

AAAR 26th Annual Conference

September 24–28, 2007 • Grand Sierra Resort • Reno, Nevada



AAAR 26TH ANNUAL CONFERENCE

September 24-28, 2007

Grand Sierra Resort and Casino

Reno, Nevada

AAAR NATIONAL OFFICE

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AAAR CONFERENCE SPONSORS

Platinum



Gold



Silver



Bronze



Supporting



IMPORTANT INFORMATION

Registration Hours

Monday, September 24	7:00 AM – 8:00 PM
Tuesday, September 25	7:00 AM – 5:30 PM
Wednesday, September 26	7:00 AM – 6:00 PM
Thursday, September 27	7:00 AM – 5:30 PM
Friday, September 28	7:00 AM – 12:00 PM

Exhibit Hours

Monday, September 24	12:00 PM – 5:00 PM (<i>Set-up</i>)	6:00 PM – 8:00 PM
Tuesday, September 25	9:00 AM – 5:00 PM	
Wednesday, September 26	9:00 AM – 2:00 PM	6:00 PM – 8:00 PM
Thursday, September 27	9:00 AM – 3:00 PM	3:00 PM – 6:00 PM (<i>Move-out</i>)

Platform Sessions

A platform session is based on a submitted and approved abstract. Each oral presentation is limited to 15 minutes, including time for questions and should be accompanied by PowerPoint presentations. No other visual equipment (overhead projectors, slide projectors, etc.) will be provided.

Poster Sessions

Poster Session 1 and Continental Breakfast

Tuesday, September 25 9:15 AM – 11:00 AM

Poster Session 2 and Continental Breakfast

Thursday, September 27 9:15 AM – 11:00 AM

A poster in the poster session is based on a submitted and approved abstract. The size of a poster can not exceed 4 feet by 4 feet. Posters will be located in the Silver State Pavilion located in the Grand Sierra Resort and Casino. There are two poster sessions during which authors will present their posters and will be available for discussions.



Poster Session Viewing Times

Monday, September 24

Exhibits and Poster Preliminary Viewing
and Welcome Reception 6:00 PM – 8:00 PM

Tuesday, September 25

Posters Open. 9:00 AM – 5:00 PM

Poster Session 1 and
Continental Breakfast 9:15 AM – 11:00 AM

Wednesday, September 26 9:00 AM – 2:00 PM

Thursday, September 27

Posters Open. 9:00 AM – 3:00 PM

Poster Session 2
and Continental Breakfast 9:15 AM – 11:00 AM

Instructions to Poster Presenters

Posters should be placed on boards between the hours of 12:00 PM – 5:00 PM on Monday, September 24. They should be removed between 3:00 PM and 6:00 PM on Thursday, September 27. All posters not picked up by 6:00 PM on Thursday will be discarded.

Consult the Summary of Program Changes Sheet distributed with this Final Program booklet for a list of the late-breaking posters.

Monday, September 24

Welcome Reception 6:00 PM - 8:00 PM

This is your opportunity to meet and greet the exhibitors. Representatives from well-known and respected vendors are happy to discuss their products and talk with you about the latest in technology and advances in the field.

AAAR Annual Business Meeting

This year the Annual Business Meeting takes place on Tuesday, September 25 from 5:30 PM – 6:30 PM. This important session provides an overview of the highlights of AAAR today and tomorrow. There will be a special tribute to the current conference chair and conference committee, as well as others who have served AAAR during the year. During this meeting, the ceremonial passing of the gavel will mark the transfer of leadership responsibility from Pratim Biswas to incoming president Chris Sorensen.



Working Group Meetings

Working Group Meetings 1 3:50 PM – 4:50 PM

Working Group Meetings 2 5:00 PM – 6:00 PM

Working Group Meetings will take place on Wednesday, September 26.

All AAAR members are encouraged to attend the Working Group Meeting corresponding to their research interest. Please refer to the Schedule at a Glance for topics and specific meeting times.

Exhibitors' Reception

Wednesday, September 26 6:00 PM – 8:00 PM

The Exhibitors' Reception, a AAAR tradition, is a time to visit with the exhibitors and all conference attendees in an informal, relaxed atmosphere.

Tribute to Sheldon K. Friedlander

Sheldon K. Friedlander, one of the founders of the American Association for Aerosol Research (AAAR), passed away on February 9, 2007. A tribute honoring Dr. Friedlander will be held immediately following the plenary lecture on Wednesday, September 26.

Americans with Disabilities Act (ADA) Accommodations

AAAR will use its best efforts to provide reasonable accommodations for attendees with disabilities.

CM Points

The American Board of Industrial Hygiene will award CM points to CIH's as follows:

.5 points per 1/2 day of attendance

4.5 points for attending the full conference

The AAAR approval number is 07 – 1881.

All participants of the AAAR 26th Annual Conference are encouraged to contact their respective professional certifying agencies for the applicability of the AAAR conference program toward additional CM points and CEU credits.

For more information on the American Board of Industrial Hygiene and CM points, please visit www.abih.org.

Award Presentations

Awards will be presented immediately after each plenary session. Please refer to the Schedule-at-a-Glance for the specific award presentation times. Join us in honoring the recipients of AAAR’s major awards: Kenneth T. Whitby Award, David Sinclair Award, Sheldon K. Friedlander Award, and Benjamin Y.H. Liu Award. The recipient of the Thomas T. Mercer Joint Prize will also be acknowledged.

Speaker Ready Room

There will be a presentation preview/speaker ready room in Nevada 12 at the Grand Sierra Resort and Casino. All speakers must visit the speaker ready room the day prior to your presentation. There will be a technician in the room to assist you with your presentation. **Please note: LCD projectors are the only form of visual equipment that will be provided. Overhead and slide projectors will not be available. You will be asked to transfer any slides or transparencies to a PowerPoint presentation.**

Speaker Ready Room Hours

- Sunday, September 23 5:00 PM - 9:00 PM
- Monday, September 24 7:00 AM – 8:00 PM
- Tuesday, September 25 7:00 AM – 6:30 PM
- Wednesday, September 26 7:00 AM – 6:30 PM
- Thursday, September 27 7:00 AM – 6:00 PM
- Friday, September 28 7:00 AM – 11:00 AM

Hotel Information

Grand Sierra Resort and Casino
2500 East Second Street
Reno, NV 89595
Telephone: (775) 789 - 2000
Guest Fax: (775) 789 - 2418

CONFERENCE AND TECHNICAL COMMITTEES

Technical Program Committee

Yung Sung Cheng – *Control Technology*

Sheldon Davis – *Combustion and Material Synthesis*

David Kane – *Aerosol Physics*

Jana Kesavan – *Indoor Aerosols*

Andrey Khlystov – *Atmospheric Aerosols*

Eladio Knipping – *Aerosol Chemistry*

Tom Merrifield – *History of Aerosol Science*

Patrick T. O'Shaughnessy – *Health Related Aerosols*

Xiaoliang Wang – *Instrumentation*

Conference Committee

Jay Turner – *Conference Chair (2007)*

William W. Nazaroff – *Conference Chair (2008)*

Chang-Yu Wu – *Conference Chair (2009)*

Tyler Beck – *Exhibits Chair (2006 and 2007)*

Patricia Keady – *Exhibits Chair (2008 and 2009)*

Brooke L. Hemming – *Tutorial Chair (2007)*

Ann E. Wittig – *Student Liaison Chair (2007)*

Exhibits

Tyler Beck (*Chair*)

Development Committee

Christopher Sorensen (*Chair*)

AAAR BOARD OF DIRECTORS AND STAFF

2007 Board of Directors

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Sheryl Ehrman, *Secretary-Elect*

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Kaarle Hameri

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Lupita Montoya

Kimberly Prather

Tiina Reponen

James J. Schauer

Paul A. Solomon

AAAR Staff

Amy Williams, CAE, Executive Director

Melissa Baldwin, Assistant Executive Director

Deanna Bright, Executive Assistant

Ann Mitchell, Meeting Manager

Wendy Roller, Assistant Meeting Manager

Robin Geary, Exhibits Manager

Gail Valente, Registration Manager



2007 STUDENT ASSISTANTS

AAAR would like to acknowledge the 2007 Student Assistant Volunteers

Allison Aiken	J. Alex Huffman
Mohammed Ali	Jingkun Jiang
Akua Asa-Awuku	Sara Lance
Krishanu Banerjee	Jin-Hwa Lee
Aynul Bari	Ezra Levin
Josef Beranek	Hsing-Wang Li
Gang Cao	Kuo-Jen Liao
Qi Chen	Ming-Yeng Lin
Beverly Coleman	Julie Lloyd
Chelsea Corr	Laura Mack
Matthew Dreyfus	Maygan McGuire
Praney Dubey	Gavin McMeeking
Katja Dzepina	Arash Moharreri
Gabriella Engelhart	Chowdhury Moniruzzaman
Scott Epstein	Richard Moore
Ali Farnoud	Scott Noblitt
Patricia Fritz	Fatma Ozturk
Cha-Chen Fung	Luz Padro
Krystal Godri	Li Qi
Meilu He	Manish Ranjan
Katherine Heaton	Melissa Reinard
Lea Hildebrandt	Shar Samy
Amanda Holden	Mariya Shcherbyna Petrenko
Wei-Chun Hsieh	Nicholas Stanley
Yu-Mei Hsu	Scot Waye
Hermes Huang	

2007 STUDENT TRAVEL GRANT RECIPIENTS

Mohammed Ali	Kuo-Jen Liao
Qi Chen	Gavin McMeeking
Beverly Coleman	Chowdhury Moniruzzaman
Matthew Dreyfus	Scott Noblitt
Katja Dzepina	Amanda Northcross
Patricia Mason Fritz	Fatma Ozturk
Krystal Godri	Li Qi
Hermes Huang	Manish Ranjan
Sara Lance	Mariya Shcherbyna Petrenko
Jin-Hwa Lee	Muharrem Yorgun

The conference organizers gratefully acknowledge Dr. Donald Dabdub (University of California, Irvine) for development and management of the online abstracts submission system and Dr. Susanne Hering (Aerosol Dynamics, Inc.) for managing the materials that were used by the Technical program and used for generating this program booklet and the CD of abstracts.



