

# Exploring Research Opportunities at the Intersection of Planetary and Cardiovascular Health Virtual Workshop

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December 14-15, 2023



**PROGRAM BOOKLET**

# AGENDA

Thursday, December 14, 2023

10:00 - 10:05 am	<p><b>Welcome</b></p> <p><i>Lawrence Fine, MD, Dr. PH, FAHA-DCVS-NHLBI, Chair of Workshop Planning Committee</i></p> <p><i>Sujata M. Shanbhag, MD, MPH-DCVS-NHLBI, Workshop Planning Committee</i></p> <p><i>Patrice Desvigne-Nickens, MD-DCVS-NHLBI, Workshop Planning Committee</i></p>
10:05 - 10:10 am	<p><b>Opening Remarks</b></p> <p><i>David Goff, MD, PhD, FACP, FAHA-Director, Division of Cardiovascular Sciences, NHLBI</i></p>
10:10 - 10:20 am	<p><b>Workshop Objectives: Charge to Presenters and Participants</b></p> <p><i>Sanjay Rajagopalan, MD, MBA, FACC, FAHA - University Hospitals &amp; Case Western Reserve University, Cleveland, OH</i></p> <p><i>Sonia Angell, MD, MPH - Johns Hopkins University, Baltimore, MD</i></p>
10:20 am - 12:40 pm	<p><b>Session 1: Planetary &amp; Cardiovascular Health: Exploring the Relationships and Dimensions of Interactions</b></p>
10:20 - 10:40 am	<p><b>Is Destroying Nature Breaking our Hearts? Connections Between Cardiac Health and Global Environmental Change</b></p> <p><i>Samuel S. Myers, MD, MPH - Johns Hopkins University - Baltimore, MD</i></p> <p><i>The status of planetary boundaries, elaborating on climate change and other planetary boundaries that have been exceeded, and on their impact on ecological conditions necessary for health will be outlined.</i></p>

# AGENDA (CONT.)

Thursday, December, 14, 2023 (Cont.)

10:40 - 10:55 am	<p><b>A Socioecological Understanding of Cardiovascular Disease Inequities</b></p> <p><i>Anna V. Diez Roux, MD, PhD, MPH - Drexel University - Philadelphia, PA</i></p> <p><i>Through the socio-ecologic model, the relationship between the social determinants of health (SDoH) and CV health will be explored and then expanded to the conditions for planetary health, to illustrate the planetary-CV health interdependency.</i></p>
10:55 - 11:10 am	<p><b>Introduction to Systems Thinking Approaches to Understand Health and Planetary Health</b></p> <p><i>Peter S. Hovmand, PhD, MSW - Case Western Reserve University - Cleveland, OH</i></p> <p><i>The interconnectedness and mutual interdependence of both social and planetary conditions to determine current systems issues such as climate change and human health will be explored.</i></p>
11:10 - 11:30 am	<p><b>Planetary Health Exposures, Climate Change and the Relationship to Cardiovascular Health</b></p> <p><i>Jonathan Newman, MD, MPH, FAHA, FACC - New York University - New York, NY</i></p> <p><i>Multiple exposures, such as air pollution, heat, social stressors, chemical exposures, circadian disruption infectious diseases, may occur as a result of disruption of boundary conditions. The health exposure model with attention to multiple disruptors (not just climate related temperature changes) will be discussed.</i></p>

# AGENDA (CONT.)

Thursday, December 14, 2023 (Cont.)

11:30 - 11:45 am

**Environmental Justice (EJ) as requisite to Planetary and CV Health Research and Policy/The Importance of Community Engaged Research in Selecting Local Research Priorities**

**Sacoby Wilson, PhD, MS** – University of Maryland - College Park, MD

*Environmental Justice is a pre-requisite for successful and sustainable solutions for current CV health inequities. The EJ movement is a growing area of research that organically brings together the issues of planetary and human health and equity, with a natural conduit for community engagement and direction from those with lived experience. Community engaged research can help identify populations that are at high risk and ensure that communities are involved in the design and execution of cardiovascular-planetary health research projects. Discussion of strategies to successfully conduct community engaged research will be included and research opportunities related to the intersection of planetary health and cardiovascular health will be reviewed.*

11:45 am - 12:00 pm

**All Our Relations: Indigenous Knowledge and Systems Thinking in Planetary Health**

**Alexandra Adams, MD, PhD** – Montana State University - Bozeman, MT

**Steven Davis, Masters Candidate in Engineering** – Montana State University - Bozeman, MT

*Building upon the earlier presentations on the social determinants of health and their relationship with planetary and individual CV health, an indigenous perspective of the determinants of health and the planet will be explored. Indigenous models and approaches to related research will be discussed.*

# AGENDA (CONT.)

## Thursday, December 14, 2023 (Cont.)

12:00 - 12:40 pm	<b>Discussion of Research Gaps and Opportunities from Session 1</b> <b>Moderator:</b> <i>Caren Solomon, MD, MPH - New England Journal &amp; Harvard University - Boston, MA</i>
12:40 - 1:10 pm	<b>Lunch Break</b>
1:10 - 3:15 pm	<b>Session 2: An Integrative Framework to Drive Optimal Cardiovascular Health Through Infrastructure Redesign</b>
1:10 - 1:30 pm	<b>Infrastructure and Food System Transformations for Human and Planetary Health</b> <i>Anu Ramaswami, PhD, MS - Princeton University - Princeton, NJ</i> <i>In this opening session the broad topic of infrastructural transformations, including key provisioning systems of Food, Housing, Energy, Mobility/Transportation, Waste/Water management, green infrastructure as key determinants of environmental exposures, will be discussed.</i>
1:30 - 1:45 pm	<b>Integrating Air Quality and Health Considerations into Low-Carbon Energy Decisions</b> <i>Wei Peng, PhD, - Princeton University - Princeton, NJ</i> <i>This session will include a closer look at the opportunities to design energy strategies with the intent of attaining net zero and understanding the possible impact by advancing modeling capabilities to assess the air quality and health impacts of energy transition.</i>

# AGENDA (CONT.)

Thursday, December 14, 2023 (Cont.)

1:45 - 2:00 pm

## **Harnessing Food Systems as a Solution for a Changing Climate**

*Jessica Fanzo, PhD - Columbia University - New York, NY*

*Aligning food systems to achieve both planetary and CV goals will be explored through the spectrum of shifting population dietary patterns. Systems approaches will be applied to understand impacts across of related systems due to shifts in population nutrition needs and demands.*

2:00 - 2:15 pm

## **Water Systems: At the Nexus of Human and Planetary Health**

*Bassel Daher, PhD - Texas A&M University - College Station, TX*

*This talk explores the interconnections of water systems with human and planetary health. It underscores the necessity of adopting a systems approach to assess synergies, trade-offs, and guide evidence-based decision-making, with a focus on promoting cardiovascular health, and sustainable development for humans and the planet. It describes the current status of water access and quality, and discusses evolving research methodologies and research needs to support creating sustainable, resilient, and equitable water systems, for all.*

# AGENDA (CONT.)

Thursday, December 14, 2023 (Cont.)

