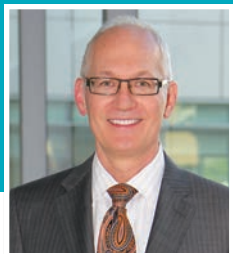


The Saban Research Institute Annual Symposium

TOXIC STRESS, RESILIENCE AND DEVELOPMENT

Feb. 24, 2016



DIRECTOR'S WELCOME

D. Brent Polk, MD, AGAF

We know that what happens early in childhood can impact a lifetime, shaping how one experiences and interacts with the world.

We also have become increasingly aware of the profound effect that repeated adverse experiences can have. Because excessive or prolonged activation of stress response systems in the body and brain can alter and damage a child's development, researchers, neuroscientists and behavioral psychiatrists have begun studying "toxic stress"—exploring its causes, measuring its effects and developing potential interventions.

The impact of toxic stress on cognitive and behavioral development, as well as its long-term implications for chronic disease, obesity and metabolic disorder, can touch many areas of health and behavior throughout life. Scientists at The Saban Research Institute of Children's Hospital Los Angeles are exploring not only the many risk factors but also how best to intervene and help foster resiliency in children to promote healthy physical and emotional growth and stability.

The topic of toxic stress has significant crossover with the research aims of The Saban Research Institute, including Metabolism, Immunity, Infection and Inflammation (Mi3) and CHLA's Institute for the Developing Mind (IDM), which has become an important hub for investigators of different disciplines who are looking at ways in which the brain continues to adapt and grow throughout childhood and adolescence. IDM investigators are dedicated to achieving a new understanding of what fundamentally underlies mental health and mental illness—an understanding that will allow us to translate scientific knowledge into effective treatments for children, adolescents and young adults.

We are fortunate to have with us at today's symposium a group of distinguished thought leaders from top-tier academic research institutions. Part of the exciting lineup of internationally recognized presenters is keynote speaker Jack Shonkoff, MD, director

of the Center on the Developing Child at Harvard University, who has helped bring the topic of toxic stress on children to the forefront of a national discussion.

Today's symposium will explore the many causes of toxic stress—from emotional or physical neglect to exposure to violence, environmental hazards and other adverse events—as well as the lasting effects it can have on infants and young children, and ways to mitigate its impact.

We will learn about the role of psychological and educational diagnostic and mental health services in working with young children and their families to enhance resiliency; the neuro-immune mechanisms of depression; the importance of approaching education and treatment from the child's point of view; and the impact of pre- and postnatal environment on brain development during childhood and adolescence.

Another important topic to be explored during the course of today's symposium is a sociological perspective on health disparities, including research on improving the clinical and community-based treatment of African-Americans with mental health disorders and chronic health conditions. Other research on social disparities in health such as persistent racial/ethnic disparities, the effects of cumulative disadvantage and the psychosocial health determinants, particularly stress and racism, will be addressed.

We will hear about a unique intervention—targeting specific issues that have been identified as problematic for young children who have experienced toxic stress—that has been shown to enhance children's secure attachments.

We also will explore the area of social policy as it pertains to child welfare and child mental health in immigrant and refugee communities, and the global health disparities and the behavioral health of children in extreme environments and disasters, including the effect of global climate change on child development.

It is my hope that these presentations will promote continued discussion and further collaborations, leading to new ideas for reducing the effects of significant adversity on children and for promoting their healthy development.

