

# Program

## CRC MOBILE SOURCE AIR TOXICS WORKSHOP

CARB and The Citizen Hotel  
Sacramento, CA  
November 30 - December 2, 2010

CO-SPONSORED BY CARB, EPA, NREL, 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              |
| Rich Cook                      | US Environmental Protection Agency          |
| Bart Croes                     | California Air Resources Board              |
| Howard Feldman                 | API   |
| Phil Heirigs                   | Chevron Global Downstream LLC               |
| Kent Hoekman                   | Desert Research Institute                   |
| Tao Huai                       | California Air Resources Board              |
| Debra Kaden                    | ENVIRON                                     |
| Douglas Lawson                 | National Renewable Energy Laboratory        |
| Deborah Luecken                | US Environmental Protection Agency          |
| Jean Ospital                   | South Coast Air Quality Management District |
| Joe Somers                     | US Environmental Protection Agency          |



## Tuesday, November 30, 2010

The Citizen Hotel

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

## Wednesday, December 01, 2010

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

7:00 - 8:00 AM **Registration**  
*Continental Breakfast in Coastal Hearing Room at ARB*

8:00 AM *Welcome: Steve Japar (Consultant) and Rory Macarthur (Chevron)*

8:05 AM **Plenary Session**  
*Chairpersons: Rory Macarthur (Chevron) and Kent Hoekman (Desert Research Institute)*

|         |  |               |                                    |
|---------|--|---------------|------------------------------------|
| 8:10 AM | <b>Welcome and Opening Comments</b>  | Tom Cackette  | California Air Resources Board     |
| 8:30 AM | <b>Comparative Composition and Lung Toxicity of Exhaust from Engines Fueled by Diesel, Gasoline and Compressed Natural Gas</b> | Joe Mauderly  | LRRRI                              |
| 8:50 AM | <b>Impact of Emerging Technologies</b>   | Robert Sawyer | University of California, Berkeley |
| 9:10 AM | <b>Air Quality Model Development for Regulatory Needs</b>  | Ken Schere    | US EPA                             |
| 9:30 AM | <b>A Model for Reducing Transportation Emissions</b>   | Dan Sperling  | University of California, Davis    |
| 9:50 AM | General Discussion   |               |                                    |

10:00 - 10:30 AM **BREAK and Poster Viewing in Coastal Hearing Room at ARB**

**Session 1 Needs of Regulators**  
*Impacts of new and potential rules and regulations (e.g., low-carbon fuel standards, renewable fuels regulations, MSAT2 rules, FHWA highway issues) on MSATs*

10:30 AM *Chairpersons: Mike Claggett (Federal Highway Administration) and Erik White (California Air Resources Board)*

|          |   |                   |                                |
|----------|---|-------------------|--------------------------------|
| 10:35 AM | <b>Mobile Source Air Toxics: Microscale to Global</b>                                       | Chad Bailey       | US EPA                         |
| 10:50 AM | <b>Mobile Source Emissions, Proximity to Sources, and Future Emissions Control Policies</b> | Todd Sax          | California Air Resources Board |
| 11:05 AM | <b>FHWA Mobile Source Air Toxics Interim Guidance</b>                                       | Victoria Martinez | FHWA                           |
| 11:20 AM | <b>Aircraft Lead Emissions Modeling and Monitoring Study</b>                                | Ed Carr           | ICF International              |
| 11:35 AM | General Discussion  |                   |                                |

**Session 2 Air Quality and Exposure Measurements of MSATs**  
*What are the MSAT exposures On-Road and Near-Road, associated with proximity to traffic?*

11:45 AM *Chairpersons: Richard Baldauf (US EPA) and Debra Kaden (ENVIRON)*

|          |  |                |                           |
|----------|--|----------------|---------------------------|
| 11:50 AM | <b>Near-Roadway Air Quality: Findings from Real-World Data</b> | Doug Eisinger  | Sonoma Technology         |
| 12:05 AM | <b>West Oakland Monitoring Study</b>                           | David Campbell | Desert Research Institute |

12:20 PM - 1:50 PM **LUNCH at The Citizen Hotel - Metropolitan Terrace**

|         |   |                 |                                    |
|---------|---|-----------------|------------------------------------|
| 1:50 PM | <b>FHWA/EPA Near-Road Study in Las Vegas</b>  | Richard Baldauf | US EPA                             |
| 2:05 PM | <b>Effect of Proximity to a Freeway with Heavy-Duty Diesel Traffic on the Ambient Concentrations of Criteria and Air Toxic Pollutants</b> | Andrea Polidori | South Coast AQMD                   |
| 2:20 PM | <b>Spatial Distribution of Polycyclic Aromatic Hydrocarbons in Pine Needles</b>   | Elizabeth Noth  | University of California, Berkeley |

|         |   |                |                                    |
|---------|---|----------------|------------------------------------|
| 2:35 PM | <b>Land Use Regression for Daily Individual Exposure Assessment to PAHs for Epidemiological Study of Asthma</b>   | Elizabeth Noth | University of California, Berkeley |
| 2:50 PM | <b>Changes in MSATs at Near-Roadway Schools After the Expansion of US 95 in Las Vegas, NV</b>                     | Paul Roberts   | Sonoma Technology                  |
| 3:05 PM | <b>Indoor/Outdoor Measurements of Traffic-Related Air Pollutants at Four Elementary Schools in El Paso, Texas</b> | Wen-Whai Li    | University of Texas at El Paso     |
| 3:20 PM | General Discussion  |                |                                    |

**3:30 - 4:00 PM BREAK and Poster Viewing in Coastal Hearing Room at ARB**

**Session 3 Air Quality and Exposure Modeling of MSATs**

*Modeling of MSAT concentrations/exposures from the regional level down to "hot spots" and microenvironments; advances in approaches to modeling of MSATs*