2:15 - 2:35	<p><b>Water Toxicants and Cardiovascular Health: Opportunities for Prevention and Intervention</b></p> <p><i>Ana Navas-Acien, MD, PhD – Columbia University - New York, NY</i></p> <p><i>Chemical exposures in water due to heavy metals including, arsenic, lead and manufactured chemicals (halogenated hydrocarbons, perfluoroalkyl substances (PFAS)), and plastic-associated chemicals are increasingly implicated in cardiometabolic conditions. This session will explore the associations between chemical concentrations in water supplies and cardiovascular outcomes. Potential mitigation and preventative strategies will be reviewed, and further research opportunities will be identified.</i></p>
2:35 - 3:15 pm	<p><b>Discussion of Research Gaps and Opportunities from Session 2</b></p> <p><b>Moderator:</b> <i>Joel D. Kaufman, MD, MPH - University of Washington - Seattle, WA</i></p>
3:15 - 3:30 pm	<p><b>Break</b></p>
3:30 - 4:50 pm	<p><b>Planetary Health Systems Simulation Demo: “EN-ROADS”</b></p> <p><i>Jason Jay, PhD, MEd - Massachusetts Institutes of Technology - Cambridge, MA</i></p>
4:50 - 5:00 pm	<p><b>Day 1 Wrap Up and Adjourn</b></p> <p><i>Lawrence Fine, MD, Dr.PH, FAHA- DCVS-NHLBI, Chair of Workshop Planning Committee</i></p>

# AGENDA (CONT.)

Friday, December 15, 2023

10:00 - 10:05 am	<p><b>Welcome</b></p> <p><i>Lawrence Fine, MD, Dr.PH, FAHA-DCVS-NHLBI, Chair of Workshop Planning Committee</i></p>
10:05 - 12:00 pm	<p><b>Session 3: Planetary and Cardiovascular Health Through Reducing Urban Exposures</b></p>
10:05 - 10:20 am	<p><b>Cities for Life: Advancing Cardiovascular and Environmental Health via Urban Planning</b></p> <p><i>Yingling Fan, PhD - University of Minnesota - Minneapolis, MN</i></p> <p><i>This lecture will cover core urban planning concepts of relevance to cardiovascular health and the need for health impact assessment from a cardiometabolic framework.</i></p>
10:20 - 10:35 am	<p><b>Structural Inequities in Urban Planetary and Cardiovascular Health: Understanding Drivers and Solutions</b></p> <p><i>Jaime Madrigano, ScD, MPH - Johns Hopkins University - Baltimore, MD</i></p> <p><i>The association between redlining and health outcomes has been documented in multiple studies with enduring effects that continue till today. In this session the evidence to date and systems-based approaches to address solutions will be presented.</i></p>



# AGENDA (CONT.)

Friday, December 15, 2023 (Cont.)

10:35 - 10:55 am	<p><b>Active Transportation for Cardiovascular and Planetary Health</b></p> <p><i>James F. Sallis, PhD – University of California San Diego – San Diego, CA</i></p> <p><i>The primary health hazards of motorized transportation and health benefits of active transportation (walking, bicycling, public transit) will be addressed. Approaches to mitigate heat effects for pedestrians and cyclists will be needed. Suggested research opportunities will emphasize evidence to inform solutions.</i></p>
10:55 - 11:10 am	<p><b>Urban Food Systems and Cardiovascular Health</b></p> <p><i>Christopher Gardner, FAHA, PhD – Stanford University – Stanford, CA</i></p> <p><i>This presentation will explore approaches to promoting cardiovascular health in urban settings through urban food system evolutions.</i></p>
11:10 - 11:25 am	<p><b>Urban Greenness and Cardiovascular Health</b></p> <p><i>Aruni Bhatnagar, PhD, FAHA – University of Louisville – Louisville, KY</i></p> <p><i>Green infrastructure includes a variety of nature-based solutions being deployed in conjunction with conventional “gray” infrastructure in communities. In urban environments, this may include larger green infrastructure such as areas of tree canopy, landscape patches, and green corridors, but also smaller representations of nature (e.g., green roofs, bioswales) that provide health-supporting benefits. Several prior meta-analyses and studies have suggested an association between green space and health benefits. In this session, evidence to date will be reviewed together with gaps in research and information needed for policy.</i></p>

# AGENDA (CONT.)

## Friday, December 15, 2023 (Cont.)

11:25 - 12:00 pm	<b>Discussion of Research Gaps and Opportunities from Session 3</b> <b>Moderator:</b> <i>Carl J. Pepine, MD, MACC - University of Florida - Gainesville, FL</i>
12:00 - 12:30 pm	<b>Lunch Break</b>
12:30 - 1:35 pm	<b>Session 4: Tools and Policies for Planetary and Cardiovascular Health Improvement</b>
12:30 - 12:45 pm	<b>Data Analytics and Tools to Develop Spatial Indicators for Healthy and Sustainable Cities</b>  <i>Geoff Boeing, PhD, MS - University of Southern California - Los Angeles, CA</i>  <i>An overview of tools and approaches available to facilitate this process will be discussed. These tools, in combination with remote sensing, social media, and Internet of Things (IoT) devices, provide a comprehensive understanding of urban dynamics and contribute to the development of spatial indicators that guide the planning and design of healthy and sustainable cities.</i>

# AGENDA (CONT.)

Friday, December 15, 2023 (Cont.)

12:45 - 1:00 pm

## **The Role of Causal Inference in Assessing Planetary Health Effects on Cardiovascular Disease**

*Marie-Abèle Bind, PhD – Harvard University and Massachusetts General Hospital – Boston, MA*

*The field of environmental health has been dominated by modeling associations, especially by regressing an observed outcome on a linear or nonlinear function of observed covariates. Readers interested in advances in policies for improving environmental health are, however, expecting to be informed about health effects resulting from, or more explicitly caused by, environmental exposures. The quantification of health impacts resulting from the removal of environmental exposures involves causal statements. Therefore, when possible, causal inference frameworks should be considered for analyzing the effects of environmental exposures on health outcomes.*

1:00 - 1:20 pm

## **Exploring Cardiovascular Risk in a Changing World: Big Data Insights into Planetary Health Interconnections**

*Sadeer Al-Kindi, MD, FACC – Houston Methodist – Houston, TX*

*Approaches to integrated datasets with exposure data or environmental stressors, with health endpoints such as CVD risk factors or diseases, and measures of social vulnerability such as social vulnerability index, will be discussed. Combined datasets (Big Data), AI and ML, can identify populations at greater risk, estimate the role of exposures in disease causation, and evaluate secular trends.*

# AGENDA (CONT.)

Friday, December 15, 2023 (Cont.)

