

Agenda

9th CRC MOBILE SOURCE AIR TOXICS (MSAT) WORKSHOP

Trends, Measurements, Modeling, and Impacts

CARB and The Sheraton Grand Sacramento Hotel
Sacramento, CA
February 4-6, 2019

*Co-Sponsored by: API, CARB, HEI, & SCAQMD



WORKSHOP ORGANIZERS

Susan Collet, Co-Chairperson	Toyota Motor North America
Seungju Yoon, Co-Chairperson	California Air Resources Board
Dan Baker	API Consultant
S. Kent Hoekman	Desert Research Institute
Toshihiro Kuwayama	California Air Resources Board
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. 1/30/2019

Monday, February 4, 2019

The Sheraton Grand Hotel Sacramento

5:00 - 6:00 PM

Registration at The Sheraton Grand Hotel

6:00 - 7:00 PM

Welcome Reception at The Sheraton Grand Hotel

Cocktails and Hors d'Oeuvres

Tuesday, February 5, 2019

Klamath Training Room at CARB (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 Seungju Yoon (CARB)

Welcome by Jorn Herner (CARB)

Plenary Session

This session will introduce the topic of MSATs, present overviews of MSAT measurements and trends, identify areas of concern, and lay out the objectives of the Workshop.

8:05 AM

Chairpersons: Susan Collet (Toyota) and Jorn Herner (CARB)

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
8:10 AM	Three Revolutions of Transport - Impacts on MSATs	Dan Sperling	U.C. Davis
8:40 AM	Reducing Mobile Air Toxics in California	Kurt Karperos	CARB
9:10 AM	Overview of Mobile Source Emissions in the National Emissions Inventory and Modeling Platform	Madeleine Strum	EPA
9:40 AM	General Discussion		

9:50 AM

Break on 2nd Floor Lobby at CARB

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?

10:10 AM

Chairpersons: Chandan Misra (CARB) and Molly Zawacki (EPA)

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
10:15 AM	MSATs – Regulatory Perspectives and Research Needs	Molly Zawacki	EPA
10:35 AM	Refining Technical Analyses Tools to Support AB 617 Community Air Protection Program	Jeremy Herbert	CARB
10:55 AM	Applications of AB 617: A Community Emission Reduction Program and a Community Air Monitoring Program in the San Francisco Bay Area	Phil Martien	BAAQMD
11:15 AM	Reducing Emission Impacts from Freight through Indirect Source Rules	Ian MacMillan	SCAQMD
11:35 AM	MSATs – Regulatory Perspectives and Research Needs – from a Stand-in and Veteran in the Business	Alberto Ayala	SMAQMD
11:55 AM	General Discussion		

12:05 PM - 1:35 PM

LUNCH at The Sheraton Grand Hotel in the Tofanelli Room

Session 2

Measurement and Modeling of Vehicle Emission MSATs

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

1:35 PM

Chairpersons: Seungju Yoon (CARB) and Tim Wallington (Ford)

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
1:40 PM	Cold Temperature Effects on Speciated MSAT Emissions from Three Modern GDI Light-Duty Vehicles	Ingrid George	EPA
2:00 PM	Effect of Ambient Temperature and Driving Conditions on Toxics Speciation from Present Day Light-Duty E10 Gasoline Exhaust	Anirban Roy	Univ. of Houston
2:20 PM	Effect of Aromatics and Ethanol Concentration on MSAT and Secondary Organic Aerosol Production from a GDI Vehicle	Georgios Karavalakis	UC Riverside / CE-CERT
2:40 PM	MSAT Emissions Measured during Heavy-Duty Chassis Dynamometer Testing as Part of the Truck and Bus Surveillance Program	Cody Howard	CARB

3:00 PM

Break on 2nd Floor Lobby at CARB

3:20 PM

Light- and Heavy-Duty Vehicle Emissions In the FT. McHenry Tunnel: A Summary of Winter-and Summer-Time Observations

Andrey Khlystov

DRI

3:40 PM

Development of a Standard Testing Method for Vehicle Cabin Air Quality Index

Heejung Jung

UC Riverside / CE-CERT

4:00 PM

Elucidating Real-World Vehicle Emission Factors from Mobile Measurements over a Large Metropolitan Region: A Focus on Isocyanic Acid (HNCO) and Hydrogen Cyanide (HCN)

John Liggio

Environment and Climate Change Canada

4:20 PM

General Discussion

4:30 PM

End of Technical Sessions

4:30 PM - 5:15 PM

Poster Session

5:30 PM

Reception at The Sheraton Grand Hotel in Morgan's Restaurant

6:30 PM

Dinner at The Sheraton Grand Hotel in Morgan's Restaurant

Wednesday, February 6, 2019

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

7:30 - 8:00 AM

Registration & Poster Viewing

Continental Breakfast in the 1st Floor Lobby at CARB

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 atmospheric transformation of MSATs?

