

## The Interplay between Environmental Exposures and Mental Health Outcomes

### PARTICIPANT BIOGRAPHIES

(Listed In Alphabetical Order)

**Margarita Alegría, Ph.D.,\*** is the Chief of the Disparities Research Unit at Massachusetts General Hospital and the Mongan Institute, the Harry G. Lehnert, Jr. and Lucille F. Cyr Endowed Chair at the Mass General Research Institute and a Professor in the Departments of Medicine and Psychiatry at Harvard Medical School. Her research focuses on the improvement of health care services delivery for diverse racial and ethnic populations, conceptual and methodological issues with multicultural populations, and ways to bring the community's perspective into the design and implementation of health services. Dr. Alegría is currently the PI of four National Institutes of Health (NIH)-funded research studies: The Impact of Medicaid Plans on Access to and Quality of Substance Use Disorder (SUD) Treatment, Building Infrastructure for Community Capacity in Accelerating Integrated Care, Building Community Capacity for Disability Prevention for Minority Elders and Latino Youths in Coping with Discrimination: A Multi-Level Investigation in Micro- and Macro- Time. In October 2011, she was elected as a member of the National Academy of Medicine in acknowledgement of her scientific contributions to her field. She has also been a recipient of notable awards, such as the Health Disparities Innovation Award by the National Institutes of Minority Health (2008) and most recently, the Rema Lapouse Award for Achievement in Epidemiology, Mental Health and Applied Public Health Statistics by the American Public Health Association (2020). Dr. Alegría obtained her B.A. in Psychology from Georgetown University in 1978 and her Ph.D. from Temple University in 1989.

**Tina Bahadori, Sc.D., S.M.,** is the Executive Director of the Division of Engineering and Physical Sciences at the National Academies of Sciences, Engineering, and Medicine. She came to the Academies from US Environmental Protection Agency's Office of Research and Development where she served in several positions, including as Director of the National Center for Environmental Assessment, National Program Director (NPD) for the Human Health Risk Assessment and NPD for Chemical Safety for Sustainability. Before joining EPA, she was the Managing Director of the Long-Range Research Initiative at the American Chemistry Council and prior to that, Manager, Air Quality Health Integrated Programs, at the Electric Power Research Institute. During that time, she served on the Academies' Chemical Sciences Roundtable, the Board on Environmental Studies and Toxicology and several of its *ad hoc* committees. She is a past president of the International Society of Exposure Science and is an associate editor of the Journal of Exposure Science and Environmental Epidemiology. Dr. Bahadori holds a doctorate in environmental science and engineering from the Harvard School of Public Health. From MIT, she holds a Master of Science in Chemical Engineering and Technology and Policy, as well as Bachelor of Science degrees in Chemical Engineering and in Humanities.

**Amy M. Bohnert, Ph.D.,** is a Professor of Clinical and Developmental Psychology at Loyola University Chicago. Drawing on an ecological framework, my work examines individual, familial, and other contextual contributions to psychological and health-related outcomes among youth. A central focus of this work is to delineate how basic developmental processes in normative contexts, such as organized activities, facilitate better outcomes, particularly among at-risk populations. This work has entailed several evaluations of local community-based programs that seek to improve youth health and well-being, including a grant-funded assessment of the benefits of renovated green schoolyards in low-income urban neighborhoods on students, schools, and communities.

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**Daniel Geschwind, M.D.**, is the Gordon and Virginia MacDonald Distinguished Professor of Human Genetics, Neurology and Psychiatry at University of California, Los Angeles (UCLA). In his capacity as Senior Associate Dean and Associate Vice Chancellor of Precision Health, he leads the Institute for Precision Health (IPH) at UCLA, where he oversees campus precision health initiatives. In his laboratory, his group has pioneered the application of systems biology methods in neurologic and psychiatric disease, with a focus on autism spectrum disorders (ASD) and neurodegenerative conditions. Dr. Geschwind is a pioneer in the transcriptomic and functional genomic analyses of the nervous system. His laboratory showed that gene co-expression has a reproducible network structure that can be used to understand neurobiological mechanisms in health and disease. He led the first studies to define the molecular pathology of autism and several other major psychiatric disorders, and has made major contributions to defining the genetic basis of autism. He demonstrated the utility of using gene network approaches to discover new pathways involved in neurodegeneration and new approaches to facilitate neural regeneration. Dr. Geschwind has trained over 70 graduate students and post-doctoral research fellows, and is among the highest cited scientists in neurology, neuroscience and genetics (H index > 140). In addition to serving on several scientific advisory boards, including the Faculty of 1000 Medicine, the Scientific Advisory Board for the Allen Institute for Brain Science, the NIMH Advisory Council and the NIH Council of Councils, he currently serves on the editorial boards of the journals *Cell*, *Neuron* and *Science*. He has received several awards for his laboratory's work is an elected Member of the American Association of Physicians and the National Academy of Medicine.