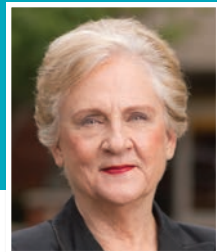
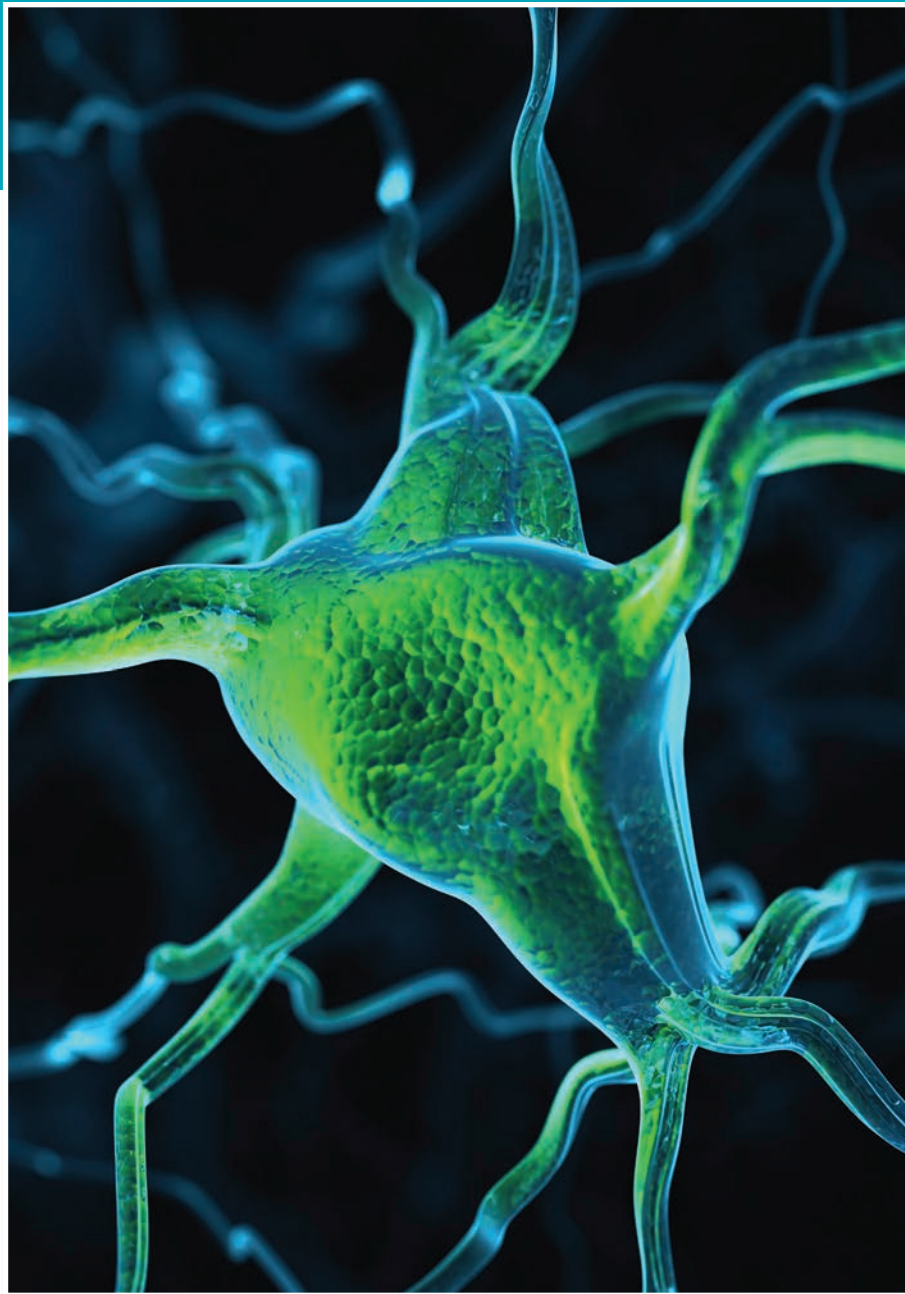
I want to recognize symposium organizers Brad Peterson, MD, and Pat Levitt, PhD, of the Institute for the Developing Mind, and Dean Marilyn Flynn, PhD, from the University of Southern California (USC) School of Social Work, for their leadership in planning today's dynamic program, and to The Saban Research Institute staff members who organized this special event.

I also extend my warm gratitude to the many philanthropists with us today as well as those who could not attend, all of whom are key partners in our efforts to improve child health and make our research, education and clinical missions possible.

D. Brent Polk, MD, AGAF
Director of The Saban Research Institute of Children's Hospital Los Angeles; chair of the Department of Pediatrics, physician in chief and vice president for Academic Affairs, CHLA

Professor and chairman of Pediatrics, vice dean for Child Health and professor of Biochemistry and Molecular Biology, the Keck School of Medicine of USC





**Symposium Co-organizer:
Marilynn Flynn, PhD**

Marilyn L. Flynn, PhD, is a transformational leader who has served as dean of the USC School of Social Work since 1997. She has dedicated her career to the advancement of social work research through a series of national initiatives. Flynn was the inaugural president of the St. Louis Group and a steering committee member responsible for founding the American Academy of Social Work and Social Welfare. She established the James E. Flynn Prize for Research, a competitive award recognizing the social impact of interdisciplinary scholarship. As a member of the Grand Challenges Executive Committee for the American Academy of Social Work, she has helped to craft the Grand Challenges initiative. Since 2011, Flynn has also sustained a series of select summer roundtables on the science of social work and the future of the professoriate at Islandwood. Her honors include the USC Provost's Inaugural Award for Educational Innovation, the International Sarnat Award for the Advancement of Social Work and election to the California Hall of Social Welfare Distinction, among other recognitions. She holds bachelor's degrees in history and sociology with high honors from Roosevelt University and a master's in social work and a doctorate from the University of Illinois at Urbana-Champaign.



**Symposium Co-organizer:
Pat Levitt, PhD**

Pat Levitt, PhD, is the Simms/Mann Chair in Developmental Neurogenetics at the Institute for the Developing Mind at CHLA, W.M. Keck Provost Professor of Neurogenetics at the Keck School of Medicine of USC, and director of the USC Neuroscience Graduate Program. He received a Bachelor of Arts in biology at the University of Chicago and a doctorate in neuroscience at the University of California, San Diego, and completed a postdoctoral fellowship at Yale University. Levitt has held chair and institute directorships at the University of Pittsburgh Medical Center, Vanderbilt University and USC. He has served as a member of the National Advisory Mental Health Council for the National Institute of Mental Health, is an elected Fellow of the American Association for the Advancement of Science (AAAS) and is an elected member of the National Academy of Medicine. A senior fellow at the Center on the Developing Child at Harvard University, Levitt also serves as scientific director of the National Scientific Council on the Developing Child. His research program includes basic studies that probe the ways in which circuitries that control learning and emotional and social behavior develop, using advanced technologies in genetics, cell biology and behavior. His clinical research investigates children with autism spectrum disorder who have co-occurring gastrointestinal and other conditions. His studies of infant resilience to adversity focus on the brain-based and metabolic changes that may have short- and long-term impacts on mental and physical health. He has published over 275 scientific papers.



