DIRECTOR’S WELCOME

D. Brent Polk, MD, AGAF

Chair of the Department of Pediatrics, physician in chief and vice president for Academic Affairs, Children’s Hospital Los Angeles; director, The Saban Research Institute of Children’s Hospital Los Angeles; and professor and chairman of Pediatrics, vice dean for Child Health and professor of Biochemistry and Molecular Biology, the Keck School of Medicine of the University of Southern California (USC)

We all know that health is a matter of balance.

As children develop and grow into adolescents and young adults, and even before they are born, their health and well-being are influenced by a complex interaction—a balance between their own unique genetic makeup and the environment in which they live.

Metabolic diseases like obesity and diabetes, altered immune systems, debilitating infections and chronic inflammation are all driven by an imbalance in complex, interrelated networks of cell signaling and communication.

While advancements in our understanding of the cellular and molecular basis of immune regulation has led to vaccine development and therapies for disorders such as allergies and autoimmune diseases, a more complete knowledge of the signaling events underlying innate and acquired immunity is required in order to eradicate infectious diseases such as HIV/AIDS, malaria, tuberculosis and respiratory infections.

Because many disease states are driven by an imbalance in the metabolism, immunity, infection and inflammation “network,” we believe great impact can be achieved through an interdisciplinary focus area that promotes the study of the interactions and similarities within and across diseases, systems and processes.

For example, two linked areas of research within this field, and at Children’s Hospital Los Angeles in particular, are diabetes and childhood obesity. A complex problem that cannot always be solved with behavioral interventions, obesity can lead to chronic inflammation in fat tissue, and contribute to the onset of devastating health conditions such as diabetes, cancer and cardiovascular disease. The metabolic processes driving hunger and satiety are not fully understood, and scientists here at The Saban Research Institute are exploring how biological processes interact with a child’s unique genetic and microbiome profile to contribute to the risk for obesity.

Cancer, which involves dysregulation of metabolic pathways, can be mitigated by the body’s own immune system, or worsened by inflammatory responses. A turning point in the fight against cancer is the potential for harnessing the patient’s own immune system to battle tumors. Researchers are racing to identify biomarkers that might explain why individuals respond to certain cancer therapies, but not others. By supporting collaborative investigation of the causes of cancer and how it metastasizes, this interdisciplinary approach has the potential to lead to more personalized approaches to its prevention, diagnosis and treatment.

Another important area of research we will look at in the course of today’s symposium, and one of my own research, is the human microbiome—the billions of microorganisms that coat and in our bodies and interact with the environment around us. Particularly when understood in the context of the development of a child’s immune system, the microbiome has a profound effect on human health and may play a role in autoimmune diseases such as diabetes, rheumatoid arthritis, muscular dystrophy and even some cancers.

It is becoming increasingly clear that, while metabolism, immunity, infection and inflammation are each important areas of discipline-specific research, these processes are intimately linked—to one another and to understanding the developmental origins of health and disease.

I want to thank Grace Aldrovandi, MD, CM, Jae U. Jung, PhD, and Robert Seeger, MD, for their leadership in planning today’s outstanding symposium, as well as The Saban Research Institute staff members who organized this special event.

I also extend my warmest 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 the lives and health of children and the adults they will become.

Sincerely,

D. Brent Polk, MD, AGAF
Grace Aldrovandi, MD, CM, is chief of the Division of Infectious Diseases at Children’s Hospital Los Angeles. A board-certified pediatric infectious disease specialist, she has more than 20 years of experience caring for children in this field. She is also a world-class translational physician-scientist who has served as an investigator at The Saban Research Institute since 2003. Aldrovandi’s leadership of an internationally recognized research program studying transmission of HIV in breast milk resulted in her receiving the prestigious Elizabeth Glaser Career Award from the Elizabeth Glaser Pediatric AIDS Foundation in 2004. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has received national and international studies in pathogenesis within the International Maternal, Pediatric and Adolescent AIDS Clinical Trials Network and the Adolescent Immunology and Infectious Disease Trials Network. She has published more than 100 peer-reviewed publications and eight book chapters, and lectures internationally. After earning two bachelor’s degrees and her medical degree from McGill University in Montreal, Canada, she completed her internship and residency at McGill, as well as a research fellowship in pediatrics and her medical degree from Seoul National University in Korea.

