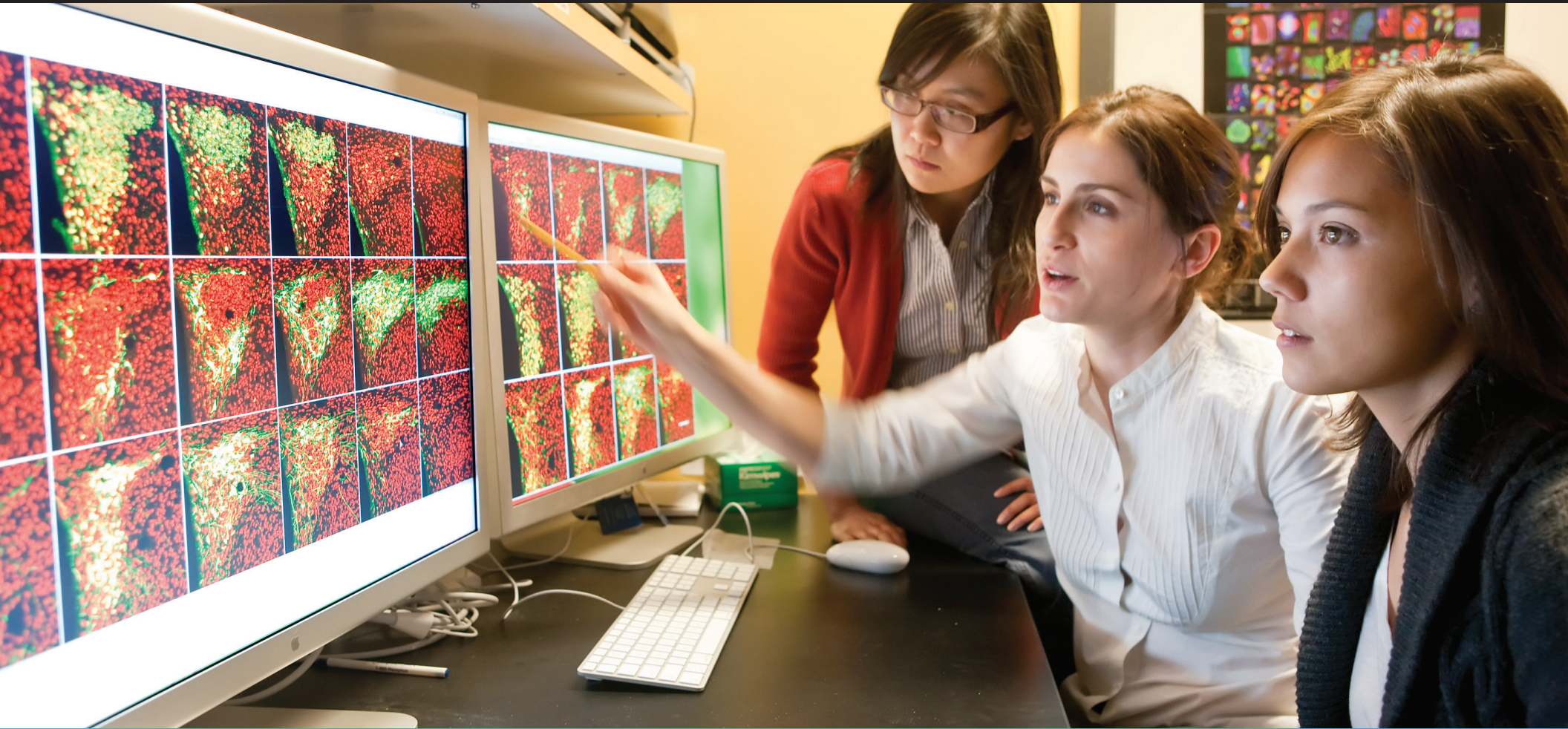


Women in Science, Technology, Engineering and Math





A DECADE OF TRANSFORMATION

Cheryl Saban, PhD, and Haim Saban

This year marks the 10th anniversary of Cheryl Saban, PhD, Haim Saban and The Saban Family Foundation's transformative \$40 million gift to name The Saban Research Institute of Children's Hospital Los Angeles, one of the few freestanding research centers in the U.S. where scientific inquiry is combined with clinical care and is devoted exclusively to children. The generosity of the Sabans and their invaluable partnership in empowering progress has enabled a decade of creating hope and building healthier futures through research.

