

Developing Wearable Technologies to Advance Understanding of Precision Environmental Health - A Workshop

Committee

Rima Habre

Chair

Rima Habre is an Associate Professor of Environmental Health and Spatial Sciences at the University of Southern California (USC) where she leads the Exposure Sciences Research Program in the USC Southern California Environmental Health Sciences Center. Her expertise lies in environmental health, air pollution, and exposure sciences. Her research aims to understand the effects of complex air pollution mixtures in the indoor and outdoor environment on the health of vulnerable populations across the life course. Habre's expertise spans measurement, spatiotemporal, and GIS-based modeling, and mobile health approaches to assessing personal exposures and health risks. She co-chairs the Geospatial Working Group in the National Institute of Health's Environmental Influences on Child Health Outcomes program. She received the Young Investigator Award in recognition of scientific pursuits and accomplishments, as well as demonstrating potential for future leadership in environmental health science from NIEHS in 2017. She currently serves on the International Society of Exposure Science Board of Directors. Habre received an Sc.D. in environmental health from the Harvard T.H. Chan School of Public Health.

Paloma Beamer

Member

Paloma I. Beamer is a professor in the College of Public Health at the University of Arizona and holds joint appointments as a professor of Chemical & Environmental Engineering and as a research scientist in the Asthma and Airway Disease Research Center. She is the Community Engagement Core Director for the Southwest Environmental Health Sciences Center (NIEHS P30). Her research focuses on understanding how individuals are exposed to environmental contaminants and the health risks of these exposures with a special focus on vulnerable populations, including children, low-wage immigrant workers, Native Americans, and those in the United States-Mexico Border Region. The ultimate goal of her work is to develop more effective interventions and policies for prevention of avoidable cases of certain diseases such as asthma. Beamer received a Mentored Quantitative Research Award from the U.S. National Institutes of Health and a Scientific Technological Achievement Award (Level I) from the U.S. Environmental Protection Agency (EPA). She has served on the Board of Scientific Counselors for both EPA and the Agency for Toxic Substances and Disease Registry and is currently an Associate Editor for Environmental Health Perspectives. Beamer is the Past President for the International Society of Exposure Science and a lifetime member of the Society for Hispanic Professional Engineers (SHPE) and the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS). Beamer received a B.S. in [discipline] from the University of California, Berkeley and an M.S. and Ph.D. from Stanford University.

Yuxia Cui

Member

Yuxia Cui is a Health Scientist Administrator at the National Institute of Environmental Health Sciences (NIEHS) at the National Institutes of Health (NIH) where she oversees the exposure science and the exposome grant portfolio that is focused on emerging technologies towards improved exposure and health impacts assessment in environmental health research. These include wearable technologies, omics-based approaches, computational and informatics-based methodologies, as well as other innovative approaches to enable an integrated view and better understanding of the exposome. Cui currently serves as the co-director of the Human Health Exposure Analysis Resource (HHEAR), a trans-NIH program that supports a centralized network of exposure analysis services and expertise to enable comprehensive environmental exposure assessment in population health research. She is also a member of the NIH Common Fund Metabolomics Program leadership team and oversees the day-to-day operations of the Program. Cui received a Ph.D. in environmental toxicology from Duke University.

Jennifer A. Horney

Member

Jennifer Horney is Professor and Founding Director of the Epidemiology Program and Core Faculty at the Disaster Research Center at the University of Delaware. Her research focuses on the role of social factors and the health impacts of disasters. She was part of the public health response to Hurricanes Isabel, Charley, Katrina, Wilma, Irene, and Harvey where she conducted rapid assessments of disaster impacts on individual and community health. She has also provided technical assistance to public health agencies globally around disasters, emerging infectious disease outbreaks, and pandemic influenza planning and response. She is currently a member of the Board of Scientific Counselors for the Centers for Disease Control and Prevention's (CDC) Center for Preparedness and Response, a member of the NORC /CDC Technical Workgroup on Improving Processes for Identifying and Reporting Disaster-Related Deaths, and a member of the National Environmental Health Association's Workgroup on Concurrent Disasters. Horney received a Ph.D. and MPH from the University of North Carolina. She has previously been a member of the National Academies of Sciences, Engineering, and Medicine's Gulf Research Program's Enhancing Community Resilience (EnCoRe) Program Oversight Committee.