Jae-U. Jung, PhD, is a preeminent expert in the molecular biology of viruses and their gene products as they relate to cell biology, biochemistry and immunology. His research addresses several key biological features of virus-host interactions, with a focus on host immune responses to viruses, mechanisms by which viruses induce tumors, and the ability of viruses to establish lifelong infections. Jung has published more than 90 publications in highly respected peer-reviewed journals and serves as principal investigator to several NIH and foundation grants. He is a fellow of the American Academy of Microbiology and the American Association for the Advancement of Science. In 2012, he received the Ho-Am Prize in Medicine, one of Korea’s highest honors, when awarded to the Korean equivalent of the Nobel Prize. He is currently a distinguished professor and chair of Molecular Microbiology and Immunology at USC as well as director of the USC Institute of Emerging Pathogens and Immune Diseases. Prior to his appointment in 2007, Jung was a professor of Microbiology and Molecular Genetics at Harvard Medical School, and chair of the Tumor Virology Division at the New England Primate Research Center. He was the first Korean-American scientist to receive tenure at Harvard University. He received his doctorate in his receiving the prestigious Elizabeth Glaser Scientist Award from the Elizabeth Glaser Pediatric AIDS Foundation in 2004. He is part of a national consortium that is recognized research program studying transmission of HIV in breast milk resulted in her receiving the prestigious Elizabeth Glaser Career Award from the Elizabeth Glaser Pediatric AIDS Foundation in 2004. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC). Aldrovandi has more than 20 years of experience caring for children in this field. She is also a professor of Pediatrics, and Molecular Microbiology and Immunology at the Keck School of Medicine of the University of Southern California (USC).
The Saban Research Institute of Children's Hospital Los Angeles

Research Strategy

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.

Metabolism, Immunity, Infection and Inflammation

The majority of sick children suffer from infection, compromised immune systems, or defects in cellular and systemic metabolism. Although metabolism, immunity, infection and inflammation are all important, distinct areas of investigation, they are intimately linked. The reciprocal interactions between them require balanced regulation to fight disease and ensure optimal health. At The Saban Research Institute, we believe that translational progress can be achieved through the study of these interactions across systems and biological processes in various diseases—from cancer, to obesity and diabetes, to autoimmune diseases like allergies or juvenile arthritis.

This understanding, and the recognition that the mechanisms underlying a wide variety of disease states do not always fit neatly into traditional disciplines, is what motivates the Metabolism, Immunity, Infection and Inflammation research initiative at The Saban Research Institute. The initiative connects diverse research programs, clinical service and educational activities at Children’s Hospital Los Angeles and the University of Southern California (USC). In addition to the many CHLA-based departments, divisions, clinics and programs, some key USC partners include: the USC Norris Comprehensive Cancer Center; the Diabetes and Obesity Research Institute; and the USC Institute for Emerging Pathogens and Immune Diseases.

The study of immunity is critical to the understanding, prevention, diagnosis and treatment of any disease, and the growing appreciation of how metabolic signaling links inflammation with immune dysfunction and tumor progression elevates the importance of taking an integrated approach to developing effective therapeutic interventions. Today, our presenters will take a look at how many human disorders involve abnormal metabolic states, and show how an understanding of the body’s immune system contributes to keeping children healthy—or propelling disease. Our symposium will tackle topics ranging from the relationship between obesity and childhood cancer, to the crosstalk between cancer and immune cells within the tumor microenvironment; from strategies to improve immunization rates in the community setting, to interactions between intestinal microbiota and the immune system.

