

NICHHD
6
YEARS OF
INNOVATION



Anniversary Symposium | October 17, 2022



A Message from the NICHD Director

Dear Colleagues,

On October 17, 1962, Congress established NICHD as the first NIH institute to focus on the entire life course rather than a specific disease or organ system. Our institute was also the first to prioritize populations that were often overlooked by researchers—and even society—at the time: pregnant women, children, and people with disabilities.

Although the mission and focus of our institute may have seemed radical at its inception, this foundation feels prescient six decades later. Science is now more multidisciplinary, with a greater understanding of the lifelong consequences of biological processes and environmental exposures. Also, society is now more aware of the need to ensure that its members are respected, valued, cared for, and given the best opportunities for a healthy life.

How did NICHD come to be? Our biggest champion was the woman for whom our institute is named, Eunice Kennedy Shriver. Congress honored her in 2007 by renaming our institute in recognition of her vision, dedication, and contributions to its founding. Mrs. Shriver was a lifelong advocate for maternal health, children, and especially people with intellectual and developmental disabilities; as a senior advisor to her brother, then-President John F. Kennedy, she gave a voice to these populations. Without her, our institute would not be what it is today.

Over the past 60 years, NICHD's accomplishments have touched nearly every facet of our everyday lives. Our contributions to society include developing and expanding newborn screening, pioneering the technology for the first home pregnancy test, and nearly eliminating perinatal transmission of HIV in the United States. Today, NICHD continues to focus on overlooked but vital topics, including maternal health, contraception, the inclusion of pregnant and lactating individuals in research, rare diseases, gynecological health, and medical rehabilitation.

Although it is inspiring to reflect on what we have accomplished in 60 years, our focus remains squarely on the future. Technological breakthroughs, whether in genome sequencing, artificial intelligence, or other approaches, offer new opportunities for scientific discovery and advances in medical care. NICHD will continue to lead research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all as we strive for a world of “Healthy Pregnancies, Healthy Children, and Healthy and Optimal Lives.”

Here's to another 60 years of innovation!

With best wishes,

/Diana W. Bianchi/

Diana W. Bianchi, M.D.

Eunice Kennedy Shriver National Institute of Child Health and Human Development

National Institutes of Health

About NICHD

NICHD was established during an exciting time for science. In 1955, Joe Hin Tjio, Ph.D., discovered that humans had a total of 46 chromosomes. Around this time, President John F. Kennedy's sister, Eunice Kennedy Shriver, began her lifelong role as an advocate for people with intellectual and developmental disabilities and served as a senior advisor to her brother.

In 1961, Robert E. Cooke, M.D., the Kennedy family pediatrician and senior medical advisor to the President, chaired a task force on the health and well-being of children. The report of the task force, which included Mrs. Shriver as a member, highlighted the lack of rigorous research on the physical, intellectual, and emotional growth of children. The report also recommended the establishment of a centralized entity to lead and coordinate the study of human development to further our understanding of child health.

With presidential support, Congress established NICHD in 1962 to investigate human development throughout the entire life process, with a focus on understanding disabilities and important events that occur during pregnancy.

1962

Congress authorizes the establishment of NICHD.

1965

NICHD-funded research shows blood-spot test safely & effectively identifies newborns with PKU.

1972

NICHD grantee Gerald Edelman shares the Nobel Prize for his discoveries on the structure of antibodies.

1978

Findings from NICHD intramural scientist Judith Vaitukaitis & colleagues lead to FDA approval of the 1st home pregnancy test.

1987

Technology advances from intramural scientists John Robbins & Rachel Schneerson result in FDA approval of a vaccine for Hib.

1991

NICHD grantee Stephen Warren & colleagues discover the genetic cause of Fragile X syndrome & an entirely new mechanism of genetic inheritance.

About NICHD *continued*

On December 21, 2007, Congress renamed NICHD as the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development in honor of Mrs. Shriver's vision, dedication, and contributions to the founding of the institute.