**Joshua Gordon, M.D., Ph.D.**, received his M.D./Ph.D. degree at the University of California, San Francisco and completed his Psychiatry residency and research fellowship at Columbia University. He joined the Columbia faculty in 2004 as an Assistant Professor in the Department of Psychiatry where he conducted research, taught residents, and maintained a general psychiatry practice. In September of 2016, he became the Director of the National Institute of Mental Health. Dr. Gordon's research focuses on the analysis of neural activity in mice carrying mutations of relevance to psychiatric disease. His lab studies genetic models of these diseases from an integrative neuroscience perspective, focused on understanding how a given disease mutation leads to a behavioral phenotype across multiple levels of analysis. To this end, he employs a range of systems neuroscience techniques, including *in vivo* anesthetized and awake behaving recordings and optogenetics, which is the use of light to control neural activity. His work has direct relevance to schizophrenia, anxiety disorders, and depression.

Dr. Gordon's work has been recognized by several prestigious awards, including the The Brain and Behavior Research Foundation – NARSAD Young Investigator Award, the Rising Star Award from the International Mental Health Research Organization, the A.E. Bennett Research Award from the Society of Biological Psychiatry, and the Daniel H. Efron Research Award from the American College of Neuropsychopharmacology.

**Emily Freeman, Ph.D.**,\* is a health geographer by training and has worked closely on the impact of environment and health as a contributing factor to psychological growth. She has studied the geography of everyday life in relation to: (a) social determinants of health and the built natural environment, (b) the importance of physical place in everyday life on health and well-being, (c) the relationships between everyday life and socio-structural constraints of the built environment (i.e., proximity to environmental hazards), and (d) risk perceptions, management and assessments of the environment on well-being. Currently, Dr. Freeman is working on the integration of the lived experience of patients into drug development and the development of outcome measures that reflect the lived experience on behavioral health and mental health outcomes. She received her Ph.D. degree in Health Geography/Medical Sociology from McMaster University with postdoctoral training in Palliative Care and Psychosocial Oncology from the University of Toronto Faculty of Psychiatry.

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**C. Debra Furr-Holden, Ph.D.**, is the Associate Dean for Public Health Integration, C.S. Mott Endowed Professor of Public Health, and Director of the Division of Public Health at Michigan State University. She is also the Director of the Flint Center for Health Equity Solutions, funded by the National Institute on Minority Health and Health Disparities. She is an epidemiologist and classically-trained public health professional with expertise in behavioral health equity and health disparities. Dr. Furr-Holden has worked extensively with a wide range of partners including community-based organizations, local municipal officials, and policy makers. Her research has supported legislative efforts to impact state- and national-level legislation to promote behavioral health equity. Dr. Furr-Holden's community-based, action-oriented research has been well received by community stakeholders and driven multiple policy interventions to address some of the nation's greatest public health challenges, especially among racial and ethnic minorities and in racially- and economically-segregated communities. Dr. Furr-Holden's research is grounded in the rubrics of epidemiology and consistent with principles and practices for understanding social determinants of health and health equity. Dr. Furr-Holden attended the Johns Hopkins University Krieger School of Arts and Sciences (B.A. Natural Sciences and Public Health, 1996) and Johns Hopkins Bloomberg School of Public Health (Ph.D., 1999).