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SCHEDULE-AT-A-GLANCE

Sunday, September 23

- 5:00 PM – 9:00 PM AAAR Registration for
2007 Attendees
Silver State Foyer
- 5:00 PM - 9:00 PM Speaker Ready Room
Nevada 12
- 8:00 PM - 9:00 PM Student Assistant Orientation
Nevada 5

Monday, September 24

- 7:00 AM – 8:00 PM AAAR Registration for
2007 Attendees
Silver State Foyer
- 7:00 AM – 8:00 PM Speaker Ready Room
Nevada 12
- 8:00 AM – 9:40 AM **First Tutorial Session**
1. Introduction to
Aerosol Mechanics I
Dr. William Hinds
Nevada 1/2
 2. Aerosol-Cloud Interactions:
The Elusive Component of
Climate Change
Dr. Athanasios Nenes
Nevada 3/4
 3. Nanoparticles and Nanotubes:
Synthesis and Applications
Dr. Richard Axelbaum
Nevada 6/7
 4. Human Aerosol Exposure: Toward
a Mechanistic Understanding
Dr. William Nazaroff
Nevada 9/10
- 10:00 AM – 11:40 AM **Second Tutorial Session**
5. Introduction to
Aerosol Mechanics II
Dr. William Hinds
Nevada 1/2



6. Numerical Methods for Treating Internal Mixing of Aerosols and the Resulting Radiative Effects
Dr. Mark Jacobson
Nevada 3/4
7. Understanding Proper Data Analysis of Differential Mobility Analyzer Measurements
Dr. Mark Stolzenburg
Nevada 6/7
8. Inhalation Toxicology of Nanomaterials
Dr. Vicki Grassian
Nevada 9/10
- 11:40 AM – 1:00 PM Lunch (on your own)
- 12:00 PM - 5:00 PM Exhibitor and Poster Set-Up
Silver State Pavilion
- 1:00 PM - 2:40 PM **Third Tutorial Session**
9. PM Research to Operations: Exploring PM Research Contributions to Policy Relevant Air Quality Management Applications
Dr. Richard Scheffe
Nevada 1/2
10. Secondary Aerosol Formation
Dr. Paul Ziemann
Nevada 3/4
11. Light Scattering by Particles: An Intuitive Description for Aerosol Scientists
Dr. Chris Sorensen and Matthew Berg
Nevada 6/7
12. Methodologies for Assessing Bioaerosol Exposures
Dr. Tiina Reponen
Nevada 9/10
- 2:00 PM - 5:00 PM Executive Committee Meeting
Board Room

3:00 PM - 4:40 PM

Fourth Tutorial Session

13. Receptor-Oriented Sources
Apportionment: Do You Have
a Robust Solution?
Shelly Eberly
Nevada 1/2
14. Organic Aerosols and the
Volatility Basis Set: Experimental
and Modeling Applications
Dr. Neil Donahue
Nevada 3/4
15. Aerosol Optics Measurements
and Survey of the Current State
of the Science
Dr. Pat Arnott
Nevada 6/7
16. Introduction to Aerosol
Technology for Drug Delivery
Dr. Reinhard Vehring
Nevada 9/10

5:00 PM - 6:00 PM

Development Committee Meeting
Board Room

6:00 PM - 8:00 PM

Welcome Reception and Exhibitor/
Poster Preview
Silver State Pavilion

Tuesday, September 25

7:00 AM – 5:30 PM

Registration
Silver State Foyer

7:00 AM – 6:30 PM

Speaker Ready Room
Nevada 12

7:00 AM – 8:00 AM

Finance Committee
Breakfast Meeting
Cascade 1

7:00 AM – 8:00 AM

Awards Committee
Breakfast Meeting
Cascade 2

8:00 AM – 9:10 AM

Plenary Session #1:
Single Particle Analysis All the Way
Up to the Stratosphere
Daniel Murphy
Reno Ballroom



- 9:00 AM – 5:00 PM Exhibits/Posters Open
Silver State Pavilion
- 9:15 AM – 11:00 AM Continental Breakfast and
Poster Session 1
Silver State Pavilion
- 11:00 AM – 12:30 PM **Session #3: Platform**
- 3A** Aerosols, Clouds and Climate:
Atmospheric Aerosols –
Global Perspectives
Reno Ballroom
 - 3B** Bioaerosol Health Effects
Nevada 1/2
 - 3C** Instrumentation 1
Nevada 3/4
 - 3D** Urban Aerosols 1
Nevada 6/7
 - 3E** Secondary Organic
Aerosol Chemistry
Nevada 9/10
- 12:30 PM - 2:00 PM AAAR Board Meeting
Nevada 5
- 12:30 PM - 2:00 PM Lunch (on your own)
- 2:00 PM - 3:30 PM **Session #4: Platform**
- 4A** Aerosols, Clouds and Climate:
Atmospheric Aerosols – New
Insights to Aerosol-Cloud
Interactions
Reno Ballroom
 - 4B** Infectious and Toxic Aerosols
Nevada 1/2
 - 4C** Instrumentation:
Mass Spectrometers 1
Nevada 3/4
 - 4D** Combustion 1
Nevada 6/7
 - 4E** Biomass Burning Aerosol and
Its Properties
Nevada 9/10
- 3:30 PM - 3:50 PM Coffee Break
Silver State Pavilion



3:50 PM - 5:20 PM

Session #5: Platform

5A Aerosols, Clouds and Climate:
Cloud Processing and
Composition

Reno Ballroom

5B Methods and Measurements
for Organic Components

Nevada 1/2

5C Instrumentation: Aerosol
Sampling and Conditioning

Nevada 3/4

5D Combustion 2

Nevada 6/7

5E Heterogeneous Aerosol Aging

Nevada 9/10

5:30 PM - 6:30 PM

AAAR Annual Business Meeting

Reno Ballroom

6:30 PM - 7:30 PM

Young Investigators Group

Cascade 1

Wednesday, September 26

7:00 AM – 6:00 PM

Registration

Silver State Foyer

7:00 AM – 6:30 PM

Speaker Ready Room

Nevada 12

7:00 AM – 8:00 AM

Newsletter Committee

Breakfast Meeting

Sierra 1

7:00 AM – 8:00 AM

Working Group Chairs Strategy

Breakfast Meeting

Sierra 2

8:00 AM – 9:25 AM

Plenary Session #2: Inhaled
Insulin and the Marvelous New
Innovations in Aerosol Medicines and
Tribute to Dr. Sheldon Friedlander
John Patton

Reno Ballroom

9:00 AM – 2:00 PM

Exhibits/Posters Open

Silver State Pavilion



- 9:25 AM – 9:45 AM Coffee Break
Silver State Pavilion
- 9:45 AM – 11:00 AM **Session #7: Platform**
- 7A** Aerosols, Clouds and Climate:
Field Observations of CCN
Characteristics
Reno Ballroom
- 7B** Indoor Aerosols 1
Nevada 1/2
- 7C** Instrumentation:
Mobility Measurements
Nevada 3/4
- 7D** Aerosol Chemical Analysis
Nevada 6/7
- 7E** Chemical Transport Modeling
and Receptor Modeling of
Regional Aerosols
Nevada 9/10
- 11:00 AM – 11:20 AM Coffee Break
Silver State Pavilion
- 11:20 AM – 12:35 PM **Session #8: Platform**
- 8A** Aerosols, Clouds and Climate:
Laboratory Observations and
Modeling of CCN Characteristics
Reno Ballroom
- 8B** Indoor Aerosols 2
Nevada 1/2
- 8C** Control Technologies
Nevada 3/4
- 8D** Emissions Characterization and
Inventory Verification
Nevada 6/7
- 8E** Chemistry and Mechanisms of
SOA Formation
Nevada 9/10
- 12:35 PM – 2:00 PM Lunch (on your own)
- 12:35 PM – 2:00 PM Editorial Advisory Board
Lunch Meeting
Cascade

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12:35 PM - 2:00 PM	Education Committee Lunch Meeting <i>Sierra 1</i>
12:35 PM - 2:00 PM	Publications Committee Lunch Meeting <i>Sierra 2</i>
2:00 PM - 3:30 PM	Session #9: Platform 9A Urban Aerosol Source Characterisation and Apportionment <i>Reno Ballroom</i> 9B Innovation in Medicinal Nanoparticles <i>Nevada 1/2</i> 9C Instrumentation: Mass Spectrometers 2 <i>Nevada 3/4</i> 9D Organic Aerosol Modeling <i>Nevada 6/7</i> 9E Hygroscopicity and Other Physical Properties of Organic Aerosol <i>Nevada 9/10</i>
3:30 PM - 3:50 PM	Coffee Break <i>Central Area Nevada Conference Rooms</i>
3:50 PM - 4:50 PM	Working Group Meetings 1 <i>Nevada 1/2 – Aerosol Physics</i> <i>Nevada 3/4 – Atmospheric Aerosol</i> <i>Nevada 5 – History of Aerosol Science</i> <i>Nevada 6/7 – Indoor Aerosol</i> <i>Nevada 9/10 – Control Technology</i>
5:00 PM - 6:00 PM	Working Group Meetings 2 <i>Nevada 1/2 – Instrumentation</i> <i>Nevada 3/4 – Combustion/Materials</i> <i>Nevada 6/7 – Health Related Aerosols</i> <i>Nevada 9/10 – Fundamental Aerosol Chemistry</i>
6:00 PM - 8:00 PM	Exhibitor Reception <i>Silver State Pavilion</i>



Thursday, September 27

- 7:00 AM – 5:30 PM Registration
Silver State Foyer
- 7:00 AM – 6:00 PM Speaker Ready Room
Nevada 12
- 7:00 AM – 8:00 AM Conference Committee
Breakfast Meeting
Sierra 1
- 7:00 AM – 8:00 AM Long Range Planning Committee
Breakfast Meeting
Sierra 2
- 8:00 AM – 9:10 AM **Plenary Session #3:** The Devil
is in the Details: On the Role of
Molecular Structure in Secondary
Organic Aerosol Chemistry
Paul Ziemann
Reno Ballroom
- 9:00 AM – 3:00 PM Exhibits/Posters Open
Silver State Pavilion
- 9:15 AM – 11:00 AM Continental Breakfast and
Poster Session 2
Silver State Pavilion
- 11:00 AM – 12:30 PM **Session #12: Platform**
- 12A** Advances in Instrumentation
for Organic Aerosols: New
Approaches
Reno Ballroom
- 12B** Nanoparticle Measurement
and Health Effects
Nevada 1/2
- 12C** Aerosol Sampling and
Measurement
Nevada 3/4
- 12D** Aerosol Nucleation
Nevada 6/7
- 12E** Traffic-Related Emissions
Nevada 9/10
- 12:30 PM – 2:00 PM Lunch (on your own)

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- 12:30 PM - 2:00 PM **Bylaws Committee Lunch Meeting**
Sierra 1
- 12:30 PM - 2:00 PM **Membership Committee**
Lunch Meeting
Sierra 2
- 2:00 PM - 3:30 PM **Session #13: Platform**
- 13A** Advances in Instrumentation
 for Organic Aerosols:
 Semivolatile Organic Aerosols
 Reno Ballroom
- 13B** Inorganic Aerosol
 Health Effects
 Nevada 1/2
- 13C** Optics and Carbonaceous
 Aerosols
 Nevada 3/4
- 13D** Inorganic-Organic Interactions
 Nevada 6/7
- 13E** Near Roadway Impacts
 Nevada 9/10
- 3:30 PM - 6:00 PM **Exhibitor Move-Out**
Silver State Pavilion
- 3:30 PM - 3:50 PM **Coffee Break**
Central Area Nevada Conference
Rooms
- 3:50 PM - 5:20 PM **Session #14: Platform**
- 14A** Advances in Instrumentation
 for Organic Aerosols:
 Laboratory Studies
 Reno Ballroom
- 14B** Lung Deposition
 Nevada 1/2
- 14C** Bioterrorism and
 Homeland Security
 Nevada 3/4
- 14D** Aerosol Physics: Optical and
 Electrical Properties
 Nevada 6/7
- 14E** Aerosol Spatial Variability and
 Exposure
 Nevada 9/10

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5:30 PM – 6:30 PM Working Group/Technical Program
Committee Meeting
Nevada 5

6:00 PM – 8:00 PM Texhcnical Tour to the
Desert Research Institute
Busing will be provided.