The Sabans and The Saban Family Foundation are recognized globally for their vast contributions to the healthy development of children and families. Their impact is seen and experienced every day at The Saban Research Institute. Each year their philanthropy funds the recruitment and retention of transformative faculty, which has enabled the expansion of our research priorities and elevated our national ranking to eighth among freestanding children's hospitals in National Institutes of Health grant funding. Additionally, their gift sustains the infrastructure required to support our faculty and their diverse research programs, and funds numerous programs designed to enhance research training, education and career development.

The Sabans have enabled investigators to pursue novel scientific directions and unique partnerships—the kind of research that is required for great discoveries, but which is rarely funded by traditional granting mechanisms. Their support also enables The Saban Research Institute's comprehensive approach to developing and supporting outstanding researchers at all career stages, building a pipeline of leaders in pediatric research who are encouraged to be innovators and collaborators in the pressing issues of children's health.

For the past decade, the generosity of Cheryl Saban, PhD, Haim Saban and The Saban Family Foundation has empowered researchers, physician-scientists, students, staff, trainees, volunteers and, most importantly, the children and families that come to Children's Hospital Los Angeles in times of need, to continue working together to bring about a world in which every child thrives.

Women in STEM

Women make up 48% of the U.S. workforce

BUT

hold only 24% of STEM jobs

40%

of men with STEM degrees work in related fields.

VS

26%

of women with STEM degrees work in related fields.

The gap starts early. According to an American Society for Quality poll of 8- to 17-year-olds, 24 percent of boys said they were interested in an engineering career, versus 5 percent of girls.

Women working in STEM jobs **earn 33% more** than women working in other fields.

100%

winners at the first annual Google Science Fair were girls, from a field of 7,500 entries from 91 countries.

17%

growth is anticipated in STEM jobs over the next decade—compared to 9.8% in non-STEM jobs.

Source: BarackObama.com



DIRECTOR'S WELCOME

D. Brent Polk, MD

Chair of the Department of Pediatrics, physician in chief and vice president for Academic Affairs and director, The Saban Research Institute of Children's Hospital Los Angeles; 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)

Throughout history women have made invaluable contributions to society through the fields of science, technology, engineering and mathematics (STEM). From the development of a stellar classification system, to the isolation of new elements, to enabling secure information to be sent over the internet, women are thinkers, dreamers and doers.

Children's Hospital Los Angeles has benefitted for more than 100 years from the visionary leadership, intelligence and hard work of women committed to pediatric health. In the early 20th century, seven outstanding women led the charge to establish Children's Hospital Los Angeles and served as its first Board of Directors. Today we have expanded our footprint and impact due in large part to the many women, past and present, who have shaped and supported our mission of creating hope and building healthier futures.

One of the most important women to Children's Hospital Los Angeles is Cheryl Saban, PhD, who along with her husband, Haim Saban, and The Saban Family Foundation, has been an incredible partner in our fight to improve the health and well-being of children.

Yet, society hasn't always welcomed and recognized women as valuable partners in progress and innovation. For many years young girls were

discouraged or even forbidden from science, technology, engineering and mathematical play, education and discussion. When women were successful in overcoming these barriers, their accomplishments were attributed solely to male colleagues or mentors, or even disregarded altogether.

Today, great strides have been made, but social and cultural expectations are still not fully aligned with the capacity and drive of women. Over the years it is this capacity and drive that have transformed discrimination into rights and oppression into opportunity. Today's event is an opportunity to hear from women working in STEM fields who are committed to empowering young girls to explore and pursue their passions for STEM. We are thrilled to welcome everyone to this important conversation.

