



Partnerships for Environmental Public Health

Climate Change and Environmental Justice: Engaging Diverse Teams

Session Abstracts

Intergenerational Engagement

February 20, 1:45pm-3:30pm

The importance of engaging multiple generations in environmental health topics is essential when building capacity for youth and beyond in this sector. Introducing youth and young adults to environmental issues can help promote a healthy environment by raising awareness of preventive actions when it comes to environmental health. As a result, there is a growing need for programs to effectively promote inter-generational interactions which can, in turn, empower communities to be environmental advocates. Leaders working with diverse age groups of community members will discuss their experiences working with youth and young adults when it comes to environmental health community-based projects. From their unique perspectives, the panelists will discuss the successes, challenges, capacity building, curriculum development, building interdisciplinary teams, and lessons learned when it comes to inter-generational environmental health engagement. After the 45-minute panel, a 45-minute breakout session will commence. The panelists will be assigned to breakout groups and lead them in more comprehensive discussions.

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Session speakers:

- Victoria Triana, University of North Carolina at Chapel Hill
Developing educational curriculum for informal settings.
- Rahul Mitra, Wayne State University
Establishing multidisciplinary teams with undergraduate and graduate students.
- Jaron Burke, WEACT
Working with youth and community leaders to address EJ issues.
- Natalie Sampson, University of Michigan at Dearborn
Establishing an environmental health research to action program with youth.

Engaging Communities in Oceans and Human Health

February 21 9:00am-10:15am

The field of oceans and human health (OHH) encompasses research to address diverse challenges to the well-being of human populations as well as ocean and aquatic ecosystem health. These include impacts of pollutants, chemicals and plastics on humans and wildlife, health threats from pathogens and harmful algal bloom toxins, deteriorating water quality, and increasing extreme weather events. Over the past few decades, the OHH field has evolved into a distinct scientific metadiscipline that seeks to improve public health outcomes, promote sustainable use of aquatic systems and resources, and strengthen community resilience. Considering the vast number of people who rely on ocean and aquatic resources for livelihoods, subsistence, or recreation as well as those who are affected by changing ocean conditions such as sea level rise, partner participation in OHH offers important avenues specifically for engaging vulnerable and underserved populations. This session provides an introduction to the field of OHH and the NIEHS-NSF supported Centers for OHH and the NIEHS Research to Action programs. Speakers will review a diverse range of insights from community engaged research, including grassroots community engagement, youth education initiatives, activities for underrepresented and underserved groups including students, and community-based environmental monitoring and notification systems for vulnerable populations.

Session speakers:

- Paul Sandifer, College of Charleston -- OHH Overview: Research and Community Engagement to Enhance Ocean Health and Human Health.
- Dan Kilpatrick, University of South Carolina -- Whether HABs or Hurricanes, Vibrios or Volcanoes, Community-managed Disaster Risk Reduction as a Grassroots Community Engagement Framework.
- Matt Gribble, University of California, San Francisco -- Youth Education on HABs in Southeast Alaska.
- George Bullerjahn, Bowling Green State University -- Great Lakes Center for Fresh Waters and Human Health – a Summary of Community Engagement Activities.
- Mindy Richlen, Woods Hole Oceanographic Institution -- HAB Science in the Classroom: Improving Ocean Literacy through Educational Activities on Harmful Algal Blooms.

Sensors, Technologies, and Shared Resources

February 21, 10:15am-12:00pm

Environmental exposures can be detected and mitigated via sensor and technology use. Even so, challenges in using sensors to address environmental exposures can be a major barrier for communities and researchers alike. As a result, it is important for stories to be shared about how sensors can be used in communities to empower residents. Moreover, it is essential to hold conversations about resources to promote curriculum, toolkits, and training for the development of sensor related projects. Leaders and experts in sensor use and shared resource development will discuss their experiences with sensors in community-based projects. Moreover, the panel will share resources used to aid audiences in their own journey towards sensor use. From their unique perspectives, the panelists will discuss the successes, challenges, feasibility, sustainability, cost, and lessons learned when it comes to sensors being used to address environmental health issues. After the 45-minute panel, a 45-minute breakout session will commence. The panelists will be assigned to breakout groups and lead them in discussions about sensor use and shared resources for program development.