Friday, September 28

7:00 AM – 12:00 PM Registration
*Central Area Nevada Conference
Rooms*

7:00 AM – 11:00 AM Speaker Ready Room
Nevada 12

8:00 AM – 9:10 AM **Plenary Session #4: CNN: Clusters,
Nucleation and Nanoparticles;
Connecting the Dots**
M. Samy El-Shall
Reno Ballroom

9:15 AM – 10:45 AM **Session #16: Platform**

- 16A** Advances in Instrumentation
for Organic Aerosols:
Field Studies
Reno Ballroom
- 16B** Nanoparticles and Materials
Synthesis 1
Nevada 1/2
- 16C** Remote and Regional
Aerosols 1
Nevada 3/4
- 16D** Aerosol Physics
Nevada 6/7
- 16E Urban Air Quality Modeling
Nevada 9/10

10:45 AM – 11:00 AM Coffee Break
*Central Area Nevada Conference
Rooms*



11:00 AM – 12:30 PM **Session #17: Platform**

17A Instrumentation: PM Monitors
and Samplers

Reno Ballroom

17B Nanoparticles and Materials
Synthesis 2

Nevada 1/2

17C Remote and Regional
Aerosols 2

Nevada 3/4

17D Instrumentation 2

Nevada 6/7

17E Urban Aerosols 2

Nevada 9/10

12:30 PM - 4:30 PM AAAR Board Meeting

Board Room

TUTORIALS

Monday, September 24

First Session: 8:00 AM – 9:40 AM

1. INTRODUCTION TO AEROSOL MECHANICS 1

*Dr. William C. Hinds, UCLA, School of Public Health,
Center for Occupational and Environmental Health,
Department of Environmental Health Science,
Los Angeles, CA*

These two courses form a sequence that covers basic aerosol mechanics (particle motion) at an introductory level. Topics include: Stokes law, settling velocity, slip correction, aerodynamic diameter, non-spherical particles, acceleration, relaxation time, stopping distance, impaction, isokinetic sampling, diffusion, and coagulation. The course covers theory and applications and is suitable for those new to the field and for others who want to brush up on the basics.

William Hinds is a professor of environmental health sciences at the UCLA School of Public Health. He received a bachelor's degree in mechanical engineering from Cornell University and a doctorate in environmental health from Harvard University.

2. AEROSOL-CLOUD INTERACTIONS: THE ELUSIVE COMPONENT OF CLIMATE CHANGE

*Dr. Athanasios Nenes, Georgia Institute of Technology,
Schools of Earth and Atmospheric Sciences and
Chemical and Biomolecular Engineering, Atlanta, GA*

The effects of aerosols on clouds (known as the “aerosol indirect climatic effect”) are thought to have a net climatic cooling effect which partially offsets greenhouse gas warming. Regional impacts of aerosols on precipitation and cloudiness can be even stronger. Despite its importance, the complex and multi-scale nature of aerosol-cloud interactions makes quantitative assessments of the indirect effect one of the most uncertain components of anthropogenic climate change. This tutorial will provide an overview of what aerosol-cloud interactions are and present the approaches used to observationally study them and

represent them in models. We will provide an assessment of what has been learned and point out key research challenges for the future.

Athanasios Nenes is an assistant professor in the Schools of Earth and Atmospheric Sciences and Chemical and Biomolecular Engineering at the Georgia Institute of Technology. He received a diploma in chemical engineering from the National Technical University of Athens, a master's degree in atmospheric chemistry from the University of Miami, and a doctorate in chemical engineering from the California Institute of Technology.

3. NANOPARTICLES AND NANOTUBES: SYNTHESIS AND APPLICATIONS

***Dr. Richard L. Axelbaum**, Energy, Environment and Chemical Engineering, Washington University in Saint Louis, Saint Louis, MO*

Nanoparticles and nanotubes are slowly transitioning from a laboratory curiosity to a viable industry. Successful application of Nanomaterials requires identifying true needs for these materials and pairing these needs with methods of synthesis that are viable at an industrial scale. This tutorial will examine various applications for nanoparticles and Nanotubes and then describe promising technologies for synthesizing these materials. Emphasis will be on understanding the unique properties of nanomaterials and how these materials can be synthesized to obtain these properties. Aerosol synthesis will be emphasized, but some discussion of competing technologies will also be presented. The fundamentals of aerosol science will be briefly reviewed to ensure that the attendee has sufficient background to understand the physics and chemistry of aerosol synthesis. The economics associated with aerosol synthesis will also be discussed to appreciate the scale that is needed to ensure commercial viability. Challenges facing commercial synthesis will be described and various solutions will be presented.

Richard Axelbaum is an associate professor of energy, environment and chemical engineering and associate director of the Center for Materials Innovation at Washington University in Saint Louis. He received his bachelor's degree from Washington University and his doctoral degree from the University of California at Davis, both in mechanical

engineering. He is founder and chief scientific advisor of AP Materials, Inc., a start-up company that is commercializing aerosol processes for synthesis of nanomaterials.

4. HUMAN AEROSOL EXPOSURE: TOWARD A MECHANISTIC UNDERSTANDING

Dr. William W. Nazaroff, Department of Civil and Environmental Engineering, University of California, Berkeley, CA

This tutorial explores the relationships between aerosol emission sources and human inhalation exposure. The tools and techniques are those of the physical sciences and engineering, stressing causal connections. The lecture draws on key chemical and physical knowledge from atmospheric aerosol science. Focusing on human exposure as the outcome of concern leads to an emphasis on the proximity between sources and receptors. Most exposure occurs while people are in enclosed spaces, so issues that influence indoor aerosols enter strongly into this lecture.

William Nazaroff is a professor of environmental engineering and chair of the Energy and Resources Group at UC Berkeley. His research group studies indoor air pollutant chemistry and physics. The group also develops and applies methods for assessing human exposure to air pollutants from major exposure sources, such as motor vehicles, power plants, and cigarettes. Dr. Nazaroff earned a PhD in environmental engineering science at Caltech (1989).

Second Session: 10:00 AM – 11:40 AM

5. INTRODUCTION TO AEROSOL MECHANICS II

Dr. William C. Hinds, UCLA, School of Public Health, Center for Occupational and Environmental Health, Department of Environmental Health Science, Los Angeles, CA

These two courses form a sequence that covers basic aerosol mechanics (particle motion) at an introductory level. Topics include: Stokes law, settling velocity, slip correction, aerodynamic diameter, non-spherical particles, acceleration, relaxation time, stopping distance, impaction, isokinetic

sampling, diffusion, and coagulation. The course covers theory and applications and is suitable for those new to the field and for others who want to brush up on the basics.

William Hinds is a professor of environmental health sciences at the UCLA School of Public Health. He received a bachelor's degree in mechanical engineering from Cornell University and a doctorate in environmental health from Harvard University.

6. NUMERICAL METHODS FOR TREATING INTERNAL MIXING OF AEROSOLS AND THE RESULTING EFFECTS

Dr. Mark Z. Jacobson, Atmosphere/Energy Program, Department of Civil and Environmental Engineering, Stanford University, Stanford, CA

This tutorial will cover numerical methods of treating the main processes affecting the internal mixing of aerosol particles – coagulation, condensation and dissolution. It will first examine the integrodifferential coagulation equation and methods of solving it. It will then compare the importance of different coagulation kernels, including those for Brownian diffusion, gravitational collection, turbulent shear, turbulent inertial motion, van der Waals forces, viscous forces, and fractal geometry. The condensational growth equation will then be derived and a numerical method of solving it will be given. A numerical method for solving dissolution growth of gases into size-resolved particles will also be derived. Finally, methods of treating the radiative effects of internally-mixed particles will be discussed.

Mark Z. Jacobson is a professor of civil and environmental engineering and director of the Atmosphere/Energy Program at Stanford University. He received his PhD in atmospheric sciences in 1994 from UCLA. His work relates primarily to the development and application of numerical models to understand better the effects of air pollutants on climate and air quality. He has published two textbooks, “Fundamentals of Atmospheric Modeling” and “Atmospheric Pollution: History, Science, and Regulation,” and over 70 peer reviewed scientific journal articles. More details can be found at <http://www.stanford.edu/group/efmh/jacobson>.

7. UNDERSTANDING PROPER DATA ANALYSIS OF DIFFERENTIAL MOBILITY ANALYZER MEASUREMENTS

***Dr. Mark R. Stolzenburg**, Department of Mechanical Engineering, University of Minnesota, Minneapolis, MN*

For the last three decades and continuing today the differential mobility analyzer (DMA) has been the primary standard for submicron particle size. It is relatively simple to operate and one or more are found in nearly every single aerosol lab. This course will briefly cover the history, latest innovations, basic principles of operation and a few operating tips for the DMA. The main focus will be on understanding proper DMA and Tandem DMA data analysis. There are a number of software packages available to users that make data analysis straightforward and extremely easy. But for the unsuspecting user it is also very easy to misapply the software particularly for TDMA data. The basic integral response equations governing these measurements will be covered in detail along with the proper simplification and use of them to recover meaningful size distributions and growth factors from single and tandem DMA measurements, respectively. This class is suitable for experienced DMA users as well as relatively new users with an established understanding of the basic function of the DMA.

Mark Stolzenburg is currently a research associate and manager of the Particle Technology Laboratory (PTL) of the University of Minnesota. He received his PhD in mechanical engineering from the University of Minnesota in 1988 followed by a two-year postdoctoral appointment at the University of Denver and thirteen years experience in the private sector as a research engineer at Aerosol Dynamics in Berkeley, CA.

8. INHALATION TOXICOLOGY OF NANOMATERIALS

***Dr. Vicki H. Grassian**, Professor, Departments of Chemistry and Chemical and Biochemical Engineering University of Iowa, Iowa City, IA*

Nanoscience and nanotechnology offer new opportunities for making superior materials for use in industrial, health and environmental remediation applications. Manufactured nanomaterials are currently found in cosmetics, lotions and coatings. As these materials develop and become more widespread, there are questions as to the consequences

that nanomaterials may have on human health and the environment. It is clear from some of the recent literature that the full impact, or even partial impact, of manufactured nanomaterials on human health and the environment has yet to be fully explored. Nanoparticles, the primary building blocks of many nanomaterials, may become suspended in air during production, distribution and/or use. These engineered airborne Nanoparticles then join a class of particles known as ultrafine particles whose size is below 100 nm.