I want to give a special welcome to the school-aged girls and their educators who are joining us today. Additionally, I am pleased to extend my sincerest gratitude to the many philanthropists with us today and to those who could not attend. Your commitment to the health and well-being of children is a vital part of our many successes and our future goals.

I would especially like to acknowledge Cheryl Saban, PhD, Haim Saban and The Saban Family Foundation as we celebrate the 10th anniversary of their transformational gift that resulted in the naming of The Saban Research Institute. I would personally like to thank them for their vision and commitment to transformative research devoted to children. Their philanthropic leadership will continue to have a profound impact on our quest for hope and healthier futures for children.

The Saban Research Institute Women in STEM: Designing, Developing and Delivering Change Wednesday, April 24, 2013

8:15 – 9 a.m.

Light Breakfast and Check-in

9 – 9:10 a.m.

Program Begins

9:10 – 9:20 a.m.

D. Brent Polk, MD, Director, The Saban Research Institute,
Children's Hospital Los Angeles; University of Southern California

Opening Remarks

9:20 – 9:30 a.m.

Michele D. Kipke, PhD, The Saban Research Institute of
Children's Hospital Los Angeles; University of Southern California

**Speaker Introductions, Children's Hospital Los Angeles and
Personal Perspective**

Presenters

9:30 – 9:40 a.m.

Roberta Diaz Brinton, PhD, University of Southern California

9:40 – 9:50 a.m.

Tyran Richards, BS, Middle School Science Teacher, Former
Pharmaceutical Chemist, EnCorps

9:50 – 10 a.m.

Heather Volk, PhD, MPH, The Saban Research Institute of Children's
Hospital Los Angeles; University of Southern California

10 – 10:10 a.m.

Judy Vredenburgh, MBA, President and CEO, Girls Inc. and
Bianca Bailey, BS, Girls Inc. Alumna

10:10 – 10:20 a.m.

Maja Mataric, PhD, University of Southern California

10:20 – 10:30 a.m.

Ellen Jorgensen, PhD, Co-Founder and President, Genspace

10:30 – 10:45 a.m.

Break

Panel Discussion

10:45 – 10:50 a.m.

Cheryl Saban, PhD, Panel Introduction and Moderator

10:50 – 11:50 a.m.

Panelists: **Roberta Brinton, Tyran Richards, Heather Volk,
Judy Vredenburgh, Maja Mataric, Ellen Jorgensen**

11:50 a.m. – 12:00 p.m.

Closing Remarks, **Cheryl Saban**

12 – 12:30 p.m.

Light Lunch and Networking



D. Brent Polk, MD

D. Brent Polk, MD, is the chair of the Department of Pediatrics and vice dean for Child Health at the Keck School of Medicine of the University of Southern California. He is physician in chief, vice president for Academic Affairs and director of The Saban Research Institute of Children's Hospital Los Angeles. He previously served as chief of Pediatric Gastroenterology, Hepatology and Nutrition, as well as director of the NIH-funded Digestive Disease Research Center at Vanderbilt University in Nashville, Tenn. His research is focused on the regulation of growth and development of the intestines, making important contributions to our understanding of the relationship between injury, inflammation, repair and cancer. Polk is a member of numerous professional organizations. He is certified by the American Board of Pediatrics and the Subspecialty Boards in Gastroenterology. Dr. Polk was honored with the distinguished alumnus award from the University of Arkansas for Medical Sciences in 2009. He was elected to chair the American Gastroenterological Association Institute Council, the only Pediatrician to hold this role in the organization's 111-year history. He also chaired the National Institutes of Diabetes and Digestive and Kidney Diseases C-Committee, and he serves on the scientific advisory boards of UCSF, Mayo Clinic, Stanford University, Vanderbilt University, Washington University in St. Louis and UC San Diego. He has mentored many undergraduate, graduate and medical students, postdoctoral and clinical fellows as well as junior faculty. He is committed to the development of the next generation of pediatric physician-scientists from all groups and places this important responsibility as a top priority in his leadership, clinical and research roles, and was recognized for his leadership in this area by Vanderbilt University with the Grant W. Liddle Prize.