**Symposium Co-organizer:
Bradley Peterson, MD**

Bradley S. Peterson, MD, is the inaugural director of the Institute for the Developing Mind at Children's Hospital Los Angeles. He is also director of Child and Adolescent Psychiatry and a professor at the Keck School of Medicine of USC. He received his bachelor's degree and graduated summa cum laude from Tulane University and received his doctorate in medicine from the University of Wisconsin-Madison. He trained in general psychiatry at Massachusetts General Hospital and Harvard University, in child psychiatry at the Child Study Center of Yale University, and in psychoanalysis at the Western New England Institute of Psychoanalysis. Peterson was previously a faculty member at the Yale Child Study Center and then at Columbia University, where he was the founding director of MRI Research and the director of Child and Adolescent Psychiatry. His research uses brain imaging technologies to understand the origins of neuropsychiatric disorders, mapping the constitutional and environmental influences that confer risk for illness or protect against it, trigger its onset or progression, compensate for its presence or mediate effective treatments. He has published more than 280 peer-reviewed papers and 25 book chapters, and has mentored a dozen graduate and medical students and 45 postdoctoral fellows and junior research faculty members.

Unifying Research Theme:
“Developmental Origins of Health and Disease”

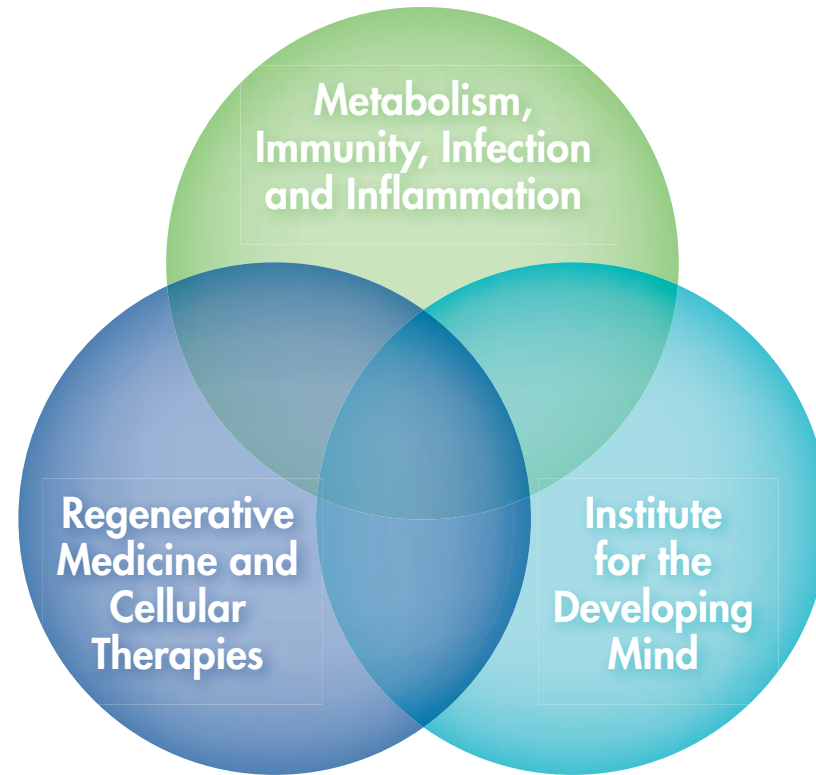
The Saban Research Institute integrates basic, clinical and translational research around the developmental origins of health and disease. We now know that all people are the result of a complex interaction between their own genetics and the environment in which they live. We also realize that adult diseases have their roots in childhood, offering us a unique opportunity for impact. This principle unifies our diverse research portfolio and drives the central mission of pediatric medicine and scientific innovation at Children's Hospital Los Angeles.

Three Synergistic Areas of Focus

- The Institute for the Developing Mind
- Regenerative Medicine and Cellular Therapies
- Metabolism, Immunity, Infection and Inflammation

The unifying theme of the “developmental origins of health and disease” supports three synergistic areas of focus designed to address pressing national child health issues and further align our goals. These areas are also the basis for expanding our common language, which is required for accelerated progress and problem solving. These three areas support targeted growth in, and foster increased interaction among, our existing scientific programs and priorities. We are thereby building a critical mass of investigators with unlimited opportunities for integration and partnership.

