

**Portable Emissions Measurement Systems International Conference & Workshop  
Moving Into the Future of Emissions Modeling**

**AGENDA**

Thursday, March 22, 2018 7AM-5PM & 6PM-9PM

Friday, March 23, 2018 8:30AM-1PM

University of California, Riverside

College of Engineering - Center for Environmental Research and Technology (CE-CERT)  
at Bourns Technology Center, 1200 Columbia Avenue, Riverside, CA 92507

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**DAY 1 – MARCH 22, 2018:**

**7:00 AM –8:00 AM: CHECK-IN AND CONTINENTAL BREAKFAST**

**8:00 AM –9:00 AM: OPENING STATEMENTS AND INTRODUCTIONS**

**Wayne Miller**, Associate Director, UCR Center for Environmental Research and Technology (CE-CERT)

**Keynote Speaker: Timothy A. French**, EMA, *The Opportunity and Need for a New Regulatory Paradigm for HDOH Low-NOx Regulations, and the Role that NOx Sensors and Telematics Might Play*

**9:00 AM –10:40 AM: DEEM AND SENSORS TECHNOLOGY**

**Matthew Spears, EMA**

- Evaluation of a New Candidate HD NOx In-Use Compliance Metric

**Tom Durbin, UC Riverside**

- Real-World Activity of Heavy-duty Tractors Hauling Container Chassis, Flatbed Trailer, and Tank Trailer

**Kent Johnson, UC Riverside**

- Dynamic Emissions and Energy Management (DEEM)

**Steve Trevitz, Volvo**

- The Role of Telematics-From Engine Development to Customer Support

**Yi Tan, California Air Resources Board**

- Evaluation of a NOx Tracking Concept Using Heavy-Duty Truck OBD Data

**10:40 AM –11:10 AM: BREAK**

**11:10 AM-12:10 PM: NEW CONCEPTS**

**Carl Fulper, U.S. EPA**

- Understanding Real-World Activity Data for Heavy-Duty Vehicles - Telematics, PAMS and PEMS

**Daryl Bear, Mesilla Valley Transportation Solutions**

- An Improved Method for Determining the Real-World Impacts of Vehicle Fuel Efficiency Technologies

**Doug Booker, National Air Quality Testing Services**

- Vehicle Interior Air Quality: Volatile Organic Compounds

**12:10 PM –1:10 PM: LUNCH**

## 1:10 PM –2:30 PM: NEW CONCEPTS CONTINUED

### Nick Molden, Emissions Analytics

- The EQUA Index and use of PEMS for Optimal Market Information and Surveillance

### Andrew Burnette, InfoWedge

- Results from, and Implications of a Vehicle Remote Sensing Pilot Study in East Central Scotland

### Carl Fulper, U.S. EPA

- Understanding Real-world Activity Data for Light-Duty Conventional, Hybrid and Electric Vehicles

### Dave Miller, 3DATX

- The Democratization of Vehicle Emissions Testing

## 2:30 PM –3:50 PM: PM AND NEW INSTRUMENTATION

### Imad A. Khalek, Southwest Research Institute

- Evaluation of an On-board High-Sensitivity, Real-time Electronic Particulate Matter Sensor Using Heavy-Duty On-Highway Diesel Engine Platform

### Karl Ropkins, University of Leeds

- Particulate Sensing: Recent Work, Early Observations and Future Directions

### Shun Fukami, Horiba Ltd.

- Development Tools for Advanced On-Board Emissions Measurements of NMHC and Particulates, Plus a Coaching Tool for Increasing RDE Test Yield