**Jonathan Hollander, Ph.D.**, is a Program Director in the Genes, Environment, and Health Branch at NIEHS. He received his doctorate from the Behavioral Neuroscience Program (formerly Biological Program) in the Psychology department at the University of North Carolina at Chapel Hill in 2006. Prior to joining the Division of Extramural Research and Training of the NIEHS, Dr. Hollander was a Staff Scientist in the Molecular Therapeutics and Neuroscience Departments at The Scripps Research Institute – Florida. His research background includes the use of genetic, behavioral, electrophysiological and pharmacological methods to study drug addiction and obesity. As part of a joint fellowship with UNC-Chapel Hill, Dr. Hollander also worked in the Neurotoxicology Branch of the U.S. Environmental Protection Agency (EPA) where he studied the neurodevelopmental effects of polychlorinated biphenyl (PCB) exposure. During his tenure at the EPA, UNC-Chapel Hill, and Scripps Florida, he was successful in obtaining NIH fellowship and early career awards and played a key role in developing and implementing new research programs in the aforementioned areas. Dr. Hollander is responsible for basic mechanistic grants in neurodegenerative diseases, psychiatric disorders and a portion of the neurodevelopmental toxicology portfolio. In addition, he manages grants that focus on applications of brain imaging techniques.

**Richard Kwok, Ph.D., M.S.P.H.**, is a Senior Advisor (acting) in the Office of the Director, NIEHS. He also serves as a staff scientist in the Epidemiology Branch at NIEHS and is the Lead Associate Investigator for the [GuLF STUDY](#). The study focuses on the potential health effects of clean-up workers, volunteers, and community members from the Deepwater Horizon disaster. One of their reported findings provide evidence that oil spill response and clean-up work is associated with adverse psychological effects. Dr. Kwok specializes in the environmental causes of a range of diseases, and the pervasive nature of the environment in disease etiology has allowed him to work on a number of different projects with domestic and international collaborators from federal, academic, and industry sectors. His work has included research into air and water pollution, including arsenic, and non-ionizing UV radiation exposures with outcomes including cardiovascular, respiratory, reproductive and cancer health outcomes. Kwok received his B.S.P.H. in environmental science, and his M.S.P.H. and Ph.D. in epidemiology from the University of North Carolina at Chapel Hill.

**Maureen Lichtveld, M.D., M.P.H.**, a member of the National Academy of Medicine, has over 35 years of experience in environmental public health. She is the Dean of the Graduate School of Public Health, the Jonas Salk Chair in Population Health, and Professor of Environmental and Occupational Health at the University of Pittsburgh. Dr. Lichtveld previously served as Chair, Professor, and Freeport McMoran Chair in Environmental Policy, Department of Global Environmental Health Sciences, Tulane University, School of Public Health and Tropical Medicine. Her research focuses on

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environmentally-induced disease, health disparities, climate and health, environmental health policy, disaster preparedness, public health systems, and community resilience. Lichtveld's track record in community-based participatory research includes the impact of chemical and non-chemical stressors on communities facing environmental health threats, disasters, climate vulnerability, and health disparities. As Director, Center for Gulf Coast Environmental Health Research, Leadership, and Strategic Initiatives, she is the PI of several Gulf Coast-associated environmental health research projects. Dr. Lichtveld is a member of the NAS Board on Global Health, the One Health Action Collaborative, NAM's planning committee on Climate and Health, NAS Committee on Best Practices for Assessing Mortality and Significant Morbidity Following Large-Scale Disasters, and the Advisory Committee for the NASEM-wide Climate Communications Initiative. She serves on the Board of the Consortium of Universities for Global Health and co-chairs the Caribbean Expert Panel on Climate and Health. Dr. Lichtveld received her M.D. degree from the University of Suriname and an M.P.H. in environmental Health Sciences from Johns Hopkins University, School of Public Health. Honors include: Johns Hopkins' Society of Scholars and CDC's environmental health scientist of the year.

