

Personal Monitoring Devices and Community-Engaged Research

Date: September 13, 2013
Time: 12:00-1:30 p.m. ET

Please register at: http://bit.ly/PEPH_PMD
 (registration required)

Description: Environmental monitoring tools have been evolving rapidly over the past 10 years. Such technology is useful to community groups and researchers, especially where there are concerns of communities being disproportionately exposed to certain contaminants. This webinar will describe the technology being used today by community groups, highlight the new technologies that are being developed, and identify the opportunities for the future and what it could mean for environmental public health.

Wearable Chemical Sensors for Personal Environmental Exposure Monitoring

Erica Forzani, Ph.D., Arizona State University



This presentation will cover the development of an integrated multifunctional sensor that uses several innovations for real-time measurement of personal environmental exposures. The sensor can simultaneously detect multiple important analytes, including carcinogenic benzene, a common pollutant related to traffic, tobacco smoke, and the petroleum industry. In addition, the sensor has an embedded wireless chip that can communicate with cell phones, and it uses GPS and an accelerometer to provide additional location and physical activity information. The sensor is miniaturized to a wearable size, which makes it suitable for personal environmental health monitoring, as well as population studies under free-living conditions.

AirCasting: An Open Source Platform for Recording, Mapping, and Sharing Health and Environmental Data

Michael Heimbinder, M.A., HabitatMap
 Carlos Restrepo, Ph.D., New York University

George Thurston, Sc.D., New York University
 Michael Taylor, M.S., Carnegie Mellon Univ.



Michael Heimbinder



George Thurston



Carlos Restrepo



Michael Taylor

AirCasting is based on the premise that communities must be able to “see” environmental health problems before they can begin formulating effective solutions. It can be used to answer vital, real-world questions: Is polluted air impacting your heart and lungs? Is your sleep compromised by excessive noise? Is it safe to fish or swim here? By crowdsourcing data from thousands or potentially millions of cybernetic devices, AirCasting becomes an analytics engine capable of identifying emergent patterns in lived environments and human biology. We use this engine to invigorate and inspire communities, harnessing the power of “big data” to bring about big changes in how we live, feel, and interact with our surroundings.



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PEPH Webinar Series

The Partnerships for Environmental Public Health (PEPH) program established the PEPH Webinar Series to promote interactions among PEPH grantees and to increase awareness of common issues and approaches. The webinars facilitate consideration of emerging issues. While the primary audience is grantees within the PEPH network, anyone interested in environmental public health is welcome to register.

If you have any questions about this webinar, please contact Liam O’Fallon (ofallon@niehs.nih.gov, 919-541-7733).

Individuals with disabilities who need accommodation to participate in this event should contact Liam O’Fallon (ofallon@niehs.nih.gov, 919-541-7733). TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 5 business days in advance of the event.

Upcoming Webinar Topics:

- Empowering Our Youth to Address Environmental Public Health (September 23)

