotherapy. *Child and Youth Care Forum: Research and Practice in Children's Services*, 38:185-200, 2009.
- Yang TT, Simmons AN, Matthews SC, Tapert SF, Frank GK, Max JE, Bischoff-Grethe A, Lansing AE, Brown G, Strigo IA, Wu J, Paulus MP. Adolescents with major depression demonstrate increased amygdala activation. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(1), 42-51, 2010.



# Residency Program

The goal of the Pediatric Residency Program at the UC San Diego (UCSD) is to train pediatricians to be well versed in all aspects of caring for sick and well children by integrating the art and science of pediatric medicine. Located in the seventh largest city in the U.S. and on the border with Mexico, the program offers unique experiences in border health, the intercity/homeless population, the rural community, the military community and the Native American population. The entire first, second and third year residents are involved in longitudinal projects in partnership with either community based organizations or faculty on campus. Over two-thirds of the 2010-2011 graduating seniors will pursue fellowship training, and the

remaining graduates will pursue careers in primary care. This year's intern recruitment was extremely successful, attracting medical students from major medical schools across the country.

## FACULTY

**Sherry C. Huang, MD**, *Program Director*

**Erin Stucky-Fisher, MD**, Associate Program  
Director

## ADMINISTRATION

**Allison Reinhardt**, Residency Program  
Administrator  
**Joanne Albrecht**, Residency Program Assistant

## CHIEF RESIDENTS

### 2010-2011

**Grant Keeney**, MD  
**Waheeda Samady**, MD  
**Loren Sacks**, MD

### 2011-2012

**Megan Browning**, MD  
**Monique Mayo**, MD  
**Tina Udaka**, MD

### 2010 Graduates - Post Graduates

**Micah Bhatti**, MD, PhD, ID Fellowship, University  
of Chicago  
**Lori Broderick**, MD, PhD, Allergy Immunology  
Fellowship, UCSD  
**Christina Chan**, MD, Neonatal Fellowship, UCSD  
**Jessica Dayan**, MD, Emergency Medicine  
Fellowship, UCSD  
**Jeff Gold**, MD, PhD, Neurology Fellowship, UCSD  
**Nicole Hibbs**, MD, Private practice, San Diego  
**Grant Keeney**, MD, Emergency Medicine  
Fellowship, Medical College of Wisconsin  
**Shannon Metzger**, MD, Private Practice, San Diego  
**Sonal Rao**, MD, Hospitalist, DC Children's  
**Loren Sacks**, MD, Critical Care Fellowship,  
Stanford University  
**Waheeda Samady**, MD, Hospitalist Fellowship,  
UCSD  
**Annemarie Selaya**, MD, Community Clinic, San Diego  
**Katherine Stumpf**, MD, Neonatal Fellowship,  
UT Dallas  
**Payam Vali**, MD, Neonatal Fellowship, Toronto  
Sick Kids

### 2010 Med-Peds Graduates - Post Graduates

**Ben Frischhertz**, MD, Congenital Cardiac  
Combined Fellowship, Texas Children's  
**Brian Frugoni**, MD, Pediatric Critical Care, UCSD  
**Shawna Klinesteker**, MD, Private Practice, Santa  
Cruz, CA  
**Erin Papenfuss**, MD, Private Practice, Orange  
County, CA

### 2011 Graduates - Post Graduates

**Jaime Barea**, MD, Genetics Fellowship, UCSD  
**Aaron Boes**, MD, PhD, Neurology Fellowship, MGH  
**Megan Browning**, MD, Critical Care Fellowship,  
Univ. of Pittsburgh  
**David Del Bello**, MD, ID Fellowship, Mount Sinai  
**Jessica Gordon**, MD, Hospitalist, Orlando Children's  
**Nidhi Goyal**, MD, Gastroenterology Fellowship,  
UCSD  
**Setareh Jones**, MD, Private Practice, San Diego  
**Samantha Lewis**, MD, Community Clinic, San Diego  
**Monique Mayo**, MD, Urgent Care, Seattle Children's  
**Steven Reeves**, MD, PhD, Pulmonary Fellowship,  
Univ. of Washington  
**Jenny Shepherd**, MD, Neonatal Fellowship, UCSD  
**Tina Udaka**, MD, Hematology Oncology  
Fellowship, UCSD  
**Gabe Vaughn**, MD, Cardiology Fellowship, UCSD  
**Matthew Williams**, MD, Cardiology Fellowship,  
UCSD  
**Jennifer Yu**, MD, Hematology Oncology  
Fellowship, UCSD

### 2011 Med Peds Graduates - Post Graduates

**Tracy Exley**, MD, Adolescent Fellowship, Stanford  
University  
**Chuck Gabbert**, MD, Gastroenterology Fellowship,  
Univ. of Pittsburgh  
**Patrick Lew**, MD, Hospitalist, Portland, Oregon  
**Lauren Worth**, MD, Private Practice, San Diego



## CLASS OF 2012

Amira Baker, MD  
Jacob Gregerson, MD  
Lauren Hackett, MD  
Megan Klenow, MD  
Mindy Li, MD  
Kevin O'Leary, MD  
Daphne Say, MD  
Kimberly Sprague, MD  
Erin O'Leary, MD  
Bruce Tran, MD  
Elizabeth Waters, MD  
Irene Wong, MD  
Nicole Yamada, MD

## MED PEDS CLASS OF 2012

Ben Dillon, MD  
Ben Johnson, MD  
Ricardo Indacochea, MD  
Hannah Walford, MD

## CLASS OF 2013

Jeanne Carroll, MD  
Catherine Lacey, MD  
Whitney Law, MD  
Sarah Lindback, MD  
Kimberly Montez, MD  
Melissa Morelos, MD  
Eric Reed, MD  
Callie Rzasa, MD  
Mary Kate Scott, MD  
Angell Shieh, MD, PhD  
Richard Silva, MD  
Dan Sisti, MD  
Amanda Terry, MD  
Jillian Wall, MD

## MED PEDS CLASS OF 2013 RESIDENTS

Eric Chow, MD  
Katie O'Sullivan, MD  
Scott Francioni, MD  
Brian Williams, MD

## CLASS OF 2014

Denise Carranza, MD  
Marilynn Chan, MD  
Sri Cherukumilli, MD  
Nicole Coufal, MD, PhD  
Lauge Farnaes, MD, PhD  
Andrei Fodoreanu, MD  
Yousuke Horikawa, MD, PhD  
Jefferson Jones, MD  
Curtis Leong, MD  
Erin Murphy, MD  
Don Nguyen, MD  
Andrew Renuart, MD  
Kathleen Romero, MD  
Erica Sanford, MD

## MED PEDS CLASS OF 2015 RESIDENTS

Lawrence Ma, MD  
Diana Moke, MD  
Perrie Pardee, MD  
Vanessa Raabe, MD



## RESIDENCY PROGRAM AT RADY CHILDREN'S HOSPITAL-SAN DIEGO

The goal of the UCSD Pediatric Residency Program is to train residents in the practice of general and subspecialty medicine. Our mission is to develop today's residents to become tomorrow's physicians as leaders in the field of Pediatrics as clinicians, scientists, advocates, and teachers. We approach training with emphasis on excellence in patient care, encouraging the residents to think critically, to make sound medical decisions, maintain advanced technical skills, and to work in a professional environment that promotes life-long learning.

Our program is unique in its exposure to a diverse pediatric population with breadth in general and subspecialty medicine, placing special emphasis on community pediatrics, behavioral pediatrics, academic/research pediatrics, and border health. During the three years of consecutive

training, the resident will evolve progressively with increasing knowledge and responsibility to all aspects of general pediatric medicine.

Our UCSD resident participates in a variety of programs for continued intellectual growth. Multiple didactic opportunities are incorporated into the curriculum to enhance resident development and training. Our program recognizes the importance of close supervision and mentorship with a goal to develop a close mentored relationship between the house staff and faculty. Continued opportunities in career development is fostered with exposure to academic and community resources, allowing the resident to gain the tools to understand the steps involved in advancing their careers. Additionally, exciting new growth has occurred in the department to expand resident exposure to Global Health, advocacy training and quality improvement.

We are pleased to offer this program for applicants interested in becoming leaders in pediatrics, and we look forward to working closely with our residents to train them to become the future of clinical care, research, and education.





## Major Goals and Plans

- This coming year, the program will continue to offer annual competitive research grants for resident research projects.
- We will continue to enhance our Career Development Block for our interns to have exposure to career paths in academic, research, and clinical medicine.
- We have developed a pediatric physician-scientist development series to enhance resident education in basic science. This is in anticipation of the creation of a special training tract in physician scientist we plan to develop in the next year.

## CURRICULUM

The PL-1 is expected to take full initiative in the workup and management of patients under the guidance of a supervising resident and attending staff physician. Intensive exposure is provided to ill children and to children of normal birth, growth and development. During the first year, inpatient pediatrics is taught at RCHSD. The pediatric house officer cares for children with a large variety of pediatric problems, ranging from uncomplicated illnesses to complex diseases with multiple organ involvement.

In the PL-1 year, residents also participate in the stabilization and care of the sick neonate. The Neonatal Intensive Care Unit (NICU) at UCSD has a busy delivery service and is a Level III nursery that receives transports of critically ill babies from around San Diego County. The first year resident also spends one month in the Newborn Nursery at UCSD learning to care for normal newborns and common problems appropriate for a general pediatrician.