Focusing on metabolism, immunity, infection and inflammation offers us an opportunity to look at not only how these complex areas intersect, but also how partnerships and collaborations can help physicians and scientists uncover the origins of human health and disease—leading to new treatments and improved outcomes for our patients.
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 – 10:05 a.m.
The Gut-Microbiome-Brain Connection in Neurodevelopmental Disorders
Keynote Speaker: Sarkis K. Mazmanian, PhD, California Institute of Technology

10:05 – 10:40 a.m.
The Infant Microbiota Shapes Development and Long-term Health
Laurie Cox, PhD, New York University Department of Medicine, Lab of Martin Blaser, MD

10:40 – 10:55 a.m.
Break
Light refreshments

10:55 – 11:50 a.m.
Dynamics of the Human Gut Microbiome
Keynote Speaker: Rob Knight, PhD, University of California, San Diego

11:50 a.m. – 12:10 p.m.
Mom, Milk and Microbes: Shaping the Baby’s Microbiome
Pia Pannaraj, MD, MPH, The Saban Research Institute of CHLA, Keck School of Medicine of USC

12:10 – 1:10 p.m.
Lunch and Networking (RSVP Required)
Anita S. Watson Courtyard of The Saban Research Building

1:10 – 2:05 p.m.
Microbiota-Immune System Interactions in the Intestine
Keynote Speaker: Lora Hooper, PhD, University of Texas Southwestern Medical Center

2:05 – 2:25 p.m.
Exosomes: MicroRNAs Orchestrate the Biology of the Tumor Microenvironment
Muller Fabri, MD, PhD, The Saban Research Institute of CHLA, Keck School of Medicine of USC

2:25 – 3:20 p.m.
Democratization of Clinical-Grade T Cells Engineering to Treat Cancer and Pathogens
Keynote Speaker: Laurence J.N. Cooper, MD, PhD, University of Texas MD Anderson Cancer Center

3:20 – 3:35 p.m.
Break
Light refreshments

3:35 – 3:55 p.m.
Understanding How Obesity Can Make Childhood Leukemia Worse
Steven Mittelman, MD, PhD, The Saban Research Institute of CHLA; Keck School of Medicine of USC

3:55 – 4:15 p.m.
Autophagy and Beyond-Cell Stress Signaling and Pediatric Cancer
Chengyu Liang, MD, PhD, Keck Medical School of USC

4:15 – 4:45 p.m.
Closing Remarks
Jae Jung, PhD, Keck School of Medicine of USC

4:45 – 5:45 p.m.
Reception (RSVP requested)
Anita S. Watson Courtyard, The Saban Research Building
D. Brent Polk, MD, AGAF

D. Brent Polk, MD, AGAF, is the chair of the Department of Pediatrics, physician in chief and vice president for Academic Affairs, Children’s Hospital Los Angeles; director of The Saban Research Institute of Children’s Hospital Los Angeles; 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 the University of Southern California (USC). He previously served as chief of Pediatric Gastroenterology, Hepatology and Nutrition, as well as director of the NIH-funded Vanderbilt University Digestive Disease Research Center in Nashville, Tennessee. His research is focused 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 Gastroenterological Society, the American Pediatric Society, the American Physiological Society, 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.

Sarkis K. Mazmanian, PhD

Sarkis K. Mazmanian, PhD, is the Luis B. and Nelly Soux Professor of Microbiology in the Division of Biology and Biological Engineering at the California Institute of Technology (Caltech). Mazmanian is a Phi Beta Kappa graduate from the University of California, Los Angeles (UCLA), where he also received his doctoral training in microbiology and immunology, studying the mechanism by which Gram-positive pathogens anchor surface protein adhesins during bacterial infection. He was a Helen Hay Whitney postdoctoral fellow at Harvard Medical School, where he studied how symbiotic bacteria promote healthy maturation of the immune system. He was promoted to assistant professor at Harvard Medical School in 2006, and later that year moved to Caltech. Mazmanian has won numerous awards, including a Searle Scholar award, Young Investigator of the Year at Harvard Medical School and the Damon Runyon Innovation Award, and was named one of the “Best Brains in Science under 40” by Discover magazine. He recently received the MacArthur Foundation “Genius” award. His laboratory focuses on the study of beneficial bacterial molecules from the human gut microbiota as novel therapies for immunologic and neurologic disorders. He is a founder of two biotech companies and serves on the scientific advisory boards of more than a dozen companies, academic centers and nonprofit foundations.