Michele D. Kipke, PhD

Michele D. Kipke, PhD, is a professor of Pediatrics and Preventive Medicine at the Keck School of Medicine of the University of Southern California (USC). She serves as the vice chair of Research within the Department of Pediatrics at Children's Hospital Los Angeles and the Deputy Director of the Southern California Clinical and Translational Science Institute at USC. A nationally known pediatric health researcher and policy expert on children and families, she also leads the Community, Health Outcomes and Intervention Research Program of The Saban Research Institute and has an extensive record of federally funded research in the fields of HIV prevention and community participatory research. In her role as vice chair of Research, Kipke is responsible for leading efforts to support and mentor research faculty, including early career faculty and junior investigators. Kipke currently mentors pre- and post-doctoral trainees and early career faculty, and has mentored sixteen junior investigators who successfully transitioned to become NIH-funded independent investigators, including six who obtained NIH Career Development Awards. Kipke leads efforts at Children's Hospital Los Angeles to support clinical research on autism and other neurodevelopmental disorders and heads the hospital's Autism Speaks Autism Treatment Network Center of Clinical Excellence. In 2012, she completed a distinguished fellowship with the Executive Leadership in Academic Medicine Program for Women, of Drexel University. Kipke is an elected official to the governing board of the South Pasadena Unified School District. She was elected as a member of the Society for Pediatric Research in 2008 and joined the American Pediatric Society this year. In addition, she is an advisor to the National Institutes of Health and the World Health Organization.



Roberta Diaz Brinton, PhD

Roberta Diaz Brinton, PhD, holds the Vanderveen Chair in Therapeutic Discovery and Development and is professor of Pharmacology and Pharmaceutical Sciences, Biomedical Engineering and Neurology at the University of Southern California where she directs the Norris Foundation Laboratory for Neuroscience Research. Brinton also directs preclinical translation and regulatory support within the Southern California Clinical and Translational Science Institute. Brinton's neuroscience research endeavors span basic science discovery, translational research and clinical trials. Brinton and her team have investigated the female brain to understand why women are at greater risk for developing Alzheimer's disease. Results of her research indicate that early changes in the capacity of the brain to generate sufficient energy lead to early stages of Alzheimer's that become progressively worse with time. Brinton serves on several scientific advisory boards and was named one of the Ten Best Minds by *U.S. News & World Report* and Woman of the Year by the California State Senate. Early in her faculty career, Brinton developed the USC Science Technology And Research (STAR) Program, in which inner-city high school students learn science by joining a USC research team to conduct real science that really matters. For her decades of commitment to science education, Brinton received the Presidential Citizens Medal. Brinton received her bachelor's degree with honors from the University of Arizona, a master's degree in human neuropsychology and was an NIH Predoctoral Fellow while completing her doctorate degree in psychobiology and neuropharmacology at the University of Arizona. Brinton went on to conduct postdoctoral research in Neuroendocrinology as an NIH postdoctoral fellow at Rockefeller University in New York. Upon joining USC in 1988, Brinton co-founded the biotechnology company, CoCensys, and is the joint holder of several patents.



Tyran Richards, BS

Tyran Richards holds a bachelor's degree in Biology and is a second-career middle school science teacher. Richards previously worked in the pharmaceutical industry for about a decade as a research and development chemist developing topical products for diseases such as rosacea, atopic dermatitis and eczema. Although she enjoyed and appreciates her previous career, she happily left it behind to make a positive impact in the lives of our future world changers, our students. She currently teaches eighth grade science in Fairfield, Calif. Richards never intended to become a teacher; however a chance encounter with her former chemistry teacher compelled her to enter the field of teaching and use her influence to literally change lives. In 2011, She joined the EnCorps Teachers Program, which recruits and helps science, technology, engineering and math (STEM) professionals transition into second careers in teaching. It is Richards' desire that her students realize how valuable they are and how capable they are of achieving greatness. She not only sees herself as an educator, but as an equipper, a facilitator and an encourager.