The outpatient experience is varied during the first year to expose residents to many facets of ambulatory care including adolescent medicine, general pediatrics and developmental and community pediatrics.

To expose pediatric residents to acute care in ambulatory pediatrics, they will spend a month in the RCHSD Emergency Department. This experience is designed to provide residents with a strong knowledge base in ambulatory medicine.

The Community Pediatrics rotation exposes the resident to the important role pediatricians now play in the

community. This includes interacting with local schools and child care centers (both as a consultant and on behalf of patients), advocating for child health issues and collaborating with professionals from other disciplines that also care for children.

The PL-2 year builds on the experiences of the first year with emphasis on patient management and triage of the ill child. The PL-2 resident rotates through the inpatient ward at RCHSD and experiences increased independence and decision-making. The PL-2 resident will also serve as a senior resident during their inpatient rotation at Rady's during part of the rotation. Additionally, the second year resident rotates one month in the Pediatric Intensive Care Unit at RCHSD gaining experience evaluating and managing critically-ill children. The resident continues to have emergency room experience evaluating acutely ill children during the PL-2 year. One month of the second year is dedicated to the care of patients in developmental pediatrics. Three to four months of elective time is available in the PL-2 year to enhance exposure to subspecialty medicine, and to allow resident independent time to pursue scholarly works in research or global projects.

The PL-3 year provides each resident the opportunity to enhance skills and knowledge in a wide variety of pediatric areas. The senior residents serve as supervisors and teachers to first year residents and medical students. On the inpatient wards at RCHSD, they supervise all admissions to the teaching service and train interns and medical students. Morning Report serves as a forum for in-depth



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Tina Chan</b>		
(Intramural grant funded)		\$3,000
Composition of expressed Breast Milk in preterm infants, PI: Dr. Lisa Stellwagen		
		July 2008-June 2010
<b>Samantha Lewis</b>		
(Intramural grant funded)		\$3,000
Pediatric Process Group: Evaluation of process group analysis as a coping mechanism for residency training, PI: Dr. Saul Levine		
		July 2010-June 2011
<b>Matthew Williams</b>		
(Intramural grant funded)		\$3,000
Murine model for evaluating effects of pulmonary hypertension, PI: Dr. Paul Grossfeld		
		July 2008-June 2010

discussion about patient management with subspecialists, general pediatricians and community physicians. The role of teacher extends to the outpatient clinic and emergency room, as well. The PL-3, in close consultation with attending physicians, oversees the care of clinic patients and provides guidance and expertise in general pediatrics.

The Emergency Room at RCHSD enhances the senior resident's proficiency in managing acutely ill children. Additional expertise in the care and stabilization of critically ill children is provided through another rotation in the PICU in the third year and by working on the transport team. During the NICU rotation the PL-3 resident serves as a supervising resident to the resident service. The year is rounded out with several elective months to augment each resident's education.

There is one call free rotation each year. During the second and third year residents often use this time to participate in international rotations in Central and South America, Southeast Asia or Africa.

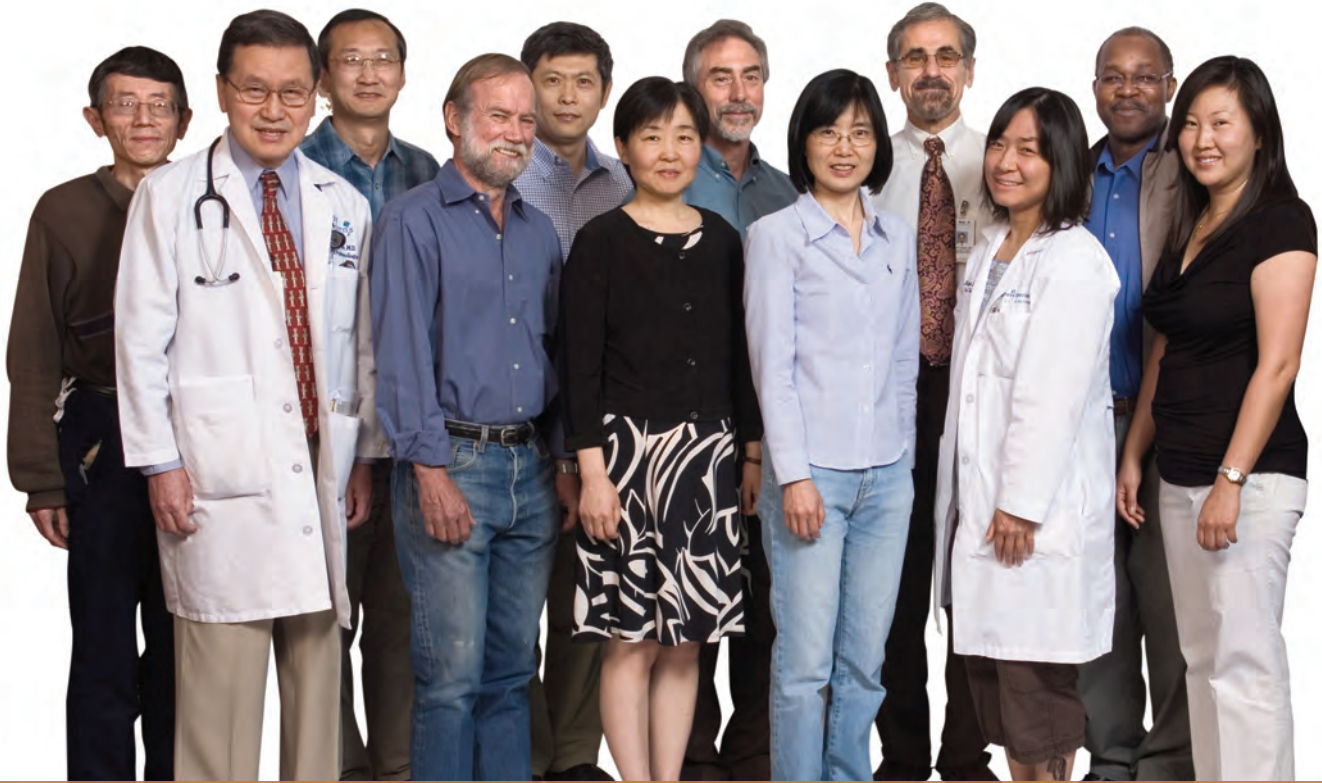
Under the new ACGME guidelines, the inpatient and NICU rotations at UCSD are organized in a shift paradigm. Residents work with a dedicated consistent team during the month spending three weeks on a day team, and one week as a night team. Day time and night time curriculum are provided for ongoing real time teaching and learning. There is one month of vacation in each year throughout training at UCSD.

There are two to three PL-4 chief residents who serve as instructors in the Department of Pediatrics and as representatives of the Chairman of the department. They also act as general pediatric consultants to the residents and to other services.

The chief residents organize teaching conferences at UCSD and RCHSD. They also are attending physicians in the inpatient wards. This year is designed to continue to augment general pediatric knowledge through consultation, research, teaching and patient care.

## PUBLICATIONS

- Boes AD, Mehta S, Rudrauf D, Adolphs R, Nopoulos P, Langbehn D, Grabowski T. Cerebral cortex morphology following long-term bilateral amygdala lesions. *SCAN* (in press).
- Coufal NG, Garcia-Perez JL, Peng GE, Yeo GW, Mu Y, Lovci MT, Morell M, O'Shea KS, Moran JV, Gage FH. L1 retrotransposition in human neural progenitor cells. *Nature*, 460(7259):1127-31, 2009, Epub 2009 Aug 5.
- Gabbert C, Donohue M, Arnold J, Schwimmer JB. Adenovirus 36 and obesity in children and adolescents. *Pediatrics*, 126(4):721-26, 2010 (doi:10.1542/peds.2009-3362).
- Gabbert C, Donohue M, Arnold J, Schwimmer JB. Adenovirus 36 and obesity in children and adolescents. *Pediatrics*, 126(4):721-6, 2010, Epub 2010 Sep 20.
- Jones L, Wei G, Sevcikova S, Phan V, Jain S, Shieh A, Wong JCY, Li M, Dubansky J, Maunakea ML, Ochoa R, Zhu G, Tennant T, Shannon KM, Lowe SW, Le Beau MM, Kogan S. Gain of MYC underlies recurrent trisomy of the MYC chromosome in acute promyelocytic leukemia. *J Exp Med*, 207(12):2581-94, 2010.
- Lindbäck SM, Gabbert C, Johnson BL, Smorodinsky E, Sirlin CB, Garcia N, Pardee PE, Kistler KD, Schwimmer JB. Pediatric nonalcoholic fatty liver disease. A comprehensive review. *Adv Pediatr*, 57(1):85-140, 2010.
- Muotri AR, Marchetto MC, Coufal NG, Oefner R, Yeo G, Nakashima K, Gage FH. L1 retrotransposition in neurons is modulated by MeCP2. *Nature*, 468(7322):443-6, 2010.
- Nopoulos P, Boes AD, Jabines A, Conrad A, Canady J, Richman L, Dawson J.D. Hyperactivity and inattention in boys with cleft lip and palate: Relationship to ventromedial prefrontal cortex morphology. *J Neurodev Disord* (in press).
- Raabe V, Mutwabac I, Roddyd P, Lutwamae J, Geissler W, Borcherta M. Infection control during filoviral hemorrhagic fever outbreaks: preferences of community members and health workers in Masindi, Uganda. *Trans R Soc Trop Med and Hyg*, 104(1):48-50, 2010.
- Sabolch A, Feng M, Griffith K, Rzasa C, Gadzala L, Feng F, Biermann JS, Chugh R, Ray M, Ben-Josef E. Risk factors for local recurrence and metastasis in Soft Tissue sarcomas of the Extremity. *Am J Clin Oncol*, 2011 Feb 17 (Epub ahead of print).
- Schwimmer JB, Dunn W, Norman GJ, Pardee PE, Middleton MS, Kerkar N, Sirlin CB. SAFETY study: alanine aminotransferase cutoff values are set too high for reliable detection of pediatric chronic liver disease. *Gastroenterology*, 138(4):1357-64, 2010, 1364.e1-2. Epub 2010 Jan 11.
- Singer T, McConnell MJ, Marchetto MC, Coufal NG, Gage FH. LINE-1 retrotransposons: mediators of somatic variation in neuronal genomes? *Trends Neurosci*, 33(8):345-54, 2010, Epub 2010 May 12.
- Tran P, Reed EJM, Hahn F, Lambrecht JE, McClay JC, Omojola MF. Incidence, radiographical features, and proposed mechanism for pneumocephalus from intravenous injection of air. *West J Emerg Med*, 11(2):180-185, 2010.
- Tsutsumi T, Kawaraguchi Y, Horikawa Y, Niesman IR, Kidd MW, Chin-Lee B, Head BP, Patel P, Roth D, Patel HH. Role of caveolin-3 and glucose transporter-4 in isoflurane-induced delayed cardiac protection. *Anesthesiology*, 112(5):1136-45, 2010.
- Van Der Plas EA, Boes AD, Wemmie JA, Tranel D, Nopoulos P. Amygdala volume correlates positively with fearfulness in normal healthy girls. *Soc Cognit Effect Neurosci*, 5(4):424-31, 2010. Epub 2010 Feb 11.