Although the language of NICHD's mission has evolved over the decades, the fundamental pillars remain unchanged: leading research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all. Research conducted and supported by NICHD over the last 60 years has helped save lives and improve well-being, while also creating entire fields of study, revolutionizing research and medical care paradigms, and reducing societal costs associated with illness and disability.

As NICHD embarks on its next 60-plus years, we will continue to build on those fundamental pillars and to focus on those with the greatest health needs. We thank you for joining us to recognize our past and look forward to sharing future accomplishments with you.

1994

A study co-funded by NICHD shows that taking an AZT regimen during pregnancy safely & effectively reduces the risk of perinatal HIV transmission.

2004

NICHD-funded research demonstrates that effective instruction changes brain structure to read more efficiently, even in those with reading difficulties.

2007

Congress renames the NICHD as the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development.

2014

Based on NICHD-funded research, FDA approves elagolix, the first treatment for endometriosis-related pain.

2019

NICHD-funded researchers use 3D-printed implants to partially restore limb function in animals with spinal cord injuries.

2022

NICHD research on the COVID-19 pandemic addresses groups with unique health needs, including pregnant people, children, and those with disabilities.

Agenda

Video | 8:50–8:55 a.m.

Welcome and Happy 60th Anniversary | 8:55–9:05 a.m.

Diana Bianchi, M.D., *Director, NICHD*

Lawrence Tabak, D.D.S., Ph.D., *performing the duties of the NIH Director*

Importance of NICHD | 9:05–9:20 a.m.

Timothy Shriver, Ph.D., *Chairman, Special Olympics International*

Videos | 9:20–9:30 a.m.

Promoting Healthy Pregnancies | 9:30–11:00 a.m.

Moderated by: Caroline Signore, M.D., *Deputy Director, Division of Extramural Research, NICHD*

Alfred Abuhamad, M.D., *Eastern Virginia Medical School*

Rachel Hardeman, Ph.D., *University of Minnesota*

Torri Metz, M.D., *University of Utah*

Fasil Tekola-Ayele, Ph.D., *Division of Population Health Research, Division of Intramural Research, NICHD*

Break | 11:00–11:15 a.m.

Videos | 11:15–11:30 a.m.

Raising Healthy Children | 11:30 a.m.–1:00 p.m.

Moderated by: Valerie Maholmes, Ph.D., *Chief, Pediatric Trauma and Critical Illness Branch, Division of Extramural Research, NICHD*

Rosemarie Truglio, Ph.D., *Sesame Workshop*

Wendy Chung, M.D., Ph.D., *Columbia University*

Audrey Odom John, M.D., Ph.D., *Children's Hospital of Philadelphia*

Kenneth Dodge, Ph.D., *Duke University*

Midday Break | 1:00–1:25 p.m.

Video | 1:25–1:30 p.m.

Ensuring Healthy and Optimal Lives | 1:30–3:00 p.m.

Moderated by: Theresa Hayes Cruz, Ph.D., *Director, National Center for Medical Rehabilitation Research, NICHD*

Judy Heumann, *Disability Rights Advocate*

Claire Le Pichon, Ph.D., *Division of Intramural Research, NICHD*

John Constantino, M.D., *Children's Healthcare of Atlanta/Emory University*

Michelle Johnson, Ph.D., *University of Pennsylvania*

Break | 3:00–3:15 p.m.

Videos | 3:15–3:30 p.m.

Cultivating the Next Generation of Researchers | 3:30–4:45 p.m.

Moderated by: Una Grewal, Ph.D., *Director, Division of Population Health Research, Division of Intramural Research, NICHD*

Aisha Burton, Ph.D., *Division of Intramural Research, NICHD*

Soutik Ghosal, Ph.D., *University of Virginia*

Sonya Tang Girdwood, M.D., Ph.D., *Cincinnati Children's Hospital Medical Center*

Crystal Rogers, Ph.D., *University of California, Davis*

Closing Remarks | 4:45–4:50 p.m.

Diana W. Bianchi, M.D., *Director, NICHD*

Speaker Biographies

Diana W. Bianchi, M.D., Director, NICHD



As NICHD Director, Dr. Bianchi oversees the institute's research on pediatric health and development, maternal health, reproductive health, intellectual and developmental disabilities, and rehabilitation medicine, among other areas.