**THREE SYNERGISTIC
AREAS OF FOCUS**



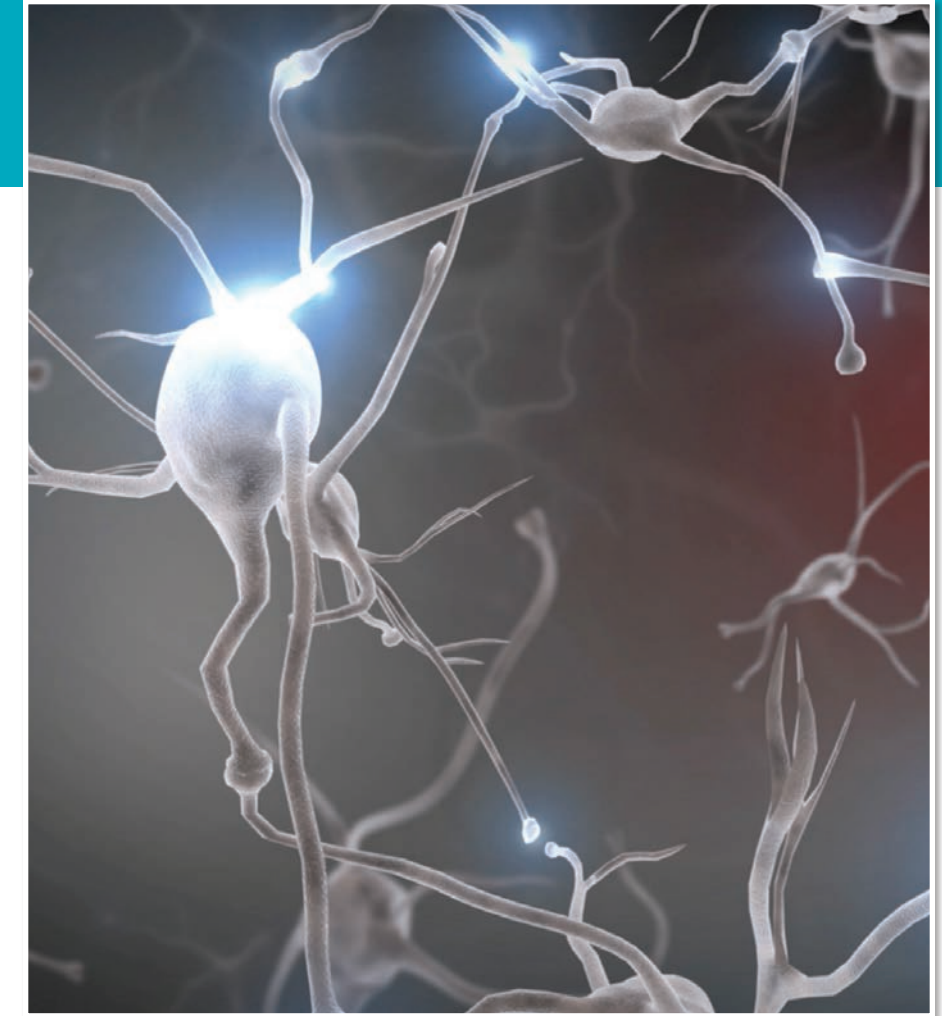
**TOXIC STRESS, RESILIENCE
AND DEVELOPMENT**

A child's brain develops via a combination of information from its genetic blueprint along with experiences both before and after birth. One remarkable aspect of the brain is that it is actually designed to use sensory, motor, social and emotional experiences to continue its own development. Neurological circuits that support higher-level functions like memory, behavioral regulation and language develop as a baby learns over time to interact with the world and make sense of it. Such development is strengthened through positive reinforcement in an engaging, interactive and safe environment.

But repeated adverse experiences are increasingly likely to derail a child's development. Pediatricians are growing increasingly alarmed about the dangers of so-called “toxic stress”—chronic activation of a young child's stress response systems due to repeated, uncontrollable adverse events, which can alter brain architecture and chemistry and hurt a child's ability to thrive.

A toxic stress response may occur when a child experiences frequent and prolonged adversity—such as physical or emotional abuse, chronic neglect, and exposure to violence or caregiver mental illness—without adequate adult support. In fact, about 80 percent of toxic stress is due to neglect, the absence of critical sensory, social and emotional experiences that drive the development of the child's brain.

When toxic stress responses occur continually or repeatedly, they can have a cumulative toll on an individual's physical and mental health—for a lifetime. The more adverse experiences in childhood, the greater the likelihood of disrupting development and increasing risk for later health problems, including heart disease, diabetes, substance abuse and depression. But research indicates that supportive, responsive, caring adults early in life can prevent or reverse the damaging effects of toxic stress response.



Reducing the effects of significant adversity on children is essential to their healthy development, and to a prosperous and healthy community. Science tells us that some children develop resilience, or the ability to overcome serious hardship, while others do not. Understanding why some children do well despite adverse early experiences is crucial to helping more children reach their full potential.

SCHEDULE

8 – 9 a.m.

Continental Breakfast and Check-in
The Saban Research Building lobby

9 – 9:10 a.m.

Symposium Welcome
D. Brent Polk, MD, AGAF, The Saban Research Institute of Children's Hospital Los Angeles; Keck School of Medicine of the University of Southern California (USC)

9:10 – 10:10 a.m.

