

**Personal Environmental Exposure Measurements:
Making Sense and Making Use of Emerging Capabilities – A Workshop**
November 16-17, 2016

Background Information on Workshop Case Studies

Case Study 1: AirCasting

AirCasting is a platform for recording, mapping, and sharing health and environmental data using your smartphone. Each AirCasting session lets you capture real-world measurements, annotate the data to tell your story, and share it via the CrowdMap.

Using the AirCasting Android app, AirCasters can record, map, and share:

- Sound levels recorded by their phone microphone;
- Temperature, humidity, and fine particulate matter (PM2.5) concentrations recorded by the Arduino-powered AirBeam;
- Temperature, humidity, carbon monoxide (CO) and nitrogen dioxide (NO₂) gas concentrations recorded by the Arduino-powered AirCasting Air Monitor;
- Heart rate, heart rate variability, R to R, breathing rate, activity level, peak acceleration and core temperature measurements recorded by the Zephyr BioHarness 3; and
- Heart rate measurements recorded by the Zephyr HxM.

For more information: <http://aircasting.org/about>

HabitatMap

HabitatMap is a non-profit environmental health justice organization whose goal is to raise awareness about the impact the environment has on human health. Our online mapping and social networking platform is designed to maximize the impact of community voices on city planning and strengthen ties between organizations and activists working to build greener, greater cities. Utilizing our shared advocacy platform participants can:

- Alert the public to environmental health hazards
- Hold polluters accountable for their environmental impacts
- Highlight urban infrastructures that promote healthy living
- Identify future opportunities for sustainable urban development
- Promote policies that enhance equitable access to urban resources

For more information: http://habitatmap.org/about_us

Case Study 2: Speck Sensor

The Speck detects fine particulate matter (PM2.5) in your indoor environment and informs you about changes and trends in particle concentration. Our mission is to provide an affordable tool that makes the invisible visible, and empowers you to make informed decisions about how to improve your personal air quality. Use Speck to test whether your vacuum exudes particles, whether your cleaning products are making your employees cough, whether your kitchen range hood exhausts to your child's bedroom and more.

For more information: <https://www.specksensor.com/>