

Program

CRC MOBILE SOURCE AIR TOXICS WORKSHOP

CARB and The Citizen Hotel
Sacramento, CA
February 17-19, 2015

***Co-Sponsored by: CARB, HEI, SCAQMD, TOYOTA & US EPA**



WORKSHOP ORGANIZERS

Susan Collet, Co-Chairperson	Toyota Motor Engineering & Manufacturing, NA
Eileen McCauley, Co-Chairperson	California Air Resources Board
John Collins	California Air Resources Board
Kent Hoekman	Desert Research Institute
Tim Wallington	Ford Motor Company

**The purpose of the workshop is for 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.*

* Presentations and times subject to change

rev. 02/20/2015

Tuesday, February 17, 2015

The Citizen Hotel

6:00 - 7:00 PM **Welcome Reception and Registration at The Citizen Hotel - Metropolitan Terrace**
Cocktails and Hors d'Oeuvres

Wednesday, February 18, 2015

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

7:00 - 8:00 AM **Registration & Poster Setup**

Continental Breakfast in the 2nd Floor Lobby at ARB

8:00 AM *Opening Comments: Susan Collet (Toyota) and Eileen McCauley (CARB) & Welcome by Richard Corey (ARB) and Brent Bailey (CRC)*

Plenary Session - Past, Present, and Future

8:05 AM ***This session will introduce the topic of MSATs, present overviews of MSAT trends, identify areas of concern, and lay out the objectives of the Workshop.***

Chairpersons: Susan Collet (Toyota), Henry Hogo (SCAQMD), Eileen McCauley (ARB)

Time	Title	Presenter	Affiliation
8:10 AM	Ambient Trends of Selected Mobile Source Air Toxics in California	Bart Croes	ARB
8:30 AM	Characterization of Non-Methane Hydrocarbons at Three Urban Sites in Western Saudi Arabia, in Lahore (Pakistan), and in Singapore	Barbara Barletta	UC Irvine
8:50 AM	Risk Assessment Under California's Air Toxics Program – Recent Updates	Melanie Marty	OEHHA
9:10 AM	Global Health Burden of Particulate Matter (PM 2.5) Air Pollution, an Update from the Global Burden for Diseases, Injuries, and Risk Factor (GBD) 2013 Study	Mohammad Forouzanfar	Univ. of WA
9:30 AM	General Discussion		

9:40 - 10:00 AM BREAK

Session 1 Regulatory Needs

What MSAT issues are of greatest concern to the regulatory community? How are MSATs influenced by low carbon fuel regulations, PM standards, and other new rules? What additional work is needed to address areas of uncertainty?

10:00 AM *Chairpersons: Todd Sax (CARB) and Marion Hoyer (EPA)*

Time	Title	Presenter	Affiliation
10:05 AM	Mobile Source Air Toxics – EPA Programs and Perspectives	Marion Hoyer	EPA
10:25 AM	Mobile Source – Environment Canada Regulatory Program	Josée Lavergne	Environment Canada
10:45 AM	Characterizing and Reducing the Health Risks from Freight Operations	Cynthia Marvin	CARB
11:05 AM	Drivers to Further Reduce Air Toxic Emissions from Mobile Sources: A Local Perspective	Henry Hogo (For Philip Fine)	SCAQMD
11:25 AM	General Discussion		

11:35 AM - 12:55 PM LUNCH at The Citizen Hotel - Metropolitan Terrace

Session 2 Vehicle Emission Measurements of MSATs

What is known about MSAT emissions from modern vehicles and fuels? How effective are advanced emissions control systems in reducing MSATs? How does the use of biofuels impact emissions of MSATs? What MSAT measurement issues require additional work?