# Respiratory Medicine

The Division of Respiratory Medicine is dedicated to improving all aspects of respiratory health affecting infants, children, and young adults. The division has maintained national ranking for the past 3 years (ranked in the top 30 Pulmonology programs in the *U.S. News and World Report* survey of 160 children's hospitals, 2009-2011); and many of the senior faculty are internationally recognized. The clinical programs provide expert consultation, clinical management expertise, and patient and family education to children and youth with respiratory disorders in San Diego and surrounding counties. The divisional research programs range from fundamental basic investigations regarding lung remodeling and fibrosis, to the effects of hypoxia and hypercapnia on cell function and cell fate in brain, heart and lung, to cutting-edge basic and

clinical research in cystic fibrosis. Divisional scholars provide research training and mentorship to future investigators from the undergraduate to junior faculty levels. The Division of Respiratory Medicine is critical to the educational mission of the Department of Pediatrics, with a recently-accredited Pulmonology Fellowship program, and programs specific to students, housestaff, fellows and the San Diego practice community.

Left to right: Xiang Gu, Sung Park, Hang Yao, Paul Quinton, Dan Zhou, Xiaolu Sun, Mark Pian, Jin Xue, Gabriel Haddad, Meerana Lim, Robert Douglas, Julie Ryu



Left to right: He Huang, Xiaoqiu Liu, James Hagood, Daniel Lesser, A.K. Shamsuddin, M.M. Reddy

## FACULTY/STAFF

**James S. Hagood, MD**, Professor of Pediatrics and *Chief*, University of California, San Diego (UCSD) Division of Respiratory Medicine

**Priti Azad, PhD**, Assistant Project Scientist

**Robert M. Douglas, PhD**, Assistant Adjunct Professor of Pediatrics

**Xiang Gu, PhD**, Assistant Adjunct Professor of Pediatrics

**Gabriel G. Haddad, MD**, *Chair*, Department of Pediatrics; Professor, Departments of Pediatrics and Neurosciences; Physician-in-Chief, RCHSD

**He Huang, PhD**, Assistant Adjunct Professor of Pediatrics

**Daniel J. Lesser, MD**, Assistant Clinical Professor of Pediatrics

**Meerana Lim, MD**, Assistant Clinical Professor of Pediatrics

**Xiaoqiu “Wendy” Liu, MD, PhD**, Assistant Project Scientist

**Malla Reddy Madireddi, PhD**, Adjunct Professor of Pediatrics

**Sung Min Park, MD**, Clinical Professor of Pediatrics

**Mark S. Pian, MD**, Clinical Professor of Pediatrics; Director of Pediatric Pulmonary Training Program; Director, UCSD Cystic Fibrosis Center

**Paul M. Quinton, PhD**, Professor of Pediatrics; Nancy Olmsted Chair, Pediatric Pulmonary Research

**Julie Ryu, MD**, Assistant Adjunct Professor of Pediatrics

**A. K. M. (“AK”) Shamsuddin, PhD**, Assistant Project Scientist

**Xiaolu Sun, PhD**, Assistant Adjunct Professor of Pediatrics

**Simon Wong, MD**, Associate Project Scientist

**Jin Xue, MD, PhD**, Assistant Adjunct Professor of Pediatrics

**Hang Yao, PhD**, Assistant Adjunct Professor of Pediatrics

**Dan Zhou, PhD**, Assistant Adjunct Professor of Pediatrics



## Major Goals and Plans

The Division of Respiratory Medicine continues to pursue its mission and vision, building on existing strengths, and identifying and mobilizing resources necessary to promote excellence in clinical care, research, teaching and advocacy.

### Vision Statement

Recognizing the centrality of healthy breathing to overall health, and the high prevalence of respiratory disorders in pediatric medicine, the Pediatric Respiratory Medicine Division at UCSD will provide outstanding, family-centered, state-of-the-art care with compassion and efficiency, educating the next generation of leaders in Respiratory Medicine, generating new knowledge about childhood respiratory health and disease, disseminating that knowledge broadly, and advocating on behalf of our patients.

### Strategic Growth Plan

Achieving the vision will require increasing the current size of the clinical faculty, in addition to recruiting and retaining PhD and other doctoral researchers, striving for a balance of physician scientists (basic and clinical) and clinician educators. The following will be benchmarks of successful growth:

- Each faculty member's contribution will be of a quality meriting regional or national recognition.
- Investigators will be funded with a balanced portfolio of funding sources.
- Established investigators will be competitive for NIH funding and participate in multi-investigator projects.
- UCSD will be a "must-consider" site for those seeking training in Pediatric Pulmonology.
- Faculty and Staff will balance optimal productivity and career satisfaction as well as thriving personal and family lives.

### Priority Areas for Growth/Recruitment

#### Clinical:

- Pediatric Sleep Medicine/ Respiratory Consequences of Neuromuscular Disorders
- Asthma (Translational Science)
- Cystic Fibrosis (Translational Science and Quality of Care)
- Childhood Interstitial Lung Diseases
- Genomics/Epigenomics of Childhood Respiratory Disease
- Infant Pulmonary Function Testing

#### Research:

- Interstitial Lung Diseases/Lung Remodeling
- Genetic/Molecular Basis of Diffuse Lung Disease
- Airway Epithelial Biology and Ion/Fluid Transport
- Pulmonary Vascular Remodeling and Hypertension
- Infection, Environment, Innate Immunity, Inflammation and Lung Disease
- CF Clinical Research and Quality Improvement

### Additional Goals (to be prioritized/refined during the strategic planning process):

- Grants management support including searching and distributing relevant FOAs, assisting with regulatory requirements such as IRB, animal use, and conflict of interest paperwork, assisting with grant preparation and submission, monitoring grant

awards and providing financial reports to investigators. Initially this could be performed by departmental staff but may require a divisional grants specialist as the research portfolio expands.

- The needs for non-physician staff (advanced practice nurse, PNP, social work, nutrition, respiratory therapy) will be defined and addressed in partnership with RCHSD administration.
- Capability for pediatric sleep medicine will need to be expanded and will likely require the foundation of a pediatric sleep disorders center within or closely associated with RCHSD. Because of a complex market in the San Diego area with numerous providers with widely varying capacity to serve children's needs, we will explore an external consultation/assessment of our existing approach and the feasibility/fiscal impact of expansion.
- Establishment of a family advisory committee with the assistance of the staff. This group would advise in creation of a family-centered environment for clinical care and research.
- Maintaining/improving our national ranking
- Creating a comprehensive sleep medicine program to promote translational research in coordination with existing and future basic science and clinical programs
- Continuing and expanding formal quality improvement activities in cystic fibrosis (CF) to optimize outcomes, and expand processes to include other division clinical activities
- Promoting integration of the division's research and QI activities with clinical training programs for students, residents and fellows
- Creating joint post-doctoral training programs with Internal Medicine/Pulmonary and Pediatric Intensive Care Sections
- Expanding collaboration with other divisions to foster interdisciplinary care for complex diseases
- Developing other diagnosis-focused interdisciplinary outpatient clinics, including possibly: Chronic Assisted Ventilation, Aerodigestive and Upper Airway Disorders (with Otolaryngology), and Impaired Host Defense (Ciliary Dyskinesia/Recurrent Pneumonia/Bronchiectasis; with Immunology).
- Developing an inpatient Respiratory Institute for specialized care of all children with need for airway and breathing support

## POSTDOCTORAL FELLOWS

**Kathryn Akong, MD, PhD**

**Hady Felfly, PhD**

**Kornelia Kis, PhD**

**Ruth Muchekehu, PhD**

**Matthew Pamenter, PhD**

**Mindy Ross, MD, MBA**

**Jessie Ning Yang, MD, PhD**

**Huiwen Zhao, PhD**

## CLINICAL ACTIVITIES INPATIENT/OUTPATIENT

The division specializes in evaluation, consultation and care for all respiratory disorders of infants, children and teenagers, continuing through the transition into adulthood for patients with cystic fibrosis and other chronic disorders. Common referrals to our services are for asthma, bronchiectasis, bronchopulmonary dysplasia, chronic cough, congenital anomalies of the respiratory tract, cystic fibrosis, infant apnea, pulmonary tuberculosis, recurrent pneumonia, obstructive sleep apnea, stridor, wheezing, diffuse lung disease and others.

