

# Program

## CRC MOBILE SOURCE AIR TOXICS WORKSHOP

CARB and The Citizen Hotel  
Sacramento, CA  
February 4-6, 2013

**\*Co-Sponsored by: API, US EPA, HEI and SCAQMD**



### WORKSHOP ORGANIZERS

Steve Japar, Co-Chairperson	Consultant
Rory MacArthur, Co-Chairperson	Chevron Energy Technology Company
Chad Bailey	US Environmental Protection Agency
Richard Baldauf	US Environmental Protection Agency
Kevin Black	Federal Highway Administration
John Collins	California Air Resources Board
Rich Cook	US Environmental Protection Agency
Howard Feldman	API
Kent Hoekman	Desert Research Institute
Debra Kaden	ENVIRON
Deborah Luecken	US Environmental Protection Agency
Eileen McCauley	California Air Resources Board
Jean Ospital	South Coast Air Quality Management District
Matthew Thornton	National Renewable Energy Laboratory

*\*The purpose of the workshop is for the the free exchange of ideas, research, data etc. Sponsorship of or participation in the workshop by CRC and others does not reflect any endorsement of information presented at the workshop.*

rev. 1/29/2013



# Monday, February 04, 2013

The Citizen Hotel

6:00 - 7:00 PM **Welcome Reception and Registration at The Citizen Hotel - Metropolitan Terrace**

*Cocktails and Hors d'Oeuvres*

# Tuesday, February 05, 2013

Klamath Training Room at ARB (2nd Floor, 1001 I Street)

7:00 - 8:00 AM **Registration**

*Continental Breakfast in Sierra Hearing Room at ARB*

8:00 AM *Opening Comments: Steve Japar (Consultant) and Rory Macarthur (Chevron) & Welcome by James Goldstene, Executive Officer of the ARB*

## 8:05 AM **Plenary Session**

*Chairpersons: Rory Macarthur (Chevron), Steven Japar (Consultant) and Debra Kaden (ENVIRON)*

8:10 AM	<b>Linking Tailpipe to Ambient: Atmospheric Evolution of Fine Particle Emissions from On-Road Vehicles</b>	Allen Robinson	Carnegie-Mellon University
8:35 AM	<b>Are There Better Ways to Test MSATs for Toxicity?</b>	Rashid Shaikh	Health Effects Institute
9:00 AM	<b>An Approach to Toxicity Screening of Vehicle Emissions Using In-Vitro Assays</b>	Linda Smith	California Air Resources Board
9:25 AM	<b>New Technology Diesel Exhaust (NTDE): Dramatically Reduced Emissions and Potential Health Effects, and the Need for Separate Risk Classification</b>	Tim French	Truck and Engine Manufacturers Association
9:50 AM	<b>Emissions From Heavy Duty Vehicles - A Historical Perspective</b>	Jorn Herner	California Air Resources Board
10:15 AM	General Discussion		

**10:25 - 10:55 AM BREAK and Poster Viewing in Sierra Hearing Room at ARB**

## Session 1 **Needs of Regulators**

*What are the possible implications and impacts resulting from new and potential rules and regulations (e.g. low-carbon fuel standards, ...) on MSATs? What do we know and what else do we need to learn?*

10:55 AM *Chairperson: Howard Feldman (API) and Michael Claggett (US DOT)*

11:00 AM	<b>FHWA MSAT and Near Road Emissions Research Review</b>	Victoria Martinez	Federal Highway Administration
11:15 AM	<b>Assessing MSAT Impacts for Highway Projects</b>	Madhusudhan Venugopal	Providence Engineering and Environmental
11:30 AM	<b>Multiple Air Toxic Exposure Study (MATES 4) in the South Coast Air Basin</b>	Jean Ospital (Presented by Andrea Polidori)	South Coast Air Quality Management District
11:45 PM	<b>Mobile Source Air Toxics Issues and Needs in the Mid-Atlantic Region</b>	Susan Wierman	MARAMA
12:00 PM	General Discussion		