Heather Volk, PhD, MPH

Heather Volk, PhD, MPH, is assistant professor of Research in the Division of Environmental Health in the Department of Preventive Medicine and in the Zilkha Neurogenetic Institute at the Keck School of Medicine of the University of Southern California, and a researcher in the Community, Health Outcomes and Intervention Research Program at The Saban Research Institute of Children's Hospital Los Angeles. Her research focuses on the genetic and environmental epidemiology of autism and other neurodevelopmental disorders as well as more generally on the role of gene-environment interaction in complex disease. Volk is a graduate of the University of Notre Dame and received a Master of Public Health degree concentrating in epidemiology and biostatistics from Boston University, and a doctorate in public health studies concentrating in epidemiology from St. Louis University. She completed a postdoctoral fellowship in environmental genomics at the University of Southern California.



Judy Vredenburgh, MBA

Judy Vredenburgh, MBA, is president and CEO of Girls Inc., the nonprofit organization that inspires all girls to be Strong, Smart, and BoldSM. Girls Inc.'s life-changing programs and experiences are delivered through a network of 89 affiliates to help girls navigate gender, economic and social barriers. Vredenburgh joined Girls Inc. in 2010 and is leading a charge for strategic growth. Under her guidance, the organization is undertaking a five-year plan to help more girls, especially girls from low-income communities, grow up healthy, educated and independent. Vredenburgh began her career in the retail industry, rising to CEO of Chess King, a \$257-million division of the Melville Corporation. Throughout her corporate career, she created opportunities for advancement for female executives and mentored women in business, both professionally and as a volunteer. Her personal commitment to advancing social good led her to the nonprofit sector as the senior vice president of Revenue Development and Marketing at the March of Dimes Birth Defects Foundation and then president and CEO of Big Brothers Big Sisters of America. Vredenburgh's innovative leadership has garnered broad recognition. She served on President Obama's Office of Faith-Based and Neighborhood Partnerships Advisory Council, was a member of the University of Pennsylvania Board of Overseers and served on the Board of Directors of Independent Sector. She was honored as one of *The NonProfit Times'* Power & Influence Top 50 of 2012 for her transformational approach to Girls Inc.'s vision and management. Judy holds a bachelor's degree from the University of Pennsylvania and a Master of Business Administration from the State University of New York, Buffalo. She holds honorary degrees from Lynchburg College and Philadelphia University.



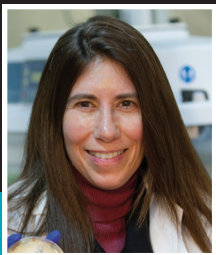
Bianca Bailey, BS

Shorma Bianca Bailey is a master's candidate in environmental engineering and a GEM Fellow at the University of Illinois at Urbana-Champaign. Her research focuses on using tea leaves to kill viruses in drinking water systems. In January 2013 she traveled to Kathmandu, Nepal to test the ability of iron-sand filters to remove viruses from the local water sources. Bailey was born in Dallas and attended Girls Inc. programs there for eight years, which she credits with encouraging her skills and confidence in STEM. In 2012, Bailey graduated Howard University in Washington, D.C. with a bachelor's degree in chemical engineering. There she served as president of Engineers Without Borders and successfully implemented biosand filters in Kenya to improve water conditions and reduce waterborne diseases. Her work also included projects in Brazil and Haiti. She also volunteered at Girls Inc. of the Washington, D.C. Metro Area, teaching an engineering curriculum to middle school girls. She has held several internships at NAVSEA, the United States Department of Defense, ConocoPhillips and Carnegie Mellon University in the field of nano-technology. In 2011, Bailey was selected as a White House Champion of Change for leadership in the effort to recruit and retain girls and women in STEM. In addition, theRoot.com also named her a Young Futurist in January 2012. Bailey's goal is to obtain a doctorate in environmental engineering with a focus in international development and start her own business building clean water technologies around the world.