Session speakers:

- Chris Heaney, Johns Hopkins University
Air monitoring technologies and fenceline communities.
- Pat Ryan, University of Cincinnati
Air sensors in community engaged projects and with youth
- Scott Oakley Hersey,
Achieving impact through community-driven air monitoring projects
- Robbie Parks, Columbia University
Indoor heat monitors
- Irvan Luhung, Yale University
Water monitoring sensor network for 1,4 Dioxane

Translating Research to Protect Children’s Health and Achieve Health Equity in a Changing Climate

February 21, 1:30am-3:00pm

Children in the U.S. face increasing rates of environmentally-mediated chronic illnesses and neurodevelopmental disabilities, and children of color and children living in poverty are disproportionately burdened. Climate change impacts are magnifying existing environmental injustice and increasing these adverse environmental health impacts to children.

In 2022, NIEHS established a new program to move science from the shelf to real-world impacts that improve children’s health. The NIEHS Collaborative Centers in Children’s Environmental Health Research and Translation (CEHRT) works to: increase collaborations and partnerships; promote and accelerate research translation to key stakeholders; and enhance and consolidate a network of

children's environmental health experts to support response efforts to emerging environmental exposures affecting children. Centers facilitate interaction among experts, engage stakeholders to move the science into policy and practice, synthesize and translate extant children's environmental health research, stimulate pilot projects, and test and implement new tools, methods, intervention and prevention strategies.

The CEHRT network is intentional in its efforts to improve children's health in under-resourced and overburdened communities and communities of color. Centers also focus on increasing diversity in member recruitment and prioritize funding pilot projects that address diversity, equity, inclusion, justice, and accessibility. The Network supports a cross-center interest group on climate change, which focuses on children's unique vulnerabilities and environmental justice. In addition, many centers are performing translation work to support children's health from the impacts of climate change, such as from increased air pollution and wildfire smoke.

This session will inform the PEPH community about this groundbreaking program and highlight examples of innovative and collaborative translation projects underway at three of the CEHRT centers. ***The session speakers will also discuss ways for the PEPH community to get involved with CEHRT to advance environmental and climate justice and health equity for children, including engagement via pilot projects, dissemination of CEHRT-developed tools and resources, and regional coordination and collaboration.***

Session speakers:

- **Moderator:** Nsedu Obot Witherspoon, Children's Environmental Health Network
 - Ms. Witherspoon will help to frame the conversation around this session and to identify ways for the PEPH community to engage with the CEHRT program towards our mutual goals of environmental and climate justice.
- Kimberly Gray, National Institute of Environmental Health Sciences
 - Dr. Gray will provide a brief background of the CEHRT program.
- Elizabeth Kamai, University of Southern California
 - Near-roadway and regional air pollution, industrial releases, goods movement, and oil and gas production in urban areas all threaten to increase the burden of environmental disease. These threats disproportionately affect children, and in Southern California, they are frequently concentrated in marginalized communities and communities of color. The SC-CEHRT mission is to reduce the burden of childhood air pollution-related diseases by building an innovative framework for multidirectional engagement in which communities, government, and civil society use science to develop solutions, with a focus on environmental justice communities. We will share examples of the Center's interdisciplinary curriculum development, research translation, data visualization, and storytelling approaches that we are building with community partners in Southern California.
- Grace Ahn, University of Georgia
 - CHARTER has been studying how we can leverage emerging technologies to effectively craft climate change and environmental justice messages to community members that are engaging, personally relevant, and leave a lasting impact on audiences. We will introduce the novel tools we have been experimenting with, such as social media reels, video games, virtual reality, and smartphone apps, and share success stories and lessons from failures. We will also discuss how members from the PEPH community can engage with CHARTER activities to build synergy and collaboration.
- Marilyn Howarth, University of Pennsylvania