**12:10 PM - 1:40 PM LUNCH at The Citizen Hotel - Metropolitan Terrace**

<b>Session 2 Air Quality and Exposure Measurements of MSATs</b>			
<i>What are the MSAT exposures On-Road and Near-Road, associated with proximity to traffic?</i>			
1:40 PM	<i>Chairpersons: Kent Hoekman (Desert Research Institute) and Richard Baldauf (US EPA)</i>		
1:45 PM	<b>Near-Road Nitrogen Dioxide: Factors Influencing Concentrations Next to Freeways</b>	Andy Rutter	Sonoma Technology
2:00 PM	<b>Las Vegas Near-Road Study - MSAT Results</b>	Susan Kimbrough	US EPA
2:15 PM	<b>Variability in Exposures to Traffic-Related Air Pollutants Across Detroit in the Near-Road Exposures and Effects of Urban Air Pollutants Study (NEXUS)</b>	Gary Norris	US EPA
2:30 PM	<b>Near-Road Monitoring for Mobile Source Emissions - A State's Perspective on Measuring NO<sub>2</sub>, Ultrafine Particles, and Other Pollution</b>	Alberto Ayala	California Air Resources Board
2:45 PM	<b>Overview of the New National Near Road Air Quality Monitoring Network for the U.S.</b>	Rich Baldauf	US EPA
3:00 PM	General Discussion		
<b>3:10 - 3:40 PM BREAK and Poster Viewing in Sierra Hearing Room at ARB</b>			
<b>Session 3 Air Quality and Exposure Modeling of MSATs</b>			
<i>Modeling of MSAT concentrations/exposures from the regional level down to "hot spots" and microenvironments; advances in approaches to modeling of MSATs</i>			
3:40 PM	<i>Chairpersons: Deborah Luecken (US EPA-NC) and Rich Cook (US EPA-Ann Arbor)</i>		
3:45 PM	<b>Diesel Particle Filter Effects on Black Carbon, Nitrogen Oxides, and Ultrafine Particle Emissions (Presentation from Session 4)</b>	Robert Harley	UC-Berkeley
4:00 PM	<b>Advancing the Modeling Capability of On-Road and Near-Road Evolutions of Multiple Pollutants in Real-World Conditions</b>	K. Max Zhang	Cornell University
4:15 PM	<b>Examining the Impact of Ethanol (E85) on Urban Air Pollution with and without a Fog</b>	Diana Ginnebaugh	Stanford University
4:30 PM	<b>Near Roadway Monitoring to Modeling Using AERMOD Along the I-710 Freeway in Southeast Los Angeles</b>	Ed Carr	ICF
4:45 PM	<b>Changes in Emission Rates Between California's Emission Factor Models EMFAC2007 and EMFAC2011 for Los Angeles County in 2035</b>	Ed Carr	ICF
5:00 PM	<b>The National Air Toxic Assessment (NATA) - Mobile Source Overview</b>	Ted Palma	US EPA
5:15 PM	<b>Assessment of Mobile Source Toxic Air Emissions in California Using EMFAC2011</b>	Cheng-Feng Wang	California Air Resources Board
5:30 PM	General Discussion		
5:40 PM	End of Technical Sessions		
<b>6:30 PM Reception at The Citizen Hotel - Metropolitan Terrace</b>			
<b>7:15 PM Dinner at The Citizen Hotel - Metropolitan Terrace</b>			

**Wednesday, February 06, 2013**  
**Klamath Training Room at ARB (2nd Floor, 1001 I Street)**

7:00 - 8:00 AM **Registration**

*Continental Breakfast in Sierra Hearing Room at ARB*

**Session 4 Vehicle Emissions and Vehicle Emissions Modeling**

*Light- and heavy-duty vehicle MSAT emissions during off-cycle operation, and under very cold temperature; MSAT emissions from alternative fuels and ethanol; the relative importance of evaporative and tailpipe emissions*

8:00 AM *Chairpersons: Matt Ratcliff (NREL) and John Collins (CARB)*

8:05 AM	<b>How Much Does Changing Motor Vehicle Emissions Affect Primary and Secondary HAP Concentrations in the Atmosphere? (Presentation from Session 3)</b>	Deborah Luecken	US EPA
8:20 AM	<b>Incorporation of Particular Matter Speciation into the US EPA MOVES Model</b>	Darrell Sonntag	ORISE Fellow/Hosted by US EPA
8:35 AM	<b>Integrated Gaseous and Particulate Matter Emissions Investigation of a Dispersing Plume of Heavy-Duty Diesel Truck: Wind Tunnel Results</b>	Daniele Littera	West Virginia University
8:50 AM	<b>Assessment of the Effects of Road Grade on Fuel Economy and Emissions from Heavy-Duty Vehicles</b>	Shaohua Hu	California Air Resources Board
9:05 AM	<b>ACES Phase 2: Study Update</b>	Tim French	Truck and Engine Manufacturers Association