Services include:

- Medical & nursing services
- Pneumocardiogram services
- Pulmonary function tests

- Exercise testing
- Nutritional support
- Polysomnography
- Inpatient and home care
- Artificial airway care
- Fiberoptic bronchoscopy
- Bronchopulmonary hygiene
- Mechanical ventilator support (invasive and non-invasive)
- Specialized respiratory home care

Diagnostic tests and outpatient consultation are provided Monday through Friday from 8 a.m. to 4 p.m., and inpatient care is available on a 24-hour basis, seven days a week. Specialized staff directing their expertise towards care of patients with respiratory disease include a dietitian/nutritionist, a medical social worker, respiratory therapists, a genetic counselor, pharmacists, a nurse coordinator, pediatric nurse practitioners, a research nurse, and a clinical coordinator.

Drs. Hagood, Lesser, Lim, Park, Pian and Ryu care for outpatients referred by community or hospital-based physicians during nine outpatient pulmonary clinics and two cystic fibrosis half-day clinics per week at RCHSD. Satellite clinics in Murrieta, Encinitas, and Escondido are conducted on an additional six half days per month. The section conducts approximately 4,000 outpatient visits per year. The inpatient Pulmonary Service is among the busiest at RCHSD, with a daily census ranging from 10 to 20 patients per day. Inpatient consultation is also provided to neonatal intensive care nurseries at UCSD/Hillcrest Medical Center and Sharp Mary Birch Hospital.

## RESEARCH ACTIVITIES

**James S. Hagood, MD**, who joined the faculty as Division Chief in September, 2009, studies the molecular regulation of fibroblast phenotypes in pulmonary fibrotic disease and lung alveolarization. He also studies the roles and regulation of Thy-1, a critical modulator of cellular phenotype.

**Gabriel G. Haddad, MD**, studies the role of ion channels in nerve cells in a low O<sub>2</sub> environment. He is also interested in the genetics of susceptibility or tolerance to low or high O<sub>2</sub> and the role of gene expression in excitable tis-

sues. He also studies obstructive sleep apnea and the role of hypoxia and hypercapnia on growth and development.

**Paul M. Quinton, PhD**, investigates the effects of the genetic defects that cause cystic fibrosis. His focus is primarily on fluid and electrolyte transport on pathophysiology in the airways, intestine, and sweat glands in cystic fibrosis and related pulmonary diseases, with a specific focus on HCO<sub>3</sub><sup>-</sup> transport and mucus formation.

**Priti Azad, PhD**, studies mechanisms by which intermittent (e.g., obstructive sleep apnea and sickle cell anemia) and constant hypoxia (e.g., asthma) lead to cell injury and morbidity or adaptation and survival using *Drosophila* as the model system.

**Robert Douglas, PhD**, analyzes the role of reactive oxygen species (ROS) and the immune system in hypoxia- and hypercapnia-induced neuronal and cardiovascular injury and their developmental sequelae.

**Xiang Gu, PhD**, studies the effect of chronic elevated CO<sub>2</sub> on excitability of mouse neurons and the effect of hypoxia on gating properties of BK channels of inner membrane of mitochondria and the effect of chronic hypoxia and hypercapnia on glucose stimulated insulin secretion.

**He Huang, PhD**, systematically screens for genes that are critical or necessary for recovery from oxygen deprivation in genetic models.

**Daniel J. Lesser, MD**, is investigating the use of home monitoring for detecting obstructive sleep apnea syndrome in pediatric patients.

**Xiaoqiu "Wendy" Liu, MD, PhD**, investigates lipid-raft-associated signaling and the role of Thy-1 in modulating fibroblast differentiation and survival in lung fibrosis.

**Mark S. Pian, MD**, conducts translational and clinical research in cystic fibrosis. He is also the Co-Principal Investigator of the UCSD Cystic Fibrosis Foundation Therapeutic Development Center.

**M. M. Reddy, PhD**, studies the electrophysiological mechanisms by which CFTR (the anion channel affected in cystic fibrosis) is regulated in normal and CF-affected tissues, mainly the isolated microperfused sweat gland and the airway epithelium. He collaborates in the Nasal Potential Difference studies as part of the drug discovery program at UCSD Medical School. He is presently serving as a PI to one NIH funded research project and also as a consultant/collaborator to another NIH funded research project to Dr. T.C. Hwang at the University of Missouri Medical School.

**Julie Ryu, MD**, studies the effect of hypercapnia on lung function and development.

**A.K.M. Shamsuddin, PhD**, studies ion transport in small airways, compares ion transport properties in trachea and small airways, and is developing assays of beta-adrenergic stimulation of sweat glands and bicarbonate transport in native small airway epithelia.

**Xiaolu Sun, PhD**, studies how fatty acids and lysophospholipids affect ion channels function in nerve cells during O<sub>2</sub> deprivation; and mechanisms of selective vulnerability of neurons to oxygen-glucose deprivation and therapeutic strategies for neuroprotection after ischemia.

**Simon Wong, MD**, studies the development of drug- and toxicant-induced lung injury and fibrosis in experimental animal models, and tests novel therapeutic interventions.

**Jin Xue, MD, PhD**, studies roles of transporters and ion channels, especially sodium-hydrogen exchanger isoform 1, in hypoxic adaptation/injury.

**Hang Yao, PhD**, studies the cellular and molecular mechanisms of penumbral cell death in focal cerebral ischemia.

**Dan Zhou, PhD**, studies the genetic and molecular mechanisms underlying hypoxia and hyperoxia adaptation and tolerance.

## POSTDOCTORAL FELLOWS—RESEARCH ACTIVITIES

### **Kathryn Akong, MD, PhD**

Postdoctoral Research Project: Innate immunity in acute and chronic pulmonary infection.

Dr. Akong is currently in the laboratory of Dr. Victor Nizet studying the interaction of bacterial virulence factors and the innate immune system in pulmonary infections.

### **Ruth W. Mucchekehu, PhD**

Postdoctoral Research Project: Is bicarbonate critical for cervical mucus release in the female reproductive tract, and does its absence contribute to abnormal mucus in cystic fibrosis?

### **Matthew Pamerter, PhD**

Postdoctoral Research Project: Understanding the role of innate immunity in ischemic neurodegeneration in the penumbral region.

### **Mindy Ross, MD, MBA**

Postdoctoral Research Project: Phenotype discovery in NHLBI genomic studies. Creation of automated annotation of phenotypes in genomic study databases.

### **Jessie Ning Yang, MD, PhD**

Postdoctoral Research Project: The effect of 5-HT on gastrointestinal disorders; Abnormal mucus and Cystic Fibrosis.

### **Huiwen Zhao, PhD**

Postdoctoral Research Project: Mechanisms of hyperoxia tolerance in *Drosophila melanogaster*.

## TEACHING AND TRAINING ACTIVITIES

### **Robert Douglas, PhD**

- Mentors trainees
- Presenter at local Research in Progress and Journal Club meetings
- Mentors undergraduate students

### **James S. Hagood, MD**

- Clinical education of pediatric fellows, residents and students
- Mentors/advises postdoctoral fellows
- Mentor, advisor, thesis committee member for graduate students
- Mentors undergraduate students through Faculty Mentor Program
- Facilitates/teaches weekly Research-in-Progress seminars in the laboratory
- Facilitates/teaches monthly Journal Club
- Weekly hospital rounds and bi-weekly pulmonary rounds
- Develops patient and family education materials for diffuse lung diseases



## Research Support

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
<b>Gabriel G. Haddad, MD</b>		
Molecular Mechanisms of Hypoxia Tolerance and Susceptibility 1 P01 HL098053-01A1/NIH (NHLBI)	\$1,526,926	\$10,092,467 July 2010-June 2015
Hypoxia in Development: Injury and Adaptation Mechanisms 2 P01 HD032573-11A1/NIH (NICHD)	\$1,048,579	\$6,499,068 Sept. 2005-July 2011
Molecular Basis of Cell Tolerance to O2 Deprivation 7 R01 NS037756-07/NIH (NINDS)	\$252,794	\$1,958,564 Sept. 2005-Apr. 2011
Alliance Agreement with St. Jude's Research Hospital 20080177/St. Jude Children's Research Hospital	\$266,700	\$1,442,942 Jan. 2007-June 2012
Resistance to Oxidant Injury 1 R21 HL093611-01A1/NIH (NHLBI)	\$150,000	\$424,875 Apr. 2009-Mar. 2011
Innate Immunity and Reactive Oxygen Species Contribute to Neurogeneration Following Ischemic Stroke J-09-PA-4340/Heart And Stroke Foundation Of Canada	\$18,936	\$77,996 July 2009-June 2011
Obesity and Obstructive Sleep Apnea in Children 20092768/Resmed Foundation	\$58,437	\$60,774 Mar. 2009-Feb. 2010
Epigenetic Alterations in IPF Fibroblastic Foci NIH 1R03HL097006/NIH		\$50,000 Sept. 2008-Sept. 2011
<b>James Hagood, MD</b>		
Regulation of Fibroblast Phenotype in Lung Fibrosis 7 R01 HL082818-04/NIH (NHLBI)	\$255,024	\$1,127,943 Aug. 2010-July 2012
<b>Malla Reddy Madireddi, PhD</b>		
Molecular Pathophysiology of Cystic Fibrosis Sub C00018996-1 (DK055835)/University Of Missouri System	\$25,000	\$92,250 Sept. 2008-Aug. 2011
HCO3- Conductive function of CFTR: Implications to Oral Health & Cystic Fibrosis 1 R01 HL096732-01/NIH (NHLBI)	\$300,000	\$927,000 Sept. 2009-Aug. 2012
<b>Mark S. Pian, MD</b>		
Therapeutics Development Center Network C014-TD09Y/Cystic Fibrosis Foundation	\$80,000	\$168,480 Jan. 2009-Dec. 2010