- Climate change in Philadelphia increases air pollution, the number of days over 90 degrees and flooding which impacts already high asthma rates and poor birth outcomes in children living in EJ neighborhoods. The PRCCEH is addressing asthma through programs designed to control asthma triggers inside and outside the home; addressing heat through pilot projects providing shade structures to childcare facilities and fans to families with no other cooling method. We will also describe our development process for curriculum materials for teachers to engage students and enhance their environmental health literacy.

Building Bridges in Environmental Health: Training Early Career Researchers for the pursuit of Environmental Justice

February 21, 3:15pm-4:15pm

Since 2014, the JPB EH Fellows have undertaken more than 30 research projects relevant to under resourced populations in urban and rural communities across the U.S. Since 2020, the Agents of Change in Environmental Justice Fellowship has trained nearly 50 early career researchers to foster a new cadre of diverse and inclusive leaders in environmental justice. The programs have fostered cross disciplinary collaborations that include several research projects, publications, workshops, panels, and conferences. The panel will discuss the difficulties of launching innovative fellowships programs and highlight fellows who are currently conducting community-engaged research. The panel will also discuss the training gaps closed in Environmental Health Research by non-academic training programs.

Goal: Panel will discuss building of programs for early career researchers at various stages that promote 1) science communication 2) community-engaged research at the intersect climate and environmental justice and 3) budding of inter and intra cohort engagement.

Session speakers:

- Moderator: Yoshira Ornelas Van Horne, Columbia.
- Max Aung, University of Southern California
- Lariah Edwards, Columbia
- Anaís Delilah Roque Antonetty, The Ohio State University

Building and Sustaining Local Capacities

February 22, 9:00am-10:30am

This session will bring together a series of speakers to highlight how they are working with communities across the country that are overburdened and under-resourced. Critical federal investments such as the Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs), as well as other public and private sector initiatives, have been developed to

provide assistance to remove barriers and improve accessibility towards environmental justice. Panelists will share insights, lessons learned, and partnership opportunities related to their projects.

After the panel discussion, attendees will break up into smaller group discussions to allow for sharing of similar approaches to build and sustain local capacities to address EJ and climate change concerns. At the end of this session, attendees will gain an opportunity to learn about different resources, share successful models for working towards EJ, and identify possible new collaborative opportunities.

Session Panelists:

- Janelle Armstrong-Brown, Research Triangle Institute
- Dwyane Porter, University of South Carolina
- Joe Hoover, University of Arizona

Listening Session with the NIEHS Director

February 22, 10:45am-11:45am

After two days of interacting with colleagues and sharing information with one another, this final session will enable the PEPH participants to highlight key outcomes and take-away messages with the NIEHS Director. It will also be an opportunity for participants to communicate various environmental public health issues with the NIEHS Director.

To summarize key issues and messages, this session will begin with brief report-backs from session leaders. It will be a way for breakout groups to share with all meeting attendees and Dr. Woychik their main take-aways. After these brief reports, we will transition into a more casual discussion with Dr. Woychik.

When Dr. Woychik was named acting director of NIEHS, he initiated a series of listening sessions around the country, including at the 2020 PEPH meeting, to hear from the extramural community and partners about current and emerging issues in environmental health sciences. The PEPH 2024, provides another unique opportunity to engage in conversation with Dr. Woychik. In addition, the timing of this meeting is good as the NIEHS is finalizing its new five-year strategic plan and Dr. Woychik has been highlighting five scientific priority areas for NIEHS -- Environmental Justice and Health Disparities, Climate Change and Health, Exposomics, Precision Environmental Health, Mechanistic and Translational Toxicology, and Computational Biology and Data Science – that have relevance to the PEPH Network. As such, attendees will also be able to provide input regarding the new strategic plan and the priority scientific areas.