1:20 - 1:35 pm

## **Integrated Decision Planning and Health Impact Studies to Enable Informed Policy Decisions for Improving Cardiovascular Health**

*Gregory Wellenius, SCD, MSc – Boston University - Boston, MA*

*Health metrics alongside other data, such as air quality, access to healthcare facilities, and socioeconomic indicators, can facilitate integrated decision planning across different sectors, including urban planning, transportation, and environmental management, to address the root causes of cardiovascular health issues. By leveraging data analytics and modeling techniques, policymakers can simulate the health outcomes of policy scenarios (health impact studies) and select the most effective strategies for improving cardiovascular health outcomes.*

1:35 - 2:45 pm

## **Discussion of Research Gaps and Opportunities from Session 4**

**Moderator:** *Sadeer Al-Kindi, MD, FACC - Houston Methodist - Houston TX*

2:45 - 3:00 pm

## **Day 2 Wrap Up - Next Steps**

*Sanjay Rajagopalan, MD, FACC, FAHA - Case Western University, Cleveland, OH*

*Sonia Angell, MD, MPH - Johns Hopkins University - Baltimore, MD*

## **Closing Remarks**

*Lawrence Fine, MD, Dr.PH, FAHA- DCVS-NHLBI, Chair of Workshop Planning Committee*

# WORKSHOP CO-CHAIRS



## **Sanjay Rajagopalan, MD, MBA, FACC, FAHA**

*Herman Hellerstein, MD, Professor of Medicine*

*University Hospitals, Case Western Reserve University*

**D**r. Sanjay Rajagopalan is the Chief of Cardiovascular Medicine, Chief Academic and Scientific Officer, University Hospitals Harrington Heart and Vascular Institute, Herman Hellerstein, MD Professor of Cardiovascular Research and Director of the Case Cardiovascular Research Institute at Case Western Reserve School of Medicine, Cleveland, OH. In his role Dr. Rajagopalan has led many innovative initiatives in healthcare centered around innovative health care delivery for high-risk patient populations, precision medicine initiatives and next generation sustainable approaches for the prevention of heart and metabolic disease. Dr. Rajagopalan is a recognized authority on the health impact of pollution, climate change and the intersection of environmental and social factors with cardiovascular health. His studies have contributed to the recognition of pollution as a major preventable risk factor in national and international guidelines and mitigation strategies that may lead to improved health. Dr. Rajagopalan is an elected member of the American Society of Clinical Investigation (ASCI), American Association of Physicians (AAP), American Professors of Cardiology and is the recipient of the American College of Cardiology's Distinguished Scientist Award.



## **Sonia Angell, MD, MPH**

*Bloomberg Distinguished Professor of the Practice*

*Department of Epidemiology*

*Johns Hopkins Bloomberg School of Public Health*

**S**onia Angell is a physician and an expert in public health, policy and systems change. She is a Bloomberg Distinguished Professor of the Practice at Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology. Previously, she served as Director of the California Department of Public Health and State Public Health Officer, as Deputy Commissioner at the NYC Health Department, as senior advisor on Global Noncommunicable Diseases at the CDC. She is board certified in internal medicine. She received her medical degree from the University of California San Francisco and completed an Internal Medicine residency at Brigham Women's Hospital. She has a Diploma in Tropical Medicine and Hygiene from the London School of Hygiene and Tropical Medicine, and a Master of Public Health degree from the University of Michigan. She received the American Heart Association's Chairman's Award in 2020. She is an elected member of the National Academy of Medicine.

# MEET THE EXPERTS



## **Alexandra Adams, MD, PhD**

*Director and Professor, Center for American Indian and Rural Health Equity (CAIRHE), Montana State University*

**D**r. Adams is the Director of the Center for American Indian and Rural Health Equity (CAIRHE), an NIH-funded Phase 2 COBRE focusing on building research partnerships with rural and Native communities and mentoring junior investigators. She has directed multiple community-partnered clinical trials and received over \$40 million of NIH and foundation funding. The foundation of her work is community-based participatory research, working for over 25 years in partnership with Indigenous communities to understand and solve health challenges using both scientific rigor and crucial community knowledge. Dr. Adams' expertise is in pediatric obesity prevention, family wellness promotion, community engagement, and community-based clinical trials. She uses storytelling, film-making, and other innovative outreach strategies to engage communities and impact health. Her center also works on the effects of climate change on human health, recently producing the Montana Climate Change and Human Health report and four accompanying outreach films ([www.C2H2.org](http://www.C2H2.org)).



## **Ana Navas Acien, MD, PhD**

*Toxin Reduction, Waste Management, and Sanitation as Opportunities to Reduce Cardiovascular Events  
Columbia University*

**A**na Navas-Acien, MD, PhD is a Professor of Environmental Health Sciences at Columbia University Mailman School of Public Health. Her research investigates cardiovascular and other health effects of environmental exposures (metals, tobacco products, air pollution), molecular pathways and gene-environment interactions, and effective interventions for reducing involuntary exposures and their health effects. She trained in Medicine obtaining her MD from the University of Granada, Spain, and completed her residency training in Preventive Medicine and Public Health at the Hospital La Paz, Madrid and her PhD in Epidemiology at Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. She directs the Columbia University Northern Plains Superfund Research Program, a center that integrates science, technology, and traditional knowledge to protect the Northern Plains water resources and Indigenous communities from hazardous metal exposures.

# MEET THE EXPERTS (CONT.)

She serves as PI of environmental health research in several studies including the Strong Heart Study, a study of cardiovascular disease and its risk factors in American Indian communities; the Multi-Ethnic Study of Atherosclerosis (MESA), a study across urban and sub-urban settings across the US; the Trial to Assess Chelation Therapy 2 (TACT2), a clinical trial about the benefits of metal chelation; the VapeScan Study, a study of young adults from New York City; and India-FOCUS, a study evaluating risk factors for chronic kidney disease of unknown origin as part of the CURE consortium. She serves in multiple advisory committees nationally and internationally, including the National Cancer Advisory Board (NCAB). Her goals are to contribute to the reduction of environmental health inequalities in underserved and disproportionately exposed populations.