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
Newborn Screening Cystic Fibrosis Centers 08-Cf023/Cal H&W PUBLIC HEALTH, DEPARTMENT	\$43,948	\$82,348 July 2008-June 2010
Obstructive Sleep Apnea in Children 20092768/Resmed Foundation	\$58,437	\$60,774 Mar. 2009-Feb. 2010
CFF Care Center C014-08/Cystic Fibrosis Foundation	\$46,010	\$46,010 July 2008-June 2010
CFF Care Center C014-10/Cystic Fibrosis Foundation	\$40,170	\$40,170 July 2010-June 2011
CFF Care Center C014-09/Cystic Fibrosis Foundation	\$39,990	\$39,990 July 2009-June 2010
<b>Paul M. Quinton, PhD</b>		
Electrolyte Transport in Small Airways 1 R01 HL084042-01/NIH (NHLBI)	\$250,000	\$1,502,085 Apr. 2006-Mar. 2011
Factors in Mucociliary Clearance of Small Airways QUINTO08XX0/Cystic Fibrosis Foundation	\$100,000	\$431,787 Apr. 2008-Mar. 2012
Sweat Tests to Assay for Efficacy of Drug Therapy QUINTO08A0/Cystic Fibrosis Foundation	\$70,000	\$305,407 Feb. 2008-Jan. 2010
Can Bicarbonate Help Mucus Release in Cystic Fibrosis Fellowship- Ning Yang/Cystic Fibrosis Foundation	\$40,000	\$120,000 July 2009-Aug. 2012
A Role of Bicarbonate in Mucus Release & Implications for Cystic Fibrosis QUINTO0810/Cystic Fibrosis Foundation	\$40,000	\$86,400 July 2008-June 2010
Calcium-Activated Chloride Conductance in the intact Murine Lower Airways SHAW09D0/Cystic Fibrosis Foundation	\$68,250	\$68,250 July 2009-June 2010
Cystic Fibrosis Foundation Development Award Various Donors		\$50,000 continuous
<b>A. K. M. Shamsuddin, PhD</b>		
Comparison of Ion Transport Properties of Trachea and Small Airways ALA - Shamsuddin/American Lung Assn	\$32,500	\$32,500 July 2008-June 2009

## Research Support (continued)

Grant/Contract #	Annual Budget	Total Direct Dollars/Duration of Grant
HCO3- Transport in Native Small Airway Epithelia	\$40,000	\$86,400
SHAMSU1110/Cystic Fibrosis Foundation		Apr. 2011-Mar. 2013
<b>Simon Wong, MD</b>		
Molecular Effects of DEP on Respiratory Neprilysin		\$141,376
4728-RFPA04-6/5-1/HEI/US EPA		Aug. 2001-July 2010
Role of Nitric Oxide in JP-8 Jet Fuel-Induced Lung Injury (Witten, PI/Wong, Co-PI)		\$593,649
F49620-94-1-0297/US Air Force		Feb. 2007-Jan. 2010
<b>Jin Xue, MD, PhD</b>		
Role of Secreted Phosphoprotein 1 in Cardiac Hypertrophy and Fibrosis	\$75,000	\$75,000
20111210/Emerald Foundation Inc.		Dec. 2010-Dec. 2011
<b>Ning Yang, MD, PhD</b>		
Can Bicarbonate Help Mucus Release in Cystic Fibrosis	\$40,000	\$120,000
Fellowship- Ning Yang/Cystic Fibrosis Foundation		July 2009-Aug. 2012
<b>Dan Zhou, PhD</b>		
Notch Mechanisms Underlying Hypoxia Tolerance	\$70,000	\$308,000
0835188N/American Heart Assn		July 2008-June 2012

### Gabriel G. Haddad, MD

- Participates in Professor's Rounds with pediatric residents and students
- Mentors/advises four postdoctoral fellows
- Advisor for two graduate students
- Teaches yearly Medical Students/Pharmacy Students Course
- Organized Students Interested in Pediatrics, first year medical students
- Participates in monthly Fellow Research Conferences
- Teaches weekly Research-in-Progress seminars in the laboratory

- Organizes a bi-weekly seminar involving a group of investigators and their labs at UCSD (Extreme O2 group, EOG)
- Participates in monthly Faculty Research Conferences
- Teaches bi-weekly Journal Club
- Weekly pulmonary rounds

### Xiang Gu, PhD

- Presenter at local Research in Progress and Journal Club meetings
- Mentored and mentors four undergraduate students in their independent research courses of UCSD

- Mentored a visiting graduate student and a visiting postdoctoral fellow
- Mentor of a medical student's summer project

#### **He Huang, PhD**

- Presenter at local Research in Progress and Journal Club meetings
- Mentors one undergraduate student

#### **Daniel J. Lesser, MD**

- Assistant Director, Pediatric Pulmonary Training Program
- Initiated Western States Pediatric Pulmonary Case Conference, a monthly web-based case conference involving pediatric pulmonary programs in the Western U.S. and Canada
- UCSD Health Profession Mentor Program, 2009-present
- Participates in Professor's Rounds with pediatric residents and students
- Mentors/advises postdoctoral fellows and pediatric housestaff
- Presenter at monthly Pediatric Pulmonary Case Conferences for residents and students
- Coordinates UCSD Pediatric Pulmonary Fellowship Teaching Conference
- Supervises pediatric residents during inpatient and outpatient clinical activities
- Weekly hospital rounds and bi-weekly pulmonary rounds

#### **Meerana Lim, MD**

- Supervises pediatric residents during inpatient and outpatient clinical activities
- Participates in case conferences and the morning report with medical students and interns
- Presenter at monthly Pediatric Pulmonary Case Conferences for residents and students

#### **Sung Min Park, MD**

- Supervises pediatric residents during inpatient and outpatient clinical activities
- Presenter at monthly Pediatric Pulmonary Case Conferences for residents and students
- Participates in Clinical Leadership. Administrative/Management, Program Development and Education
- Started Chairman's bi-weekly pulmonary rounds

- Speaker for community pediatricians in a variety of settings

#### **Mark S. Pian, MD**

- Director, Pediatric Pulmonary Training Program
- Course director, Pediatric Sub-internship
- Faculty, Principles to Practice, School of Medicine Core Course
- Coordinates senior medical student training in pediatrics and pediatric subspecialties
- Supervises pediatric residents during inpatient and outpatient clinical activities
- Participates in case conferences, The Morning Report and Professor's Rounds with medical students and interns
- Presenter at monthly Pediatric Pulmonary Case Conferences for residents and students
- Coordinates Bioethics training for UCSD Pediatric Fellowship Programs
- Member, School of Medicine Core Curriculum Comm. Working Group, Pre-clinical Curricular Reform

#### **Paul M. Quinton, PhD**

- Teaches human physiology of respiration and renal function to first-year medical students at UC Riverside
- Instructs group sessions in problem based learning on renal function at UCSD
- Instructs students and scholars in his UCSD laboratory
- Co-Directs Pediatric Faculty Research Conference

#### **M. M. Reddy, PhD**

- Teaches gastrointestinal physiology and biomedical engineering at UCSD
- Assists in instructing scholars, students, and visitors in the lab of Dr. Quinton
- Consultant to University of Missouri NIH Funded Cystic Fibrosis Research Grant

#### **Julie Ryu, MD**

- Supervises pediatric residents during inpatient and outpatient clinical activities
- Mentors research projects for an undergraduate student, a graduate and a post-doctoral student fourth year medical student.
- Presenter, bimonthly case conferences with medical students and interns



- Presenter at monthly Pediatric Pulmonary Case Conferences for residents and students
- Presenter at local Research in Progress and Journal Club meetings

#### **A. K. M. Shamsuddin, PhD**

- Technical and methodological assistant to the new lab members in Dr. Paul Quinton's lab

#### **Xiaolu Sun, PhD**

- Presenter at local Research in Progress and Journal Club meetings
- Mentors students and post-docs

#### **Jin Xue, MD, PhD**

- Presenter at local Research in Progress and Journal Club meetings, as well as in national and international conferences
- Mentor of five undergraduate students and scientific consultation for post-doctoral fellows
- Presider, 2010 UCSD Summer Research Conference

#### **Hang Yao, PhD**

- Mentors/advises five undergraduate students and a graduate student with research projects
- Presenter at Seminar of Division of Physiology, School of Medicine
- Presenter at Pediatric Faculty Research Seminar
- Presenter at local Research in Progress and Journal Club meetings

#### **Dan Zhou, PhD**

- Mentor trainees
- Thesis advisor and committee member of two graduate students
- Mentors an undergraduate student (course code: BISP 199)
- \* Presenter at 9th international pathways, networks and systems medicine
- \* Presenter at Seminar of Department of Bioengineering, Jacobs School of Engineering, UCSD
- Presenter at local Research in Progress and Journal Club meetings

## POSTDOCTORAL FELLOWS-TEACHING ACTIVITIES

#### **Kathryn Akong, MD PhD**

- Currently mentoring undergraduate student Samantha Wong, who is planning on doing Master's thesis in Nizet lab, and eventually intends to attend medical school.