Tiffani Bailey Lash

Member

Tiffani Bailey Lash serves as a Senior Health Scientist Administrator for the National Institutes of Biomedical Imaging and Bioengineering (NIBIB) at the National Institutes of Health (NIH). She is the Program Director for the NIH Rapid Acceleration of Diagnostics (RADx?) Tech and Advanced Technology Platforms initiative, NIH Technology Accelerator Challenge (NTAC), and the NIBIB Point of Care Technologies Research Network. She also serves as co-coordinator for the NIH Common Fund's Harnessing Data Science for Health Discovery and Innovation in Africa. Prior to her current position, Lash worked within the NIH's science policy administration. During that time, she worked at the National Institute of General Medical Sciences and National Heart Lung and Blood Institute, as well as the NIH Office of the Director. She was previously a science policy fellow for both the American Association for the Advancement of Science and the National Academy of Engineering. She also has a background in small business innovation and intellectual property. Her research portfolio includes Point of Care Technologies and Digital Health, both with the goal of developing biomedical technologies through collaborative efforts that merge scientific and technological capabilities with clinical need. Lash received a Ph.D. in physical chemistry from North Carolina State University.

Akane Sano

Member

Akane Sano is an Assistant Professor at Rice University in the Department of Electrical Computer Engineering, Computer Science, and Bioengineering. She directs the Computational Wellbeing Group and is a member of Rice Digital Health Initiative. Her research includes data science, machine learning, and human-centered intelligent systems for health and wellbeing and spans the field of affective computing, ubiquitous and wearable computing, and biobehavioral sensing and analysis/modeling. She has been developing tools, algorithms, and systems to measure, forecast, understand and improve health and wellbeing using multimodal data from mobile and wearable devices in daily life settings, and clinical assessment. Recent awards include the NSF Career Award, the Best of IEEE Transactions on Affective Computing 2021, and the Best Paper Award at IEEE BHI 2019 conference. Sano received a B.Eng and M.Eng from Keio University, Japan and a Ph.D. from the Massachusetts Institute of Technology.

Amy Wagoner Johnson

Member

Amy Wagoner Johnson is a Professor and Head of the Biomedical and Translational Sciences Department in the Carle Illinois College of Medicine, the world's first engineering-based college of medicine, at the University of Illinois at Urbana-Champaign. She is an Andersen Faculty Scholar in the Grainger College of Engineering and holds a primary faculty appointment in the Department of Mechanical Science and Engineering. Previously, she was a Chair of Excellence at the NanoSciences Foundation in Grenoble, France and an Invited Professor at the University of Grenoble from 2014-2017. Her research focuses on biomaterials and biomechanics with applications in bone regeneration and repair, coral regeneration and restoration, and biomechanics of women's reproductive tissue, including tissue exposed to environmental toxins. . She received the Distinguished Engineering Educator Award from the Society of Women Engineers (2020) and was elected to the American Institute for Medical and Biological Engineering (AIMBE, 2022). At Illinois, she received the Dean's Award for Excellence in Research (2018) and the Grainger College of Engineering Award for Sustained Excellence in Diversity, Equity, and Inclusion (2022). She has affiliate appointments in the Department of Bioengineering, the Beckman Institute for Advanced Science and Technology, and Carl R. Woese Institute for Genomic Biology, where she is a Core Member of Regenerative Biology and Tissue Engineering and Environmental Impacts on Reproductive Health. Johnson received a PhD in engineering from Brown University.

Natalie Armstrong

Staff Officer