



EPA Air Sensors 2014: A New Frontier

Monitoring Technology for Today's World

June 9 & 10, 2014

EPA's Research Triangle Park Campus • Auditorium C111

109 T.W. Alexander Drive • Research Triangle Park, North Carolina 27711

Agenda

Agenda at-a-Glance

Monday, June 9		Tuesday, June 10	
7:30 am	Registration*	7:45 am	Registration*
9:00 am	Workshop and webinar begin	8:45 am	Workshop begins
12:45 – 2:05 pm	Lunch	1:00 – 2:20 pm	Lunch
5:35 pm	Day 1 adjourns	3:30 pm	Workshop adjourns
6:00 pm	Optional group gathering		

Sunday, June 8

6:00 – 6:45 pm Optional Village Green Project Visit*

Day 1 – Monday, June 9

7:30 AM Registration

9:00 AM Welcome and Keynote Address
Bob Perciasepe, Deputy Administrator, U.S. Environmental Protection Agency

9:30 AM Logistical Announcements
Chet Wayland, Director, Air Quality Assessment Division, EPA Office of Air Quality Planning and Standards

9:45 AM Poster Session – odd numbered abstracts
Building B Atrium
We have provided an opportunity to meet and greet the Federal Panelists for Day 1 during the poster session. Look for signs in the atrium.

11:15 AM Air Sensor Technology at EPA
Chet Wayland, Director, Air Quality Assessment Division, EPA Office of Air Quality Planning and Standards

11:45 AM Plenary Session I: Hot New Sensor Technologies

Session Chair: Sherri Hunt (EPA)

iSPEX: measuring aerosol properties with smartphone spectropolarimeters
Frans Snik (iSPEX; Leiden University, The Netherlands)

Wearable physiological and environmental monitoring and a new optical sensing approach for particulate monitoring
John Muth (Center for Advanced Self-Powered Systems of Integrated Sensors and Technologies, North Carolina State University)

Toward a wearable micro-scale gas chromatograph for quantitative analysis of VOC mixtures
Jonathan Bryant-Genevier (University of Michigan)

Methane and the sensor revolution: opportunity to make a big difference
Steven Hamburg (Environmental Defense Fund)

12:45 PM Lunch

2:05 PM Introductions

Dan Costa, National Program Director; Air, Climate, and Energy Research Program

Federal Panel 1

U.S. Department of Homeland Security

Anne Hultgren, Linda Beck, and Tom McGinn

U.S. Department of Defense, Defense Threat Reduction Agency

Anthony Esposito

U.S. Department of Defense, Army Research Office

Jennifer Becker

U.S. Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health

Mark Hoover and Gayle DeBord

2:45 PM Plenary Session II: Community Sensing – What’s in my Air?

Session Chairs: Rebecca French and Holly Wilson (EPA)

A series of unfortunate events: smoke in our air

Kris Ray (Confederated Tribes of the Colville Reservation)

Community members’ use of air quality data

Elizabeth Ablah (University of Kansas)

Environmental justice and school-based air pollution monitoring projects in New Jersey

Nicky Sheats (Thomas Edison State College)

Defining the citizen, defining the science: the North Fork Valley air monitoring project and citizen science challenges

Sarah Sauter (Western Slope Conservation Center) and Ben Graves (Teacher, Paonia High School)

Smart phone enabled radiation monitor

Atsushi Yamamoto and Peter DeBarber (HORIBA Instruments, Inc.)

4:00 PM Break

4:30 PM Plenary Session III: Making Sense of Sensor Data: Applying Sensors, Sharing Data, and Interpreting Trends

Session Chairs: Gayle Hagler and Vasu Kilaru (EPA)

ORAR perspective on sensor development

Kristen Benedict (EPA)

Challenges to interpretation of new air sensor data: what does it mean?

John Vandenberg (EPA)

Low cost sensors: field evaluations and multi-sensor approaches for emissions factors

Mike Bergin (Georgia Tech)

Characterization of a novel highly spatially resolved air quality monitoring network in Oakland, California

Alexis Shusterman (University of California, Berkeley)

5:30 PM Announcements

5:35 PM Workshop Adjourns

Day 2 – Tuesday, June 10

7:45 AM Registration

8:45 AM Announcements

8:50 AM Federal Panel 2

U.S. National Institutes of Health, National Institute of Environmental Health Sciences

David Balshaw

U.S. National Institute of Standards and Technology

Albert Davydov

U.S. National Science Foundation

Keith Marzullo

U.S. Agency for International Development

Krista Hasenkopf

9:30 AM Poster Session – even numbered abstracts

Building B Atrium

We have provided an opportunity to meet and greet the Federal Panelists for Day 2 during the poster session. Look for signs in the atrium.

11:00 AM Plenary Session III: Making Sense of Sensor Data: Applying Sensors, Sharing Data, and Interpreting Trends (continued)

Session Chairs: Gayle Hagler and Vasu Kilaru (EPA)

Low cost sensor application development and testing to map outdoor air pollution in Hong Kong

Zhi Ning and Dane Westerdahl (City University of Hong Kong)

Sensing the sensors: can the goals of engaging citizens and contributing to science be met?

Alena Bartonova (CITI-SENSE, EU)

Lessons from building a weather station network

Alan Steremberg (Weather Underground)

11:45 AM Plenary Session IV: Sensor Performance – Lessons Learned from Field and Lab

Session Chair: Ron Williams (EPA)

Sensor technology performance characteristics: field and laboratory observations

Ron Williams (EPA)

Use and evaluation of low cost sensors for the monitoring of NO₂ and O₃ in ambient air

Michel Gerboles (Joint Research Center, EU)

Laboratory vs. co-location calibration of low-cost air sensors

Nicholas Masson (University of Colorado)

Measuring ppb gas concentrations using air quality networks

John Saffell (Alphasense, Ltd., UK)

Low-cost devices as a method for assessment of exposure to air pollution mixtures

Natalia Mykhaylova (University of Toronto)

1:00 PM Lunch

2:20 PM Plenary Session V: Perspectives on the Air Sensors Frontier

Session Chair: Phil Fine (SCAQMD)

The consumer market for wearable sensors, technological challenges, and opportunities for collaboration

Steve LeBoeuf (Valencell, Inc.)

Preparing for air sensors: air agencies engaging their partners

Barbara Lee (Northern Sonoma Air Pollution Control District)

COST action TD1105: European network on new sensing technologies for air-pollution control and environmental sustainability; an overview of sensor-systems for air-quality monitoring

Michele Penza (EUNetAir, EU)

Prabal Dutta (University of Michigan)

3:20 PM Closing

3:30 PM Workshop Adjourns

3:45 – 4:30 pm Optional Village Green Project Visit*

*Village Green Project Visits

Interested in a behind-the-scenes tour of EPA's Village Green Project solar-powered air monitor? There will be two opportunities to meet with one of the EPA Village Green Project team members and see the instrumentation and power system incorporated into a park bench design. The air monitor is located on the grounds of a collaborating public library located approximately one mile from EPA's campus. Find more information on Village Green Project at <http://villagegreen.epa.gov>.

Tour times

Sunday, June 8, 6:00 – 6:45 PM (restaurants are nearby for dinner afterwards!)

Tuesday, June 10, 3:45 – 4:30 PM

Location

Durham County South Regional Library,
4505 S Alston Ave, Durham, NC

NOTE: Transportation will not be provided; carpooling is encouraged!