1:00 PM *Chairpersons: John Collins (ARB) and Tom Durbin (CE-CERT)*

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
1:05 PM	Biodiesel and Cold Temperature Effects on Speciated Mobile Source Air Toxics from Modern Diesel Trucks	Ingrid George	EPA
1:20 PM	Semivolatile Organic Compound Emissions from Heavy-Duty Trucks Operating on Diesel and Bio-Diesel Fuel Blends	Ingrid George (For Mike Hays)	EPA
1:35 PM	Unregulated, GHG and Ammonia Emissions From Heavy-Duty Natural Gas Vehicles - Past and Present	Arvind Thiruvengadam	WVU
1:55 PM	Oxidative Stress from PM Emitted by Various Light-Duty Vehicle Engine Technologies and Fuel	Chris Ruehl	CARB
2:15 PM	Gaseous Toxics, Polycyclic Aromatic Hydrocarbons, and Particulate Emissions from GDI and PFI Vehicles on Alcohol Fuels	Georgios Karavalakis	CE-CERT
2:35 PM	Ethanol and Air Quality: Influence of Fuel Ethanol Content on Vehicle Emissions	Tim Wallington	Ford
2:55 PM	General Discussion		

3:05 PM - 3:25 PM BREAK

Session 3 Air Quality and Exposure Measurements of MSATs

What exposures to MSATs have been measured near roadways and in other hot-spots? How do non-road sources contribute to MSAT exposures? What is known about personal exposures from use of hand-held equipment?

3:25 PM *Chairpersons: Kent Hoekman (DRI) and Peggy Jenkins (ARB)*

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
3:30 PM	Results from the Fourth Multiple Air Toxics Exposure Study (MATES IV) in the South Coast Air Basin	Henry Hogo (For Philip Fine)	SCAQMD
3:50 PM	International Airport Landing Jet Emissions Result in High Ultrafine Particle Concentrations and Freeway-Like Size Distributions Up to 10 km Downwind	Scott Fruin	USC
4:10 PM	Filtration and Air Cleaning to Mitigate Exposures to Vehicle-Related Air Toxics Inside Homes Nearby to Roadways	Brett Singer	Lawrence Berkeley National Laboratory
4:30 PM	An Exposure Mitigation Strategy for Children in School Buses: High Efficiency Cabin Air Filtration	Yifang Zhu	UCLA
4:50 PM	Evaluation and Deployment of High-Performance Air Filtration Systems in California Classrooms	Andrea Polidori	SCAQMD
5:10 PM	General Discussion		
5:20 PM	End of Technical Sessions		

6:30 PM Reception at The Citizen Hotel - Metropolitan Terrace

7:15 PM Dinner at The Citizen Hotel - Metropolitan Terrace

Thursday, February 19, 2015
Klamath Room at ARB (2nd Floor, 1001 I Street)

7:00 - 8:00 AM **Registration & Poster Viewing**

Continental Breakfast in the 2nd Floor Lobby at ARB

Session 4 Atmospheric Modeling and Measurements of MSAT Chemistry and Physics

What is known about atmospheric transformation of MSATs? How are MSATs handled in chemical mechanisms (SAPRC, SOM, VBS)? How are MSATs treated in vehicle emissions models (MOVES and EMFAC)?

8:00 AM *Chairpersons: Rich Cook (EPA) and Tim Wallington (Ford)*

Time	Title	Presenter	Affiliation
8:05 AM	Remote and Urban Concentrations of Acrolein: Implications for Natural Sources	Thomas Cahill	AZ State
8:25 AM	Determining Source Contributions to Aldehydes Within 3-D Photochemical Models	Greg Yarwood	ENVIRON
8:45 AM	Sources and Chemical Composition of Atmospheric Ultrafine Particles in California	Mike Kleeman	UC Davis
9:05 AM	Chemical Composition of Primary Organic Aerosol Emissions from Light - and Heavy-Duty On-Road Vehicles	Rob Harley	UC Berkeley
9:25 AM	Secondary Organic Aerosol Formation From Ultra-Low, Super Ultra-Low and Partial Zero Emission Vehicle Exhaust	Yunliang Zhao <i>(For Allen Robinson)</i>	CMU

9:45 AM - 10:05 AM BREAK

10:05 AM	National Air Toxic Assessment (NATA) – Hybrid Approach	Madeleine Strum	EPA
10:25 AM	Air Toxics and Speciation in EPA's Mobile Source Emission Model, MOVES 2014	Rich Cook	EPA
10:45 AM	General Discussion		

Session 5 Air Quality and Exposure Modeling of MSATs

What type of modeling approaches are used to estimate MSAT exposures at different scales? How are exposure modeling results verified? How are potential impacts of climate change upon MSATs assessed?