Laura Cox, PhD

Laura Cox, PhD, is a postdoctoral fellow in the lab of Martin Blaser at New York University (NYU) Langone Medical Center. She began her career in anaerobic bacteriology, focusing on development of clinical diagnostics and broth production. Cox earned her undergraduate degree in applied microbiology and biotechnology at California Polytechnic University in San Luis Obispo, then was trained and Board-certified as a medical technologist. She obtained her doctorate in Martin Blaser’s lab and completed an NIH TL1 Scholar Fellowship in clinical translational science at NYU. Her current research investigates how colonization with specific bacteria in early life might alter metabolism.

Interaction of E. coli with macrophages

Keynote Speaker: Sarkis K. Mazmanian, PhD

Laura Cox, PhD

Laura Cox, PhD, is a postdoctoral fellow in the lab of Martin Blaser at New York University (NYU) Langone Medical Center. She began her career in anaerobic bacteriology, focusing on development of clinical diagnostics and broth production. Cox earned her undergraduate degree in applied microbiology and biotechnology at California Polytechnic University in San Luis Obispo, then was trained and Board-certified as a medical technologist. She obtained her doctorate in Martin Blaser’s lab and completed an NIH TL1 Scholar Fellowship in clinical translational science at NYU. Her current research investigates how colonization with specific bacteria in early life might alter metabolism.
Rob Knight, PhD, completed a bachelor's degree in biochemistry in his native New Zealand at the University of Otago in 1996, then completed a doctorate on the origin and evolution of the genetic code with Laura Landweber in the Department of Ecology and Evolutionary Biology at Princeton University in 2001. He conducted postdoctoral research with Mike Yanus on RNA sequence space in the Department of Molecular, Cellular and Developmental Biology at the University of Colorado, then became the first hire in the interdisciplinary BioFrontiers Institute (then CIMB) at the University of Colorado in 2004. Since becoming a faculty member, Knight has focused much of his work on characterizing complex microbial communities, including those that inhabit our bodies. In 2009 he became an HHMI Early Career Scientist, and in 2012 he became an AAAS Fellow. He participates in the Human Microbiome Project in several capacities, including as principal investigator of the University of Colorado component of the Data Analysis and Coordination Center, he is principal investigator of the grants funding the Earth Microbiome Project and Scientific Lead of American Gut, his lab developed the popular UniFrac and QIIME software for microbial community analyses, among other packages, and protocols for high-throughput microbial amplicon sequencing on the 454 and Illumina platforms; and he has participated in discoveries such as linking gut microbes to obesity, diet, geography, age and host behavior, the individualized nature of our microbes, which varies link us to objects we touch; the role of pH rather than plant community or biome in structuring soil microbial communities globally; and the deep microbial “seed bank” that occurs in marine and perhaps other ecosystems. As of January 2015, Knight is a professor of Pediatrics and Computer Science and Engineering and director of the Microbiome Initiative at the University of California, San Diego.

Pia S. Pannaraj, MD, MPH, is an attending physician at Children’s Hospital Los Angeles in the Division of Infectious Diseases, and assistant professor of Clinical Pediatrics and Molecular Microbiology and Immunology at the Keck School of Medicine of USC. Pannaraj’s research focuses on strategies to improve immunization rates in the community setting, with emphasis on school-based influenza vaccinations and maternal vaccination to protect infants. She also studies mucosal vaccination and immune response using influenza vaccine as a model. Additional interests include the epidemiology and pathogenesis of infectious diseases. Previously, her work included research on multiple aspects of Group B streptococcal vaccine development. Pannaraj now serves as the co-director of the Pediatric Global Health residency track. She has been invited to lecture nationally and internationally on global health, tropical medicine, vaccines and vaccine-preventable diseases, neonatal health, and epidemiology of childhood infections. Pannaraj completed her infectious diseases fellowship at Baylor College of Medicine and her master’s in public health at the University of Texas Health Science Center. She finished medical school and residency training in pediatrics at the University of California, San Diego. She received undergraduate degrees in biology and economics from the University of Chicago.
Lora Hooper, PhD, is a professor in the Department of Immunology at the University of Texas (UT) Southwestern Medical Center, where she holds the Jonathan Uhr Endowed Chair in Immunology. She is also an investigator at the Howard Hughes Medical Institute. She joined the UT Southwestern faculty in 2003 after completing a postdoctoral fellowship at Washington University. During her fellowship training, Hooper became interested in interactions between intestinal bacteria and host cells in the mammalian gut. Her research team at UT Southwestern studies interactions between the intestinal microbiota and the immune system. The approaches used in her lab range from biochemical and structural approaches for understanding the molecular basis for intestinal immune responses, to mouse genetic approaches for mouse engineering with immunotherapy. A recent focus is aimed at understanding how the microbiota is altered during disease, and the impact this has on the intestinal immune system. To accomplish this goal, her lab pairs standard metagenomic analysis with functional assays. Her work is funded by the Howard Hughes Medical Institute, the National Institutes of Health and the Burroughs Wellcome Foundation.