#### **Priti Azad, PhD**

- Mentored undergraduate internship student Daya Raman for two quarters (Winter and Spring 2011)

#### **Ruth Muchekehu, PhD**

- Mentored an undergraduate summer student Anna Srouji (July-September 2009)

#### **Mindy Ross, MD, MBA**

- Participates in case conferences, The Morning Report and Professor's Rounds with medical students and interns
- Presenter, Pediatric Pulmonary Case Conferences for residents and students
- Presenter, Fellows Conference Journal Club
- Co-creator of "Comfort Code" education modules about end-of-life/palliative care for residents

#### **Jessie Ning Yang, MD, PhD**

- Mentored undergraduate students Shaun OOI (2010-2011) and Maxwell S Harter (2011).
- Presider of the 2010 UCSD Summer Research Conference.

## AWARDS, HONORS, AND MAJOR PRESENTATIONS

#### **James S. Hagood, MD**

Best Doctors in America, 2010-2011  
 Children's Interstitial Lung Disease (ChILD) Consortium,  
 part of NIH/NHLBI Rare Lung Diseases Consortium,  
 2005-Present

Scientific Advisory Committee, Children's Interstitial Lung Disease (chILD) Foundation, November 2007-Present  
Ad hoc member, Lung Injury Repair and Remodeling Study Section, NIH/Center for Scientific Review  
Co-Chairman, LIRR and RIBT Member Conflicts Study Section, NIH, December 2008 – 2011  
Invited speaker, Society for Pediatric Research and American Thoracic Society International Conferences, 2011  
Who's Who in Medicine and Healthcare, 2011

### **Gabriel G. Haddad, MD**

Best Doctors in America, 2010 and 2011  
Rady Children's Hospital Research Award of the Year, 2010  
Invited keynote speaker, ISOTT, Flying high with flies: Insights from a genetic model system, Cleveland, OH, July 6-8, 2009  
Invited speaker, PRISM (Progress in the Science of Medicine) Lecture Series, UCSD, La Jolla, CA, October 9, 2009  
Invited speaker, 2010 Keystone Symposium on Hypoxia: Molecular mechanisms of oxygen sensing and response pathways, Keystone, CO, January 19-24, 2010  
Invited speaker, Department of Physiology, Yale University, New Haven, CT, March 2010  
Invited speaker, Grand Rounds and Keynote Speaker at Fellows Conference, Univ. of Washington, Seattle, WA, April 2010  
Invited speaker, American Thoracic Society, Obstructive sleep apnea intermittent hypoxia and oxidative stress in tissue and end-organ damage, New Orleans, LA, May 2010  
Invited speaker, Tulane University, Department of Pediatrics, May 2010  
Invited speaker, Alfred Dorfman Visiting Professor Lecture, Univ of Chicago, Chicago, IL, June 2010  
Invited speaker, Disease and Animal Models Research Conference, Fudan University, Shanghai China, July 2010  
Invited speaker, 8th Pathways, Networks, Systems Conference, Rhodes Greece, July 2010  
Invited speaker, Cherniack Symposium, Cleveland, OH, October, 2010  
Invited speaker, International Federation of Placenta Associations (IFPA), Santiago, Chile, October, 2010

Invited speaker, Section of Physiology Research Seminar, UCSD, San Diego, CA, March 2011  
Invited speaker, American Thoracic Society, Symposium on Intermittent Hypoxia, Denver, CO, May 2011  
Invited speaker, Tulane University, Department of Pediatrics, May 2011  
Invited speaker, 9th Pathways, Networks, Systems Conference, Crete, Greece, June 2011

### **Daniel J. Lesser, MD**

Children's Hospital Los Angeles Division of Pediatric Pulmonology Chun I. Wang Research Award, 2009  
Children's Hospital Los Angeles Division of Pediatric Pulmonology Deputy Jimmie Richard Henry Award. Fellow of the Year, 2009  
National Center of Leadership in Academic Medicine, UCSD Course Participant, 2010.  
Invited speaker, Advances in the Practice of Pediatrics, San Diego, CA, 2010

### **Malla Reddy Madireddi, PhD**

Epithelial electrolyte transport in health and disease: Lessons learned from the sweat gland. Oamania University, Hyderabad, India, 2009  
Distinct cell types regulate absorption and secretion of Airway Surface Liquid (ASL) in the small airways. CF interest group online. UCSD. March 17, 2010  
Associate Editor of the *Scientific Journal The Frontiers of Membrane Physiology and Biophysics*, 2011

### **Mark S. Pian, MD**

Designated National Quality Coach, Learning and leadership collaborative in CF quality improvement, Cystic Fibrosis Foundation  
America's Best Doctors, 2009 -2010  
Award for Excellence in Teaching, UCSD Department of Pediatrics, 2009  
Session Moderator and Invited Speaker, Emerging bioethical topics in CF research and clinical care, Member, Steering Committee, CF Foundation Therapeutic Development Network  
Member, Protocol Review Committee, CF Foundation Therapeutic Development Network

Featured speaker, Rady Children's Hospital Tracheostomy Day, Pediatric Tracheostomy Placement; Ethical Considerations, San Diego, CA, 2009  
Breath of Life Hero, Cystic Fibrosis Foundation, San Diego Chapter, 2010  
Invited speaker, Seeking a Community Standard for Withdrawing Life Sustaining Treatments: Considerations for Children's Hospitals. American Society for Bioethics & Humanities, San Diego, CA, 2010  
Invited speaker, Controversies in Pediatric Lung Transplantation. California Thoracic Society Annual Meeting, Carmel, CA, 2011  
Invited speaker, Discussing End of Life Care Planning: When and How? North American Cystic Fibrosis Conference, Anaheim, CA, 2011  
Physician Excellence Award For Excellence in Teaching, Rady Children's Hospital San Diego, 2011  
Nominee, Kaiser Excellence in Teaching Award, UCSD School of Medicine Class of 2011

#### **Paul M. Quinton, PhD**

Heroes of Hope, Genetec, Inc. November, 2009  
Hans Ussing Award Lecture, Role of HCO<sub>3</sub>-Secretion in epithelial mucin release  
Experimental Biology, Epithelial Transport Group, Anaheim, April 27, 2010  
Rady Children's Hospital Research Award, Feb 3, 2011  
Invited lecturer, Gordon Conference-Mucus and cilia. A new intersection of electrolytes and mucus. Ventura, CA, February 17, 2011  
Invited lecturer, Pathology Lecture Series, HCO<sub>3</sub>-Leaven for Mucin. University of Southern California, Keck School of Medicine, Los Angeles, CA, March 10, 2011  
Invited lecturer, Unraveling mucins with HCO<sub>3</sub>-secretion. Frontiers in epithelial transport, Yonsei University, Seoul, Korea, April 14, 2011  
Invited lecturer, Understanding the basic defect (in CF). Gastroenterology Conference honoring Peter Durie, University of Toronto, Toronto, Canada, May 13, 2011  
Invited lecturer, Bicarbonate transport and mucus secretion-What's the role of CFTR? 34th European Cystic Fibrosis Conference, Hamburg, Germany, June 10, 2011  
Invited lecturer, Cystic Fibrosis: Connecting defective HCO<sub>3</sub>-transport to hostile mucus. UCI School of Medicine, June 23, 2011

Invited lecturer, Exploding mucins with HCO<sub>3</sub>- Mucins in health and disease (11th International Workshop on Carcinoma-Associated Mucins). Robinson College, Cambridge, UK, July 12, 2011

#### **A.K.M. Shamsuddin, PhD**

Recipient of American Lung Association Senior Research Training Fellowship grant as a P.I. for the project: Comparison of ion transport properties of trachea and small airways, 2009  
Recipient of Cystic Fibrosis Foundation Pilot & Feasibility Grant Awards as a P.I. for the project HCO<sub>3</sub>- transport in native small airway epithelia, 2011-2013

#### **Jin Xue, MD, PhD**

Invited speaker, Secreted phosphoprotein 1 and peroxisome proliferator-activated receptor gamma signalings are important in Na<sup>+</sup>/H<sup>+</sup> exchanger 1-mediated cardiac injury. 9th International Conference on Pathways, Networks, and Systems Medicine, Chania, Crete, Greece

#### **Huiwen Zhao. PhD**

Oral presentations at Gases in Drosophila Physiology and Development Workshop at the 50th and 51th Annual Drosophila Research Conference, 2009 and 2010

#### **Dan Zhou, PhD**

Invited speaker, Metabolic adaptation to chronic hypoxia. Beijing Genomics Institute, Chinese Academy of Sciences. November 2010  
Invited speaker, Metabolic adaptation to chronic hypoxia: Lessons from a drosophila model. 9th international Conference on Pathways, Networks and Systems Biology, June 2011

## POSTDOCTORAL FELLOWS—AWARDS, HONORS, AND MAJOR PRESENTATIONS

### **Pritzi Azad, PhD**

Poster presentation at Hypoxia and Consequences: The New York Academy of Sciences, NY, 2010