**Sarah Lowe, Ph.D., M.A.**, is an Assistant Professor in the Department of Social and Behavioral Sciences at Yale School of Public Health. Her research focuses on the long-term mental health consequences of a range of potentially traumatic events, as well as the impact of such events on other domains of functioning, such as physical health, social relationships, and economic wellbeing. Her work explores the mechanisms leading from trauma exposure to symptoms, and the role of factors at various ecological levels – from genetics to neighborhoods – in shaping risk and resilience. She has examined these topics in the context of several potentially traumatic events, with an emphasis on mass trauma and disasters, including Hurricane Katrina, Hurricane Sandy, the *Deepwater Horizon* oil spill, and the COVID-19 pandemic. The goal of her work is to provide insights for policies and practices that prevent trauma and mitigate its effects, particularly among vulnerable populations. Dr. Lowe received her Ph.D. from the University of Massachusetts Boston and completed a postdoctoral fellowship in the Psychiatric Epidemiology Training program at Columbia University Mailman School of Public Health. She currently serves on the Public Health and Safety subcommittee of the Connecticut Governor's Council on Climate Change.

**Erika M. Manczak, Ph.D., L.P.**,\* is an Assistant Professor at the University of Denver in the Department of Psychology, having completed her Ph.D. at Northwestern University, clinical internship at the University of Illinois-Chicago, and postdoctoral fellowship at Stanford University. Her program of research seeks to identify novel biological and environmental contributors to the development of depressive symptoms in youth and their parents, with particular emphasis on transactions between the immune system and psychological processes. She has authored more than 30 articles, which have been published in leading psychology journals such as *Psychological Science* and *Journal of the American Academy of Child and Adolescent Psychiatry*. In recent years, she has become particularly interested in the role of environmental pollution on youth mental health, with work identifying water contaminants, ambient ozone, and particulate matter (PM<sub>2.5</sub>) exposures as predictors of adolescent mental health symptoms. She is currently involved in several projects investigating these exposures across the lifespan including during the prenatal period, adolescence, and adulthood.

**Gary Miller, Ph.D., M.S.**,\*† moved to Columbia University in August, 2018 after 16 years at Emory University. From 2009-2018 Dr. Miller was Associate Dean for Research in the Rollins School of Public Health. Dr. Miller was the founding director of the HERCULES Exposome Research Center at Emory University, the first exposome-based research center in the U.S. He authored the first book on the topic, *The Exposome: A Primer* published by Elsevier. His research focuses on environmental drivers of neurodegeneration. His laboratory uses a variety of methods including transgenic mouse

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production, immunohistochemistry, neurotransmitter transport assays, high-resolution metabolomics, electrochemistry, and behavioral assays. His work is conducted in several experimental models from cultured neurons and *C. elegans* to mice and human studies. He is an advisor to several exposome-associated research entities, including the Human Biomonitoring for the European Union (HBM4EU). He also serves as Editor-in-Chief of Toxicological Sciences, the official journal of the Society of Toxicology.

**Dawn Morales, Ph.D.**, is currently the Program Chief for American Indian, Alaska Native, and Rural Mental Health Research. She works within the Office for Disparities Research Workforce Diversity (ODWD) in the Office of the Director at the National Institute of Mental Health (NIMH). The ODWD helps with priority-setting for research funding and identifies trends and gaps in the areas of mental health disparities. Prior to joining the NIH, she served as a research statistician. Her topical interests focus on health disparities, community level social determinants of health, special populations, data science, valid use of statistical techniques, and how policy can influence sound choices in methodological and analytic strategies and improve replicability.

**Joshua C. Morganstein, M.D., CAPT**, is Associate Professor and Assistant Chair in the Department of Psychiatry and Assistant Director at the Center for the Study of Traumatic Stress (CSTS) in the Uniformed Services University of the Health Sciences and a Captain in the Commissioned Corps of the U.S. Public Health Service. He is Chair of the Committee on the Psychiatric Dimensions of Disaster and Distinguished Fellow at the American Psychiatric Association. Dr. Morganstein received his medical degree from the Uniformed Services University of the Health Sciences. He completed a combined residency in Psychiatry and Family Medicine in the National Capital Consortium in Washington, DC. Dr. Morganstein leads the Disaster Mental Health and Public Health education and consultation services at CSTS. In this capacity he has overseen and provided support to dozens of national and global disasters, working with local, state, national and international partners to support the well-being of individuals and communities adversely impacted by these events. He has been an invited speaker and consultant for national organizations and federal interagency partners. Dr. Morganstein provided mental health subject-matter expertise to the United Nations' 2015 Sendai Framework for Disaster Risk Reduction. He co-authored the only Curriculum Recommendations for Disaster Behavioral Health Professionals and was a co-author for a landmark Presidential report on the Impact of Climate Change on Human Health in the United States. Dr. Morganstein authored numerous articles, chapters, and technical reports on the mental health impact of various disaster events, including climate-related disasters, mass violence, terrorism, nuclear exposure, and pandemics.