Maja Matarić, PhD

Matarić, PhD, is professor and Chan Soon-Shiong Chair in Computer Science, Neuroscience, and Pediatrics at the University of Southern California, founding director of the USC Center for Robotics and Embedded Systems and vice dean for Research in the USC Viterbi School of Engineering. She received her doctorate and master's degree in computer science and artificial intelligence from MIT and her bachelor's degree in computer science from the University of Kansas. She is a fellow of various academic organizations and recipient of the Presidential Awards for Excellence in Science, Mathematics & Engineering Mentoring, the Anita Borg Institute Women of Vision Award for Innovation, the Okawa Foundation Award, the NSF Career Award, the MIT TR35 Innovation Award and the IEEE Robotics and Automation Society Early Career Award. Matarić served as the elected president of the USC faculty and the Academic Senate. At USC she has received the School of Engineering Service Award and Junior Research Award, the Provost's Interdisciplinary Research Fellowship, the Mellon Mentoring Award, the Distinguished Faculty Service Award and the Remarkable Woman Award. She is featured in the documentary movie "Me & Isaac Newton," and in various publications. Matarić is an associate editor of three major journals and has published extensively. She served on the National Science Foundation Computing and Information Sciences and Engineering Advisory Committee. She is actively involved in K-12 educational outreach, developing free open-source elementary and middle-school curricular materials to engage student interest in STEM topics. Her Interaction Lab's research into socially assistive robotics is aimed at endowing robots with the ability to help people through individual non-contact assistance in convalescence, rehabilitation, training and education. Her research is developing robot-assisted therapies for children and adults with various neurological disorders and injuries.