Leveraging the Biology of Adversity to Strengthen the Foundation of Healthy Development
Keynote Speaker: Jack P. Shonkoff, MD, Harvard Medical School, Harvard University and Boston Children's Hospital

10:10 – 10:25 a.m.

Break
Light refreshments

10:25 – 11:10 a.m.

Early Adversity, Cumulative Disadvantage, and the Epigenetics of African-American Health Disparities
Tyan Parker Dominguez, PhD, MPH, MSW, USC School of Social Work

11:10 – 11:25 a.m.

Discussion – led by:
Karen Lincoln, PhD, MSW, MA, USC School of Social Work

11:25 a.m. – 12:10 p.m.

Strategies for Improving Outcomes After Early-Life Adversity: Translating Research Into Action!
Judy Cameron, PhD, University of Pittsburgh

12:10 – 1:15 p.m.

Lunch and Networking (RSVP Required)
Anita S. Watson Courtyard of The Saban Research Building

1:15 – 2 p.m.

Neuroimmune Mechanisms of Depression
Scott Russo, PhD, Icahn School of Medicine at Mount Sinai

2 – 2:15 p.m.

The Impact of Pre- and Postnatal Environment on Brain Development During Childhood and Adolescence
Elizabeth Sowell, PhD, The Saban Research Institute of CHLA; Keck School of Medicine of USC

2:15 – 2:30 p.m.

Enhancing Resiliency—Working With Young Children and Their Families
Irit Bar-Netzer, PsyD, Children's Hospital Los Angeles, USC University Center for Excellence in Developmental Disabilities

2:30 – 3:15 p.m.

Intervening With Infants and Young Children Who Have Experienced Adversity to Enhance Behavioral and Biological Outcomes
Mary Dozier, PhD, University of Delaware

3:15 – 3:30 p.m.

Break
Light refreshments

3:30 – 3:45 p.m.

Beyond Screen Time: Designing Intersubjectivity With Interactive Media
Marientina Gotsis, MFA, USC School of Cinematic Arts

3:45 – 4 p.m.

Effect of Global Climate Change on Child Development
Lawrence A. Palinkas, PhD, USC School of Social Work

4 – 4:55 p.m.

Panel Discussion
Facilitator: Pat Levitt, PhD; Panelists: Jack P. Shonkoff, MD; Tyan Parker Dominguez, PhD, MPH, MSW; Judy Cameron, PhD; Scott Russo, PhD; Mary Dozier, PhD

4:55 – 5 p.m.

Closing Remarks
Marilyn Flynn, PhD, USC School of Social Work

5 – 6 p.m.

Reception (RSVP Requested)
Anita S. Watson Courtyard, The Saban Research Building





D. Brent Polk, MD, AGAF

D. Brent Polk, MD, AGAF, is director of The Saban Research Institute of Children's Hospital Los Angeles; chair of the Department of Pediatrics, physician in chief and vice president for Academic Affairs at CHLA; and professor and chairman of Pediatrics, vice dean for Child Health and professor of Biochemistry and Molecular Biology at the Keck School of Medicine of USC. He previously served as chief of Pediatric Gastroenterology, Hepatology and Nutrition, as well as director of the National Institutes of Health (NIH)-funded Vanderbilt University Digestive Disease Research Center in Nashville, Tennessee. His research focuses on the regulation of growth and development of the intestines, making important contributions to our understanding of the relationship between inflammation and tumorigenesis. Polk is a member of several professional organizations, including the American Academy of Pediatrics, the American Gastroenterological Society, the American Pediatric Society, the American Physiological Society, Crohn's and Colitis Foundation of America, the American Society for Biochemistry and Molecular Biology and the Society for Pediatric Research. He is certified by the American Board of Pediatrics and the Subspecialty Boards in Gastroenterology.



**Keynote Speaker:
Jack P. Shonkoff, MD**

Jack P. Shonkoff, MD, is the Julius B. Richmond FAMRI Professor of Child Health and Development at the Harvard T.H. Chan School of Public Health and Harvard Graduate School of Education; professor of Pediatrics at Harvard Medical School and Boston Children's Hospital; and founding director of the university-wide Center on the Developing Child at Harvard University. He also chairs the National Scientific Council on the Developing Child—a group of distinguished scholars in neuroscience, psychology, pediatrics and economics whose mission is to bring credible science to bear on public policy affecting young children. In 2011, Shonkoff launched Frontiers of Innovation, a multisectoral collaboration among researchers, practitioners, policymakers, community leaders, parents, investors and experts in systems change who are committed to achieving breakthrough outcomes for young children facing adversity. Shonkoff has received multiple professional honors, including elected membership to the Institute of Medicine (now the National Academy of Medicine) of the National Academy of Sciences, the C. Anderson Aldrich Award in Child Development from the American Academy of Pediatrics, and the Distinguished Contributions to Social Policy Award from the Society for Research in Child Development. He served as chair of the Board on Children, Youth, and Families at the National Academy of Sciences and led a blue-ribbon committee that produced the landmark report "From Neurons to Neighborhoods: The Science of Early Childhood Development." He has been a visiting professor or delivered named lectureships at more than 35 universities in the United States and around the world, and he has authored more than 150 publications, including nine books and monographs.