**Joanne Newbury, Ph.D., M.Sc.**, is a Sir Henry Wellcome Postdoctoral Fellow based at the University of Bristol's Centre for Academic Mental Health and the MRC Integrative Epidemiology Unit. She completed a B.A. in Anthropology and Psychology in 2011 at Durham University, UK, before starting an M.Sc. and Ph.D. at the Social, Genetic and Developmental Psychiatry (SGDP) Centre, within King's College London's Institute of Psychiatry, Psychology and Neuroscience. Her Ph.D. research, on the mechanisms between urban upbringing and psychotic symptoms in childhood and adolescence, received the Elsevier Prize for Outstanding Doctoral Thesis (2018). Following this she worked as a postdoctoral fellow at the SGDP Centre, before joining the University of Bristol in 2020. Dr Newbury's research explores how the urban environment shapes mental health across the lifespan, using data from longitudinal cohorts and clinical records, and applying methods from traditional and causal epidemiology. She is interested in the interplay between childhood adversity, the social and built environment, air pollution, biological mechanisms and genetics in the development of mental health problems such as psychosis, depression and anxiety. Dr Newbury's research has been supported by fellowships and grants from the ESRC, the NIHR Maudsley BRC, the Wellcome Trust and the British

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Academy. She is a Chartered Research Psychologist of the British Psychological Society and Associate Fellow of the Higher Education Academy.

**Amber L. Pearson, Ph.D., M.P.H., M.Sc.**, is an Associate Professor in the Department of Geography, Environment and Spatial Sciences at Michigan State University and an Adjunct Fellow in the Department of Public Health at the University of Otago. She is a health geographer with a focus on social justice and the aspects of neighborhood built, physical and social environments that may bolster opportunities for a healthy life, often in the face of socioeconomic adversity. Her overall research goal is to understand the interactions between humans and their neighborhoods to improve health and wellbeing while paying careful attention to health inequalities and environmental justice.

**Virginia Rauh, Ph.D.**, is Professor and Vice Chair of the Heilbrunn Department of Population and Family Health, Mailman School of Public Health, Columbia University, and has served as Deputy Director of the Columbia Center for Children's Environmental Health for the past 20 years. Trained in perinatal epidemiology, Dr. Rauh did post-doctoral work in psychiatric epidemiology and received a career development award from NICHD to study the effects of psychosocial conditions on reproductive health outcomes and child neurodevelopment. For the past 15 years, she has studied the longitudinal effects of toxic environmental exposures on women's reproductive health, birth outcomes, neurodevelopment, brain and behavior. She has been P.I. for many research studies including: impact of organophosphorus insecticides on child neurodevelopment and brain abnormalities; effects of early exposure to environmental tobacco smoke on growth, neuro-development and brain structure; effects of ambient air pollution-- polycyclic aromatic hydrocarbons--on pregnant women, children, and young adults. Her work on the toxic impact of OP pesticides has led to regional, statewide and national shifts in public health policy. She currently holds leadership and investigator roles in the multi-site national ECHO study, and serves on a number of national panels including the Scientific Advisory Board and the Children's Health Protection Advisory Committee for the US Environmental Protection Agency.