## **Anna V. Diaz Roux, MD, PhD, MPH**

*Distinguished University Professor of Epidemiology*

*Director of the Drexel Urban Health Collaborative*

*Former Dean of the Dornsife School of Public Health from 2013-2023.*

**A**nna V. Diez Roux originally trained as a pediatrician in her native Buenos Aires, Argentina. She completed public health training at the Johns Hopkins University School of Hygiene and Public Health. Before joining Drexel University, she served on the faculties of Columbia University and the University of Michigan, where she was chair of the Department of Epidemiology and director of the Center for Social Epidemiology and Population Health. She was Dean of the Dornsife School of Public Health from 2014 to 2023 and founded the Drexel Urban Health Collaborative in 2015. Dr. Diez Roux is internationally known for her research on the social determinants of population health and the study of how neighborhood physical and social environments affect health. Her research areas include social epidemiology and health disparities, environmental health effects, urban health, psychosocial factors, cardiovascular disease epidemiology, social environment–gene interactions, and the use of multilevel methods and complex systems approaches in population health. She has led large National Institutes of Health and foundation-funded research and training programs in the United States and in collaboration with various institutions in Latin America. She is currently principal investigator of the Wellcome Trust–funded SALURBAL study (Salud Urbana en América Latina/Urban Health in Latin America Study) and of the NIH funded Center on Climate Change and Urban Health. Dr. Diez Roux has served on numerous editorial boards, review panels, and advisory committees including the Clean Air Scientific Advisory Committee of the Environmental Protection Agency (as chair), the Board of Scientific Counselors of the National Center for Health Statistics, the Committee on Health and Wellbeing in the Changing Urban Environment of the International Council for Science, and the Centers for Disease Control’s Community Preventive Services Taskforce.

# MEET THE EXPERTS (CONT.)

She is currently co-chair of the Population Health Roundtable of the National Academies of Science, Engineering, and Medicine. She has received the Wade Hampton Frost Award for her contributions to public health from the American Public Health Association, the Award for Outstanding Contributions to Epidemiology from the American College of Epidemiology, and the Rothman Career Award from the Society for Epidemiologic Research. She is an elected member of the American Epidemiological Society, the Academy of Behavioral Medicine Research, and the National Academy of Medicine. Dr. Diez Roux has been an active mentor of doctoral students, postdoctoral fellows, and junior faculty from diverse backgrounds.



## **Anu Ramaswami, PhD, MD, BS**

*Faculty Director of the M.S. Chadha Center for Global India  
Sanjay Swani '87 Professor of India Studies,  
Professor of Civil and Environmental Engineering, and the High Meadows  
Environmental Institute  
Princeton University*

**P**rofessor Ramaswami is an interdisciplinary environmental engineer recognized as a pioneer and leader in developing low-carbon, sustainable, healthy cities taking a multi-sector transboundary urban systems approach. Her work explores how seven key sectors - that provide water, energy, food, buildings, mobility, connectivity, waste management and green/public spaces - shape human and environmental wellbeing, from local to global scales. Ramaswami was Lead PI and Director of the US National Science Foundation's (NSF's) flagship Sustainable Healthy Cities network. She recently served as Vice Chair co-developing the American Heart Association's Policy Statement on Heart-Healthy and Sustainable Cities. She is a member of the United Nations' International Resource Panel, the Steering Committee of the Global Carbon Project, and the US NSF's Advisory Committee on Environmental Research and Education (2018-2022).



## **Aruni Bhatnagar, Ph, FAHA**

*Professor of Medicine; Chief, Division of Environmental Medicine;  
Director, Christina Lee Brown Envirome Institute / American Heart  
Association Tobacco Regulation Center; Vice Chair for Research;  
Distinguished University Scholar  
University of Louisville*

**D**r. Bhatnagar is Professor of Medicine and Distinguished University Scholar at the University of Louisville. He is the Director of the Christina Lee Brown Envirome Institute and Co-Director of the American Heart Association

Tobacco Regulation Center.



# MEET THE EXPERTS (CONT.)

He is a leading expert studying the effects of air pollution on heart disease. His research interest spans of how different inhaled pollutants affect the risk of heart disease to the beneficial effects of urban greenspaces. Working with investigators and collaborators across the world, he has developed the field of Environmental Cardiology, which links the risk of heart disease to natural, social, and personal environments. His work shows most of the risk of chronic diseases could be linked to environmental conditions, social structures, and lifestyle choices. He found that living in greenspaces decreases exposure to air borne chemicals and pollutants and decreases the risk of developing chronic diseases such as cancer and heart disease.



## **Bassel Daher, PhD**

*Research Scientist, Texas A&M Energy Institute*

*Research Fellow, Institute for Science, Technology, and Public Policy*

*Adjunct Assistant Professor, Department of Biological and Agricultural Engineering*

*Texas A&M University*

**D**aher is dedicated to building bridges between research disciplines and cross-sectoral stakeholders with the goal of arriving at a future that is more sustainable, equitable, and resource secure for all. He is particularly passionate about using a systems approach to develop analytics that catalyze an evidence-based, multi-stakeholder dialogue around trade-offs associated with technical, policy, and social interventions to address the interconnected water, energy, and food security challenges. He is also interested in adopting participatory approaches to improve cross-sectoral policy coherence and facilitate the implementation of the Sustainable Development Goals (SDGs). Daher has 12 years of experience developing quantitative scenario analysis tools for supporting evidenced-based water-energy-food system transformation, as evidenced by 55+ highly cited publications (1800+) on case studies based in the United States, Lebanon, Qatar, Turkey, Jordan, Morocco, and Bangladesh, among others.



## **Caren Solomon, MD, PMH**

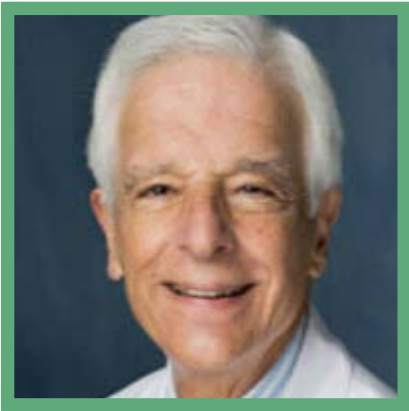
*Deputy Editor, New England Journal of Medicine*

*Associate Professor of Medicine, Harvard Medical School, Brigham and Women's Hospital*

**D**r. Caren Solomon is a Deputy Editor at the New England Journal of Medicine, an Associate Professor of Medicine at Harvard Medical School, and a physician at Brigham and Women's Hospital. At the Journal, Dr. Solomon's responsibilities include leading efforts related to coverage of climate change, including overseeing the ongoing "Fossil-Fuel Pollution and Climate Change" series. She has published on and lectures widely on effects of climate change on health and how health care professionals can take action.