In this tutorial, some of the most important concepts in nanoparticle toxicology will be outlined. Recent nanoparticle inhalation exposure studies will be reviewed. The need for studies that integrate nanoparticle characterization data, which includes physical and chemical bulk and surface properties, with toxicity data will be discussed as being of central importance in understanding the physicochemical principles of nanoparticle toxicity. Select examples of integrated studies will be presented.

Dr. Vicki H. Grassian is currently the director of the Nanoscience and Nanotechnology Institute at the University of Iowa. As a full professor, she holds appointments in the departments of chemistry, chemical and biochemical engineering and occupational and environmental health. Her research interests include environmental and health impacts of nanoscience and nanotechnology, heterogeneous atmospheric chemistry and the global impacts of mineral dust aerosol. She received her PhD from the University of California-Berkeley in physical chemistry.

Third Session: 1:00 PM – 2:40 PM

9. PM RESEARCH TO OPERATIONS: EXPLORING PM RESEARCH CONTRIBUTIONS TO POLICY RELEVANT AIR QUALITY MANAGEMENT APPLICATIONS

Dr. Richard Scheffe, U.S. Environmental Protection Agency, Research Triangle Park, NC

This tutorial examines the linkages between research and applications relevant to a range a decision making processes spanning the establishment of National Ambient Air Quality Standards (NAAQS) to implementing national emission



reduction strategies. Building mostly on measurement and modeling process development efforts, the lesson will provide a realistic examination of how research eventually is incorporated in the underlying air quality assessments conducted by EPA, industry and state and local agencies. Attention will be given to emerging policy directions underway in the EPA as well as addressing the conundrum - policy driving science or vice versa?

Richard Scheffe is a senior science advisor for EPA's Office of Air Quality Planning and Standards and is the United States government co-chair for the latest NARSTO air quality assessment. During his career at EPA, Richard has held various positions in air quality modeling and monitoring including the development of the agency's regulatory modeling programs for ozone and PM_{2.5} and the national manager for the nation's air quality monitoring networks and the PM supersites program. Richard earned his PhD in civil and environmental engineering from Clarkson University in 1987.

10. SECONDARY AEROSOL

*Dr. Paul J. Ziemann, Air Pollution Research Center
and Department of Environmental Sciences,
University of California, Riverside, CA*

Secondary aerosol is an important component of atmospheric fine particles that generally consists of organics, sulfates, and nitrates. The processes that lead to the formation of this material are often complex and can involve gas and particle phase chemistry, nucleation, and gas-particle partitioning. This course will discuss the major chemical reactions and partitioning processes involved in the formation of secondary organic and inorganic aerosol (with a strong emphasis on organic aerosol) using examples from laboratory and field studies.

Paul Ziemann is a professor of atmospheric chemistry at the University of California, Riverside. He received a doctorate in chemistry from Penn State University and was a postdoctoral researcher in the Particle Technology Laboratory at the University of Minnesota.

11. LIGHT SCATTERING BY PARTICLES: AN INTUITIVE DESCRIPTION FOR AEROSOL SCIENTISTS

*Dr. Chris Sorensen, University Distinguished Professor,
Department of Physics, Kansas State University, Man-
hattan, KS and Matthew J. Berg*

This tutorial will describe simple and intuitive approaches for understanding and applying light scattering to aerosol and colloidal systems. Particulate systems will include spheres, aggregates, and nonspherical particles. We also provide an introduction to contemporary methods to calculate scattering from particles of any composition and shape. With this foundation, there will be discussion regarding experimental methods for scattering and some instruments available in the marketplace. This tutorial will also cover light scattering problems relevant to current aerosol science.

Chris Sorensen is a university distinguished professor of physics and chemistry at Kansas State University where he has won numerous teaching awards. He is also the recipient of the AAAR Sinclair Award. He has presented a tutorial on light scattering at the AAAR annual meeting numerous times in the past. Matthew J. Berg is a senior graduate student in physics at Kansas State University working under Dr. Sorensen. He is a three-year NASA GSRP fellow and specializes in analytical and computational electromagnetic scattering.

12. METHODOLOGIES FOR ASSESSING BIOAEROSOL EXPOSURES

*Dr. Tiina Reponen, Department of Environmental
Health, University of Cincinnati, Cincinnati, OH*

Bioaerosols include viruses, bacteria, fungi, pollen, and their fragments as well as animal allergens. The size of biological particles varies widely, from nano-scale (virions and microbial fragments) to about 100 μm (pollen grains). The same physical principles that are applied to non-biological particles can be applied to bioaerosol sampling in terms of sampling efficiency of a given particle size range. When sampling bioaerosols for exposure assessment purposes, one has to consider what biological property would be the most relevant measure for the health effect in question.

This tutorial will review the traditional and modern techniques for bioaerosol sampling and analysis. Advantages and disadvantages of various methods and future direction in bioaerosol exposure assessment will be discussed.

Tiina Reponen is a professor of environmental health at the University of Cincinnati, Department of Environmental Health. She received her doctoral degree in environmental sciences from Kuopio University, Finland. Her current research efforts are focused on the exposure assessment of biological and non-biological particles in indoor and industrial environments and physical and microbiological characterization of airborne bacteria and fungi.

Fourth Session: 3:00 PM – 4:40 PM

13. RECEPTOR-ORIENTED SOURCE APPORTIONMENT: DO YOU HAVE A ROBUST SOLUTION?

Shelly Eberly, Geometric Tools, Phoenix, AZ

Various approaches are available to perform receptor-oriented source apportionment on particulate matter air quality data. Most of these approaches are ill-posed, meaning there are multiple solutions.

Additionally, most approaches use numerical algorithms, which inherently have their own challenges. This tutorial will briefly review the more widely used factor analytic methods, including Principle Components Analysis, Unmix, and Positive Matrix Factorization (PMF), and then will follow with a more-detailed examination of pmF. Specifically, the tutorial will cover typical steps used to model particulate matter air quality data and will present practical sensitivity studies for characterizing the solution space. Such sensitivity analyses are an essential step in assessing the robustness of the apportionment. The tutorial will cover fundamental concepts and provide examples to illustrate each technique. Some of these techniques are active research areas.

Shelly Eberly is a statistician with over thirteen years of experience in analyzing ambient air quality data. Her research interests focus on practical techniques for understanding robustness of solutions in multidimensional spaces. Eberly received a bachelor's degree in mathematics from the

University of Colorado and a master's degree in mathematics/statistics from the University of Texas in San Antonio. After thirteen years of consulting to or working for the U.S. EPA, Shelly is now a private consultant.

14. ORGANIC AEROSOLS AND THE VOLATILITY BASIS SET: EXPERIMENTAL AND MODELING APPLICATIONS

Dr. Neil M. Donahue, Associate Professor, Departments of Chemistry and Chemical Engineering, Director, Center for Atmospheric Particle Studies, Pittsburgh, PA

The organic volatility basis set provides a regular framework for Pankow organic partitioning theory. By describing semi-ideal organic mixtures with volatility ranging over up to 12 orders of magnitude (with 12 logarithmically separated volatility bins), it permits concise yet accurate predictions of semi-volatile partitioning over the full range of conditions relevant to organic aerosols, from highly-concentrated exhaust plumes to the most dilute conditions of the remote troposphere. In this workshop we shall develop the basic formalism of partitioning under the volatility basis set and then proceed to consider a series of relevant example cases. These include 'traditional' secondary organic aerosol formation experiments (including temperature effects), emissions characterization via dilution sampling, parcel mixing, and finally gas- and condensed-phase chemistry. Wall effects in chamber experiments will be given special consideration as an example problem. Neil Donahue is the director of the Center for Atmospheric Particle Studies at Carnegie Mellon University. He is an associate professor of chemistry and chemical engineering with broad research interests relating to all aspects of organic compounds in the atmosphere. In more than 60 peer reviewed publications he has addressed questions ranging from nonmethane hydrocarbon modeling and measurement in the remote marine atmosphere to laboratory kinetics of condensed-phase organic compounds.

Professor Donahue has been at Carnegie Mellon since 2000. Prior to that, he received an AB in physics from Brown University (1985) and a PhD in meteorology from MIT (1991) before pursuing postdoctoral work in physical chemistry at Harvard University under the supervision of Jim Anderson.

15. AEROSOL OPTICS MEASUREMENTS AND SURVEY OF THE CURRENT STATE OF THE SCIENCE

*Dr. W. Patrick Arnott, Physics and Atmospheric
Sciences Department, University of Nevada Reno,
Reno NV*

Basic in-situ aerosol optics measurements include light scattering, absorption, and extinction. Applications of these measurements include the diagnosis of aerosol radiative forcing in climate, visibility, and evaluation of remotely sensed signals from satellites, sun photometers, and lidars. Inferences of particle composition and size distribution can also be obtained, an example being the optically defined black carbon aerosol mass concentration. These inferences extend the use of optical measurements to health studies where fast time response measurements are useful. These measurements are routinely performed at fixed ground-based stations, on mobile sampling vehicles, and from meteorological aircraft. The tutorial covers first the basic suite of instruments commercially available for light scattering and absorption measurements and will include a discussion of measurement uncertainties and calibration methods. These instruments include nephelometers for light scattering measurement and filter-based instruments for light absorption measurements. The discussion then shifts towards new and emerging methods that are now commercially available, including light extinction measurements by the cavity ringdown method, light scattering using reciprocal nephelometry and integrating spheres, and light absorption using photoacoustic and photothermal methods. Examples of measurements from the spectrum of applications will be presented as well.

W. Patrick Arnott received his PhD in physics from Washington State University in 1988. His dissertation topic was in the field of ocean physics. He then did a postdoc at the University of Mississippi and the National Center for Physical Acoustics where he worked on thermoacoustic heat engines, laser Doppler vibrometry, and other topics. He was a research professor for 13 years at the Desert Research Institute in Reno, NV before joining the University of Nevada Reno as an associate professor of physics and atmospheric sciences. In Reno he has studied the crystallography of ice crystals in cirrus clouds and how this affects their optical properties,

especially at infrared wavelengths. He also has developed photoacoustic instrumentation for multi-spectral measurements of aerosol light absorption and scattering, with applications in atmospheric radiation transfer, combustion science, and health.