10:55 AM *Chairpersons: Deborah Luecken (EPA) and Mike Kleeman (U.C. Davis)*

Time	Title	Presenter	Affiliation
11:00 AM	National Air Toxic Assessment (NATA) - Mobile Source Overview	Ted Palma	EPA
11:20 AM	Air Quality Assessment of Alternative Fuels for Low Carbon Fuel Standards	Donald Dabdub	UC Irvine
11:40 AM	Using a Regional Air Quality Model to Determine Transportation Contributions to PAH in Urban Air	Elisabeth Galarneau	Environment Canada

12:00 PM - 1:20 PM LUNCH at The Citizen Hotel - Metropolitan Terrace
(Presentation of Poster Awards led by Susan Collet and Eileen McCauley)

1:25 PM	Cyclist Route Choice, Traffic-Related Air Pollution, and Lung Function: A Scripted Exposure Study	Michael Jerrett	UCLA
1:45 PM	Modeling of 1,3-Butadiene in Urban and Industrial Areas	Bernhard Rappenglueck	Univ. of Houston
2:05 PM	Multipollutant Air Quality Sensitivities to VOC Speciations from Ethanol-Fueled Vehicles	Deborah Luecken	EPA

2:25 PM General Discussion

2:35 PM - 2:55 PM BREAK

Session 6 Accountability

How effective have past emissions control measures been in reducing MSATs? How do we know? How can we assess the effectiveness of current and future regulations?

2:55 PM *Chairpersons: Christian Hogrefe (US EPA), S.T. Rao (NC State Univ.)*

Time	Title	Presenter	Affiliation
3:00 PM	Air Quality Improvement Due to Emission Reductions in the Southeastern U.S., 1999 – 2013	Charles Blanchard	Envair
3:20 PM	On-Road Measurements of Emissions from Heavy-Duty Diesel Engines: Impacts of Regulations on Drayage Trucks	Rob Harley	UC Berkeley
3:40 PM	Examining Long-Term Trends in Mobile Source Related Pollutants through Analysis of Emissions, Observations and Model Simulations	Christian Hogrefe	EPA
4:00 PM	Assessing Mobile Emissions and Air Quality Trends in Atlanta	Ted Russell	GA Tech

4:20 PM Accountability Panel

Panel Members: Ted Russell (GA Tech), Rashid Shaikh (HEI), Madeleine Strum (US EPA), Susan Collet (Toyota)

Workshop Wrap-up

5:05 PM Workshop Wrap-up: *Susan Collet (Toyota) and Eileen McCauley (CARB)*

5:15 PM End of Workshop

Poster Session

	Title	Presenter	Affiliation
1	Analysis of Mobile Source Air Toxics (MSATS) - Near-Road VOC and Carbonyl Concentrations	Sue Kimbrough	EPA
2	A New Mobile Environmental Smog Chamber: Atmospheric Aging of Vehicle Sources	Diep Vu	CE-CERT
3	Quantifying the Spatial and Temporal Distribution of Aircraft Emissions in the Upper-Troposphere/Lower Stratosphere	Mary Cameron	Stanford University
4	Cold Temperature Effects on Speciated MSAT Emissions from Light-Duty Vehicles Operating on Gasoline and Ethanol Blends	Ingrid George	EPA
5	Motor Vehicle Exhaust Analysis with a Proton-Transfer-Reaction Mass Spectrometer - Comparison Study Between Conventional Methods and PTR-MS for BTEX and Other Toxic Air Contaminants	Aiko Matsuna	CARB
6	Performance Evaluation of Three Co-Located Ultrafine Particle Monitors Near the 710 in California Part 2	Robert Anderson	TSI Incorporated
7	Assessment of Mobile Source Air Toxic Emissions in California Using the EMFAC2014 Project-Level Analysis Tool	Sam Pournazeri	CARB

Notes