Dr. Bianchi has had a busy tenure since joining NICHD in 2016. She spearheaded efforts on the NICHD Strategic Plan, which outlines goals and aspirations to guide institute research through 2025. She also led the crafting and vetting of the institute's new vision statement, "Healthy Pregnancies. Healthy Children. Healthy and Optimal Lives," as well as its new mission statement. The latter underscores NICHD's directive since its founding—to lead research and training to understand human development—and incorporates goals for all facets of NICHD: to improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all.

Before coming to NICHD, Dr. Bianchi spent 23 years at Tufts Medical Center, where she was the founding executive director of the Mother Infant Research Institute, as well as the Natalie V. Zucker Professor of Pediatrics, Obstetrics, and Gynecology at Tufts University School of Medicine. She also was the vice chair for pediatric research at Boston's Floating Hospital for Children and served for a time on the NICHD advisory council. She is currently editor-in-chief of the international journal *Prenatal Diagnosis* and is a past president of the International Society for Prenatal Diagnosis and the Perinatal Research Society. Dr. Bianchi is

a former member of the board of directors of the American Society of Human Genetics and a former council member of both the Society for Pediatric Research and the American Pediatric Society. She was elected to the National Academy of Medicine in 2013.

Lawrence A. Tabak, D.D.S., Ph.D., performing the duties of the NIH Director

Dr. Tabak began performing the duties of the NIH Director on December 20, 2021, after serving as the principal deputy director and the deputy ethics counselor for NIH since August 2010.

He previously served as the acting principal deputy director of NIH and, before that, as director of the National Institute of Dental and Craniofacial Research. Before joining NIH, Dr. Tabak was the senior associate dean for research and professor of dentistry and biochemistry and biophysics in the School of Medicine and Dentistry at the University of Rochester. A former NIH Method to Extend Research In Time (MERIT) award recipient, Dr. Tabak's research has focused mainly on the structure, biosynthesis, and function of glycoproteins. He continues work in this area, maintaining an active research laboratory within the NIH intramural program in addition to his administrative duties.

Dr. Tabak is an elected member the National Academy of Medicine. He received his B.S. from City College of New York, his D.D.S. from Columbia University, and his Ph.D. from the University of Buffalo.



Timothy Shriver, Ph.D., Chairman, Special Olympics International

Dr. Shriver is a married father of five, the chairman of Special Olympics International, and co-founder of UNITE, an initiative to promote national unity and solidarity across differences. He began his career as an educator and subsequently co-founded and currently chairs the Collaborative for Academic, Social, and Emotional Learning, a school reform organization focused on social and emotional learning. Dr. Shriver earned his B.A. from Yale University, his M.A. from Catholic University, and his Ph.D. in education from the University of Connecticut. He has produced six films, is the author of the *New York Times* bestseller *Fully Alive: Discovering What Matters Most*, and is co-editor of a new book, *The Call to Unite: Voices of Hope and Awakening*.



Alfred Abuhamad, M.D., Eastern Virginia Medical School (EVMS)

Dr. Abuhamad currently serves as interim president, provost, dean, and professor of obstetrics and gynecology and radiology at EVMS. He is a past president of the Society for Maternal-Fetal Medicine, the Society of Ultrasound in Medical Education, the Perinatal Quality Forum, and the American Institute of Ultrasound in Medicine. He is also founder and past chair of the Council on Patient Safety in Women's Health Care. Dr. Abuhamad has published more than 180 peer-reviewed manuscripts, authored six textbooks, and received numerous national and international awards, including the 2019 Commonwealth of Virginia Outstanding Faculty Award. He is the recipient of the NIH R01 grant to study "Novel Tools for the Noninvasive Evaluation of the Human Placenta." Dr. Abuhamad established the International Society of Ultrasound in Obstetrics and Gynecology's outreach program and has led several ultrasound training missions in the developing world, including Haiti, Ghana, and Somalia. He is internationally renowned for his work in ultrasound, prenatal diagnosis, fetal echocardiography, global outreach, and patient safety. Dr. Abuhamad has been a faculty member at EVMS for 29 years.