16. INTRODUCTION TO AEROSOL TECHNOLOGY FOR DRUG DELIVERY

*Dr. Reinhard Vehring, Associate Director,
Pearl Therapeutics, Mountain View, CA*

In recent years, several significant innovations have been introduced in the area of medicinal aerosols and particles for respiratory drug delivery. For example, systemic delivery of peptides such as insulin through the lung is now a reality. This tutorial provides a view of the science and technology of advanced aerosol therapeutics for pulmonary and nasal delivery. It introduces concepts of delivery, deposition, and targeting of respiratory therapeutics and vaccines. The tutorial also covers various approaches to formulation, manufacturing, and administration. Special emphasis is put on the design of sophisticated microparticles using novel particle engineering techniques. Reinhard Vehring leads the solid dosage form development group at MedImmune, Inc., responsible for formulation, processing, and delivery device development for live attenuated virus vaccines, monoclonal antibodies, and oncology therapeutics.

Dr. Vehring has held positions in academia and industry advancing aerosol science and particle technology for more than 17 years. Before coming to MedImmune he worked with Nektar Therapeutics on pulmonary delivery of peptides, proteins, and small molecules.

PLENARY LECTURES

Tuesday, September 25. 8:00 AM – 9:10 AM

SINGLE PARTICLE ANALYSIS ALL THE WAY UP TO THE STRATOSPHERE

Daniel M. Murphy

Daniel M. Murphy, PhD, is a staff scientist at the National Oceanic and Atmospheric Administration (NOAA) in Boulder, Colorado. His research interests include the chemistry of single atmospheric particles, especially as observed from aircraft measurements, and also the physical chemistry of ice, climate effects of aerosols, and chemistry and physics of the ozone layer. Dr. Murphy received his PhD in physics from the University of Minnesota. He is an author of the Intergovernmental Panel on Climate Change (IPCC) third report *Climate Change 2001: The Scientific Basis*. Dr. Murphy is currently an editor of *Aerosol Science & Technology*, the official journal of the American Association for Aerosol Research.

Wednesday, September 26 . . . 8:00 AM – 9:20 AM

INHALED INSULIN AND THE MARVELOUS NEW INNOVATIONS IN AEROSOL MEDICINES

John S. Patton

John S. Patton, PhD, founder and chief scientific officer of Nektar Therapeutics, is a world-renowned expert in the delivery of peptides and proteins. Before co-founding Inhale Therapeutic Systems, Inc., now Nektar Therapeutics, he led the drug delivery group at Genentech, Inc., where he demonstrated the feasibility of systemic delivery of large molecules through the lungs. Prior to joining Genentech, Inc., Dr. Patton was a tenured professor at the University of Georgia. He has published a wide range of scientific articles and has presented his work in national and international arenas. Dr. Patton received his PhD in biology from the University of California, San Diego, and held post-doctoral positions in biomedicine at Harvard Medical School and the University of Lund in Sweden.

Thursday, September 27 8:00 AM – 9:10 AM

**THE DEVIL IS IN THE DETAILS:
ON THE ROLE OF MOLECULAR
STRUCTURE IN SECONDARY ORGANIC
AEROSOL CHEMISTRY**

Paul J. Ziemann

Paul J. Ziemann, PhD, is a professor of atmospheric chemistry in the department of environment sciences at the University of California – Riverside. His research interests include atmospheric organic aerosol chemistry and particle beam mass spectrometry. Dr. Ziemann received his PhD in chemistry at Penn State University in 1991 and was a postdoctoral researcher in the Particle Technology Laboratory at the University of Minnesota until 1996. He has served on the AAAR Board of Directors and in 2001 he was honored with the Kenneth T. Whitby Award from the AAAR.

Friday, September 28 8:00 AM – 9:10 AM

**CNN: CLUSTERS, NUCLEATION AND
NANOPARTICLES; CONNECTING THE DOTS**

M. Samy El-Shall

M. Samy El-Shall, PhD, is a professor of chemistry and chemical engineering at Virginia Commonwealth University. His research interests are in the general areas of molecular clusters, homogeneous, binary and ioninduced nucleation, gas phase and cluster polymerization, and nanostructured materials. He has published over 160 papers in physical chemistry, chemical physics, and nanomaterials. He is a member of the Editorial Advisory Boards of the Journal of Physical Chemistry and the Journal of Photoenergy. Dr. El-Shall received his B.S. and M.S. degrees from Cairo University and a PhD in physical chemistry with distinction from Georgetown University. In 1999, he was honored with the Outstanding Faculty Award of the State Council of Higher Education of Virginia (SCHEV), Virginia's highest faculty honor.

SPECIAL SYMPOSIA

Tuesday, September 25

“AEROSOLS, CLOUDS AND CLIMATE”

Conveners: Sonia Kreidenweis, Athanasios Nenes

Aerosols and clouds profoundly impact the atmospheric radiation budget and play a central role on earth’s climate and atmospheric composition. This symposium presents recent experimental and modeling developments to characterize, quantify and constrain aerosol-cloud-climate interactions. Coverage includes (but is not limited to) aerosol optical and physical properties and their contribution to climate forcing, cloud-mediated microphysical and chemical processing of gases and aerosols, and the impact of aerosols on cloud microphysical processes.

Wednesday, September 26

“INNOVATION IN MEDICINAL PARTICLE AND AEROSOL SCIENCE”

Conveners: Warren Finlay, Reinhard Vehring

Progress in the area of medicinal microparticles and aerosols has led to ground-breaking innovations in pulmonary and nasal drug delivery during the last decade. Aerosol particles are no longer seen as passive carriers of medication, but are now designed to play a decisive role in stabilization, transport, targeting, release and action of therapeutics and vaccines. This symposium covers areas related to the scientific and technological basis of medicinal aerosols, including such topics as the synthesis of advanced microparticles, the relationship between particle properties and functionality of the aerosol dosage form, and the interaction of medicinal aerosols with the human body.

Thursday, September 27

**“ADVANCES IN INSTRUMENTATION
FOR ORGANIC AEROSOLS:
DEVELOPMENT, APPLICATION, AND USE
IN MODEL EVALUATION”**

***Conveners: Allen Goldstein, Jose-Luis Jimenez,
Andrey Khlystov***

Recent developments in instrumentation and measurement techniques for organic aerosols have created a wealth of new knowledge about the sources and atmospheric processing of ambient carbonaceous matter. This symposium will focus on (a) advances in the design, development and testing of the actual instrumentation and measurement techniques; and (b) the application and interpretation of results obtained using these advanced analytical methods in order to probe into the sources, formation rates, and evolution of atmospheric organic aerosols. Special emphasis is given to recently-reported discrepancies between SOA measurements and models.



EXHIBITORS

AAAR gratefully acknowledges the following companies for their participation this year! Please stop by and visit each company in the exhibit area in the Silver State Pavilion.

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As of 8/29/07

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BGI Instruments	203
Brechtel Manufacturing Inc.	105
Cambustion Ltd.	301
Droplet Measurement Technologies.	109
Grimm Technologies Inc.	202
In-Tox Products	310
Kanomax USA, Inc.	307
Magee Scientific Co.	100
Met One Instruments, Inc.	208
MSP Corporation	103
NASA Earth System Science - Data & Services . .	204, 206
Particle Instruments LLC	309, 311
Process Metrix	110
SCL-Medtech	308
Sunset Laboratory, Inc.	303
Taylor & Francis	106
Thermo Fisher Scientific	302
TSI Incorporated	207, 209, 211
URG Corp.	205

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As of 8/29/07

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BMI produces aerosol sizing, counting and composition measurement products, specializing in PILS, DMA and OPC technologies. We develop new instrumentation to satisfy each customer's unique sampling needs. BMI offers sampling inlets and testing services utilizing our wind tunnel facility. We also fabricate high vacuum chambers/components and offer vacuum brazing services.

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Droplet Measurement Technologies 109

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Boulder, CO 80303
USA
Tel: 303-440-5576

Droplet Measurement Technologies has two new products appearing at the 2007 AAAR meeting. The three wavelength photoacoustic spectrometer, 405, 532 and 781 nm, will be on display. This instrument features simultaneous absorption and scattering measurements. The new grey scale cloud imaging probe with 15 micron resolution and 3 levels of greyscale measurement will also be featured. Details on the complete line of DMT aerosol instrumentation will be available.

Grimm Technologies Inc. 202

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Fax: 770-577-0955

Grimm Technologies, Inc. manufactures real time particle measuring spectrometers. Instrument ranges provide simultaneous measurements from .05nm to 32 microns. Instruments include 15 & 31 channel spectrometers, SMPS+Cs and Faraday Cup Electrometers (FCE) as well as Aerosol Generators and Electrostatic Precipitators.

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NASA Earth System Science – Data & Services . . 204, 206

NASA Goddard Space Flight Center
Greenbelt, MD 20771
USA
Tel: 301-352-4703
Fax: 301-352-0871

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Particle Instruments LLC 309, 311

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Sunset Laboratory, Inc. 303

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USA
Tel: 503-624-1100
Fax: 503-620-3505

Sunset Laboratory, Inc. is a major supplier of instruments for measuring Organic and Elemental Carbon Aerosol. Sunset Laboratory currently produces two types of instruments: a Laboratory-Based OCEC Instrument for analyzing integrated aerosol samples collected on quartz fiber filters; and a Field-Based Semi-Continuous OCEC Instrument which operates automatically at field locations collecting and analyzing samples at defined time cycles producing high temporal resolution OCEC measurements. Sunset Laboratory Inc. also provides analytical services for OCEC measurements on a contract basis.

Taylor & Francis 106

325 Chestnut Street
Ste. 800 Philadelphia, PA 19106
USA
Tel: 215-625-8900
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TSI Incorporated 207, 209, 211

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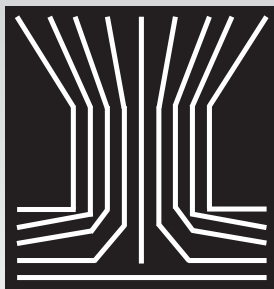
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OCTOBER 20-24, 2008



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TECHNICAL PROGRAM

TUESDAY

8:00 AM – 9:10 AM

PLENARY 1

1 PLENARY SESSION

RENO BALLROOM

- 8:00 AM Opening Remarks
Jay Turner, Washington University, Conference Chair
- 8:05 AM Single Particle Analysis All the Way
Up to the Stratosphere
Daniel Murphy, NOAA
- 8:55 AM Presentation of the Benjamin Y. H. Liu Award
Roger McClellan, Awards Committee Chair
-

9:00 AM – 5:00 PM

SILVER STATE PAVILION

EXHIBITS OPEN, POSTER AREA OPEN

TUESDAY

9:15 AM – 11:00 AM

**CONTINENTAL BREAKFAST AND
POSTER SESSION 1**

**2A HISTORY OF AEROSOL SCIENCE
(POSTER)**

SILVER STATE PAVILION

Board 1

- 2A.1** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

Board 3

- 2A.2** Atmospheric Radiochemistry, Aerosols and Cancer: The Career of Edward Martell.
WILLIAM R. STOCKWELL, Howard University;
John M. Lewis, National Oceanic and Atmospheric Administration.