Lora Hooper, PhD
Keynote Speaker:

Muller Fabbrri, MD, PhD, is an investigator in the Division of Hematology, Oncology and Blood and Marrow Transplantation at CHLA. He is also an assistant professor of Pediatrics and of Molecular Microbiology and Immunology at the Keck School of Medicine of USC. He came to Children’s Hospital Los Angeles in 2012. Fabbrri received his medical degree in 1997 from the University of Pisa, Italy, and completed a residency in medical oncology at the University of Ferrara (Italy) in 2001. In 2003, he joined the lab of Carlo Croce, MD, at Thomas Jefferson University in Philadelphia. In 2004, he began research on the role of microRNAs and other noncoding RNAs in cancer as a postdoctoral researcher at The Ohio State University, where he was appointed a research scientist with principal investigator status in 2008. Fabbrri’s work in the field of gene therapy focuses on the role of tumor-suppressor genes, and the role of microRNAs and other noncoding RNAs in the tumor microenvironment. In particular, he was the first to identify a family of microRNAs (the miR-29 family) that is able to affect DNA methylation and induce re-expression of epigenetically silenced tumor suppressor genes. He has recently identified a completely new mechanism of action of miRNAs: as ligands and agonists of Toll-like receptor and modulators of tumor growth and dissemination, through this aberrant crosstalk between cancer cells and immune cells within the tumor microenvironment.

Muller Fabbrri, MD, PhD
Keynote Speaker:

Laurence J.N. Cooper, MD, PhD, is a Grant Tower, W. W. Sokov and Margaret Sullivan Distinguished Professor in Pediatrics and a tenured professor at the University of Texas MD Anderson Cancer Center (MDACC), with joint appointments as the Division of Pediatrics and Department of Immunology. He is section chief of Cell Therapy at the Children’s Hospital (CHOC) at MDACC and associate director of the Center for Cancer Immunology Research. Cooper earned his joint medical and doctorate degrees from Case Western Reserve University in Cleveland, Ohio, and completed his fellowship in pediatric hematology-oncology at the Fred Hutchinson Cancer Research Center at the University of Washington in Seattle. In 2006, he was recruited to join the CCH at MDACC, where he cares for children undergoing cell therapy and leads scientific efforts to develop new treatment approaches that pair gene engineering with immunotherapy. A former National Institutes of Health Research Center Scholar, Scholar of the Sidney Kimmel Foundation for Cancer Research, and Leukemia Society of America Fellow, Cooper is the principal investigator for numerous initiatives and trials. In 2007, he was elected to membership in the American Society for Clinical Investigation. Other tributes include the 2016 “Best Boss” award, MDACC; 2009 Faculty Scholars Award, MDACC; 2007 induction into the American Society for Clinical Investigation; 2004 Society of Gene Therapy Young Investigator Award; and the 1999 American Society of Clinical Oncology Young Investigator Award. Cooper has co-authored dozens of peer-reviewed journal articles, abstracts and book chapters, and has initiated multiple trials under FDA’s infusing T cells and NK cells. He is undertaking the first protocols using a new approach to gene therapy based on the Sleeping Beauty transposase/transposon system and has helped develop clinical-grade active and propagating cells for numerically expanding lymphocytes for human application.

