



The Center for Wireless Integrated MicroSensing & Systems

**Emerging Sensor Technologies and Data Analytics for Air Quality Monitoring: A Workshop**

**December 12, 2019**

GM Room, Lurie Engineering Center (LEC), 4th Floor  
North Campus, University of Michigan



- 8:00 AM     **Registration and Breakfast**
- 8:30 AM     **Welcome and Introduction**  
Yogesh Gianchandani and Ashwin Seshia
- 8:45 AM     ***Applying Emerging Sensor Technology***  
*Marta Fuoco, Physical Scientist,  
Environmental Protection Agency, Region 5*
- 9:10 AM     ***Inverse Modeling Methods for Interpreting Real Time Ambient Air Measurements***  
*Jay Olaguer, Assistant Division Director, Michigan Department of Environment, Great Lakes, and Energy (EGLE)*
- 9:35 AM     ***Determination of Culpable Sources on Days with High Observed 1-Hour Sulfur Dioxide Concentrations in St. Clair County (Michigan)***  
*Michael Lebeis (DTE)*
- 10:00 AM     ***Air Quality Monitoring for Pollutant Mapping, Co-Benefits Assessments, and Exposure and Health Impact Analyses***  
*Stuart Batterman, Professor, Environmental Health Sciences & Department of Civil and Environmental Engineering, University of Michigan*
- 10:25 AM     **Break**
- 10:45 AM     ***From Air Quality Sensors to Data Analysis: Joining Up Our Air Quality Community***  
*John Saffell, Technical Director, Alphasense Ltd.*
- 11:10 AM     ***The Role of Air Quality Sensors and the Current Challenges***  
*Joseph Stetter, President, Chief Technology Officer, and Chairman of the Board, KWJ Engineering, Inc; President and Managing Partner, Spec Sensors, LLC; President and Founder, JST Consulting, LLC; Visiting Scholar, Mechanical Engineering, Georgia Institute of Tech., Atlanta GA*

- 11:35 AM ***An Assessment of Microresonator Sensors for Atmospheric Particulate Monitoring***  
*Ashwin Seshia, Professor, Microsystems Technology, Department of Engineering, University of Cambridge*
- 12:00 PM **Breakout questions & Lunch**  
EECS Atrium
- 1:30 PM ***An Integrated Passive  $\mu$ Preconcentrator with Progressively-Heated  $\mu$ Injector for  $\mu$ GC***  
*Ted Zellers, Professor, Environmental Health Sciences/Chemistry Department; Joe Potkay, Research Assistant Professor, Surgery, Medical School, University of Michigan*
- 1:55 PM ***Compact and High-Performance Micro-Gas Chromatography Devices and Their Applications***  
*Xudong (Sherman) Fan, Professor, Biomedical Engineering Department; Katsuo Kurabayashi, Professor, ME Department, University of Michigan*
- 2:20 PM ***Evolution of Integrated Gas Chromatographs and the Path Forward to a Cellular Architecture for Broad Chemical Analyses***  
*Yutao Qin, Research Scientist, and Yogesh Gianchandani, Professor, EECS Department, University of Michigan*
- 2:45 PM **Break**
- 3:00 PM ***Development and Deployment of Low-Cost Sensors***  
*Molly J. Haugen, Research Associate, Department of Engineering, University of Cambridge*
- 3:25 PM ***Wearable Sensors for Industrial Monitoring***  
*Bruce Bateman, Chief Technical Advisor, LITE-ON Technologies; CEO, Bateman Research LLC*
- 3:50 PM **Panel Discussion – All Speakers and Breakout Discussion Leaders**
- 5:00 PM **Closing Remarks**
- 5:15 PM **Adjourn**