4:00 PM *Chairpersons: Deborah Luecken (US EPA) and Howard Feldman (API)*

|         |  |                   |                                  |
|---------|--|-------------------|----------------------------------|
| 4:05 PM | <b>Air Pollution and Exposure Research Information Infrastructure</b>  | Birmur Guven      | Houston Advanced Research Center |
| 4:20 PM | <b>Modeling Concentrations Of Traffic-Related Air Pollutants: Recent Policy And Science</b>                          | Chad Bailey       | US EPA                           |
| 4:35 PM | <b>Modeling Transport and Transformation of Multiple Air Pollutants Near roadways Using CFD-VIT-RIT</b>              | K. Max Zhang      | Cornell University               |
| 4:50 PM | <b>Effects of Fuel Additives Containing Nano-Scale Cerium On Diesel PM Emissions: Modeling Impacts Near Roadways</b> | Garnet B. Erdakos | US EPA                           |
| 5:05 PM | <b>Air Quality Impacts of Increased Use of Ethanol under the United States' Energy Independence and Security Act</b> | Richard Cook      | US EPA                           |
| 5:20 PM | <b>2005 National Air Toxic Assessment (NATA) - Mobile Source Overview</b>  | Ted Palma         | US EPA                           |
| 5:35 PM | General Discussion   |                   |                                  |
| 5:45 PM | End of Technical Sessions  |                   |                                  |

**6:45 PM Reception at The Citizen Hotel - Metropolitan Terrace**

**7:30 PM Dinner at The Citizen Hotel - Metropolitan Terrace**

# Thursday, December 02, 2010

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

7:00 - 8:00 AM **Registration**  
Continental Breakfast in Coastal 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: Chad Bailey (US EPA), Tao Huai (California Air Resources Board), and Phil Heirigs (Chevron)*

|         |  |                     |                                |
|---------|--|---------------------|--------------------------------|
| 8:05 AM | <b>Impact of Biodiesel on Aldehyde Emissions</b>   | Kent Hoekman        | Desert Research Institute      |
| 8:20 AM | <b>Status of the Advanced Collaborative Emissions Study (ACES)</b>   | Christopher Tennant | CRC                            |
| 8:35 AM | <b>Comparison of New and Old Diesel Engine Emissions</b>   | Barbara Zielinska   | Desert Research Institute      |
| 8:50 AM | <b>A Study of Emissions from a Euro 4 Light Duty Diesel Vehicle with the European Particulate Measurement Program with and without Regeneration</b>        | Alberto Ayala       | California Air Resources Board |
| 9:05 AM | <b>Role of Fuel and Lubricant Oil on Particulate Matter and Semivolatile Organic Compound Emissions from Normal- and High-Emitting Light-Duty Vehicles</b> | Eric Fujita         | Desert Research Institute      |
| 9:20 AM | <b>Impact of Vehicle Operating Modes on Emissions; PM-Speciated Profiles under Differing Operating Modes</b>   | Jason Herrington    | US EPA                         |
| 9:35 AM | <b>Particulate Emissions and Size Distributions for California LEV II Certified gasoline Direct Injection Vehicles</b>                                     | Sherry Zhang        | California Air Resources Board |

## 9:50 AM - 10:20 AM BREAK and Poster Viewing in Coastal Hearing Room at ARB

|          |   |               |                              |
|----------|---|---------------|------------------------------|
| 10:20 AM | <b>Effects of Temperature and Driving Cycle On Exhaust Emissions From Tier 2 Vehicles Operating On Ethanol Fuel Blends</b>                        | Kevin Whitney | Southwest Research Institute |
| 10:35 AM | <b>Effect of Ethanol/Gasoline Blends on Exhaust Emissions from Light-Duty Vehicles: Initial Air Toxics Results from the EPACT/V2/E-89 Program</b> | Aron Butler   | US EPA                       |
| 10:50 AM | <b>Modeling Air Toxics in EPA's MOVES Emissions Model</b>   | Rich Cook     | US EPA                       |
| 11:05 AM | General Discussion  |               |                              |

## Session 5 Uncertainties/Accountability

*How does the measured impact of air quality regulations compare to their predicted impact? What uncertainties (emissions, meteorology, modeling) affect this comparison?*

11:15 AM *Chairpersons: Doug Lawson (NREL) and Steve Japar (Consultant)*

|          |   |                |                                      |
|----------|---|----------------|--------------------------------------|
| 11:20 AM | <b>Mobile Source Pollution and Accountability</b>   | Douglas Lawson | National Renewable Energy Laboratory |
| 11:35 AM | <b>Exhaust Particulate Matter and Nitrogen Oxide Emissions from Individual Heavy-Duty Trucks at the Port of Oakland</b> | Robert Harley  | University of California-Berkeley    |

## 11:50 AM - 1:20 PM LUNCH at The Citizen Hotel - Metropolitan Terrace

|         |  |                 |  |
|---------|--|-----------------|--|
| 1:20 PM | <b>Retrospective Analysis of Photochemical Modeling Results</b>                                  | Michael Koerber | Lake Michigan Air Directors Consortium |
| 1:35 PM | <b>Changes in Near-Road Exposures Attributed to Local/State Regulations and Economic Impacts</b> | Kathleen Kozawa | California Air Resources Board         |

## Session 5a: Mini-Session on Acrolein and HAPs

|         |  |                 |        |
|---------|--|-----------------|--------|
| 1:50 PM | <b>What Air Quality Models Tell Us About Sources and Distributions of Atmospheric Acrolein</b> | Deborah Luecken | US EPA |
|---------|--|-----------------|--------|