Did You Know?

The National Institute on Aging got its start as part of NICHD. It became a separate NIH institute in 1975.

Speaker Biographies *continued*

Rachel R. Hardeman, Ph.D., University of Minnesota



Dr. Hardeman is a tenured associate professor in the Division of Health Policy and Management at the University of Minnesota School of Public Health, the Blue Cross Endowed Professor of Health and Racial Equity, and the founding director of the Center for Antiracism Research for Health Equity. A reproductive health equity researcher, she applies the tools of population health science and health services research to elucidate a critical and complex determinant of health inequity: racism. Dr. Hardeman leverages the frameworks of critical race theory and reproductive justice to inform her equity-centered work, which aims to build the empirical evidence of racism's impact on health, particularly for Black birthing people and their babies. Her research includes a partnership with Roots Community Birth Center in northern Minneapolis, one of five Black-owned freestanding birth centers in the United States. Her work also examines the potential mental health impacts for Black birthing people of living in a community that has experienced the killing of an unarmed Black person by police. Published in journals such as the *New England Journal of Medicine* and the *American Journal of Public Health*, Dr. Hardeman's research has elicited important conversations on the topics of culturally centered care, police brutality, and structural racism as a fundamental cause of health inequities. Her overarching goal is to contribute to a body of knowledge that links structural racism to health in tangible ways, identifies opportunities for intervention, and dismantles the systems, structures, and institutions that allow inequities to persist.

Dr. Hardeman received several awards for her work, including the Josie R. Johnson Human Rights and Social Justice Award from the University of Minnesota and the Association of Schools and Programs of Public Health's Early Career Public Health Research Award. She was recently named a McKnight Presidential Fellow, for her excellence in research, scholarship, and leadership. She also received the AcademyHealth Alice S. Hersh Emerging Leader Award for her research's impact on health policy. Dr. Hardeman is active with local and national organizations that seek to achieve health equity, such as the Minnesota Maternal Mortality Review Committee and the board of directors for Planned Parenthood North Central States.

Dr. Hardeman earned a B.S. in chemistry and Spanish from Xavier University of Louisiana, and an M.P.H. in public health administration and policy and a Ph.D. in health services research and policy from the University of Minnesota School of Public Health.

Torri Metz, M.D., University of Utah

Dr. Metz is vice chair for research and an associate professor of obstetrics and gynecology at University of Utah Health. She is a practicing maternal-fetal medicine subspecialist. Dr. Metz completed both her medical school and residency training at the University of Colorado. She then went on to complete her maternal-fetal medicine fellowship and her M.S. in clinical investigation at the University of Utah in 2012. She is a member of both the American College of Obstetricians and Gynecologists (ACOG) Committee on Clinical Practice Guidelines—Obstetrics and the Society for Maternal-Fetal Medicine Clinical Document Review Panel. Dr. Metz serves as the associate editor for obstetrics for *Obstetrics & Gynecology* and is an American Board of Obstetrics and Gynecology examiner for



both specialty and subspecialty boards. She has received numerous teaching awards, including the ACOG District VIII Mentor of the Year Award, and the ACOG Council on Resident Education in Obstetrics and Gynecology's National Faculty Award for Excellence in Resident Education. Dr. Metz has R01 funding from NIH to study the association between marijuana use and adverse pregnancy outcomes. She is the Principal Investigator for the Utah site of the NICHD Maternal-Fetal Medicine Units Network and leads the Network study on the effects of COVID-19 on serious maternal morbidity and mortality. She also leads a National Heart, Lung, and Blood Institute-funded longitudinal study of post-acute sequelae of SARS-CoV-2 infection on mothers and their offspring as part of the NIH-wide Researching COVID to Enhance Recovery (RECOVER) consortium.