# MEET THE EXPERTS (CONT.)

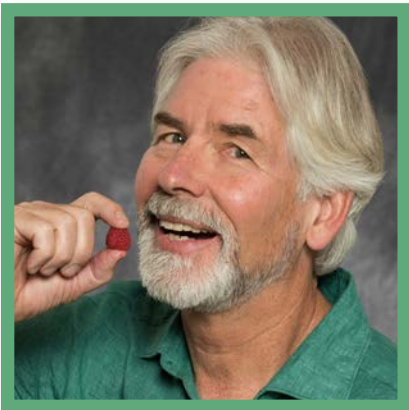
At the Journal, Dr. Solomon's responsibilities include leading efforts related to coverage of climate change, including overseeing the ongoing "Fossil-Fuel Pollution and Climate Change" series. She has published on and lectures widely on effects of climate change on health and how health care professionals can take action. Dr. Solomon serves on advisory committees on climate change for MMS and for the Department of Medicine at Brigham and Women's Hospital, and served as co-chair of the Harvard Medical School Faculty Council's subcommittee on Climate Change. Dr. Solomon graduated from Harvard College and Harvard Medical School and earned an MPH at the Harvard School of Public Health.



## **Carl J. Pepine, MD**

*Division of Cardiovascular Medicine, University of Florida*

Carl J. Pepine, MD, is a doctor in the Division of Cardiovascular Medicine at the University of Florida College of Medicine. He graduated from the University of Pittsburgh in 1962 with his bachelor's degree. As he started medical school at Rutgers in New Jersey with his MD in 1966, Pepine stayed in the northeast for his internship at Allegheny General Hospital, a University of Pittsburgh affiliate. His two residencies were at Jefferson Medical College Hospital and Regional Naval Medical Center. He completed both fellowships in 1971 and became board certified in Internal Medicine and the subspecialty of Cardiovascular Disease. He is currently a principal investigator of many NIH- and industry-funded research projects on cardiovascular disease in women, IHD, hypertension, heart failure, and cell-based therapy, with continuous peer-reviewed federal research funding (DoD, NIH, VA Merit) for over 40 years. Pepine served as Chief of the UF Division of Cardiovascular Medicine from 1998–2008 and Chief of Cardiology, VA Medical Center, from 1978–1994. He has published more than 1,100 scientific articles, has edited 6 textbooks, and has been on the editorial boards of all major cardiovascular journals. He is the founding editor of *Cardiology Today* and Editor-in-Chief for *American Heart Journal Plus: Cardiology Research and Practice*. Pepine is currently the co-director of CTSI Multi-site Study Support Team at the National Center for Research.



## **Chris Gardner, FAHA, PhD**

*Rehnborg Farquhar Professor of Medicine, Stanford University*

Christopher Gardner, FAHA, holds a PhD in Nutrition Science and is the Rehnborg Farquhar Professor of Medicine at Stanford. He is currently chair of the AHA Nutrition Committee. For >25 years his research has examined what to eat and what to avoid for optimal health. This includes more than 20 nutrition intervention trials conducted with >2,000 participants. For the past 15 years his interests have shifted to include connections between food and the environment. He teaches several interdisciplinary classes at Stanford on this topic.

# MEET THE EXPERTS (CONT.)

Recent publications include an overview of dietary protein choices and their impact on the environment (Nutrition Reviews, 2019), and a 2021 review titled Sustainable Diets for CVD Prevention and Management (Curr Athero Reports). He is a founding member of the Menus of Change University Research Collaborative that focuses on the intersection of unapologetically delicious food, human health, and the health of the environment.



## **David Goff, MD, PhD, FACP, FAHA**

*Director, Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, National Institutes of Health*

**D**avid Goff, MD, PhD, is Director, Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, National Institutes of Health. In this role, he leads a diverse team of scientists and administrators committed to turning discovery into cardiovascular health. Prior to joining the NHLBI, he served as Dean of the Colorado School of Public Health and as Chair of the Department of Epidemiology and Prevention at the Wake Forest School of Medicine. He received an MD from the University of North Carolina and a PhD in epidemiology from the University of Texas-Houston School of Public Health. He trained in internal medicine at Baylor College of Medicine in Houston. He is an elected member of the American Epidemiological Society, and a Fellow of the American College of Physicians and the American Heart Association. He received the American Heart Association Award of Meritorious Achievement in 2017. He received NIH Director's Awards in 2021, 2022, and 2023 for contributions to the NIH response to the SARS-CoV-2 pandemic and for efforts to reduce the burden of heart failure. He has published over 330 manuscripts, book chapters, and other scientific reports. The major focus of his research has been on developing, testing, and implementing better strategies for promoting cardiovascular health and preventing cardiovascular disease.



## **Geoff Boeing, PhD, MS**

*Spatial Analytics to Benchmark and Monitor Healthy and Sustainable Cities*

**G**eoff Boeing is an Assistant Professor in the Department of Urban Planning and Spatial Analysis at the University of Southern California. He is also the Director of USC's Urban Data Lab and a Nonresident Senior Fellow at the Brookings Institution. He received his Ph.D. in City and Regional Planning from the University of California, Berkeley. Professor Boeing's research revolves around city planning, urban form, and spatial informatics. He has served as a consultant for several urban planning, policymaking, and public health organizations.

# MEET THE EXPERTS (CONT.)



## **Greg Wellenius, ScD, MSc, BSc**

*Professor of Environmental Health*

*Director, Center for Climate and Health*

*Boston University School of Public Health*

**D**r. Wellenius is professor of environmental health at the Boston University School of Public Health and Director of BU's Center for Climate and Health. An epidemiologist by training, his current research is focused on developing actionable evidence to reduce the health harms of continued climate change. He serves as one of the PI's of CAFE, the joint BUSPH-HSPH Research Coordinating Center (CAFÉ RCC) of the NIH Climate Change and Health Initiative.