**2B AEROSOLS, CLOUDS AND
CLIMATE 1 (POSTER)**
SILVER STATE PAVILION

Board 5

- 2B.1** Cloud Droplet Activation Properties of Surface Active Straight-Chain Fatty Acids. NOENNE PRISLE, Birgitta Svenningsson, Merete Bilde: University of Copenhagen; Riikka Sorjamaa, Ari Laaksonen: University of Kuopio.

Board 7

- 2B.2** Effect of adipic acid (a slightly soluble organic substance) coatings on the CCN activation of soluble and insoluble particles. SILKE S. HINGS, Eben S. Cross, Paul Davidovits, Boston College; Timothy B. Onasch, Douglas R. Worsnop, Aerodyne Research, Inc.

Board 9

- 2B.3** CCN Closure in the Polluted Boundary Layer over Houston, TX During the Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS). SARA LANCE, Athanasios Nenes, Georgia Institute of Technology; Harmony Gates, Varuntida Varutbangkul, Tracey Rissman, Shane Murphy, Armin Sorooshian, Fred Brechtel, Richard Flagan, John Seinfeld, California Institute of Technology; Graham Feingold, National Oceanic and Atmospheric Administration; Haflið Jonsson, Roy Woods, Navy Postgraduate School.

Board 11

- 2B.4** Modeling Cloud Condensation Nuclei Activation at Urban and Background Locations: The Influence of Composition and Mixing State. Ingrid Ulbrich, Ken Docherty, Jose Jimenez, MIKE CUBISON, University of Colorado; Barbara Ervens, Betsy Andrews, Graham Feingold, John Ogren, NOAA Earth System Research Laboratory; Kerry Denkenberger, Kim Prather, University of California- San Diego; David Snyder, James Schauer, University of Wisconsin; Thanos Nenes, Georgia Institute of Technology.

Board 13

- 2B.5** Chemical Speciation of Sulfur in Marine Cloud Droplets and Particles: Quantitative Assessment of Methanesulfonate and non-Sea Salt Sulfate Partitioning in Individual Sea Salt Particles.
R.J. Hopkins, Lawrence Berkeley National Laboratory; Y. Desyaterik, R.A. Zaveri, C.M. Berkowitz, Pacific Northwest National Laboratory; A.V. Tivanski, M.K. Gilles, Lawrence Berkeley National Laboratory; A. Laskin, Pacific Northwest National Laboratory.

Board 15

- 2B.6** An Algorithm to Derive Size Dependent Hygroscopic Growth Factors from Size Distribution Data.
ANDREY KHLYSTOV, Duke University.

Board 17

- 2B.7** Optical Particle Counter Measurements of Marine Aerosol Hygroscopic Growth. JEFFERSON R. SNIDER, University of Wyoming; Markus Petters, Colorado State University.

Board 19

- 2B.8** Broadening of cloud droplet size spectrum observed during Marine Stratus/Stratocumulus Experiment (MASE). JIAN WANG, Peter Daum, Yangang Liu, Gunnar Senum, Brookhaven National Laboratory.

Board 21

- 2B.9** CCN, Cloud Droplet Concentrations, and Precipitation in Clean Air.
SUBHASHREE MISHRA, James G. Hudson, Desert Research Institute.

2C AEROSOLS, CLOUDS AND CLIMATE 2 (POSTER)

SILVER STATE PAVILION

Board 23

- 2C.1** Aerosol-Cloud Interactions: Sensitivity of Indirect Effects to Cloud Formation Parameterization, Meteorological Fields, and Emission Scenario.
SOTIROPOULOU RAFAELLA-ELENI, Nicholas Meskhidze, Athanasios Nenes, Georgia Institute of Technology.

Board 25

- 2C.2** Parameterization of Cloud Drop Microphysical Properties and Evolution in Large-Scale Models. Athanasios Nenes, WEI-CHUN HSIEH, Georgia Institute of Technology

Board 27

- 2C.3** Parameterization of Cloud Droplet Formation in Large Scale Models: Including Effects of Entrainment. DONIFAN BARAHONA, Athanasios Nenes, Georgia Institute of Technology.

Board 29

- 2C.4** Modeling Studies of Aerosol-Cold Cloud Interactions. TRUDE EIDHAMMER, Paul J. DeMott, Sonia M. Kreidenweis, Colorado State University.

Board 31

- 2C.5** The Aerosol Modeling Testbed: A New Approach in Evaluating Treatments of Aerosol Processes for Regional and Global Climate Models. JEROME FAST, William Gustafson Jr., Elaine Chapman, Douglas Baxter, Pacific Northwest National Laboratory.

Board 33

- 2C.6** ASDC: A Source of Remotely Sensed Data for Studying Aerosols, Clouds, and Climate. KATHLEEN MORRIS, Science Systems and Applications, Inc.; Michelle Ferebee, NASA Langley Research Center.

Board 35

- 2C.7** Sensitivity of Simulated MODIS Reflectances to Dust Optical Properties. KELLEY WELLS, Graeme Stephens, Sonia Kreidenweis, Colorado State University.

Board 37

- 2C.8** Measurement Of The Optical Properties Of On-Road Light-Duty And Heavy-Duty Vehicle Particulate Emissions. AW. STRAWA, NASA-Ames Research Center; AG. Hallar, Desert Research Institute; TW. Kirchstetter, MM. Lunden, Lawrence Berkeley National Laboratory; GA. Ban-Weiss, RA. Harley, JP. McLaughlin, University of California, Berkeley; AJ. Kean, California Polytechnic State University; ED. Stevenson, GR. Kendall, Bay Area Air Quality Management District.

Board 39

- 2C.9** Relative Humidity and Wavelength Dependence of Aerosol Extinction as Measured by Cavity Ring Down Spectrometry during TeXAQS-GoMACCS 2006: Selection of Case Studies. PAOLA MASSOLI, Daniel Lack, CIRES Univ. of Colorado and NOAA ESRL/CSD; Tahllee Baynard, CIRES Univ. of Colorado and NOAA ESRL/CSD (now at Lockheed Martin Inc.); Edward Lovejoy, A.R. Ravishankara, NOAA ESRL/CSD; Patricia Quinn, Tim Bates, NOAA pmEL.

2D INNOVATION IN MEDICINAL NANOPOARTICLES (POSTER)

SILVER STATE PAVILION

Board 41

- 2D.1** The Effect of Drug Physico-Chemistry on Pulmonary Absorption Pharmacokinetics in Dogs. KATHLEEN SIMIS, Peter Lloyd, Ron Hale, Alexza Pharmaceuticals.

Board 43

- 2D.2** Development of AERx Essence for Delivery of Novel Inhalation Formulations. DEBBIE YIM, Eric Johansson, David Cipolla, Aradigm Corporation.

Board 45

- 2D.3** Electromechanical Properties Analysis of Four Pressurized Metered Dose Inhalers Using Laser Doppler Velocimetry. MOHAMMED ALI, Rama Reddy, and Malay Mazumder, University of Arkansas at Little Rock.

2E AEROSOL CHEMISTRY (POSTER)

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Board 47

- 2E.1** Speciation of Ultrafine Particulate Matter Formed via Ozonolysis of Household Volatile Organic Compounds. KARA HUFF HARTZ, Meagan Hatfield, and Hardik Amin, Southern Illinois University.

Board 49

- 2E.2** CMAQ predictions of in-cloud secondary organic aerosol (SOA) in the Eastern U.S. ANNMARIE G. CARLTON, Rohit Mathur, Shawn J. Roselle, National Oceanic and Atmospheric Administration (In partnership with the U.S. Environmental Protection Agency).

Board 51

- 2E.3** Formaldehyde and Glyoxal in Ambient Particulate Matter: A Discussion on Their Chemical Identities. JIAN ZHEN YU, Ho Sai Simon Ip, Xiaohui Hilda Huang, Hong Kong University of Science & Technology.

Board 53

- 2E.4** Efficient SOA Formation from Heterogeneous Oxidation of Organic Surfaces by OH Radicals. KEVIN R. WILSON, Jared D. Smith, Musahid Ahmed, Stephen R. Leone, Erin Mysak, Lawrence Berkeley National Laboratory.

Board 55

- 2E.5** Heterogeneous processing of organic carbonyls on submicron aerosol particles. ALEXEI KHALIZOV, Huaxin Xue, Jun Zhao, Renyi Zhang, Texas A&M University.

Board 57

- 2E.6** First-Order Sensitivity and Uncertainty Analysis of the MAGIC Model Using NaCl aerosols. PAUL NISSENSON, Jennie Thomas, Barbara Finlayson-Pitts, Donald Dabdub, University of California, Irvine.

Board 59

- 2E.7** Modeling Secondary Organic Aerosol from the Ozonolysis of Monoterpenes in the Presence of Inorganic Aerosols. NORTHCROSS AMANDA, Jang Myoseon, University of North Carolina.



Board 61

- 2E.8** Thermodynamic Modeling of Atmospheric Inorganic Aerosols. ANDREY MARTYNENKO, Fang-Yi Cheng, Jiwen W. He, University of Houston; John H. Seinfeld, California Institute of Technology.

Board 63

- 2E.9** Understanding the Chemical Interactions between Gases and Aerosols. CHAO WEI, Geogery R. Carmichael, University of Iowa.

Board 65

- 2E.10** Role of Cloud Processing in Organic Acid Aerosol Formation: A Review of Field Measurements. ARMIN SOROOSHIAN, Miao-Ling Lu, Fred J. Brechtel, Richard C. Flagan, John H. Seinfeld, California Institute of Technology; Graham Feingold, NOAA; Hafliði Jonsson, Naval Postgraduate School.

Board 67

- 2E.11** A Kinetic Study of the Heterogeneous Reaction of Deliquesced NaCl Particles with gaseous HNO_3 . YONG LIU, Pacific Northwest National Laboratory; Jeremy P. Cain, Hai Wang, University of Southern California; Alexander Laskin, Pacific Northwest National Laboratory.

Board 69

- 2E.12** A Kinetic Study of the Heterogeneous Reaction of CaCO_3 Particles with gaseous HNO_3 . YONG LIU, Pacific Northwest National Laboratory; Elizabeth R. Gibson, University of Iowa; Jeremy P. Cain, University of Southern California; Vicki H. Grassian, University of Iowa; Hai Wang, University of Southern California; Alexander Laskin, Pacific Northwest National Laboratory.

Board 71

- 2E.13** Phase Sequence Law. Michael Anisimov, ANATOLIY BAKLANOV, and Vladimir Akimov. Institute of Chemical Kinetics and Combustion, Siberian Division of the Russian Academy of Sciences. Novosibirsk, Russia.

Board 73

- 2E.14** Influence of Aerosol Acidity on Secondary Organic Aerosol Formation from Isoprene and Alpha-Pinene. JOHN H. OFFENBERG, Michael Lewandowski, Tadeusz E. Kleindienst, Edward O. Edney, US EPA / NERL; Mohammed Jaoui, Alion Science and Technology; Jason D. Surratt, John H. Seinfeld, California Institute of Technology.