Platform presentation at the session *Drosophila* model for Human Diseases. 51th Annual *Drosophila* Research Conference, Washington DC, USA, 2010

Poster presentation, 52th Annual *Drosophila* Research Conference, CA, 2011

### **Hady Felfly, PhD**

Chair, UCSD Postdoctoral Association (PDA), 2009

### **Matthew Pamerter, PhD**

Cameron Award Plenary Lecture, Mechanisms of channel arrest and spike arrest underlying metabolic depression, and the remarkable anoxia tolerance of the freshwater painted turtle *Chrysemys picta bellii*. Canadian Society of Zoologists (CSZ). University of Toronto at Scarborough, Toronto, ON, 2009

Council of Graduate Schools Distinguished Dissertation Award Nominee, 2009

Governor General's Gold Medal Nominee, 2009

### **Mindy Ross, MD, MBA**

Invited speaker, Pediatric clinical ethics: Approach to decision making in end-of-life/palliative care. Pediatric Grand Rounds Scripps Mercy, San Diego, CA, July 7 2011

ATS Fellows Travel Scholarship

### **Jessie Ning Yang, MD, PhD**

Elizabeth Nash Memorial Fellowship Presentation, Can bicarbonate help mucus release in Cystic Fibrosis? 2009 -2011

Can bicarbonate help mucus release in CF? National Cystic Fibrosis Family Education Conference, Redwood City, CA, July 2009-2010

Oral presentations, Defective cAMP-dependent HCO<sub>3</sub>-secretion leads to abnormal mucus in CF mouse small intestine. Experimental Biology 2010 Anaheim, CA, April 2010

Can bicarbonate help mucus release in CF. Elizabeth Nash Memorial Fellowship Colloquia, Oakland, CA, February 2010 and 2011

## OTHER IMPORTANT ACCOMPLISHMENTS

Development of a monthly Southwestern or Western states teleconference case discussion series to improve education and networking for subspecialty residents and junior faculty in Respiratory Medicine throughout the region (Drs. Lesser and Hagood).

## PUBLICATIONS

Abman S, Jobe A, Chernick V, Blaisdell C, Castro M, Ramirez MI, Gern JE, Cutting G, Redding G, Hagood JS, Whitsett J, Abman S, Raj JU, Barst R, Kato GJ, Gozal D, Haddad GG, Prabhakar NR, Gauda E, Martinez FD, Tepper R, Wood RE, Accurso F, Teague WG, Venegas J, Cole FS, Wright RJ, Gail D, Hamvas A, Kerckmar C, Kiley J, Weinmann G; NHLBI working group report. Strategic plan for pediatric respiratory diseases research: an NHLBI working group report. *Pediatr Pulmonol*, 44(1):2-13, 2009.

Azad P, Ryu J, Haddad GG. Distinct role of Hsp70 in *Drosophila* hemocytes during severe hypoxia. *Free Radic Biol Med*, 2011 51(2):530-8. PMID: PMC3138732.

Azad P, Woodruff R. Increase in viability due to new beneficial mutations in *Drosophila melanogaster*: Support for the Dobzhansky and Spassky assay. *Genetica*, 138(2):251-63, 2010

Azad P, Zhou D, Russo E, Haddad GG. Distinct Mechanisms Underlying Tolerance to Intermittent and Constant Hypoxia in *Drosophila melanogaster*. *PLoSOne* 4(4):e5371, 2009. PMID: PMC2670512





Azad P, Haddad GG. Survival in Acute and Severe Low O<sub>2</sub> Environment: Use of a Genetic Model System. In: *Hypoxia and Consequences. From Molecule to Malady*. Eds, C Peers, GG Haddad, NS Chandel, Annals of the New York Academy of Sciences, 2009, Oct 1177:39-47.

Bradley JE, Ramirez G, Hagood JS. Roles and regulation of Thy-1, a context-dependent modulator of cell phenotype. *Biofactors*, 35(3):258-65, 2009.

Buck LT, Hogg DW, Pamenter ME. The painted turtle as a model of natural anoxia tolerance: Role of the neurotransmitter GABA. pp. x-y In: *Turtles: Anatomy, Ecology and Conservation*. Ed. R. Schortemeyer, Nova Science Publishers, Inc, 2011.

Castro M, Ramirez MI, Gern JE, Cutting G, Redding G, Hagood JS, Whitsett J, Abman S, Raj JU, Barst R,

Kato GJ, Gozal D, Haddad GG, Prabhakar NR, Gauda E, Martinez FD, Tepper R, Wood RE, Accurso F, Teague WG, Venegas J, Cole FS, Wright RJ. Strategic plan for pediatric respiratory diseases research: An NHLBI working group report. *Proc Am Thorac Soc*, 6(1):1-10, 2009.

Chen EY, Yang N, Quinton PM, Chin WC. A New Role for Bicarbonate in Mucus Formation. *Am J Physiol Lung Cell Mol Physiol*, 2010.

Doshi A, Ross M, Pian P, Carrasca L, Pian M. Comfort Code Modules. ABSTRACT. American Academy of Hospice and Palliative Medicine Annual Assembly, Vancouver, BC, Canada, 2011.

Douglas RM, Kanaan A, Rivero M, Dugan LL, Haddad GG, Ali SS. Neuronal death during combined intermittent hypoxia/hypercapnia is due to mitochondrial

- dysfunction. *Am J Physiol Cell Physiol*, 298(6):C1594-602, 2010. PMID: PMC2889641
- Fastje CD, Le K, Sun NN, Wong SS, Sheppard PR, and Witten ML. Prenatal exposure of mice to tungstate is associated with decreased transcriptome-expression of the putative tumor suppressor gene, DMBT1: Implications for childhood leukemia. *Land Contamination and Reclamation*, 17(1):169-179, 2009.
- Felfly H, Muotri AR, Yao H, Haddad GG. Hematopoietic stem cell transplantation protects mice from lethal stroke. *Experimental Neurology*, 225:284-293, 2010. PMID: PMC2963425
- Felfly H, Xue J, Zambon AC, Muotri A, Zhou D, Haddad GG. Identification of a neuronal gene expression signature: role of cell cycle arrest in murine neuronal differentiation in vitro. *Am J Physiol Regul Integr Comp Physiol*, 301(3):R727-45, 2011. PubMed PMID: 21677276.
- Feala JD, Coquin L, Zhou D, Haddad GG, Paternostro G, McCulloch AD. Metabolism as means for hypoxia adaptation: metabolic profiling and flux balance analysis. *BMC Syst Biol*, 3:91, 2009. PMID: PMC2749811.
- Firth AL, Oleksandr P, Brevnova EE, Burg ED, Powell F, Haddad GG, Yuan JX-J. Hypoxia Selectively inhibits *kcna5* channels in pulmonary artery smooth muscle cells. In: *Hypoxia and Consequences. From Molecule to Malady*. Eds, C Peers, GG Haddad, NS Chandel, Annals of the New York Academy of Sciences, 2009.
- Garcia MA, Yang N, Quinton PM. Normal mouse intestinal mucus release requires cystic fibrosis transmembrane regulator-dependent bicarbonate secretion. *J Clin Invest*, 119(9):2613-22, 2009.
- Gonska T, Ip W, Turner D, Han WS, Rose J, Durie P, Quinton P. Sweat gland bioelectrics differ in cystic fibrosis: a new concept for potential diagnosis and assessment of CFTR function in cystic fibrosis. *Thorax*, 64(11):932-8, 2009.
- Gu XQ, Haddad GG. Chapter 9: Effect of hypoxia/ischemia on voltage-dependent channels. In: *Structure, Function, and Modulation of Neuronal Voltage-Gated Ion Channels*, edited by Gribkoff VK and Kaczmarek LK. Wiley-Blackwell, John Wiley and Sons, Hoboken, New Jersey, pp.251-77, 2009.
- Guma M, Rius J, Duong-Polk KX, Haddad GG, Lindsey JD, Karin M. Genetic and pharmacological inhibition of JNK ameliorates hypoxia-induced retinopathy through interference with VEGF expression. *Proc Natl Acad Sci USA*, 106(21):8760-5, 2009.
- Guma M, Rius J, Duong-Polk KX, Haddad GG, Lindsey JD, Karin M. Genetic and pharmacological inhibition of JNK ameliorates hypoxia-induced retinopathy through interference with VEGF expression. *Proc Natl Acad Sci USA*, 106(21):8760-8765, 2009.
- Haddad GG. Does the brain gain back energy during sleep? But what does it mean? *Sleep*, 2011 34(7): 835-36. PMID: PMC3119555
- Haddad GG. Pediatric diseases: Future action? *Drug Discovery Today: Disease Models* (Editorial), 6(2):33-34, 2009.
- Hardie WD, Glasser SW, Hagood JS. Emerging concepts in the pathogenesis of lung fibrosis. *Am J Pathol*, 175(1):3-16, 2009.
- Harrison JF, Haddad GG. Effects of oxygen on growth and size: Synthesis of molecular, organismal and evolutionary studies with *Drosophila Melanogaster*. In: *Annual Review of Physiology*. Ed. D. Julius. 2011, Vol 73, pages 95-113. PubMed PMID: 20936942
- Iacobas DA, Iacobas S, Haddad, GG. Heart rhythm genomic fabric in hypoxia. *Biochem Biophys Res Commun*, 391(4):1769-74,2010. PMID:PMC2849310.
- Ichinose TK, Inoue Y, Hirata M, Shamsuddin AK, Kondo N. Enhanced heat loss responses induced by short-term endurance training in exercising women. *Exp Physiol*, 94(1):90-102, 2009.
- Lesser DJ, Young LR, Hagood JS. Rare childhood lung disorders. In: *Kendig's Disorders of the Respiratory Tract in Children*, Elsevier, Maryland Heights, MO, 2011.
- Lesser DJ. Congenital central hypoventilation syndrome, obstructive sleep apnea syndrome. In *Pediatric Acute Care: A Guide for Interprofessional Practice*, Jones and Bartlett, Sudbury, MA 2011.
- Lesser DJ. Mechanical ventilation. *The Green Book: Guidelines for Specialized Physical Healthcare Services in School Settings*. 2011 (Chapter reviewer).
- Lesser DJ, Fleming MM, Maher CA, Kim SB, Woo MS, Keens TG. Does the six-minute walk correlate with aerobic fitness in children? *Pediatric Pulmonology*, 45: 135-40, 2010.
- Lesser DJ, Davidson Ward SL, Kun SS, Keens TG. Congenital hypoventilation syndromes. *Seminars in Respiratory and Critical Care Medicine*, 30: 339-347, 2009.