Fasil Tekola-Ayele, Ph.D., Division of Population Health Research, Division of Intramural Research (DiPHR), NICHD

Dr. Tekola-Ayele is an Earl Stadtman Investigator in the Epidemiology Branch of NICHD's DiPHR. He received his Ph.D. in genetic epidemiology from Brighton and Sussex Medical School at the Universities of Brighton and Sussex and did a postdoctoral fellowship at the National Human Genome Research Institute. At NICHD, Dr. Tekola-Ayele leads a research program focused on the genetic and placental epigenetic/transcriptomic mechanisms of links between fetal growth and cardiometabolic disease risk in diverse ancestral populations. His current studies address the genetic epidemiology of early growth and cardiometabolic diseases, oxidative DNA damage markers and epigenetic aging of the placenta, and genomics of early childhood growth and obesity traits.



Rosemarie T. Truglio, Ph.D., Sesame Workshop



Dr. Truglio is the senior vice president of curriculum and content at Sesame Workshop. She is responsible for the development of the interdisciplinary curriculum on which *Sesame Street* is based and oversees content development across platforms (e.g., television, publishing, etc.). She also oversees the curriculum development for all new shows, including *Esme & Roy*, *Mecha Builders*, *Helpsters*, and *Ghostwriter*.

Previously, Dr. Truglio managed a global content team responsible for co-productions and content development across media platforms worldwide, including digital media. From 1997 to 2013, she led all educational research pertaining to program development, which informed both production and creative decisions and strategies for enhancing the entertainment and educational aspects of content. Before joining Sesame Workshop in 1997, she was an assistant professor of communication and education at Teachers College, Columbia University.

Dr. Truglio has written numerous articles for child and developmental psychology journals and presented her work at national and international conferences. Her most recent book is *Ready for School! A Parent's Guide to Playful Learning for Children Ages 2 to 5*, published by Running Press (2019). She was co-editor of *G is for Growing: Thirty Years of Research on Children and Sesame Street*, published by Lawrence Erlbaum Associates (2001). She has appeared on many network, cable, and radio programs, including *The Today Show*, *Good Morning America*, *CNN*, and NPR's *Life*

Speaker Biographies *continued*

Kit for Parents, Morning Edition, and All Things Considered, and she has been interviewed by reporters from many national newspapers and news agencies.

Dr. Truglio serves on the advisory boards of the Child Trends News Service, Playful Learning Landscapes Action Network, Read Alliance Advisory Council, and the advisory board for the University of Kansas College of Liberal Arts & Sciences. She previously served on the NICHD advisory council, the LEGO Foundation Advisory Board for the Research & Innovation Network, a National Science Foundation Research and Evaluation on Education in Science and Engineering grant on the use of educational DVDs in STEM instruction, PBS KIDS Next Generation Media, the Children's Digital Media Center Advisory Board, and the National Association for Media Literacy Education.

Dr. Truglio received a Ph.D. in developmental and child psychology from the University of Kansas and a B.A. in psychology from Douglass College, Rutgers University. She has received distinguished alumni awards from Douglass College (2005), the University of Kansas (2013), Rutgers University (2014), and the University of Kansas Women's Hall of Fame (2015), as well as the Teachers College Medal for Distinguished Service (2022).

Wendy Chung, M.D., Ph.D., Columbia University

Dr. Chung is a clinical and molecular geneticist and the Kennedy Family Professor of Pediatrics in Medicine and director of clinical genetics at Columbia University. She directs NIH-funded research programs on the human genetics of pulmonary hypertension, breast cancer, obesity, diabetes, autism, and birth defects and is a national leader in the ethical, legal, and social implications of genomics. She leads the Precision Medicine Resource at the Irving Institute for Clinical and Translational Research and the National Organization for Rare Disorders Rare Disease Center of Excellence at Columbia University. Dr. Chung received a Medical Achievement Award from Bonei Olam, the New York Academy of Medicine Medal for Distinguished Contributions in Biomedical Science, and the Rare Impact Award from the National Organization of Rare Disorders and was included in the Miami-Dade County Hall of Fame. She is a member of the National Academy of Medicine and the American Academy of Physicians. Dr. Chung received her B.A. in biochemistry from Cornell University, her M.D. from Cornell University Medical College, and her Ph.D. in genetics from The Rockefeller University.