Board 75

- 2E.15** Laboratory Evidences of SOA Formation by Acid-Catalyzed Heterogeneous Reactions of Toluene Oxidation Products. GANG CAO, Myoseon Jang, The University of North Carolina at Chapel Hill.

Board 77

- 2E.16** Variation of Secondary Organic Aerosol Formation with Temperature from Cyclohexene and alpha-Pinene Ozonolysis. BETHANY WARREN, David R. Cocker III, University of California-Riverside.

2F COMBUSTION (POSTER)

SILVER STATE PAVILION

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- 2F.1** The Optimal Operation Conditions in Iron Ore Sintering Process for Depression of PAH Emissions. Ai-Yun Hsieh, Perng-Jy Tsai, YU-CHENG CHEN, National Cheng Kung University; Jin-Luh Mou, Chung Hwa University of Medical Technology.

Board 81

- 2F.2** Towards 2010 NO_x and pm Emission Levels: Overview of CARB's Investigations of Advanced Heavy-duty On-road Vehicle Retrofits and Other Technologies. Jorn D. Herner, ALBERTO AYALA, William H. Robertson, Paul Rieger, Oliver Chang California Air Resources Board; Constantinos Sioutas, Michael Geller, University of Southern California; Jean Ospital, South Coast Air Quality Management District.

Board 83

- 2F.3** Development of a standard methodology for characterizing sample line losses in measurements behind aircraft engines.

ANUJ BHARGAVA - P&W David S. Liscinsky - UTRC; Bruce E. Anderson, Eddie Winstead - NASA Langley; Don Hagen, Prem Lobo, Phil Whitefield - UMR; Chowen Wey - NASA Glen; Rick Miake-Lye - ARI; Robert Howard - AEDC.

Board 85

- 2F.4** On-wing Characterization of Emissions from Commercial Airliners.

Harshit Agrawal, Karel Jansen, J. Wayne Miller, DAVID R. COCKER III, University of California-Riverside, CE-CERT; Aniket A. Sawant - Currently at Johnson Matthey Inc.

Board 87

- 2F.5** Particle Size Distribution Measurements of Ultra-fine Particle Emissions from a Gasoline Vehicle.

BRIAN P. FRANK, New York State Department of Environmental Conservation; Fangqun Yu, Hua Du, University at Albany, State University of New York; Aaron Pulaski, Jillian Grygas, New York State Department of Environmental Conservation.

Board 89

- 2F.6** In-use Diesel Vehicle Emission as a function of Vehicle Operation and Exhaust Standard in Bangkok, Thailand. EKBORDIN WINIJKUL, Tami C.

Bond, R. Subramanian, Univeristy of Illinois at Urbana-Champaign; Kim Oanh N. T., Worrarat Tiansathit, Asian Institute of Technology; K. G. Duleep, EEA, Inc.

Board 91

- 2F.7** Biodiesel Effects on Radiocarbon (^{14}C) PM Emissions from a Diesel Engine. Maren Bennett, JOHN VOLCKENS, Rudy Stanglmaier, Colorado State University; Ann P. McNichol, Woods Hole Oceanographic Institution; Charles W. Lewis (deceased), U.S. EPA.

Board 93

2F.8 Emissions from Auxiliary Engines of Ships Associated with Port Activities.

Abhilash Nigam, William A. Welch, David R. Cocker III, J. Wayne Miller, University of California Riverside, CE-CERT.

Board 95

2F.9 Aerosol Size-Distribution Measurements Resulting from On-Road Light-Duty and Heavy-Duty Vehicle Particulate Emissions.

MELISSA LUNDEN, Thomas Kirchstetter, Lawrence Berkeley National Laboratory; George Ban-Weiss, John McLaughlin, Robert Harley, University of California, Berkeley.

Board 97

2F.10 A Compact System for the Generation and Sampling of Diesel Particulate Matter.

ALI FARNOUD, Alfredo Juan Armendariz, Southern Methodist University.

Board 99

2F.11 Enhanced Oxidation of Iron-containing Carbon Particles.

YONG HO KIM, Kwang Seung Lee, Jae Wook Jung, Song Kil Kim, In Dae Choi, Donggeun Lee, Pusan National University, Korea.

Board 101

2F.12 Evolution of Particle Size Distribution Function of Nascent Soot in Premixed Ethylene Flames.

AAMIR ABID, Nicholas Heinz, Erik D. Tolmachoff, Denis J. Phares, Charles S. Campbell, Hai Wang, University of Southern California.

Board 103

2F.13 Effects of Fuels on the Characteristics of Exhaust Particles from 4-Stroke Motorcycle Engine.

Wen-Yinn Lin, Hsiang-Hsi Hsu, Yung-Yi Zhang, You-Ru Xie, National Taipei University of Technology; CHIH-CHIEH CHEN, National Taiwan University.

Board 105

- 2F.14** Influence of Driving Conditions on Particle Size Distribution, Chemical Composition, and Mass Emission Rates from In-Use Heavy Heavy Duty Diesel Trucks. AJAY KUMAR CHAUDHARY, George Scora, Wayne Miller, David R. Cocker III, Matthew Barth, University of California, Riverside.

Board 107

- 2F.15** Air Pollution with Particulate Matter and Heavy Metals of Kosovo Thermal Power Plant. AGRON VELIU, Afrim Sylja, Kadri Berisha, NewCo Ferronikeli LLC, Kosovo.

Board 109

- 2F.16** Comprehensive Characterization of Ultrafine Particulate Emission from 2007 Diesel Engines with Aftertreatment: PM Size Distribution, Loading and Individual Particle Size and Composition. ALLA ZELENYUK, Pacific Northwest National Laboratory; Luis A. Cuadra-Rodriguez, University of Colorado at Boulder; Dan Imre, Imre Consulting; Shirish Shimpi, Alok Warey, Cummins Inc.

Board 111

- 2F.17** BioDiesel Combustion. DABRINA D DUTCHER, Joakim Pagels, University of Minnesota, Minneapolis; Deborah S. Gross, Carleton College; Anil Singh Bika, Luke Franklin, Mark Stolzenburg, David Kittelson, Peter H. McMurry, University of Minnesota, Minneapolis.

2G INDOOR AEROSOLS (POSTER)

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- 2G.1** Development and Validation of a Model to Predict Aerosol Breathing Zone Concentrations During Common Outdoor Activities. JONATHAN THORNBURG, G. Gordon Brown, RTI International; John Kominsky, Environmental Quality Management, Inc.

Board 115

- 2G.2** Demonstrating the Benefits of a Technician Training Program for a Successful Longitudinal Research Study. Jerermy Seagraves, Andrew Dart, JONATHAN THORNBURG, Jeff Portzer, Charles Rodes, RTI International; Don Whitaker, Ron Williams, U.S. EPA.

Board 117

- 2G.3** DNS of Aerosol Motion in a Model Room. XINLI JIA, John B. McLaughlin, Goodarz Ahmadi, Clarkson University; Jos Derksen, Delft University of Technology.

Board 119

- 2G.4** Resuspension of Dust Particles in a Chamber and the Associated Factors. JING QIAN, Andrea R. Ferro, Clarkson University.

Board 121

- 2G.5** Exposure to Indoor PM: Effects of Climatic and Cultural Influences. VIVIANA ACEVEDO-BOLTON, Lynn Hildemann, Stanford University.

Board 123

- 2G.6** Silver-deposited Activated Carbon Fibers for Bioaerosol Control. KI-YOUNG YOON, Jeong Hoon Byeon, Jae-Hong Park, Chul-Woo Park, Junggho Hwang, Yonsei University.

Board 125

- 2G.7** Personal and Indoor Exposure to PM_{2.5} and Polycyclic Aromatic Hydrocarbons from Traditional Cooking Practices in Njombe, Tanzania, East Africa. MARI TITCOMBE, Matt Simcik, University of Minnesota.

Board 127

- 2G.8** Correction of Sampler-to-Sampler Comparisons. PATRICK T. O'SHAUGHNESSY, The University of Iowa; Vijay Golla, Western Kentucky University; Jason Nakatsu, Stephen Reynolds, Colorado State University.

Board 129

- 2G.9** Use of Synthetic-Jet-Based Active Flows to Control Particle Dispersion. JENNIFER ZIEGLER, Michael Amitay, Lupita D. Montoya, Rensselaer Polytechnic Institute.

Board 131

- 2G.10** Spatial and Temporal Variability of Particulate Pollutants in Diesel-Powered School Buses. Maxwell A. Martin, Xiaodong Zhou, Ryan LeBouf, Emily L. MacWilliams, Alan Rossner, Peter A. Jaques, ANDREA R. FERRO, Clarkson University.

Board 133

- 2G.11** Study of Evaporating Droplet Transport and. Mazyar Salmanzadeh, Shahid Bahonar University of Kerman (Iran) and Clarkson University; Goodarz Ahmadi, Clarkson University.

Board 135

- 2G.12** Resuspension of Particulate Matter by the Human Foot. JACKY ROSATI, U.S. EPA, National Homeland Security Research Center (NHSRC); Alfred Eisner, Alion Life and Environmental Sciences.

Board 137

- 2G.13** The Effectiveness of an Integrated Energy Recovery Ventilator on the Air Quality in the Bedroom of Asthmatic Children, 5-14 Years, and Their Improved Respiration and Restfulness. PETER A. JAQUES, Andrea R. Ferro, Philip K. Hopke, Clarkson University; Cheryl Gressani, Larry E. Wetzel, Air Innovations, Inc.

Board 139

- 2G.14** Relationships Between Indoor And Outdoor Particulate And Gaseous Species In Two Retirement Homes: Implications For Particulate Matter Exposure Assessment. ANDREA POLIDORI, Mohammad Arhami, Constantinos Sioutas, University of Southern California; Ryan Allen, Simon Fraser University; Adam Reff, U.S. EPA; Ralph Delfino, University of California, Irvine.

2H INFECTIOUS AND TOXIC AEROSOLS (POSTER)

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Board 141

- 2H.1** Laboratory Studies of Inhaled Simulated Downwind Components of Coal Combustion Emissions. JAKE MCDONALD, Matthew D. Reed, Matthew Campen, JeanClare Seagrave, Joe L. Mauderly, Lovelace Respiratory Research Institute.

Board 143

- 2H.2** Airborne Mycobacterium Tuberculosis Profile in A Hospital After An Outbreak of Tuberculosis. Pei-Shih Chen, TAI-WEI CHEN, Kaohsiung Medical University.

Board 145

- 2H.3** Airborne Influenza and Avian Influenza Viruses from Long Term Transportation and Its Health Effect. Pei-Shih Chen, Qian Kun Lin, FENG-DA TSAI, Kaohsiung Medical University.