Laurence J.N. Cooper, MD, PhD
Keynote Speaker:

William DePaolo, PhD, is an assistant professor of Molecular Microbiology and Immunology at the Keck School of Medicine of USC, and is a member of the Gastrointestinal Cancers Program at the USC Norris Comprehensive Cancer Center. DePaolo received his doctorate from Northwestern Ferbang School of Medicine in Immunology. After realizing he knew about the body’s defenses against pathogenic bacteria, but that he had very little experience with the microbes themselves or the tissues that they may infect, he accepted a joint postdoctoral fellowship at the University of Chicago. During this time his training was sponsored by a National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) postdoctoral fellowship award, which supported his study of molecular microbiology of the bacterium that causes bovine plague as well as how the immune system is modulated within the intestinal tract. These unique training experiences led him to the intestinal microclimate of the intestine and an NEDD-sponsored Mentored Training Award. Currently his laboratory’s research focus is aimed at understanding how the microbiome is altered during disease, and the impact this has on the intestinal immune system. To accomplish this goal, his lab pairs standard metagenomic analysis with functional assays. Understanding how the microbiome is altered and how our immune system responds to these changes will allow us to identify and develop novel biotherapeutics using the microbiome or its associated factors.

William DePaolo, PhD
Keynote Speaker:
Chengyu Liang, MD, PhD, is an assistant professor at the Keck School of Medicine of USC, where she leads a research team that investigates the molecular regulation and biological functions of basic cellular processes, including autophagy, apoptosis, genomic stability and membrane trafficking in the pathogenesis and therapeutic interventions of cancer and infectious diseases. She obtained her doctorate from the University of New York at Stony Brook, and received postdoctoral training as a tumor virologist at Harvard Medical School. She was the first to identify UVVAG (UV irradiation resistance associated gene) as an antiapoptotic tumor suppressor in cancer and distanced its important roles in synchronizing diverse cellular processes in cancer and infection. Her group also made the first demonstration that UVVAG directly mediates the repair of damaged DNA and plays an important role in cell cycle check points. In collaboration with colleagues Jung and Oh, she also pioneered the study of molecular regulation and biological functions of basic cellular processes, including autophagy, apoptosis, genomic stability and membrane trafficking in the pathogenesis and therapeutic interventions of cancer and infectious diseases. Liang has been named a Leukemia & Lymphoma Society Fellow and an American Cancer Society Research Scholar, and received the Baxter Foundation Young Investigator Award. She has also served the pioneering study of basic cellular processes, including autophagy, apoptosis, genomic stability and membrane trafficking in the pathogenesis and therapeutic interventions of cancer and infectious diseases. Liang has been named a Leukemia & Lymphoma Society Fellow and an American Cancer Society Research Scholar, and received the Baxter Foundation Young Investigator Award.

Steven Mittelman, MD, PhD, is the director of the Diabetes and Obesity Program at the Saban Research Institute of CHLA, and an associate professor of Pediatrics and Physiology and Biophysics at the Keck School of Medicine of USC. The Diabetes and Obesity Program was founded at CHLA in response to the extreme burden that childhood obesity places on our patients and our community. The program represents an alignment of clinical and research programs at CHLA and the Saban Research Institute—expanding core infrastructure and enhancing interaction between scientists and clinicians whose work is relevant to diabetes and obesity. The program has established the EMPower (Energy Management for Personalized Weight Reduction) multidisciplinary weight management clinic, the thriving CHLA Farmers Market and Project Heal, a faith-based obesity/diabetes intervention partnership between CHLA and the New Mount Calvary Missionary Baptist Church in South Los Angeles. Mittelman leads an active laboratory research program focused on the relationship between obesity and childhood cancer, particularly acute lymphoblastic leukemia. His group performs bench, clinical and translational research to further elucidate this relationship. Mittelman received his medical degree and doctorate from the Keck School of Medicine of USC, where he investigated insulin regulation of blood glucose in healthy and obese states. He completed his residency in pediatrics and fellowship in pediatric endocrinology at CHLA. In addition to his clinical and research activities, Mittelman directs the Keck School of Medicine/Caltech Combined MD/PhD Program, and is the founding director of the CHLA Donnell Society for Pediatric Scientists.

The research program at Children’s Hospital Los Angeles began in 1952. At first, 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 establish 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. During 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. 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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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. Children’s Hospital 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. Follow us on Twitter, Facebook, YouTube and LinkedIn, or visit our hospital blog, WeTreatKidsBetter.org, and our research blog, ResearCHLAblog.org.