Audrey Odom John, M.D., Ph.D., Children's Hospital of Philadelphia

Dr. John is the Stanley Plotkin Endowed Chair and chief of the Division of Pediatric Infectious Diseases at the Children's Hospital of Philadelphia, as well as a professor of pediatrics and of microbiology in the Perelman School of Medicine at the University of Pennsylvania.

Her research focuses on microbial metabolism, particularly in the malaria parasite *Plasmodium falciparum*. Her translational research interests include development of new anti-infective agents to combat antimicrobial resistance and development of noninvasive breath-based diagnostics for pediatric diseases, including post-coronavirus multisystem inflammatory syndrome in children.

Dr. John is an investigator in the pathogenesis of infectious diseases of the Burroughs Wellcome Fund and has been recognized with several honors, including the Emerging Leader Award at Duke University School of Medicine and an American Chemical Society Infectious Diseases Young Investigator Award. She also was the inaugural winner of the Infectious Diseases Society of America's IDea Incubator grand prize.

Dr. John earned her M.D. and Ph.D. in biochemistry from Duke University School of Medicine. She completed her pediatrics residency and pediatric infectious diseases fellowship at the University of Washington through the special alternative pathway.



Kenneth A. Dodge, Ph.D., Duke University

Dr. Dodge is the William McDougall Distinguished Professor of Public Policy and professor of psychology and neuroscience at Duke University. He studies early childhood development, the prevention of violent behavior in children and the family, and public policies to improve population outcomes for communities. His work provides a framework for early interventions to prevent the costly consequences of violence for children and their communities. Dr. Dodge created Family Connects, an evidence-based population approach improving children's health and well-being in the first year of life through brief home visits. He trained as a clinical and developmental psychologist, earning his B.A. in psychology at Northwestern University in 1975 and his Ph.D. in psychology at Duke University in 1978. Dr. Dodge joined the faculty at Duke in 1998, after serving on the faculty at Indiana University, the University of Colorado, and Vanderbilt University. He is the founding and emeritus director of the Duke Center for Child and Family Policy. Dr. Dodge has published more than 500 scientific articles that have been cited more than 150,000 times, and he was elected to the National Academy of Medicine in 2015.



Did You Know?

Twenty NICHD-supported researchers have received Nobel Prizes since the institute was established in 1962. The most recent of those was awarded in 2019.

Speaker Biographies *continued*

Judy Heumann, Disability Rights Advocate

Ms. Heumann is a lifelong advocate for the rights of people with disabilities. She has been instrumental in the development and implementation of legislation, such as Section 504 of the Rehabilitation Act, the Individuals with Disabilities Education Act, the Americans with Disabilities Act, the Rehabilitation Act, and the United Nations Convention on the Rights of Persons with Disabilities. Her memoir, *Being Heumann: An Unrepentant Memoir of a Disability Rights Activist*, co-authored by Kristen Joiner, was published in 2020. Ms. Heumann is also featured in the Oscar-nominated documentary *Crip Camp: A Disability Revolution*, directed by James LeBrecht and Nicole Newnham. She also produces a podcast called “The Heumann Perspective,” which features a variety of members from the disability community.

Ms. Heumann serves on several the boards of several nonprofit organizations, including the American Association of People with Disabilities, the Disability Rights Education and Defense Fund, Humanity and Inclusion, Human Rights Watch, the U.S. International Council on Disabilities, and Save the Children. She has 20 years of experience working with various nonprofit disability organizations, including being a founding member of the Berkeley Center for Independent Living. Before starting Judy Heumann, LLC, she served in the Clinton and Obama administrations.