8:00 AM

Chairpersons: Abhilash Vijayan (CARB) and Amber Leland (CRC)

Time	Title	Presenter	Affiliation
8:05 AM	Satellite Applications to Support CARB's Programs	Hyung Joo Lee	CARB
8:25 AM	Spatial Variations of Mobile Source Impacts on Urban Particulate Matter Determined by Mobile Aerosol Mass Spectrometry	Albert Presto	Carnegie Mellon Univ.
8:45 AM	Seasonally Varying Primary Emissions and Secondary Organic Aerosol Formation Potential Measured in Near-Highway Air	Andrew Grieshop	NC State Univ.
9:05 AM	The Effect of Noise Barriers and Roadside Vegetation on Near-Road Air Quality	Ken Davidson	EPA

9:25 AM

Break on 1st Floor Lobby at CARB

9:45 AM

A Network of 100 Black Carbon Sensors for 100 Days of Air Quality Monitoring in West Oakland, California

Thomas Kirchstetter

U.C. Berkeley

10:05 AM

High Resolution Mapping of Urban Air Quality using Google Street View Cars

Joshua Apte

Univ. of Texas

10:25 AM

General Discussion

Session 4

Air Quality and Exposure Modeling of MSATs

How are MSATs handled in chemical mechanisms used in modeling application? 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?

10:30 AM

Chairpersons: Pingkuan Di (CARB) and Mike Kleeman (U.C. Davis)

Time	Title	Presenter	Affiliation
10:35 AM	The National Air Toxic Assessment (NATA) - Mobile Source Overview	Ted Palma	EPA
10:55 AM	Vehicle Exhaust Contributions to Benzene and PAHs in Urban Air	Elisabeth Galarneau	Environment and Climate Change Canada
11:15 AM	Chemical Transport Modeling to Investigate the Mobile Source Contribution of Ultrafine Particles in Urban and Regional Scales	Spyros Pandis	Carnegie Mellon Univ.

11:35 AM - 1:00 PM

LUNCH at The Sheraton Grand Hotel in the Tofanelli Room

1:05 PM	Long-Term Trends in Ambient Ultrafine Particle Concentrations from Mobile Sources in California	Michael Kleeman	U.C. Davis
1:25 PM	AB 617: Modeling of On-Road Diesel PM Impacts	Shuming Du	CARB
1:45 PM	Characterizing Mobile Source Activity and Emissions at the Community-Scale to Support AB 617 Implementation	Jenny Melgo	CARB
2:05 PM	Science-Driven Transportation Green Infrastructure Designs	Max Zhang	Cornell Univ.
2:25 PM	General Discussion		

2:30 PM	Break on 1st Floor Lobby at CARB		
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Session 5	Accountability		
	<i>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?</i>		
2:50 PM	Chairpersons: Howard Feldman (API) and Rashid Shaikh (HEI)		

<i>Time</i>	<i>Title</i>	<i>Presenter</i>	<i>Affiliation</i>
2:55 PM	In-Use Performance and Durability of Particle Filters on Heavy-Duty Diesel Trucks	Rob Harley	U.C. Berkeley
3:15 PM	Progress and Challenges in Reducing Mobile Source Air Toxics Emissions	Tim Wallington	Ford Motor Co.
3:35 PM	Mobile Source Air Toxics in the South Coast Air Quality Management District	Ian MacMillan	SCAQMD
3:55 PM	Goods Movement Actions and Improvements in Air Quality and Health Outcomes Among California Medicaid Enrollees	Ying-Ying Meng	UCLA
4:15 PM	General Discussion		

Workshop Wrap-up			
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4:20 PM	Workshop Wrap-up: Susan Collet (Toyota) and Seungju Yoon (CARB)		
4:30 PM	End of Workshop		

Poster Session

Title	Presenter	Affiliation
An Overview of the "Air Toxics in Canada" Program	Elisabeth Galarneau	Environment and Climate Change Canada
Light- and Heavy-Duty Vehicle Emissions In the FT. McHenry Tunnel: A Summary of Winter-and Summer-Time Observations	Andrey Khlystov	DRI
Exposure to Noise from Lawn and Garden Equipment	Nargis Jareen	CARB
Developing Guidance to Mitigate Commuter Exposure to Traffic Emitted Pollutants	Yanju Chen	CARB
A Multi-Scale Framework for Community-level Air Quality Analysis in California	Yanju Chen	CARB
Computer Demo: Overview of Mobile Source Emissions in the National Emissions Inventory and Modeling Platform	Madeleine Strum	EPA