Tyan Parker Dominguez, PhD, MPH, MSW

Tyan Parker Dominguez, PhD, MPH, MSW, is a clinical associate professor at the USC School of Social Work and a research associate at the Center for Social Disparities in Health at the University of California – San Francisco. Her research centers on persistent racial/ethnic disparities in adverse birth outcomes, with an emphasis on psychosocial health determinants, particularly stress and racism. Parker Dominguez has served on the Centers for Disease Control and Prevention's Racism and Health Workgroup and the U.S. Secretary of Health and Human Services' Advisory Committee on Infant Mortality, for which she co-chaired the Health Equity Working Group. She also appears in the award-winning PBS documentary series "Unnatural Causes: Is Inequality Making Us Sick," which was honored with the 2009 National Academies of Health Award for Outstanding Scientific TV/Radio Programming. Parker Dominguez chairs the Board of Directors of the California Black Women's Health Project, a statewide health advocacy organization, co-chairs the Improving Pregnancy Outcomes Committee of the American Public Health Association's (APHA) Maternal and Child Health section, and serves on the APHA's Governing Council. She has been honored with the Maternal and Child Health Section's Young Professional of the Year Award, as well as the USC School of Social Work's Hutto Patterson Foundation Distinguished Faculty Award for Outstanding Teaching and Service.



Karen D. Lincoln, PhD, MSW, MA

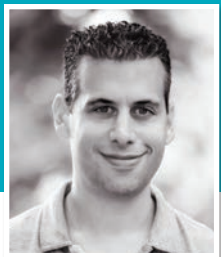
Karen D. Lincoln, PhD, MSW, MA, is an associate professor at the USC School of Social Work, director of the USC Hartford Center of Excellence in Geriatric Social Work, associate director at the USC Edward R. Roybal Institute on Aging, and founder and chair of Advocates for African American Elders at USC. Lincoln is an honors graduate from the University of California, Berkeley, where she received a bachelor's degree in sociology with a minor in African-American studies. She also earned doctorates in social work and sociology from the University of Michigan. Lincoln has received more than \$2 million in grant funding to support her research, which focuses on improving clinical and community-based treatment of African-Americans with mental health disorders and chronic health conditions. She has published more than 50 articles and book chapters in the areas of stress, aging and mental health disparities, has appeared in The New York Times and other major print media across the country, and is a regular contributor to The Wall Street Journal. Lincoln also contributes to a blog where she fuses social commentary with her vast knowledge of the health and mental health of African-American communities.



Judy Cameron, PhD

Judy Cameron, PhD, is a professor of Psychiatry and a professor in the Clinical Translational Science Institute at the University of Pittsburgh. For 10 years she was a member of the MacArthur Foundation Research Network on Early Experience and Brain Development, and she is currently a member of the National Scientific Council on the Developing Child and the Scientific Council of the Child Mind Institute. Cameron's research focuses on the effects of everyday life stresses on long-term health. Areas of interest include the interaction between genetic factors and early life experiences on shaping neural plasticity, identification of factors that lead to stress sensitivity vs. stress resilience, and the interactions between physical health and mental health. Her newest research initiative is "Working for Kids: Building Skills™," which is a community training program designed to teach how experiences influence brain development to those who work with children. This program aims to optimize interactions with children to teach social-emotional, language and problem-solving skills, and to improve their trajectories in school and in life and their long-term health outcomes.





Scott Russo, PhD

Scott Russo, PhD, is an associate professor of Neuroscience at the Icahn School of Medicine at Mount Sinai in New York. He obtained his doctorate in psychology from the City University of New York in 2003. He then completed his postdoctoral work in psychiatry and psychology at the University of Texas Southwestern Medical Center before joining the faculty at the Icahn School of Medicine in 2008. While at Mount Sinai, Russo has focused his research on understanding the neural and immunological mechanisms of neuropsychiatric disorders. Over the past 15 years, he has been very active in the mental health field, publishing more than 70 peer-reviewed manuscripts during that time. In addition, he has been the recipient of many recent honors and awards. He was named a Kavli National Academy of Science Frontiers Fellow in 2009, elected a full member of the American College of Neuropsychopharmacology in 2011, awarded the Johnson and Johnson/IMHRO Rising Star Translational Research Award in 2011, elected to the Faculty of 1000 Biology in 2012, and listed as one of the 148 highly cited neuroscientists worldwide by Thomson-Reuters in 2015.



