

**2025 Climate Health Frontiers Symposium:
AI and Data for Mitigation, Adaptation, and Resilience**

January 16 - 17, 2025
University of Houston Hilton, Houston, TX

AGENDA

Thursday January 16, 2025

**8:00 AM – 8:30 AM
WELCOME REMARKS**

Moderator: *Hanadi Rifai*, Moores Professor, Director, Hurricane Resilience Research Institute (HuRRI)

Claudia Neuhauser, Vice President/Vice Chancellor for Research, University of Houston

**8:30 AM – 9:20 AM
PLENARY**

Moderator: *Hanadi Rifai*, Moores Professor, Director, Hurricane Resilience Research Institute (HuRRI)

8:30 AM – 8:55 AM

Knowledge-Guided Machine Learning: Accelerating Scientific Discovery and Addressing Global Environmental Challenges

Vipin Kumar, Regents Professor, William Norris Land Grant Chair in Large-Scale Computing, CSE Data Science Initiative Director, University of Minnesota

8:55 AM – 9:20 AM

Finding the dividend: Musings on efforts to better align public health and resilience work

Michael Berkowitz, Director, University of Miami's Climate Resilience Academy, Eric T. Levin Endowed Chair in Climate Resilience

**9:20 AM – 10:40 AM SESSION 1
PANEL DISCUSSION: TRANSFORMATIONAL CHANGE FOR CLIMATE HEALTH
EQUITY AND ENVIRONMENTAL JUSTICE**

Moderator: *Bettina Beech*, Chief Population Health Officer, University of Houston, Director, AIM-AHEAD South-Central Consortium

9:20 AM – 9:35 AM

From Data to Discovery: Leveraging the All of Us database for Climate Health Research

Debra Murray, Director of Genetics/Genomics Education Programs, Human Genome Sequencing Center, Associate Professor, Molecular and Human Genetics, co-Director, Office of Community Engagement and Equity, Baylor College of Medicine

9:35 AM – 9:50 AM

A One Health Approach to Climate Change and Public Health

Alexander Travis, Chair, Department of Public & Ecosystem Health
Director, Cornell Public Health, Professor of Reproductive Biology, Cornell Atkinson Center for Sustainability, Senior Faculty Fellow, Cornell University College of Veterinary Medicine

9:50 AM – 10:05 AM

Community CATALYST: Generating Evidence to Alleviate Climate-Induced Health Outcomes in Socioeconomically Marginalized Populations

Karen Albright, Senior Investigator and Director of Community Engaged Research at OCHIN

10:05 AM – 10:20 AM

Climate Change and community engagement of disadvantaged populations

Wael Al-Delaimy, Professor of Public Health and Family Medicine at the University of California San Diego

10:20 AM – 10:40 AM

Q&A with Panel

10:40 AM – 11:00 AM BREAK

**11:00 AM – 12:30 PM SESSION 2
CHALLENGES AND OPPORTUNITIES AT THE INTERFACE OF CLIMATE AND
HEALTH**

Moderator: *Kate Anderson*, Associate Chair and Associate Professor, Sociology, University of Houston

11:00 AM – 11:15 AM

**The application of machine learning in extreme hydrological events:
convergence research team is required**

Amin Kiaghadi, Manager, Coastal Science Program, Texas Water Development Board,
Project Manager, Texas Integrated Flooding Framework (TIFF)

11:15 AM – 11:30 AM

**JaxTwin: Future Scenarios at the Intersection of Health and Housing and
Hazards**

Jeff Carney, Director and Associate Professor, Florida Institute for Built Environment
Resilience (FIBER)

11:30 AM – 11:45 AM

**Reductions in Satellite-based measures of Air Pollution Associated with Zero-
Emissions Vehicle Adoption in California**

Sandra Eckel, associate professor of Biostatistics at the University of Southern California
and Director of the USC Biostatistics PhD Program

11:45 AM – 12:00 PM

Simulating the Impact of Compound Flood Risks on Coastal Land Use Patterns

Xinyue Ye, Harold Adams Endowed Professor in Urban Informatics at Texas A&M University

12:00 PM – 12:15 PM

Enforcing Equity in Neural Climate Emulators

Sam Silva, assistant professor of Earth Sciences, Civil and Environmental Engineering, and
Population and Public Health Sciences at the University of Southern California

12:15 PM – 12:30 PM

Reducing Energy Burden and Flood Damage Using Energy-Water-Nexus Approach

Sequoia Riley, Research Associate, Houston Advanced Research Center

12:30 PM – 1:30 PM LUNCH

**1:30 PM – 2:50 PM SESSION 3
AI and HEALTH: PAYING IT FORWARD**

Moderator: *Loren Hopkins*, Professor in the Practice of Statistics, Rice University
Chief Environmental Science Officer and Bureau Chief, Data Science Division, Houston Health Department

1:30 PM – 1:50 PM

The Promise and Peril of AI and the Future of Environmental Health Protection

Matthew Tejada, Natural Resource Defense Council Senior Vice President, Environmental Health

1:50 PM – 2:10 PM

Artificial Intelligence and Public Health: Preparing for Tomorrow's Challenges Today