## **Jaime Madrigano, ScD, MPH**

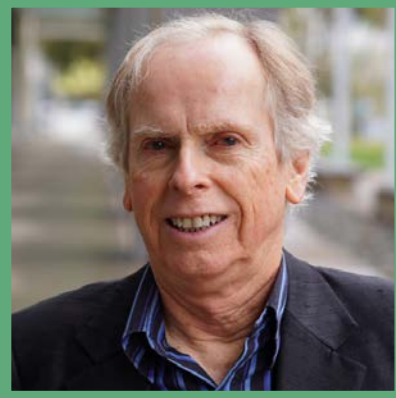
*Adjunct Policy Researcher, RAND*

*A Professor of Policy Analysis, Pardee RAND Graduate School*

*Associate Professor, Johns Hopkins Bloomberg School of Public Health*

**J**aime Madrigano is a Bloomberg Associate Professor of American Health in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health and an Adjunct Policy Researcher at the RAND Corporation. Her research focuses on environmental and social determinants of health, including climate change and extreme weather, environmental pollution, and the built environment, with an emphasis on environmental justice. Dr. Madrigano has expertise in using epidemiologic methods to inform policy. She completed interdisciplinary postdoctoral training focused on climate change and health as an Earth Institute Fellow at Columbia University and received her Sc.D. in epidemiology and environmental health from the Harvard T.H. Chan School of Public Health. Dr. Madrigano serves on the U.S. Environmental Protection Agency's Board of Scientific Counselors as the Co-Chair of the Climate Change Subcommittee and on the International Society for Environmental Epidemiology North America Chapter's Executive Council.

# MEET THE EXPERTS (CONT.)



## **James F. Sallis, PhD**

*Distinguished Professor Emeritus in the Herbert Wertheim School of Public Health at University of California San Diego  
Professorial Fellow at Australian Catholic University, Melbourne*

James F. Sallis, Ph.D is Distinguished Professor Emeritus in the Herbert Wertheim School of Public Health at University of California San Diego and Professorial Fellow at Australian Catholic University, Melbourne. His primary research interests are promoting physical activity and understanding policy and environmental influences on physical activity, nutrition, and obesity. His transdisciplinary research has documented promising environmental and policy strategies for promoting individual, planetary, and economic health, while enhancing equity. His research has been funded by the National Institutes of Health, Centers for Disease Control and Prevention, and Robert Wood Johnson Foundation. He is an author of over 800 scientific publications and one of the world's most cited authors in any field. He is currently focusing on getting research used to create healthier cities. Dr. Sallis is Past-President of Society of Behavioral Medicine and member of the National Academy of Medicine. [www.drjimsallis.org](http://www.drjimsallis.org)



## **Jason Jay, PhD, MEd**

*Senior Lecturer and Director of the MIT Sloan Sustainability Initiative*

Jason Jay is a Senior Lecturer and Director of the MIT Sloan Sustainability Initiative. He teaches executive and masters-level courses on strategy, innovation, and leadership for sustainable business. He has helped secure MIT Sloan's position as a leader in the field of sustainability through teaching, research, and industry engagement. Dr. Jay's publications have appeared in the Academy of Management Journal, California Management Review, MIT Sloan Management Review, Stanford Social Innovation Review, Greenbiz, and World Economic Forum. With Gabriel Grant, he is the author of the international bestseller *Breaking Through Gridlock: The Power of Conversation in a Polarized World*. Dr. Jay also works as a facilitator for companies, organizations, and business families, supporting high quality conversation and shared commitment to ambitious sustainability goals. His clients have included EFG Asset Management, Novartis, Bose, Environmental Defense Fund, BP and the World Bank.

# MEET THE EXPERTS (CONT.)



## **Jessica (Jess) Fanzo, PhD**

*Professor of Climate and Food*

*Columbia University's Climate School*

**J**essica Fanzo, Ph.D., is a Professor of Climate and the Director of the Food for Humanity Initiative at Columbia University's Climate School in New York City. She also serves as the Interim Director for the International Research Institute for Climate and Society, also known as IRI. Prior to coming to Columbia, she held positions at Johns Hopkins University, the Food and Agriculture Organization (FAO) of the United Nations (UN), the UN World Food

Programme, Bioversity International, the Earth Institute, the Millennium Development Goal Centre at the World Agroforestry Center in Kenya, and the Doris Duke Charitable Foundation. She has participated in various collective endeavors, including the Food Systems Economic Commission, the Global Panel of Agriculture and Food Systems for Nutrition Foresight 2.0 report, the Lancet Commission on Anaemia, and the EAT-Lancet Commissions 1 and now 2. She was also the Co-Chair of the Global Nutrition Report and Team Leader for the UN High-Level Panel of Experts on Food Systems and Nutrition. She currently leads the development of the Food Systems Dashboard and the Food Systems Countdown to 2030 Initiative in collaboration with the Global Alliance of Improved Nutrition and FAO.



## **Joel Kaufman, MD, MPH, BA**

*Professor, University of Washington, Departments of*

*Environmental & Occupational Health Sciences, Medicine, and*

*Epidemiology, University of Washington*

**D**r. Kaufman is a physician-epidemiologist, board-certified in internal medicine and occupational/environmental medicine. He received his MD from the University of Michigan, internal medicine residency at Boston City Hospital, and fellowship and public health graduate training at the University of Washington. Dr. Kaufman's work integrates epidemiology, exposure sciences,

toxicology and clinical medicine. The author of more than 300 peer-reviewed articles—including in the New England Journal of Medicine, The Lancet, JAMA, and the Annals of Internal Medicine—his research activities are primarily focused on environmental factors in chronic diseases. He directs the UW [Center for Exposures, Diseases, Genomics and Environment](#), and maintains a primary care internal medicine practice.

# MEET THE EXPERTS (CONT.)



## **Jonathan Newman, MD, MPH, FAHA, FACC**

*Assistant Professor of Medicine (Cardiology)*

*Director of Clinical Research, The Center for the Prevention of Cardiovascular Disease*

*The Leon H Charney Division of Cardiology*

*New York University School of Medicine*

**D**r. Newman is a cardiovascular physician-scientist with a research program focused on risk stratification and prevention of cardiovascular disease.

He investigates the cardiometabolic impacts of environmental exposures including fine particulate air pollution and leads clinical trials of personal strategies to modify the adverse health effects of these exposures. He is conducting a randomized trial testing the effects of portable air cleaners on self-measured home blood pressure among public housing residents with hypertension in New York City. He also conducts research using biomarkers and molecular approaches in clinical trials of patients with known or suspected coronary artery disease to improve prediction of cardiovascular events and advance understanding of cardiovascular disease resilience.



## **Lawrence Fine, MD, Dr. PH, FAHA**

*Senior Advisor of the Clinical Applications and Prevention*

*Branch, Division of Cardiovascular Sciences, NHLBI*

**L**awrence J. Fine, M.D., Dr. P.H., FAHA, is the senior advisor of the Clinical Applications and Prevention Branch in the Division of Cardiovascular Sciences at NHLBI. He currently is a member of the [Climate Change and Health NIH steering committee](#). He was the original project officer and Senior Medical Advisor of the SPRINT trial (<https://sprinttrial.org/public>.) Current scholarly interests range from the prevention of coronary heart disease, efficacy studies

treatment of hypertension and heart failure, better methods for patient reported outcomes and effectiveness studies of evidence based cardiovascular medicine including the control of hypertension and statin. He was branch chief of the Clinical Applications and Prevention branch in the division of Cardiovascular Sciences between 2008 and 2022. During this time the branch oversaw many implementation and dissemination (D and I) grants particularly before CTRIS was established. He was the PI of the six hypertension D and I grants in South America and Africa that were first initiative in funding D and I grants in hypertension by NIH. He has overseen many health service grants with significant implementation activities.