Elizabeth R. Sowell, PhD

Elizabeth R. Sowell, PhD, is director of the Neuroimaging Program of the Institute for the Developing Mind and director of the Developmental Cognitive Neuroimaging Laboratory at Children’s Hospital Los Angeles, and professor of Pediatrics at the Keck School of Medicine of USC. With background and graduate training in clinical neuropsychology from the UC San Diego/San Diego State University joint doctoral program, she has more than 20 years of experience applying advanced, multimodal brain-image-analysis techniques to typically developing children and adolescents, and to individuals with neurodevelopmental disorders such as fetal alcohol spectrum disorders (FASDs) and ADHD. She has led NIH-funded, multisite international brain-imaging studies in FASDs, and has participated as co-investigator on several multisite data-collection studies in developmental populations. Sowell has extensive expertise in all aspects of developmental neurocognition and neuroimaging studies—from participant recruitment, to brain imaging and neurocognitive assessments, to integrative, multimodal neuroimage analyses—and has been continuously funded by the NIH to conduct this work for over 15 years. Most recently, Sowell was awarded a major grant from the NIH for the landmark ABCD Study to assess the short- and long-term impact of substance use on brain development using advanced brain imaging as well as psychological and behavioral research tools to evaluate brain structure and function.



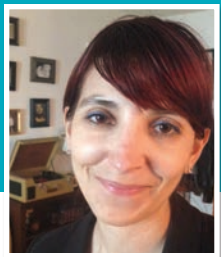
Irit Bar-Netzer, PsyD, MA

Irit Bar-Netzer, PsyD, MA, is director of community-based programs at Children’s Hospital Los Angeles. She also serves as a mental health consultant for a drug rehabilitation center serving mothers and children, and provides group therapy for male drug offenders. In her private practice, she provides professional treatment tailored to the specific needs and symptoms of the child and the family. Bar-Netzer has a bachelor’s degree in adoptive physical education; a master’s degree in education psychology, early childhood education; and a doctorate in clinical psychology. A clinical psychologist, she specializes in psychological and educational diagnostic services for school-age children and adolescents, and provides mental health services to children, adolescents and adults. Bar-Netzer believes in approaching education and treatment from the child’s point of view and in working with families to better understand the environmental, psychological and physical needs of their children. She has developed and provided services at mother-child correctional programs, and has worked as coordinator for special needs care for children in the Head Start Program.



Mary Dozier, PhD

Mary Dozier, PhD, is Amy E. du Pont Chair of Child Development and a professor in the Department of Psychological and Brain Sciences at the University of Delaware. She obtained her doctorate from Duke University in 1983. Over the last 20 years, she has studied the development of young children who have experienced adversity, examining challenges in attachment and regulatory capabilities. Along with her research team, she developed an intervention called Attachment and Biobehavioral Catch-up, which targets specific issues that have been identified as problematic for young children who have experienced adversity. Among other things, this intervention has been shown to enhance children’s secure attachments, increase the ability to regulate cortisol normatively, and strengthen inhibitory control. Dozier is currently conducting randomized clinical trials to examine the effectiveness of this intervention with high-risk birth children, foster children and internationally adopted children—work that has been continuously supported by the National Institute of Mental Health since 1989. She was on the Institute of Medicine’s Committee on Child Abuse and Neglect, was an associate editor of *Child Development*, and serves on a number of advisory and editorial boards.



