

UCR *presents the*

2013 PEMS Conference & Workshop 3

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California Environmental Protection Agency
 **Air Resources Board**



BOURNS[®]
Automotive Division



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2013 PEMS

Conference & Workshop 3

April 11, 2013

UCR CE-CERT 1084 Columbia Ave, Riverside, CA



8:30 Introduction

UCR	Matt Barth	Welcome to UCR
SCAQMD	Ben Benoit	Welcome to Riverside County and the South Coast Air Quality Management District
CARB	Michael Benjamin	Keynote Speaker
UCR	Kent Johnson	PEMS: Hypermilling with Mythbusters 2013 Highlights

9:00 Regulatory Developments and Future Trends

JRC	Athanasios Mamakos	European Research into a Moving Average Evaluation of In-use Emissions
TÜV Technische Überwachung Hessen GmbH	Karsten Mathies	Overview of the Latest European Trends with PEMS for Nonroad, Truck and Passenger Car Applications

10:00–10:20 Break

US-EPA	Carl Fulper	New Measurement Techniques and Procedures for Measuring “Real-World” Emissions with PEMS and PAMS
CARB	John Karim	Improving Flow Rate Exhaust Measurement for Small Displacement Motorcycle Engines

11:00 Industry Developments (How Do PEMS Help Development and Compliance)

Cummins	John Bowman	On-going Challenges for Off-Road Pilot Compliance Testing
Volvo	Steve Trevitz	Compliance Testing Applications: Installation Safety / Data Processing Tools
ERG	Michael Sabisch	Development of Emission Factors, Duty Cycles and Activity Estimates using Nonroad PEMS Data

12:00–1:00 Lunch

1:00 Research Developments (Light Duty, Heavy Duty, Off-Road)

UCR	Sam Cao	Lessons Learned from Off-road Activity of 20 Units with PEMS, PAMS, and Video
CARB	George Gatt	Standardization of ECU Data
SwRI	Imad A. Khalek	Particle Sensor Performance and Durability (PSPD) for OBD Applications and Beyond
Emisense	Klaus Allmendinger	Comparison of Experimental and First Principles Modeling Results for the PMTrac® Electrostatic Soot Sensor
Texas A&M	Doh-Won Lee	Innovative PEMS Testing Approaches used by TTI

2:20–2:40 Break

2:40 Research Developments (International)

ABMARC	Natalie Roberts	An Overview of Vehicles, Resources & Regulation from the Land Down Under
EPD Hong Kong SAR Gov.	Eddie Lo & Kwok Ng	Use of PEMS in SCR Retrofit Program in Hong Kong
ISSRC, Santiago	Sebastian Tolvett	Hybrid and Electric Bus Testing in South America
Emis. Analytics	Nick Molden	Comparative on-road testing of passenger cars in the UK: informing consumer choices

4:30 Panel Discussion – Kent Johnson, Consulting, Regulatory, Industry Representatives

This will be a round table discussion to consider the above issues and to examine pathways to resolutions. Topics such as how do we improve testing, limitations of PEMS for in-use testing, and what applications require 1065 compliant PEMS.

5:00 End Conference

Poster Presentations

NCSU	Gurdas Sandhu	Comparison of Energy Use and Emissions from Ultra Low Sulfur Diesel and Biodiesel Blends for In-Use Earthmoving Equipment
NCSU	Behdad Yazdani	Road Grade Quantification Using On-Board Global Positioning System
Emisstar LLC	Michael Block	Cycle Development and PEMS Testing of the EcoPower Advanced Technology Hybrid Gantry Crane at POLA
UCR	Sam Cao	Hybrid Off-Road Equipment Evaluation: Part 1- Duty Cycle Development
UCR	Nick Gysel	In-use Gaseous Emissions Measurements from Large Container Vessels by PEMS
UCR	M. Yusuf Khan	In-Use Particulate Matter Sampling and Measurement Challenges