**Aaron Reuben, M.E.M.**,\* is a doctoral candidate in clinical psychology at Duke University. His work examines the Developmental Origins of Health and Disease (DOHaD) hypothesis, investigating the influence of the early life environment on child brain, cognitive, and emotional development and, later, adult brain, cognitive, and emotional health. Using longitudinal cohort studies, he has examined the influence of diverse factors, including adverse childhood experiences; lead, mercury, air pollution and other neurotoxic exposures; and green-space, social-cohesion, and other positive neighborhood factors. His empirical work has been published in journals such as JAMA, JAMA Psychiatry, Social Science & Medicine, and Atmospheric Environment. As a science writer he has covered the overlap of public health, nature, and neuroscience for the Atlantic, Wired, Outside Magazine and Scientific American. A former communications officer for the International Union for Conservation of Nature and a Presidential Policy Intern for the White House Council on Environmental Quality, Aaron holds a Masters of Environmental Management from the Yale School of the Environment and a Bachelor of Arts in Neuroscience & Behavior and English Literature from Wesleyan University.

**Patrick Ryan, Ph.D., M.S.**,\* is Professor of Pediatrics and Environmental Health at Cincinnati Children's Hospital Medical Center and the University of Cincinnati, College of Medicine. He obtained a B.S. in Mathematics from Xavier University and M.S. and Ph.D. degrees in Epidemiology from the University of Cincinnati, Department of Environmental Health. In 2013 he joined the faculty of Cincinnati Children's Medical Center and currently serves as the Associate Director for Research in the Division of Biostatistics and Epidemiology, Co-Director of the Graduate Program in Clinical and Translational Research, and Director of the Translational Workforce Development Core for the Center for Clinical and Translational Science and Training. Dr. Ryan's research program focuses on the role of indoor and outdoor

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environmental toxicants on pediatric health, with specific focus on the impact of air pollutants on respiratory health, neurobehavioral development, and adolescent mental health. In addition, his research includes the use of personal air monitors and health sensors in epidemiologic studies and the impact of naturally occurring elongated mineral fibers on pulmonary disease in the western U.S.

**Gina M. Solomon, M.D., M.P.H.,<sup>\*†</sup>** researches science and policy issues related to toxic chemicals and environmental health. Her current work focuses on drinking water contaminants in areas affected by wildfires, and water quality in socioeconomically disadvantaged communities and those with high rates of breast cancer. She also works to protect public health from toxic chemicals in consumer products and pesticides. Dr. Solomon leads the Achieving Resilient Communities (ARC) project, engaging and empowering California communities to strengthen health despite a changing climate. Dr. Solomon is also a Clinical Professor of Medicine at the University of California San Francisco (UCSF). She served as the Deputy Secretary for Science and Health at the California Environmental Protection Agency (CalEPA) from 2012-2018, and as a senior scientist at the Natural Resources Defense Council from 1996-2012. She was the director of the occupational and environmental medicine residency program at UCSF, and the co-director of the UCSF Pediatric Environmental Health Specialty Unit. She has served on multiple boards and committees of the National Academies, U.S. Environmental Protection Agency, and other federal and state agencies. Dr. Solomon received her bachelor's degree from Brown University, her M.D. from Yale, and did her M.P.H. and her residency and fellowship training in internal medicine and occupational and environmental medicine at Harvard.

**Eugenia (Gina) South, M.D., M.S.H.P.,** is Assistant Professor of Emergency Medicine at Penn's Perelman School of Medicine where she serves as the Vice Chair for Inclusion, Diversity, and Equity. She is also the Faculty Director for the [Penn Urban Health Lab](#). As a physician-scientist, her broad vision is to improve health and quality of life for residents in low-resource and Black communities through both research and clinical work. Dr. South's research agenda is focused on developing and testing individual and neighborhood level interventions to better understand the ways in which the physical and social attributes of where people live, work, and play influence physical and mental health, and community safety. Her work on vacant lot greening has been published in JAMA Network Open, PNAS, and AJPH, as well as been covered by national and international media outlets such as the Washington Post, NPR, and Time Magazine.

Her current work includes an RWJ funded community-led micro-greening efforts, developing a peer-navigator intervention with a behavioral economics framework to increase the amount of time people spend in urban nature, evaluating the impact of structural housing repairs on crime, a CDC funded study to evaluate the impact of blight remediation and an alternative response unit on opioid overdose in Philadelphia, and a series of studies evaluating the impact of violent crime on acute care utilization.