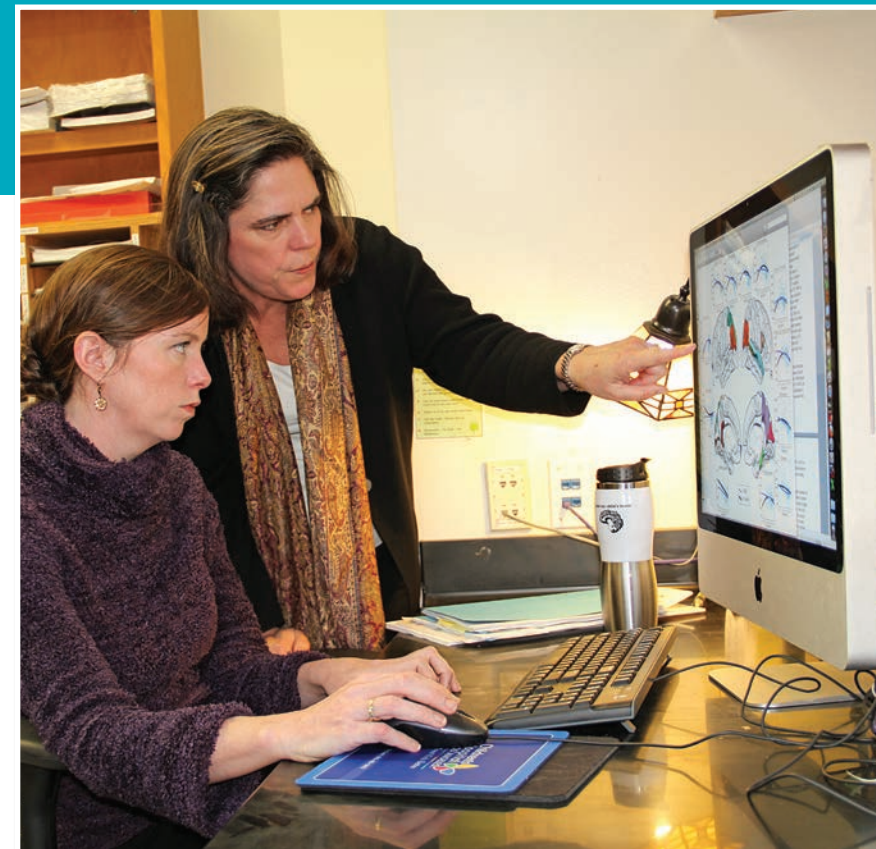
Marientina Gotsis, MFA

Marientina Gotsis, MFA, has a broad background in arts, design and engineering. Leading USC's Games for Health Initiative since 2007, she connects health professionals and students with innovation in various forms of interactive media. She also teaches courses on design and evaluation of games, mobile media and virtual reality applications in health. Gotsis cofounded and directed the Creative Media & Behavioral Health Center (CMBHC), an organized research unit of USC's School of Cinematic Arts and the Keck School of Medicine of USC, which designs, develops and evaluates entertainment applications at the intersection of behavioral science, medicine and public health. With funding from the National Institutes of Health, the Robert Wood Johnson Foundation, the Departments of Education and Defense and others, her teams have developed interactive experiences and products to help increase literacy and public awareness, change behavior, and improve assessment and treatment. Gotsis advises the USC mHealth Collaboratory, the USC Institute for Integrative Health and the Center for Technology Innovation in Pediatrics, and has lectured widely on research and practice. An invited think-tank participant at the White House, the Institute for the Future and various workshops funded by the NIH, the National Science Foundation and the European Union, she has tackled a wide range of knowledge domains and disease topics including developmental neuroscience, wellness, obesity, vision, developmental disorders, pediatric injury, traumatic brain injury, post-traumatic stress disorder and rehabilitation.



Lawrence Palinkas, PhD

Lawrence Palinkas, PhD, is the Albert G. and Frances Lomas Feldman Professor of Social Policy and Health and chair of the Department of Children, Youth and Families at USC. He also holds secondary appointments as professor in the Departments of Anthropology and Preventive Medicine at USC. His primary areas of expertise are mental health services research, behavioral health and implementation science. Palinkas is particularly interested in the sociocultural and environmental determinants of health and health-related behavior, with a focus on disease prevention and health promotion; child welfare and child mental health; translational and implementation science; immigrant and refugee communities; global health and health disparities; and health behavior in extreme environments and disasters. His research has been funded by the NIH, the National Science Foundation, NASA, the MacArthur Foundation and the William T. Grant Foundation. Among his scholarly achievements are receiving the Antarctic Service Medal from the National Science Foundation and the U.S. Navy in 1989; serving as deputy chief officer of the Life Sciences Standing Scientific Committee on Antarctic Research in 2002, and chair of the National Space Biomedical Research Institute's External Advisory Council in 2003; and holding membership on committees of the National Research Council, National Academy of Sciences and the Institute of Medicine.



A HISTORY OF RESEARCH AT CHILDREN'S HOSPITAL LOS ANGELES

The research program at Children's Hospital Los Angeles began in 1952. At that time, resources were allocated on a project-by-project basis with equipment being borrowed from clinical laboratories. In the late 1950s, a decision was made to develop a strong basic research program, and several highly capable investigators were recruited to lead work in the areas of pathology, hematology-oncology and infectious diseases. During the 1960s those initial areas of inquiry expanded to include endocrinology, virology and genetics. The research program also began getting a national reputation for success at obtaining federal funding. The first endowment was received in 1965. During the next three decades, the institution continued to expand its research enterprise with new areas of focus, increases in National Institutes of Health funding and purpose-built research facilities.

Established in 1992, the Research Institute became The Saban Research Institute in 2003 following a \$40 million gift in support of pediatric research made by Cheryl Saban, PhD, Haim Saban and The Saban Family Foundation.

In the course of its evolution, The Saban Research Institute has recruited transformative faculty members dedicated to basic, clinical and translational research in order to further our understanding of the developmental origins of health and disease. Researchers at The Saban Research Institute are committed to the health of the whole child, working in collaborations designed to accelerate the discovery, development and delivery of innovative preventive, diagnostic and treatment options. The Institute works with the local community as well as globally, focusing on individualized health and medicine, the developing mind, and regenerative medicine and cellular therapies.



**THE SABAN RESEARCH
INSTITUTE COMMITTEE**

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- Drew Pomerance
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- Elisa Schenkman
- Victoria Simms, PhD
- Erica Van Loon
- Paul S. Viviano
- Roberta Williams, MD

NOTES



Children's Hospital Los Angeles has been named the best children's hospital in California and among the best in the nation for clinical excellence with its selection to the prestigious U.S. News & World Report Honor Roll of children's hospitals. CHLA is home to The Saban Research Institute, one of the largest and most productive pediatric research facilities in the United States. The hospital is also one of America's premier teaching hospitals through its affiliation since 1932 with the Keck School of Medicine of the University of Southern California.

For more information, visit [CHLA.org](https://www.chla.org). Follow us on [Twitter](#), [Facebook](#), [YouTube](#) and [LinkedIn](#), or visit our hospital blog, [CHLA.org/BLOG](https://www.chla.org/BLOG), and our research blog: [ResearCHLABlog.org](https://www.ResearCHLABlog.org).