- Li X, Atkinson TP, Hagood J, Makris C, Duffy LB, Waites KB. Emerging macrolide resistance in mycoplasma pneumoniae in children: Detection and characterization of resistant isolates. *Pediatr Infect Dis J*, 28(8): 693-6, 2009.
- Muchekehu RW, Quinton PM. Mucus release in the female reproductive tract is critically dependent on bicarbonate. *J Gen Phys, J Physiol*, 588:2329-2342, 2010.
- Nicola T, Hagood JS, James ML, Macewen MW, Williams TA, Hewitt MM, Schwiebert L, Bulger A, Oparil S, Chen YF, Ambalavanan N. Loss of Thy-1 inhibits alveolar development in the newborn mouse lung. *Am J Physiol Lung Cell Mol Physiol*, 296(5):L738-50, 2009.
- Pamenter ME, Hogg DW, Ormond J, Shin DS, Woodin MA, Buck LT. Endogenous GABAA and GABAB receptor-mediated electrical suppression is critical to neuronal anoxia tolerance. *Proc Natl Acad Sci USA*, June 20, 2011.
- Pian M, Goldberg C. Quinceañera; problem-based learning case and discussion. *Clinical Foundations*, UCSD School of Medicine, Course Materials, 2010.
- Peers C, Chandel NS, Haddad GG. Introduction to hypoxia and consequences. In: *Hypoxia and Consequences. From Molecule to Malady*. Annals of the New York Academy of Sciences, 2009, Oct 1177:1.
- Quinton PM. Role of epithelial HCO<sub>3</sub><sup>-</sup> transport in mucin secretion: lessons from cystic fibrosis. *Am J Physiol Cell Physiol*, 299(6):C1222-33, 2010
- Quinton PM. Birth of mucus. (invited commentary) *Am J Physiol Lung Cell Mo Physiol*, 298(1):L13-4, 2009.
- Reddy MM, Garcia MA, Quinton PM. Sensitivity to monovalent cation concentrations distinguishes glutamate and cAMP regulation of CFTR in human sweat duct. Poster Session Abstracts. *Pediatric Pulmonology*, 45:220-459, 2010. doi: 10.1002/ppul.21339.
- Reddy MM, Shamsuddin, AKM, Quinton PM. Secretory and absorptive system control luminal surface fluids in small airways. Poster Session Abstracts. *Pediatric Pulmonology*, 44:245, 2009. doi:10.1002/ppul.21133.
- Reddy MM, Quinton PM. PKA mediates constitutive activation of CFTR in human sweat duct. *J Membr Biol*, 231(2-3):65-78, 2009.
- Ryu J, Heldt GP, Nguyen M, Gavrialov O, Haddad GG. Chronic hypercapnia alters lung matrix composition in mouse pups. *J Applied Physiology*, 109(1):203-10, 2010. PMID: PMC2904197
- Shaik SS, Soltau TD, Chaturvedi G, Totapally B, Hagood JS, Andrews WW, Athar M, Voitenok NN, Killingsworth CR, Patel RP, Fallon MB, Maheshwari A. Low intensity shear stress increases endothelial ELR+ CXC chemokine production via a focal adhesion kinase-p38<sup>beta</sup> MAPK-NF- $\kappa$ B pathway. *J Biol Chem*, 284(9):5945-55, 2009.
- Shamsuddin AKM, Reddy MM, Lytle C, Quinton PM. Distinct secretory and absorptive system control luminal surface fluids in small airways. ATS meeting, 2009.
- Sun X, Yao H, Wang J, Haddad GG. Insulin/PI3K signaling protects dentate neurons from oxygen-glucose deprivation in organotypic hippocampal slice cultures. *J Neurochem*, 2010 Jan;112(2):377-88.
- Wong SS, Thomas A, Lantz RC, and Witten ML. Pulmonary evaluation of permissible exposure limit of syntroleum S-8 synthetic jet fuel in mice. *Toxicological Sciences*, 109 (2): 312-320, 2009.
- Wong SS, Sun NN, Miller HB, Witten ML, and Burgess JL. Acute changes in sputum collected from exposed human subjects in mining conditions. *Inhalation Toxicology*, 22(6):479-485, 2010.
- Wong SS, Witten ML. The toxicity and underlying mechanism of jet propulsion fuel-8 on the respiratory system, Chapter 3. In: *Jet Fuel Toxicology*, edited by ML Witten, GD Ritchie, E Zeiger. Taylor & Francis, New York, p27-42, 2010.
- Xue J, Mraiche F, Zhou D, Karmazyn M, Oka T, Fliegel L, Haddad GG. Elevated myocardial Na<sup>+</sup>/H<sup>+</sup> exchanger Isoform 1 activity elicits gene expression that leads to cardiac hypertrophy. *Physiol Genomics*, 42(3):374-83, 2010. PMID: PMC2929882.
- Xue J, Haddad GG. The Na<sup>+</sup>/H<sup>+</sup> exchanger: A target for therapeutic intervention in cerebral ischemia. In: *New Strategies in Stroke Intervention. Ionic Transporters, Pumps, and New Channels*. Ed. L Annunziato. Humana Press, 2009, pp. 113-128.
- Yang N, Liu SM, Zheng LF, Ji T, Li Y, Mi XL, Xue H, REN W, Xu JD, Zhang XH, Li LS, Zhang Y, Zhu JX. Activation of submucosal 5-HT<sub>3</sub> receptor elicits a



- somatostatin-dependent inhibition of rat colonic secretion. *Br J Pharmacol*, 159(8):1623-5, 2010.
- Yao H. Ischemic penumbra; The target of acute stroke therapy. In: *Brain Hypoxia and Ischemia*, edited by Haddad GG, Yu SP. Humana Press, 2009.
- Yao H, Felfly H, Wang J, Zhou D, Haddad, G. DIDS protects against neuronal injury by blocking Toll-like receptor 2 activated-mechanisms. *J Neurochemistry*, 108(3):835-46, 2009.
- Zhang M, Azad P, Woodruff RC. Adaptation of *Drosophila melanogaster* to increased NaCl concentration due to dominant beneficial mutations. *Genetica*, Volume 139(2): 177-186, 2010.
- Zhang N, Fu Z, Linke S, Chicher J, Gorman JJ, Visk D, Haddad GG, Poellinger L, Peet DJ, Powell F, Johnson RS. The asparaginyl hydroxylase factor inhibiting HIF-1alpha is an essential regulator of metabolism. *Cell Metab*, 11(5):364-78, 2010. PMID: PMC2893150
- Zhao HW, Zhou D, Nizet V, Haddad GG. Experimental selection for *Drosophila* survival in extremely high O<sub>2</sub> environments. *PLoS One*, 5(7):e11701, 2010. PMID: PMC3038716.
- Zhao HW, Zhou D, Haddad GG. Anti-microbial peptides increase tolerance to oxidant stress in *Drosophila melanogaster*. *J. Biol Chem*, 286(8):6211-6218, 2011. PMID: PMC3057857
- Zhao HW, Haddad GG. (Review) Hypoxic and oxidative stress resistance in *Drosophila melanogaster*. *Placenta*, 2011, Vol. 32, Supp. 2, March 2011, pp. 104-108. PMID: PMC3073591.
- Zhou Y, Koli K, Hagood JS, Miao M, Mavalli M, Rifkin DB, Murphy-Ullrich JE. Latent transforming growth factor-beta-binding protein-4 regulates transforming growth factor-beta1 bioavailability for activation by fibrogenic lung fibroblasts in response to bleomycin. *Am J Pathol*, 174(1):21-33, 2009.
- Zhou D, Udpa N, Gersten M, Visk D, Bashir A, Xue J, Frazer K, Posakony J, Subramaniam S, Bafna V, Haddad GG. Experimental selection of hypoxia-tolerant *Drosophila melanogaster*: Major role for Notch activation. *Proceed National Academy of Sciences*, 108(6):2349-54, 2011. PMID: PMC3038716.
- Zhou D, Visk DW, Haddad GG. *Drosophila*, a golden bug, for the dissection of the genetic basis of tolerance and susceptibility to hypoxia. *Pediatric Research* (invited review) 66(3):239-247, 2009. PMID: 19542900.

# FLIP BOOK TO READ THE DEPARTMENT OF CHILDREN'S SURGERY ANNUAL REPORT