



## 6:30pm-9:30pm - Welcome Reception - Wednesday, March 25, 2015

## 7:00am Walk-In Registration & Continental Breakfast - March 26, 2015

### 8:00am Introduction

UC Riverside	Matt Barth	Welcome to UCR
<b>Aristotle University, Greece</b>	<b>Zissis Samaras</b>	<b>Key Note Speaker: Update on the European PEMS Activities for the Assessment of Real Driving Emissions (RDE)</b>
UC Riverside	Kent Johnson	In-use Testing, Trends, and Predictions

### 9:20am Regulatory Developments and Trends

Cummins Inc.	Palak Patel	Overview of Laboratory Testing for Engine Certifications
Texas A&M Transportation Institute	Jeremy Johnson	On-road Heavy-Duty Emissions Measurement System (OHMS): In-Use Measurement Technology for Heavy-Duty Vehicle Exhaust Emissions and Potential Applications
ETEST Group	& Niranjan Vescio	
H.E.A.T Hager Environmental & Atmospheric Technologies	J. Stewart Hager	Vehicle Remote Sensing - Next Generation - Results

### 10:20-10:40am Break (Poster Discussions)

### 10:40am - Regulatory Developments and Trends

Emissions Analytic	Nick Molden	Practical Applications of 800-Vehicle PEMS Data Inventory for Fuel Economy and Air Quality Assessment
California Air Resources Board	David Quiros	Gaseous and Particulate Emissions from Heavy-Duty Diesel and Natural Gas Trucks from Real-World California Driving
California Air Resources Board	David Quiros	In-Use Evaluation of Regulated, Ammonia and Nitrous-Oxide Emissions from Heavy-Duty CNG Transit Buses Using a Portable FTIR and PEMS
Utah State University	Randal Martin	Using Autologic 5 - Gas Analyzer for Assessing Automobile Cold Start, Hot Start, and Idle Emissions

### 12:00-1:00pm Lunch - Networking & Poster Discussions

### 1:00pm Research Developments

Molina Center for Energy and the Environment	Miguel Zavala	Measurement of Off-Road Vehicle Emissions in Mexico using three PEMS platforms
North Carolina State University	H. Christopher Frey & Tanzila Khan	Preliminary Assessment of Real-World Versus Rated Fuel Economy Based on In-Use Measurements with Portable Emissions Measurement Systems
HORIBA, Ltd	Ron Tandy Jr.	Correlation between Laboratory Emission Measurement System and HORIBA OBS-ONE for Gaseous and Particulate Components
Sensors, Inc	David Booker	A New CPC-Based SEMTECH PN PEMS Module for On-Vehicle Testing for Regulatory-Driven Programs and Powertrain Development

### 2:20-2:40pm Break (Poster Discussions)

### 2:40pm In-Use Approaches for Advanced Vehicles

CoorTek Sensors	Leta Woo	High Temperature Co-Fired Ceramic Processing For Low-Cost Au-Based Single-Cell NOx Sensors
NGK Spark Plugs	Craig Tibbetts	PM and NOx Measurement
MTU America Inc.	Saeed Abolhasani	Comparison of PEMS and Laboratory Non-road Exhaust Emissions Employing Identical Real World Operation Load Profile

### 4:00pm Panel Discussion – Kent Johnson, Consulting, Regulatory, Industry Representatives

Cummins Inc.	Shirish Shimpi	Senior Technical Advisor, Emission Department
California Air Resources Board	Tao Huai	Chief, Freight Emissions Testing and Research Branch, Monitoring and Laboratory Division
U.S. EPA	Carl Fulper	Chemical Engineer, PEMS Coordinator, Data and Testing Center
Aristotle University, Greece	Zissis Samaras	Professor
University of California, Riverside	Kent Johnson	Research Faculty, Advanced Vehicles and Emissions Research

# 2015 PEMS

## Conference & Workshop 5

March 26 & 27, 2015  
UCR | CE-CERT 1084 Columbia Ave, Riverside, CA



### 9:00 Research Developments - March 27, 2015

South Coast Air Quality Management District	Andrea Polidori	Air Quality Sensor Performance Evaluation Center (AQSPEC)
U.S Environmental Protection Agency	David Hawkins	Summary of Analysis of Large Scale Activity Data

### 10:00 In-use Fuel Consumption Approaches

California Air Resources Board	Seungju Yoon	Impacts of Modifying Exhaust Temperature and Event Duration Limits on Not-To-Exceed Compliance for In-use NOx Emissions from 2010- Technology Heavy-Duty Diesel Vehicles
West Virginia University	Arvind Thiruvengadam	Work-Window Based Analysis of In-Use Heavy-Duty Vehicle Emissions

### 10:40-11:00 Break

### 11:00 In-Use Fuel Consumption Approaches

U.S Environmental Protection Agency	Carl Fulper	Quality Control and Quality Assurance for Activity Data
InfoWedge	Andrew Burnette	Data Collection in Support of Developing a Novel Multiplexed Sensor-Based Approach to Mobile PM Measurement
Department of Public Health, National Taiwan University	Chic-Chieh Chen	Development of a Sampling Train for Motorcycle Exhaust PM 2.5

### 12:00- Lunch

### 13:00 - Lessons

HEM Data	Rick Walter	How to Acquire Advanced Parameters for LD Vehicles
UC Riverside	Kent Johnson	Closing Remarks & Feedback

### 14:20 Presentations Adjourn

### 15:00 Special Guided Run - by Kent Johnson



California Environmental Protection Agency



**Air Resources Board**



**HORIBA**  
Automotive Test Systems

**HEM Data**  
Data Acquisition & Analysis Solutions

**South Coast  
AQMD**

**COORSTEK**  
SENSORS

 National Center  
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Transportation

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