# MEET THE EXPERTS (CONT.)

He is a frequent advisor to the Patient-Centered Outcomes Research Institute (PCORI). Prior to NHLBI he worked at the Office of Behavioral and Social Sciences Research, in the Office of the Director of NIH. Between 1988 and 2001, Dr. Fine spent 14 years with the National Institute for Occupational Safety and Health, (NIOSH) as Acting Director of the Institute and as Director of the Division of Surveillance, Hazard Evaluations, and Field Studies (DSHEFS). He is board certified in Internal Medicine and Occupational Medicine. Prior to joining the federal government in 1988, Dr. Fine spent 12 years on the faculties of the University Michigan and the Harvard School of Public Health.



## **Marie-Abèle Bind, PhD**

*Assistant Professor, Harvard Medical School*

*Assistant Investigator, Massachusetts General Hospital*

**M**arie-Abèle Bind is an Assistant Professor of Medicine at Harvard Medical School and Assistant Investigator at MGH Biostatistics. Her research interests focus on defining the causal questions being asked by describing real or hypothetical multifactorial interventions, developing causal inference methods for quantifying the effects of randomized and non-randomized exposures on health outcomes and understanding the mechanisms explaining these health effects. Her current research has been funded by the NIH Early Independence Award program. Dr. Bind completed her joint PhD in Biostatistics and Environmental Health at the Harvard School of Public Health, working with Professors Brent Coull and Joel Schwartz. She then became a Ziff postdoctoral Fellow at the Harvard University Center for the Environment. In 2016, she was awarded an Early Independence Award (NIH High-Risk High-Reward research grant) and became Research Associate in the Department of Statistics. From 2017 to 2021, she became a John Harvard Distinguished Science Fellow.



## **Patrice Desvigne-Nickens, MD**

*Medical Officer*

*DCVS, NIH*

**D**r. Nickens is a Medical Officer in the Heart Failure and Arrhythmias Branch in the Division of Cardiovascular Science in the National Heart, Lung and Blood Institute. Dr. Nickens is responsible for the scientific development and fiscal management of relevant research programs focused on prevention, recognition and treatment in cardiovascular medicine. Her research portfolio has included many mechanisms of research: investigator-initiated projects, center grants, contract and grant solicitations, small business and conference grants to support basic and clinical investigations including clinical trials.



# MEET THE EXPERTS (CONT.)

Her current portfolio includes a deep phenotyping network, an international multisite trial, a large pragmatic trial addressing heart failure and CardioOncology investigations. Dr. Nickens is responsible for initiative development, workshops, and meetings and provides updates within these scientific areas to the Division and Institute Directors. Dr. Nickens is a reviewer for several journals and is the NHLBI liaison to the Heart Failure Society of America. She has special interest in improving outcomes for underserved populations and addressing adverse social determinants of health. Dr. Nickens received her Bachelors Degree in Chemical Engineering from the Massachusetts Institute of Technology and Medical Doctorate from the University of Pennsylvania School of Medicine. She began an Internal Medicine residency at the Thomas Jefferson University Medical Center and completed her training in Internal Medicine as a NHLBI medical staff fellow at the Clinical Center of NIH. Dr Nickens is board certified in Internal Medicine. Dr Nickens joined NHLBI in 1982 and was the project officer for the TIMI trial. In 1987 Dr Nickens left NIH to serve as primary care physician in Detroit and in 1988 in Baltimore. Dr Nickens rejoined NHLBI in 1991 and was responsible for research initiatives that investigated coronary disease in for underserved populations including women and African Americans. Dr. Nickens interests include training, the practice of medicine and public health policy and its impact on cardiovascular health disparities and their effect on women and minorities.



## **Peter Hovmand, PhD, MSW**

*Pamela B. David MD PhD Professor of Medicine, Center for Community Health Integration, School of Medicine*

*Professor of General Medical Sciences, School of Medicine*

*Professor of Biomedical Engineering, Case School of Engineering*

**D**r. Hovmand is an internationally recognized leader in developing and applying participatory methods in system dynamics and systems science in public health and medicine. His research focuses on advancing methods for understanding and preventing structural violence with a specific emphasis on advancing knowledge on multilevel feedback systems. Dr. Hovmand founded and led the Brown School's Social System Design Lab at Washington University in St. Louis from 2009 to 2020, authored Community Based System Dynamics and led the creation of Scriptapedia as a knowledge common for group model building scripts and serves as an associate editor for System Dynamics Review. Dr. Hovmand's work has been supported by the National Science Foundation, National Institutes of Health, Lupina Foundation, SkipNV, US Department of Agriculture, St. Louis Federal Reserve Bank, Robert Wood Johnson Foundation, Substance Abuse and Mental Health Services Administration, Foundation for Food and Agriculture Research, Administration for Children & Families, Ohio Department of Mental Health, Economic and Social Research Council United Kingdom, Wellcome Trust, Centers for Disease Control and Prevention, Bill and Melinda Gates Foundation, YMCA, RegionWise, Save the Children UK, Wellesley Institute, Google (now Alphabet), and Government of Singapore.

# MEET THE EXPERTS (CONT.)

Current research interest areas include closing the gap between engineering/science and lived experience to advance equity, social epistemology of participatory systems methods for advancing equity in policy and practice, sustaining common pool resources for community and public health, addressing bias in machine learning/artificial intelligence, and increasing and retaining diversity of STEM faculty with an emphasis on advancing the design sciences and regional equity.



## **Sacoby Wilson, PhD, MS, BS**

*Environmental Justice (EJ) as requisite to Planetary and CV Health Research and Policy/The Importance of Community Engaged Research in Selecting Local Research Priorities*

**D**r. Sacoby Wilson is a Professor with the Maryland Institute for Applied Environmental Health and Department of Epidemiology and Biostatistics in the University of Maryland, College Park School of Public Health where directs the Center for Community Engagement, Environmental Justice and Health (CEEJH). Dr. Wilson has over 20 years of experience as environmental health scientist in the areas of exposure science, environmental justice, environmental health disparities, community-based participatory research, water quality analysis, air pollution studies, built environment, industrial animal production, climate change, community resiliency, and sustainability. He works primarily in partnership with community-based organizations to study and address environmental justice and health issues and translate research to action.