Claire Le Pichon, Ph.D., Division of Intramural Research, NICHD

After earning her B.A. from the University of Cambridge, Dr. Le Pichon received her Ph.D. in biological sciences from Columbia University. There she worked in the laboratory of Stuart Firestein, Ph.D., where her interest in neurodegenerative diseases began while studying the function of the cellular prion protein. She then joined the translational neuroscience group at Genentech, where she worked on preclinical drug development for multiple neurodegenerative disease pipeline targets, using mouse models of disease. She was recruited as an investigator to NICHD in 2016. Her laboratory employs a multidisciplinary approach using neurons derived from mouse- and human-induced pluripotent stem cells as model systems to investigate cellular mechanisms underlying the onset and progression of neurodegenerative disease.



John N. Constantino, M.D., Emory University

Dr. Constantino is a child psychiatrist and pediatrician whose work focuses on understanding genetic and environmental influences on disorders of social development in childhood to help prevent or ameliorate lifelong impairment. His signature quantitative rating scale, the Social Responsiveness Scale, has been translated into more than 60 languages and is used in more than 2 million test administrations per year in research and clinical settings. Dr. Constantino’s work has revolutionized understanding of the heritability and symptom structure of autism and has demonstrated that autism spectrum disorder lies at the extreme of a continuous distribution of variation in social competency that extends throughout the general population. This understanding has led to a clearer elucidation of a discrete set of developmental liabilities that constitute new targets for higher impact early intervention. In parallel, Dr. Constantino and his team have worked to understand and offset the influence of early adverse environmental experiences on social development in childhood, particularly in relation to child maltreatment, which affects 1 in 8 U.S. children.

Dr. Constantino is a professor in the Department of Psychiatry and Behavioral Sciences at Emory University, with a secondary appointment in the Department of Pediatrics. He serves as Children’s Healthcare of Atlanta’s first system chief of behavioral and mental health, leading efforts to address the growing epidemic of behavioral and mental health issues in children and adolescents in Georgia.



Michelle J. Johnson, Ph.D., University of Pennsylvania

Dr. Johnson is an associate professor of physical medicine and rehabilitation at the University of Pennsylvania. She has secondary appointments as an associate professor in bioengineering and in mechanical engineering and applied mechanics. She has a B.S. in mechanical engineering and applied mechanics from the University of Pennsylvania and a Ph.D. in mechanical engineering, with an emphasis in mechatronics, robotics, and design, from Stanford University. She completed a National Science Foundation/North Atlantic Treaty Organization postdoctoral fellowship at the Advanced Robotics Technology and Systems Laboratory at the Scuola Superiore Sant’Anna, in Italy. She directs the Rehabilitation Robotic Research and Design Laboratory at the Penn Institute for Rehabilitation Medicine at the University of Pennsylvania Perelman School of Medicine. The lab is also affiliated with Penn’s General Robotics, Automation, Sensing, and Perception Lab. Dr. Johnson’s lab specializes in the design, development, and therapeutic use of novel, affordable, intelligent robotic assistants for rehabilitation in high- and low-resource environments, with an emphasis on using robotics and sensors to quantify upper-limb motor function in adults and children with or at risk for brain injury. Dr. Johnson has spent more than 20 years applying technology solutions to aid in the understanding of disability and impairment after brain injury. She is currently a Fulbright Scholar for 2020–2022 in Botswana, and an Institute of Electrical and Electronics Engineers Engineering in Medicine and Biology Society Distinguished Lecturer for 2021–2022.



Did You Know?

**NICHD has had 13 directors
since its start 60 years ago.**

**The first NICHD director was
Robert A. Aldrich, M.D.**

**The current director is
Diana W. Bianchi, M.D.**

Speaker Biographies *continued*

Aisha Burton, Ph.D.,
Division of Intramural
Research, NICHD



Dr. Burton received her B.A. from the University of Illinois at Chicago, where she majored in chemistry and minored in biology. After her undergraduate studies, she went to the University of Missouri to take part in its Post-baccalaureate Research Education Program, where she worked with Judy Wall, Ph.D. Dr. Burton completed her doctoral work on a bacterial transcription factor in the lab of Dan Kearns, Ph.D., at Indiana University. Currently, she is a postdoctoral fellow in the lab of Gisela Storz, Ph.D., studying how small proteins modulate bacterial stress responses.