**9:20 AM - 9:50 AM BREAK and Poster Viewing in Sierra Hearing Room at ARB**

9:50 AM	<b>Trace Level Air Toxic Detection in Late-Model Heavy-Duty Trucks</b>	John Storey	Oak Ridge National Laboratory
10:05 AM	<b>A Look at How Ethanol and Biodiesel Influence Light-Duty Vehicle PM Emissions</b>	Matti Maricq	Ford Motor Company
10:20 AM	<b>Toxic and Unregulated Exhaust Emissions from a Tier 2-BIN 5 Vehicle Fueled with Higher Alcohol-Gasoline Blends</b>	Matt Ratcliff	NREL
10:35 AM	<b>Near-Idle Aircraft Engine Gaseous Hazardous Air Pollutant Emissions</b>	Scott Herndon	Aerodyne
10:50 AM	General Discussion		

**Session 5 Atmospheric Transformations**

*The role of atmospheric transformations of vehicle emissions on MSAT air quality; long-term trends in air quality*

11:00 AM *Chairpersons: Steve Japar (Consultant) and Eileen McCauley (CARB)*

11:05 AM	<b>Characterizing Organic Carbon Emissions from Diesel v. Gasoline Vehicles and Their Relative Contributions to Secondary Organic Aerosol Formation</b>	Drew Gentner	UC-Berkeley
11:20 AM	<b>Organic Aerosol Formation and Processing in the Los Angeles Basin: Role of Gasoline vs. Diesel Emissions</b>	Roya Bahreini	UC-Riverside
11:35 AM	<b>Assessing the Importance of Secondary Organic Aerosol to Meeting Air Quality Standards in California</b>	Sulekha Chattopadhyay (Withdrawn)	California Air Resources Board
11:50 AM	General Discussion		

**12:00 Noon - 1:30 PM LUNCH at The Citizen Hotel - Quorum Room**

**Session 6 Trends and Accountability**  
*Have emissions controls been successful? Trends in emissions and ambient air quality are indicators of the success of emission control policies.*  
 1:30 PM Chairpersons: Steve Japar (Consultant) and Kent Hoekman (DRI)

1:35 PM	<b>Decadal Trends of VOC Toxics in the Los Angeles Urban Area</b>	David D. Parrish	NOAA/ESRL
1:50 PM	<b>Trends in the Emissions of Volatile Organic Compounds (VOC's) from In-Use Light Duty Gasoline Vehicles in Southern California</b>	Paul Rieger	California Air Resources Board
2:05 PM	<b>Ambient Trend Analysis for Diesel PM, Benzene, and 1,3-Butadiene</b>	Ralph Propper	California Air Resources Board
2:20 PM	General Discussion		

**Discussion and Wrap-up**

2:30 PM	Discussion and Wrap-up: Steve Japar (Consultant) and Rory Macarthur (Chevron)		
3:00 PM	End of Workshop		

**Poster Session During Breakfast and Breaks in Sierra Hearing Room at ARB**

1	<b>Improvements to the Determination of Acrolein in Motor Vehicle Exhaust - Preliminary Study</b>	Aiko Matsunaga	California Air Resources Board
2	<b>Integrated Gaseous and Particulate Matter Emissions Investigation of a Dispersing Plume of H-D Truck: Wind Tunnel as an Innovative Measurement Tool</b>	Daniele Littera	West Virginia University
3	<b>Use of In-Vitro Toxicological Assays for the Analysis of Vehicle Emissions</b>	Pat Wong	California Air Resources Board
4	<b>A New Aerosol Sampler for Time-Resolved Chemical Analysis</b>	Robert Anderson	TSI Incorporated
5	<b>Understanding the Health Effects of Ambient Ultrafine Particles: Summary of a Report from the Health Effects Institute</b>	Rashid Shaikh	Health Effects Institute
6	<b>CE-CERT'S Research on Mobile Air Toxics</b>	Georgios Karavalakis	UC-Riverside CE-CERT