### Leta Woo, Emisense

- Application of PMTrac® Sensors for Low-cost PM Threshold Testing

### Ronald Wanker, AVL

- RDE 3: A Challenge for the Vehicle and the PEMS

## 3:50 PM – 4:00 PM: BREAK

## 4:00 PM–5:00 PM:

### PANEL DISCUSSION: THIS WILL BE A ROUNDTABLE TO DISCUSS POTENTIAL FUTURE APPLICATIONS OF PEMS

<b>Kent Johnson</b>	University of California, Riverside
<b>Carl Fulper</b>	U.S. Environment Protection Agency
<b>Tim French</b>	Engine Manufacturers Association
<b>Tao Huai</b>	California Air Resources Board

## 5:00 PM: END OF DAY 1 WORKSHOP

## 6:00 PM –9:00 PM:

### RECEPTION – APPETIZERS, TACOS AND DRINKS

UC RIVERSIDE- BOURNS COLLEGE OF ENGINEERING,  
CENTER FOR ENVIRONMENTAL RESEARCH AND TECHNOLOGY (CE-CERT)  
1084 COLUMBIA AVENUE RIVERSIDE, CA 92507

## DAY 2 -MARCH 22, 2018:

### 7:30 AM: CONTINENTAL BREAKFAST

### 8:20 AM –10:00 AM: RESEARCH DEVELOPMENTS

### Andre Forcetto, University of Sao Paulo

- Developing Real Driving Emissions for Brazilian Reality

### Cavan McCaffery, UC Riverside

- Real-World Evaluation of PM and PN Emissions from Light-duty GDI Vehicles Using PEMS

<http://www.cert.ucr.edu/events/pems>

**Chris Frey, North Carolina State University**

- Comparison of Real-World Vehicle Emissions for Gasoline-Ethanol Fuel Blends

**Marc Besch, West Virginia University**

- Real-World Emissions From HDIUT Program – NTE vs Work-based Window, Sensitivity and Limitations of these Methods

**Stephanie Maalouf, California Air Resources Board**

- Constraining Variability of On-road Emission Testing for Light Duty Vehicles

**10:00 AM-10:30 AM: BREAK**

**10:30 AM – 11:30 AM: PEMS APPLICATIONS FOR FULL FLEET CHARACTERIZATION**

**Harry Bradley, Cambustion LTD**

- Transient RDE NO<sub>x</sub> Emissions from Gasoline and Diesel Vehicles

**Xin Wang, Beijing Institute of Technology**

- Development of Emission Factors for Inland Vessels in China

**Shaojun Zhang, Tsinghua University**

- The Challenge to Emission Controls and Recent Developments of PEMS Regulation for Heavy-Duty Vehicles in China

**11:30 AM: LUNCH**

**12:00 PM-1:00 PM: SHORT COURSE**

**William Porter**, Professor of Environmental Sciences, UCR, A Brief Overview of Ground-level Ozone Pollution

**Posters - Day 1 and Day 2**

**Tanzila Khan, North Carolina State University**

- Spatial Variation of Real-World Microscale Vehicle Activity and Emissions

**Weichang Yuan, North Carolina State University**

- Train Speed Trajectory Simulation Based on Real-world Measured Train Speed Trajectory Data

**Anuj Kumar, Air Liquide**

- Development of a Multicomponent Mixture Containing NO and NO<sub>2</sub> for RDE Testing

**Carl Desouza, King's College London**

- Reducing No<sub>x</sub> Emissions from Generators in London, using SCR Technology and Hybridisation of the Fleet

**Nikhil Rastogi, North Carolina State University**

- Comparison of Three Commercially Available PEMS for Locomotive Emissions Measurement

**Ligiang He, Tsinghua University**

- Real-World Emissions of Gaseous Pollutants from City Taxis in China

**Xuan Zheng, Tsinghua University**

- Characterizing Particulate Polycyclic Aromatic Hydrocarbon Emissions from Diesel Vehicles Based on a PEMS

**Jiacheng Yang, University of California Riverside**

- Impact of Exhaust Transfer System Contamination on Light Duty Vehicle Certification and In-use PEMS Testing

**Kent Johnson, University of California Riverside**

- VW In-Use Emissions Testing Program