

# 2017 PEMS 7th Conference & Workshop

March 30 & 31, 2017  
UCR | CE-CERT  
1200 Columbia Ave, Riverside, CA



7:00 a.m. - Walk-In Registration & Continental Breakfast - March 30, 2017

8:00 a.m. - Introductions

UC Riverside	Kent Johnson	Introducti on & Welcome to UCR
<b>Aristotle University</b>	<b>Zissis Samaras</b>	<b>Key Note Speaker: Assessing Real Driving Emissions in Europe: An Update-Focus on PN Emissions</b>

9:00 a.m. - Regulatory Developments and Trends

U.S. EPA	Carl Fulper	Using Partnerships to Gather Real World Vehicle Acti vity and Emissions to Support EPA's Modeling Eff
California Air Resources Board	Bill Robertson	orts A Look Forward: CA Heavy Duty Regulatory Plans and PEMS Implicati ons

9:40 a.m. – 10:00 a.m. - Break (Sponsors Booths)

10:00 a.m. - Panel Discussion: This will be a roundtable to discuss the role PEMS may play in meeting future regulatory needs.

Kent Johnson	University of California, Riverside
Carl Fulper	U.S. Environmental Protection Agency
Zissis Samaras	Aristotle University
Alberto Ayala	California Air Resources Board
Matti Maricq	Ford Motor Company

11: 00 a.m. - Approaches for Making In-Use Particle Measurements

CoorsTek Sensors	Leta Woo	Surface Coati ngs on High-Voltage Electrodes of Electrostatic Parti culate Matt er (PM)
University of Leeds	Karl Ropkins	Sensors Sensor-Based Parti culate Measurement: Some Tall Tales from the Trenches
Tampere University of Technology	Niina Kuittinen	Improved PN Measurement with PPS-M Using Dynamic Trap Switching

11:45 a.m. – 1:00 p.m. - Lunch

1:00 p.m. - Development of New Instrumentation for In-Use and PEMS Measurements

CoorsTek Sensors	Leta Woo	System Integrati on of Novel NOx Sensors for Emissions Monitoring
NGK Sparkplugs	Takeshi Tange	Development of Compact Multi Gas Measurement System (NCEM©)
University of California, Riverside	Jiacheng Yang	Evaluati on of NGK Spark Plug Compact Emission Measurement System
AVL	Ben Shade	Video Presentati on: RDE Road-to-Lab Emissions Verifi cati on Workfl ow is Now Being Augmented by Driver Aggressiveness and Traffi c Simulati on
AVL	Felix Pfister	New Model Based Test Processes for RDE Compliant Powertrains and Vehicles

2:15 p.m. – 2:30 p.m. - Break (Sponsors Booths)

2:30 p.m. - Research Developments

North Carolina State University	Christopher Frey	Real-world Versus Certi fi cati on Emission Rates for Light Duty Gasoline Vehicles
Tampere University of Technology	Panu Karjalainen	PEMS Measurements of Parti cle Number and Mass Emissions from Loaders Using Conventi onal and Renewable Diesel Fuels
California Air Resources Board	Phuong Ho	Evaluati on of the CO <sub>2</sub> Emission Impacts of Using Vehicle Speed Limiters (VSL) on CLASS 8 Heavy-duty ON-ROAD Trucks
ICCT	Yoann Bernard	The Development of PEMS and Other Methods for In-Use Monitoring
University of California, Riverside	Kent Johnson	Challenges of Ultra-low NOx Measurements for a Compressed Natural Gas (CNG) Heavy-duty Engine

4:00 p.m. - Panel Discussion: This will be a roundtable to discuss potential future applications of PEMS

Kent Johnson	University of California, Riverside
Carl Fulper	U.S. Environmental Protection Agency
Zissis Samaras	Aristotle University
Tao Huai	California Air Resources Board
Matti Maricq	Ford Motor Company

5:00 p.m. - End of Day 1 Workshop

6:00 p.m. - 9:00 p.m. - Reception with Refreshments at  
Center for Environmental Research and Technology  
1084 Columbia Avenue  
Riverside, CA 92507

# 2017 PEMS

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### 8:30 a.m. - Research Developments - March 31, 2017

North Carolina State University	Nikhil Rastogi	<a href="#">Estimating Emission Rates For Retrofit ted SCR-Based Emission Control System Using PEMS Based Measurements</a>
Eastern Research Group	Michael Sabisch	Data Processing, Analysis and Databasing of Heavy-Duty Activity Study Results

### 9:30 a.m. -10:00 a.m. Break

### 10:00 a.m. - Comparison of In-use Data Analysis Approaches

U.S. EPA	Carl Fulper	Finding "Normal" and "High Emitting" Emissions: Exploring New Emerging Screening Tools and Methodologies for Gathering Real-World Vehicle Data
University of Leeds	Karl Ropkins	<a href="#">Some Observati ons Based on Complementary International Evaluati on of Edar Vehicle Emissions Remote Sensing Technology</a>
UC Riverside	Tom Durbin	Potential Applications of mini-PEMS and Remote Sensing Devices for Heavy-Duty Inspection and Maintenance Programs
TTI	Jeremy Johnson	Heavy-Duty Diesel Inspection and Maintenance Pilot – Phase 2
Eastern Research Group	Sandeep Kishan	Evaluation of the Heat's On-Road Infrared Laser RSD For Exhaust Emissions Measurements

### 11:15 a.m. - Lunch

### 12:00 p.m. -1:00 p.m. - Short Course

Eastern Research Group	John Koupal	Emission Modeling: How They Work and What Should be Changed to Answer our Future Challenges
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### 01:30 p.m. - Presentations Adjourn

University of California, Riverside	Kent Johnson	Closing Remarks
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California Environmental Protection Agency  
 **Air Resources Board**



**HORIBA**  
Automotive Test Systems



**South Coast  
AQMD**



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