## **Sadeer Al-Kindi, MD, FACC**

*Associate Director of Cardiovascular Prevention, Co -Director - Center for Cardiovascular Computational and Precision Health*

**D**r. Sadeer Al-Kindi is a cardiologist and researcher with interest in data science, neighborhood phenotyping, and the exposome in the context of cardiovascular disease prevention. He obtained his MD from Weill Cornell and trained at Case Western Reserve University. He is currently at the Houston Methodist DeBakey Heart and Vascular Center, where he serves as associate director of cardiovascular prevention and wellness, and co-director for the Center of Cardiovascular Computational and Precision Health (C3PH). Dr. Al-Kindi's research focuses centers on air pollution, climate change, social determinants of health, and their impacts on cardiometabolic disease progression and outcomes, and has published >250 papers, and serves on many editorial boards. He uses computational models and tailored prevention strategies based on an individual's environmental risk profile. Dr. Al-Kindi is helping bring the concept of the exposome to cardiovascular prevention practice and shape new directions for precision cardiovascular medicine based on exposome.

# MEET THE EXPERTS (CONT.)



## **Sam Myers, MD, MPH**

*Professor, Johns Hopkins Bloomberg School of Public Health  
Department of Environmental Health and Engineering  
Director, Johns Hopkins Institute for Planetary Health  
Director, Planetary Health Alliance*

**S**am Myers is a Professor at the Johns Hopkins Bloomberg School of Public Health and founding Director of the Johns Hopkins Institute for Planetary Health and the Planetary Health Alliance ([www.planetaryhealthalliance.org](http://www.planetaryhealthalliance.org)).

Sam's research explores Planetary Health—a field focused on the human health impacts of global environmental change. His research explores the human nutritional consequences of rising concentrations of CO<sub>2</sub> in the atmosphere, falling populations of pollinating insects, changes in global fisheries in response to ocean warming, and impacts of climate shocks on food security in Africa. For his research, Dr. Myers was the inaugural recipient of the Arrell Global Food Innovation Award in 2018 and Prince Albert II of Monaco prize for research at the interface of health and environment in 2015. Sam is the co-editor with Howard Frumkin of *Planetary Health: Protecting Nature to Protect Ourselves* (voted One of 25 Best Books of All Time by American Journal of Health Promotion in 2021).



## **Steven Davis KiiNockKooMii (First Thunder), BSC**

*Assistant Dean, Honors College, Montana State University*

**S**teven Davis KiiNockKooMii (First Thunder), of the Kul Wicasa Oyate (Lower Brule Sioux Tribe) and Niitsiitapi (Blackfoot Confederacy), is a proud alumnus of Montana State University with dual degrees in Chemical and Biological Engineering and an Honors Baccalaureate degree. He now has the honor and privilege to serve current and prospective students at his alma mater as the Assistant Dean and Academic Diversity Partner of the Honors College. Steven's professional work and current research focuses on indigenizing

engineering education and broadening access to higher education for indigenous students at Montana State University. Steven is a Sloan Fellow in pursuit of a Masters and eventual Ph.D. in Engineering. His current research efforts are aiming to bridge the gap between traditional, Indigenous ways of knowing and contemporary, Western empirical sciences – i.e. exploring and translating fluid mechanics, heat transfer, mass transfer principles inherent in the design and building of lodges and/or tipis.

# MEET THE EXPERTS (CONT.)



## **Sujata Shanbhag, MD, MPH**

*Non-invasive Cardiologist, Heart Failure and Arrhythmia Branch, Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, NIH*

**S**ujata M. Shanbhag, M.D., MPH is a non-invasive cardiologist in the Heart Failure and Arrhythmia Branch, Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, NIH. She is a graduate of the St. Louis University School of Medicine, subsequently completed her Internal Medicine training at Indiana University School of Medicine and General Cardiology training at Rush University Hospital in Chicago, IL. She then completed an Advanced Cardiovascular Imaging Fellowship at the National Heart, Lung, and Blood Institute (NHLBI) at the National Institutes of Health (NIH) achieving COCATS Level III requirements in both Cardiovascular MRI and CT and has a Masters in Public Health from the Harvard T.H. Chan School of Public Health. After training, Dr. Shanbhag has remained on the teaching faculty at the NHLBI for the last 15 years. As of February 2022, she joined the Heart Failure and Arrhythmias Branch within the Division of Cardiovascular Sciences at NHLBI where her work involves the management and supervision of cardiovascular clinical trials, initiative development, and she manages a research portfolio including a wide range of basic, applied, and clinical cardiovascular research. She has a specific interest in the diagnosis, management of non-ischemic cardiomyopathies, myocardial ischemia and infarction, as well as, evaluating disease phenotypes using combined imaging techniques in CMR and CT. Her current clinical and research interests include integration of imaging methods into prognostic risk stratification strategies, cardiovascular disease prevention, and clinical outcomes research.



## **Wei Peng, PhD, BSc**

*Assistant Professor of Public and International Affairs and Andlinger Center for Energy and the Environment, Princeton University*

**D**r. Wei Peng is an Assistant Professor of Public and International Affairs and the Andlinger Center for Energy and the Environment at Princeton University. Her research uses computational models to quantify difficult tradeoffs of climate policy across social, political, and environmental aspects. Dr. Peng currently leads two projects: i) Health Effects of Deep Decarbonization, ii) Political Economy in Integrated Assessment Modeling. Her research has been published in *Nature*, *Nature Climate Change*, *Nature Sustainability*, *PNAS* among others, and has been featured in national and local media such as PBS and NPR. She also served as a co-author of the Fifth National Climate Assessment. Prior to joining Princeton, she was an Assistant Professor of International Affairs and Civil and Environmental Engineering at the Penn State University. She received her PhD degree from Princeton University and bachelor's degree from Peking University.

# MEET THE EXPERTS (CONT.)



## **Yingling Fan, PhD**

*Professor and Associate Dean for Faculty*

*Humphrey School of Public Affairs, University of Minnesota*

**P**rofessor Yingling Fan serves on the urban and regional planning faculty at the Humphrey School of Public Affairs, University of Minnesota, and holds the position of Associate Dean for Faculty. Her expansive research portfolio addresses the nexus of urban planning, transportation, and public health, with a keen focus on social equity and emotional well-being in urban environments. She has authored over 100 publications in leading journals across urban planning, environmental sustainability, and public health. Notably, her research linking urban planning with broader public health and social equity outcomes has transcended academic boundaries, gaining recognition in prominent media platforms including Time Magazine and National Geographic.

