

# My Air Quality: Using Sensors to Know What's in Your Air

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## AGENDA

**Northern California (N)**  
**Wednesday, November 19, 2014**  
**Elihu M. Harris State Building**  
**1515 Clay Street**  
**Oakland, California 94612**

**Southern California (S)**  
**Friday, November 21, 2014**  
**South Coast Air Quality Management District**  
**21865 Copley Drive**  
**Diamond Bar, California 91765**

**9:00 Welcome & Introductions**

N: Jack Broadbent, Bay Area Air Quality Management District (BAAQMD)  
S: Barry Wallerstein, South Coast Air Quality Management District (SCAQMD)

**9:10 Understanding What Is In the Air**

- Major air pollution sources
- Particle and gaseous pollutants
- Spatial and temporal variations (regional v. local)
- Health impacts associated with air quality

N: Phil Martien, BAAQMD  
S: Philip Fine, SCAQMD & Rob McConnell, Univ. of Southern California

**9:30 Measuring Air Pollution: Monitoring & Sensor Technology**

- Monitoring objectives
  - Types of objectives (NAAQS, emission point, localized impacts)
  - Technology used
- Low-cost sensor technology
  - Pros & cons
  - State of the science
  - Technical issues
  - Next Generation Air and Compliance Monitoring

N: Eric Stevenson, BAAQMD  
S: Dan Johnson, Great Basin Unified Air Pollution Control District

N: Carlos Nunez, U.S. EPA, Office of Research and Development at Research Triangle Park  
S: Gayle Hagler, U.S. EPA, Office of Research and Development at Research Triangle Park

**10:00 "Low-cost" Sensor Performance and Data Quality**

- Evaluating performance
  - Building a testing center
  - Addressing sensor reliability
  - Communicating results
- Getting good data
  - Issues affecting data quality

N & S: Laki Tisopulos and Andrea Polidori (SCAQMD)

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- Developing QA/QC procedures and documentation

## **10:30 Break**

### **10:45 Meaning of Sensor Data**

- Context
  - What levels are of concern?
- Data limitations
  - Data interpretation & reporting
  - How can these data be used?

N & S: John Vandenberg, U.S. EPA, Office of Research and Development at Research Triangle Park

N & S: Dena Vallano, U.S. EPA, Region IX

### **11:15 Sensors Deployment and Applications**

- Community monitoring
  - Available technology
  - Development of air quality maps
  - Case studies
- Monitoring in high concentration environments
  - Near-field exposure
  - Indoor cook stove
  - Transportation corridors
- Sensor networks
  - Building a “high density” sensor network
  - BEACON project

N & S: Michael Heimbinder, HabitatMap

N & S: David Holstius, BAAQMD

N & S: Ron Cohen, Univ. of California, Berkeley

## **12:00 Lunch**

### **1:15 Focused Discussions/Q&A**

- Community projects using sensors
- Compliance & industrial applications for sensors
- Developing good sensors
- Sensors as educational tools

N: BAAQMD staff and Denny Larson, Global Community Monitor

S: SCAQMD staff and Luis Olmedo Velez, Comite Civico Del Valle

N: BAAQMD staff and Janet Whittick, California Council for Environmental and Economic Balance (CCEEB)

S: SCAQMD staff and Janet Whittick, CCEEB

N: BAAQMD staff and Clinton MacDonald, Sonoma Technologies, Inc. (STI)

S: SCAQMD staff and Clinton MacDonald, STI

N: BAAQMD staff and Ron Cohen, Univ. of California, Berkeley

S: SCAQMD staff and Ron Cohen, Univ. of California, Berkeley

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**2:45**    *Break*

**3:00**    **Sensor Technology Demonstration & Poster Exhibit**

Participating organizations/developers/manufacturers will include:  
Sonoma Technology Inc. (STI), Perkin Elmer, Valencell, T&B Systems,  
Acrobotic, Dylos, Metone, Aeroqual, Horiba, Landtec

**4:00**    **Next Steps Together on the Path to Sensor Technology**

- A facilitated discussion on sensor issues confronting agencies
  - Engaging/educating the public
  - Communication with communities & developers
  - Consistent agency strategy & message
  - Avoid duplication of work
  - Provide/promote clear & consistent information on sensors, data quality, and expectations
  - Funding for sensor projects

Moderator N: Barbara Lee, Northern Sonoma County Air Pollution  
Moderator S: Philip Fine, SCAQMD

Panel: Sector representatives from the Focused Discussions, plus  
N: Jack Broadbent or Eric Stevenson, BAAQMD

Michael Benjamin, California Air Resources Board (CARB)  
Meredith Kurpius, U.S. EPA, Region IX

S: Barry Wallerstein or Philip Fine or Laki Tisopoulos, SCAQMD  
Michael Benjamin, CARB  
Meredith Kurpius, U.S. EPA, Region IX