Dr. Burton recently received a Postdoctoral Research Associate Training award from the National Institute of General Medical Sciences and is listed in the Cell Mentor list of 1,000 inspiring Black scientists in America. In addition to her research, she mentors a post-baccalaureate fellow and teaches introductory biology as an adjunct instructor at Montgomery College in Rockville, Maryland.

Soutik Ghosal, Ph.D.,
University of Virginia



Dr. Ghosal is currently a tenure-track assistant professor in the Division of Biostatistics at the University of Virginia. He completed his B.Sc. and M.Sc. in statistics in India and his Ph.D. in biostatistics from the University of Louisville. His doctoral research focused on developing spatiotemporal models to identify factors contributing to the health professional shortage across the United States, and identifying the spatial and temporal pattern of antibiotic overuse in Kentucky. After graduation, he joined the NICHD Biostatistics and Bioinformatics Branch as a visiting postdoctoral fellow under the supervision of Zhen Chen, Ph.D. Dr. Ghosal's postdoctoral research focus was assessing the performance of biomarkers in diagnosing various pediatric and women's health diseases, such as negative birth outcomes and endometriosis. In 2021, Dr. Ghosal was promoted to research fellow. A few months ago, he joined the University of Virginia, where he is applying his research in pediatrics, obstetrics, and gynecology.

Sonya Tang Girdwood, M.D., Ph.D.,
Cincinnati Children's Hospital Medical
Center (CCHMC)



Dr. Tang Girdwood is a faculty member in the Divisions of Hospital Medicine and Clinical Pharmacology at CCHMC. She earned her M.D. and Ph.D. at the Johns Hopkins University School of Medicine, where she studied topoisomerase poisons in the parasites that cause malaria and African sleeping sickness, under the direction of Theresa Shapiro, M.D., Ph.D. Dr. Tang Girdwood completed both pediatric and chief residencies at CCHMC, where she also conducted her first clinical pharmacology studies in critically ill children, under the mentorship of Alexander A. Vinks, Pharm.D., Ph.D., and Jennifer Kaplan, M.D. Dr. Tang Girdwood stayed in Cincinnati for her pediatric hospital medicine fellowship and her T32 NICHD Pediatric Clinical and Developmental Pharmacology Training Network fellowship. During these fellowships, she built the infrastructure at her institution to study beta-lactam concentrations in critically ill children and developed population pharmacokinetics models to characterize antibiotic variability. This work was supported by the CCHMC Arnold W. Strauss Fellow Award and Hospital Medicine Fellow Award, as well as the Gerber Foundation Novice Research Award. In her first year as faculty, Dr. Tang Girdwood received a K12 NICHD career development award to study the relationship between piperacillin concentrations and the development of acute kidney injury by using novel biomarkers.

Crystal Rogers, Ph.D.,
University of California,
Davis



Dr. Rogers obtained a B.S. in organismal biology, ecology, and evolution from the University of California, Los Angeles (UCLA) and her Ph.D. in developmental biology from Georgetown University, under the mentorship of Elena Silva Casey, Ph.D. She then moved to a postdoctoral position at the California Institute of Technology in the lab of Marianne Bronner, Ph.D., from 2010 to 2015. As a postdoctoral fellow in the Division of Biology and Biological Engineering, Dr. Rogers studied early development in chicken embryos, with a focus on early neural crest cell formation and migration. After completing her fellowship, she became an assistant professor at California State University Northridge in the Biology Department, where she created a thriving undergraduate research program in developmental biology from 2016 to 2019. In 2019, Dr. Rogers moved to the UC Davis School of Veterinary Medicine and became an assistant professor in the Department of Anatomy, Physiology, and Cell Biology. Her lab studies the molecular mechanisms that drive neural crest cell development in chicken, quail, peafowl, and axolotl embryos. She and her colleagues focus on identifying and characterizing genes and proteins involved in the specification, migration, and differentiation of neural crest cells across species.

Did You Know?

Former NICHD Deputy Director Antonia Novello, M.D., M.P.H., was the first woman and first Hispanic to serve as U.S. Surgeon General. She was the 14th Surgeon General, serving from 1990 to 1993.