Imran Shaikh, Division Manager, Data Services Program, Houston Health Department

2:10 PM – 2:30 PM

Code Green: AI Solutions for Houston's Climate Health Crisis

Megan Rose, Senior Director of Strategic Initiatives at Center for Houston's Future

2:30 PM – 2:50 PM

AI: A Tool for Building Community Power

Michael Gelobter, Executive Director of the Yale Center for Environmental Justice and a senior advisor at Google X

2:50 PM – 3:10 PM BREAK

**3:10 PM – 3:45 PM SESSION 4
TECH LIGHTENING TALKS**

Moderator: *Jen Vardeman*, Director, Associate Professor, Valenti School of Communications, University of Houston

3:10 PM – 3:17 PM

Rising risk, new solutions: Innovations in vector control to respond to a changing climate

Sarah Gunter, Assistant Professor, Baylor College of Medicine and Texas Children's Hospital, National School of Tropical Medicine, Director, Infectious Disease Epidemiology Laboratory

3:17 PM – 3:24 PM

Community-Driven Science for Action: Mapping Urban Heat Islands in Our Region

Meredith Jennings, Senior Program Manager, Houston Advanced Research Center

3:24 PM – 3:31 PM

Extreme Heat and Disease Burden Projections: A Case Study in Harris County, TX

Ebrahim Eslami, Research Scientist, Air Quality, Houston Advanced Research Center

3:31 PM – 3:38 PM

Development of system-based digital decision support (“Pocket Ark”) for post-flood enhanced response coordination and worker safety

William Perkison, Assistant Professor, University of Texas School of Public Health

3:38 PM – 3:45 PM

Hurricane Beryl on Texas Barrier Islands

Shuhab Khan, Professor of Geology, Earth and Atmospheric Sciences, University of Houston

3:45 PM – 4:40 PM POSTER SESSION + SOCIAL HOUR

Moderator: *Hanadi Rifai*, Moores Professor, Director, Hurricane Resilience Research Institute (HuRRI)

3:45 PM – 4:00 PM

National Service: Preparing the Clean Energy and Public Health Workforce of the Future

Sandy Scott, Senior Advisor to the COE, AmeriCorps

4:40 PM – 4: 45 PM CLOSING REMARKS DAY 1

Hanadi Rifai, Moores Professor, Director Hurricane Resilience Research Institute (HuRRI)

Friday January 17, 2025 – In Conjunction with AIM-AHEAD SOUTH-CENTRAL HUB ANNUAL MEETING

8:00 AM – 8:30 AM
REGISTRATION and CHECK-IN

8:30 AM – 8:35 AM
INSTITUTIONAL WELCOME

Ramanan Krishnamoorti, Vice President of Energy and Innovation, University of Houston

8:35 AM – 9:15 AM
KEYNOTE

Moderator: *Marino Bruce*

Disparities in Heat Hazard and Exposure in Urban Areas

Tirthankar (TC) Chakraborty, Staff scientist, Earth System Modeling, Atmospheric Sciences and Global Change Division of Pacific Northwest National Laboratory (PNNL)

9:15 AM – 10:00 AM
AIM-AHEAD HUB LEADER PANEL

Moderator: *Bettina M. Beech*

Marino A. Bruce, Co-lead, South-Central Hub

Keith C. Norris, MPI and Co-lead, West Hub

Usha Sambamoorti, MPI and Co-lead, Central Hub

Roland J. Thorpe, Jr., MPI and Lead, Northeast Hub

10:00 AM – 10:45 AM
AIM-AHEAD CORE PANEL

Moderator: *Keith C. Norris*

Brad Malin, Vanderbilt Medical Center, Lead, Ethics Core

Rajbir Singh, Meharry Medical College, Lead, Research Compliance Office

10:45 AM -11:00 AM BREAK
11:00 – 11:45 am South-Central Hub Year 3 Pilot Awardees Moderator: <i>Bettina Beech</i>
<i>Ramin Homayouni</i> , Professor Foundational Medical Studies, Director, Population Health Informatics Oakland University Beaumont School of Medicine <i>Subhajit Chakrabarty</i> , Professor, Louisiana State University
11:45 am– 12:45 pm LUNCH and MODIFIED CONVERSATION CAFÉ
Conversation will be based on the Greater Houston Partnership White Paper on AI in Healthcare
12:45 – 1:45 pm AI INNOVATIONS AT UH Moderator: <i>Marino A. Bruce</i>
<i>Winston Liaw</i> , Clinical Professor and Chair, Tillman Fertitta College of Medicine, University of Houston <i>George Zouridakis</i> , E. Shannon Professor, Information Science Technology, Cullen College of Engineering
1:45 PM – 2:15 PM ESCAPE ROOM
<i>Susie Gronseth</i> , Clinical Professor, College of Education
2:15 PM – 3:00 PM RESEARCH PRESENTATION
Epigenomics and disease as a result of toxicant exposure <i>Christian Coarfa</i> , Associate Professor of Molecular and Cell Biology, Baylor College of Medicine

3:00 PM – 3:15 PM
Closing Remarks – Year 4 Grant Cycle Announcement