Ellen Jorgensen, PhD

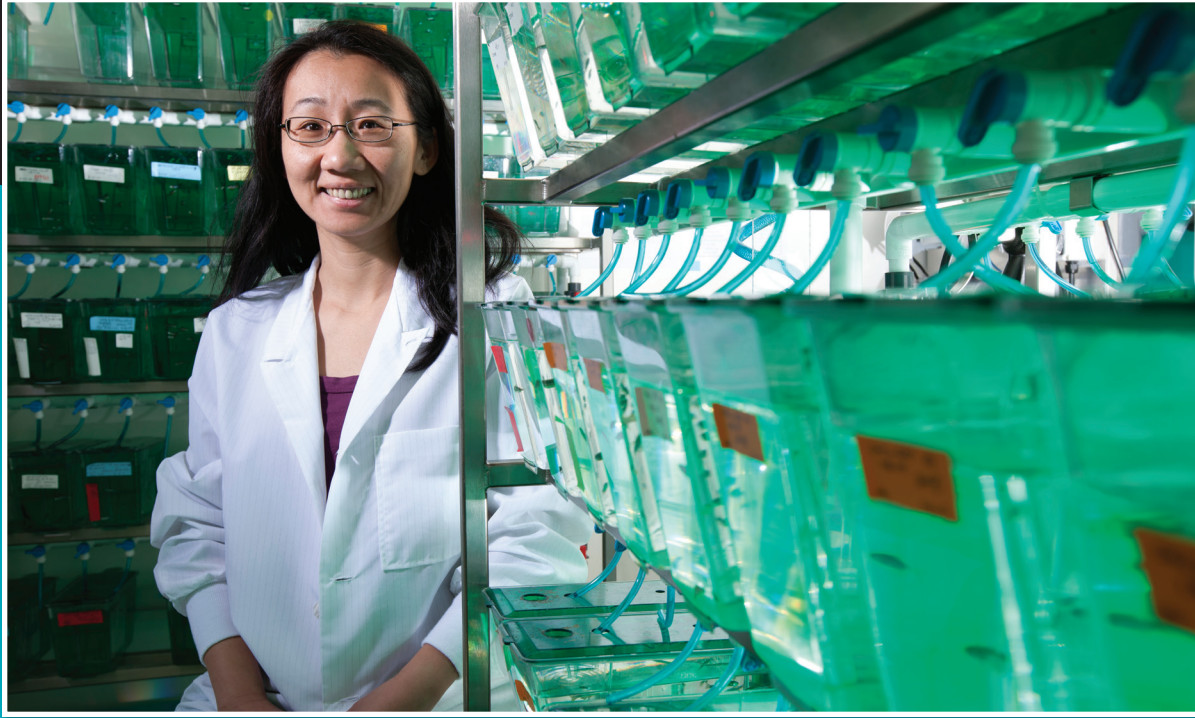
Ellen Jorgensen, PhD, is co-founder and president of Genspace, a nonprofit organization dedicated to promoting citizen science and access to biotechnology. Since 2009, they have served the greater New York area by providing educational outreach, cultural events and a platform for science innovation at the grassroots level. Jorgensen is passionate about increasing science literacy in both student and adult populations, particularly in the areas of molecular and synthetic biology. She teaches courses and workshops for the general public at Genspace, and is involved in numerous collaborations with educational outreach organizations aimed at developing and implementing better science education at the middle school, high school and undergraduate level. She has mentored two college iGEM teams and collaborated with Cold Spring Harbor Laboratory. Jorgensen received her doctorate in cell and molecular biology from the Sackler Institute at New York University School of Medicine in 1987, and went on to continue her research in protein structure/function at SUNY Downstate in Brooklyn. Since then, she has held numerous positions in the biotechnology industry and biomedical research-based nonprofits. From 2001 to 2009 she was director of Biomarker Discovery and Development at Vector Research, where she led a group searching for early biomarkers of tobacco-related lung disease. She is presently an adjunct faculty member at New York Medical College. Her latest project is to DNA barcode the plants of the Alaskan tundra.



Cheryl Saban, PhD

Cheryl Saban, PhD, is a writer, psychologist, United Nations Representative, philanthropist and advocate for women and children. In 2009, she founded the Women's Self Worth Foundation, a nonprofit organization for the advancement and empowerment of girls and women. Saban is the president of The Saban Family Foundation, which supports medical, children's and education programs; a board member of Girls Inc., an honorary Trustee of Children's Hospital Los Angeles and a member of The Saban Research Institute Committee. Previously, she served as a commissioner for the City of Los Angeles Commission for Children, Youth and Their Families; a member of the Board of Directors of the Los Angeles Universal Preschool; a member of the board of the Nathanson Family Resource Center at UCLA and on the Board of Overseers at the Keck School of Medicine of USC. She is the author of several books, including "What is Your Self-Worth – A Woman's Guide to Validation," and is a regular contributor and blogger for the *Huffington Post*. Saban holds a doctorate in psychology from California Coast University and is a member of the American Psychological Association.

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 program 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.



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ABOUT CHILDREN'S HOSPITAL LOS ANGELES

Founded in 1901, Children's Hospital Los Angeles is one of the nation's leading children's hospitals and is acknowledged worldwide for its leadership in pediatric and adolescent health. Children's Hospital Los Angeles is one of only 12 children's hospitals in the United States—and the only hospital in California—named to the *U.S. News & World Report* Honor Roll of children's hospitals.

The Saban Research Institute of Children's Hospital Los Angeles is one of the few freestanding research centers in the U.S. where scientific inquiry is

combined with clinical care and is devoted exclusively to children. The Institute's investigators hold faculty appointments at the Keck School of Medicine of the University of Southern California and the center is an academic member of the Los Angeles Basin Clinical and Translational Science Institute, an academic-clinical-community consortium.

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



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