Dr. South is also passionate about diversity, inclusion, and antiracism. In addition to spearheading antiracism efforts in the Department of Emergency Medicine, she is a member of the Penn-CHOP Alliance of Minority Physicians Faculty Steering Committee. This group is leading efforts across the health system. Dr. South received her B.A. from Harvard University, her M.D. from Washington University School of Medicine in 2008 and her M.S.H.P. from the University of Pennsylvania in 2012, during which time she was also a Robert Wood Johnson Clinical Scholar.

**Margaret (Maggie) Sugg, Ph.D., M.A.,** is an *Assistant Professor* in Geography and Planning at Appalachian State University in Boone, NC. Her research examines the intersection between climate and public health by highlighting both at-risk populations and the environmental conditions that lead to adverse health outcomes. She has published nearly 40 articles since 2016 on this topic and is a previous recipient of the Environmental Protection Agency's STAR Fellowship in Public Health and is currently funded through the American Foundation of Suicide Prevention (AFSP). Her mental health

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research leverages a partnership with Crisis Text Line to investigate the mental health impacts from COVID-19, recent Hurricanes, and high temperatures.

**Rebecca M. B. White, Ph.D., M.P.H.**, is an Associate Professor at Arizona State University (ASU) in the School of Social and Family Dynamics, where she is also Director of Research. She trained in public health sciences at the University of Arizona and in prevention and developmental sciences at ASU. Broadly, Rebecca's program of research examines the implications of U.S. neighborhood environments for adolescent development, including the development of mental health symptomatology. Her work advances an understanding of adolescent risk and resilience, particularly within neighborhood environments that are socioeconomically, racially, and/or ethnically stratified. She employs a variety of research approaches, including meta-analytic designs, longitudinal cohort designs, and mixed methods designs. She also publishes methodological and theoretical works dedicated to advancing high-quality research with populations that experience marginalization. Rebecca's research has been funded by the William T. Grant Foundation, the National Science Foundation, the National Institutes of Health, and others.

**Nora D. Volkow, M.D.**, is the Director of the National Institute on Drug Abuse (NIDA), which supports most of the world's research on the health aspects of drug abuse and addiction. Dr. Volkow's scientific research was instrumental in demonstrating that drug addiction is a disease of the human brain and, as NIDA Director, her work has promoted research that improves the prevention and treatment of substance use disorders. As a research psychiatrist, Dr. Volkow pioneered the use of brain imaging to investigate the toxic and addictive effects of abusable drugs. Her studies documented disruption of the dopamine system in addiction with its consequential functional impairment of frontal brain regions involved with motivation, executive function and self-regulation. She has also made important contributions to the neurobiology of obesity, and ADHD and has published more than 820 peer-reviewed articles, written more than 100 book chapters and non-peer-reviewed manuscripts, co-edited a Neuroscience Encyclopedia and edited four books on neuroimaging for mental and addictive disorders

**Gregory Wellenius, Sc.D.**, is Professor of Environmental Health at the Boston University School of Public Health and Director of BU's Program on Climate and Health. His research is focused on quantifying the health impacts of continued climate change and supporting the development of optimal strategies for local adaptation. Recent publications from his team have focused on quantifying the health risks associated with heat, cold, and air pollution; assessing the role of the physical and built environment on sustained health; projecting future impacts of climate change on human health; and evaluating the effectiveness of climate change adaptation measures. Dr. Wellenius has published extensively on the cardiovascular effects of ambient air pollution, contributed to the US EPA's 2009 Integrated Science Assessment for Particulate Matter, provided invited expert testimony on this topic before the US House of Representatives and the US Senate, served on a National Academies panel on the potential health effects of surface coal mining operations, and served on multiple scientific review panels for the Health Effects Institute. Dr. Wellenius recently served as a visiting scientist at Google Health and previously served as co-author of the USGCRP's 4th National Climate Assessment and as a member of the Rhode Island Climate Change Coordinating Council (EC4) Advisory Board. He currently serves on the Science Advisory Panel of the Extreme Heat Resiliency Alliance of the Adrienne Arsht-Rockefeller Foundation Resilience Center.

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