Board 147

- 2H.4** Environmental Monitoring of Virus-containing aerosols around Children with Infections. CHUN-CHIEH TSENG, Chih-Shan Li, College of Public Health, National Taiwan University; Luan-Yin Chang, National Taiwan University Hospital.

Board 149

- 2H.5** Capturing the Exhaled Protein Aerosol: Evaluation of Rodent-Based Systems. OWEN MOSS, Earl Tewksbury, David Nash, The Hamner Institutes for Health Sciences.

Board 151

- 2H.6** A Web-Based Interactive Aerosol Program for Undergraduate Education-Aerosols in the Health Care Field. YU-MEI HSU, Chang-Yu Wu, Anne Donnelly, University of Florida; Paul Stephan, Santa Fe Community College; Pratim Biswas, Washington University in St. Louis.

Board 153

- 2H.7** Improvement of Particle-Mediated Gene Transfer Technology. CHIH-CHIEH CHEN, Sheng-Hsiu Huang, Wei-Shun Lin, College of Public Health, National Taiwan University; Yu-Mei Kuo, Chung Hwa College of Medical Technology.

Board 155

- 2H.8** Use of a Non-Pathogenic Viral Model for Quantitative PCR Analysis of Artificially Produced Airborne Viruses. DANIEL VERREAULT, Sylvain Moineau, Caroline Duchaine, Universite Laval, Canada.



Board 157

- 2H.9** Characteristics of Atmospheric Bioaerosols by Fluorochrome. MIAO-CHING CHI, Chih-Shan Li, National Taiwan University.

2I LUNG DEPOSITION (POSTER)

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Board 159

- 2I.1** Using a Human Airway Cast for Deposition Studies of Inhaled Medicine. YUE ZHOU, Clinton M. Irvin, Steven A. Belinsky, and Yung-Sung Cheng, Lovelace Respiratory Research Institute.

Board 161

- 2I.2** Turbulence Modeling in the Human Nasal Cavity. KEVIN T. SHANLEY, Goodarz Ahmadi, Clarkson University.

Board 163

- 2I.3** Numerical Simulations of Inertial Particle Deposition in a Realistic Nasal Cavity. KEVIN SHANLEY, Parsa Zamankhan, Goodarz Ahmadi, Philip K. Hopke, Clarkson University; Young-Sung Cheng, Lovelace Respiratory Research Institute.

Board 165

- 2I.4** Deposition of Fiber and Spherical Aerosols in the Human Tracheobronchial Airway. YUNG SUNG CHENG, Yue Zhou, Wei-chung Su, Lovelace Respiratory Research Institute.

Board 167

- 2I.5** Improved Conversion Scheme for Eulerian Deposition Probability Rates. Mohammad I. Rahman, CARLOS F. LANGE, University of Alberta.

Board 169

- 2I.6** Prediction Of Particle Deposition In An Expanding Alveolar Model. JESSICA M. OAKES, Risa J. Robinson, Rochester Institute of Technology.

Board 171

- 2I.7** Inhalability of particles and fibers in the human lung. BAHMAN ASGHARIAN, CIIT at the Hamner Institutes for Health Sciences.

Board 173

- 2I.8** 3D Reconstruction of a Female Upper Respiratory using the Visible Human Data Set to Predict Cigarette Smoke Particle Deposition. JACKIE RUSSO, Risa Robinson, Dept. of Mechanical Engineering, Rochester Institute of Technology.

Board 175

- 2I.9** Puff Profile Simulator for Tobacco Smoke Particle Diameter and Mass Measurement. JOHN McAUGHEY, British American Tobacco; Barrie Frost, Consultant; Kingsley Reavell, Colin Dailly, Cambustion.

2J URBAN AEROSOL SOURCE APPORTIONMENT (POSTER)

SILVER STATE PAVILION

Board 177

- 2J.1** Applications of the Advanced EPA PMF and PMF2 Model for PM2.5 Source Apportionment. INJO HWANG, Philip K. Hopke, Clarkson University; Pentti Paatero, University of Helsinki.

Board 179

- 2J.2** Source Apportionment for Semi-Continuous Data at St. Louis Supersite. INJO HWANG, Philip K. Hopke, Clarkson University.

Board 181

- 2J.3** Source Identification of PM2.5 Measured at Tae-In Dong, Gwangyang in Korea near Large Steelworks Using Positive Matrix Factorization (PMF) Model. JONG-BAE HUH, Yong-Seok Seo, Hyun-Sun Kim, Seung-Hee Kim, Seung-Muk Yi, Seoul National University.

Board 183

- 2J.4** Roadside, Near-Road and Regional Detailed Chemical Composition and Source Apportionment of PM2.5 at Atlanta, GA in Two Seasons. BO YAN, Mei Zheng, Amy Sullivan, Rodney Weber, Sangil Lee, Charles Evan Cobb, Santosh Chandru, Hyeon Kook Kim, Armistead G. Russell, Georgia Institute of Technology; Eric S. Edgerton, Atmospheric Research & Analysis, Inc.

Board 185

- 2J.5** Source apportionment of suspended particulate matter in a clean area of Delhi using chemical mass balance receptor model. ARUN SRIVASTAVA, V. K. Jain, Jawaharlal Nehru University, New Delhi.

Board 187

- 2J.6** Simultaneous Factor Analysis of Organic Particle and Gas Measurements in Downtown Toronto. JAY SLOWIK, Alexander Vlasenko, Maygan McGuire, Greg Evans, Jonathan Abbatt, University of Toronto.

Board 189

- 2J.7** Aerosol Impacts from Secondary Roadways. THOMAS A. CAHILL, David E. Barnes, Steve Cliff, DELTA Group, University of California, Davis; Thomas M. Cahill, Arizona State University.

Board 191

- 2J.8** Sources of Ambient Fine Particulate Matter at Two Community Sites in Detroit, Michigan. DAVYDA HAMMOND, Timothy Dvonch, Gerald Keeler, James Barres, Ali Kamal, Edith Parker, Wilma Brakefield-Caldwell, University of Michigan; Fuyuen Yip, National Center for Environmental Health, CDC.

Board 193

- 2J.9** Source Apportionment of pm10 at Santiago, Chile. HECTOR JORQUERA and Luis Cifuentes, Universidad Catolica de Chile.

Board 195

- 2J.10** Identifying the Impact of Local and Regional Sources of Fine Particles and Hazardous Air Pollutants in the Midwest: An Observation-Based Approach. Soner Yorgun, BIRNUR BUZCU-GUVEN, Michigan State University.

Board 197

- 2J.11** PM 2.5 Source Apportionment for the Chemical Speciation Trends Network (STN) Site at Birmingham, Alabama. KARSTEN BAUMANN, Atmospheric Research & Analysis, Inc.; James B. Flanagan, R.K.M. Jayanty, RTI International.

Board 199

- 2J.12** Source Apportionment of pm_{2.5} Using Chemical Mass Balance and Positive Matrix Factorization at an Industrialized City in Northern British Columbia. Juli I. Rubin, STEVEN G. BROWN, Hillary R. Hafner, Paul T. Roberts, Sonoma Technology, Inc.; Mark Graham, BC Ministry of Water, Land, & Air Protection.

2K URBAN AEROSOL CHARACTERIZATION (POSTER)

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Board 201

- 2K.1** Characterization of carbonaceous particle emissions by waste water treatment plants. PIERRE HERCKES, Zhuo Chen, Paul Westerhoff, Arizona State University.

Board 203

- 2K.2** Seasonal and diurnal variations in water soluble inorganic fine particulate matter and associated gas precursors. KRYSTAL J. GODRI, Greg J. Evans, University of Toronto.

Board 205

- 2K.3** Size Distribution of Particulate Metals in Central California. WALTER A HAM, Michael J Kleeman, University of California, Davis.

Board 207

- 2K.4** Diagnosis of an Aged Prescribed Fire Plume Hitting an Urban Area. SANGIL LEE, Hyeon Kook Kim, Evan Cobb, Sara Nichols, Nick Culpepper, Michael Chamber, Eric S. Edgerton, John J. Jansen, Armistead G. Russell, Georgia Institute of Technology

Board 209

- 2K.5** Predicting near real-time PM_{2.5} FRM Concentrations from Continuous Mass and Species Measurements in New York City. DIRK H. FELTON, Oliver V. Rattigan, New York State Department of Environmental Conservation; James J. Schwab, Kenneth L. Demerjian, University at Albany, SUNY.



Board 211

- 2K.6** Fine, Ultrafine And Nanoparticle Trace Organic Compositions Near A Major Freeway With A High Heavy Duty Diesel Fraction. ZHI NING, Michael D. Geller and Constantinos Sioutas, University of Southern California.

Board 213

- 2K.7** Compositions of the Major Chemical Constituents of pm2.5 in Korea. YOUNG-JI HAN, Jin-Hee Jung, Sun-Young, Kan, Kangwon National University; Jong-Bae Huh, Seung-Muk Yi, Seoul National University.

Board 215

- 2K.8** Integrated and Semi-Continuous Mass and Chemical Species Measurements for both Fine and Coarse Particles in Lindon, UT. BRETT D. GROVER, Russell W. Long, Robert W. Vanderpool U.S. Environmental Protection Agency, National Exposure and Research Laboratory; Robert W. Murdoch, RTI International; Delbert J. Eatough, Brigham Young University.

Board 217

- 2K.9** Characterization of the chemical compositions in PM2.5 in Seoul - relationship between indoor and outdoor. BO-RA CHOI, Jong-Bae Huh, Hyun-Sun Kim, Kye-Seon Kim, Seung-Muk Yi, Seoul National University.

Board 219

- 2K.10** Organic Aerosol Analysis with the Aerodyne High Resolution Time-of Flight Aerosol Mass Spectrometer (HR-ToF-AMS) at T0 in Mexico City during MILAGRO / MCMA-2006. ALLISON C. AIKEN, Michael Cubison, J. Alex Huffman, Peter F. DeCarlo, Ingrid Ulbrich, Ken Docherty, Donna Sueper, Jose L. Jimenez, University of Colorado at Boulder; Dara Salcedo, Universidad Autonoma del Estado de Morelos, Cuernavaca, Mexico.

Board 221

- 2K.11** Lead Isotope Abundance Ratios for Ambient Particulate Matter in St. Louis. JAY TURNER, Washington University in St. Louis; Judith Chow, John Watson, Desert Research Institute.

Board 223

- 2K.12** Eddy Covariance Flux Measurements of Urban Aerosols and Related Urban Gaseous Pollutants During the MILAGRO Mexico City Field Campaign. RASA GRIVICKE, Shelley Pressley, Gene Allwine, Tom Jobson, Hal Westberg, and Brian Lamb, Washington State University; Jose-Luis Jimenez, University of Colorado; Eiko Nemitz, Centre for Ecology and Hydrology Edinburgh; Liz Alexander, Environmental Molecular Sciences Laboratory PNNL; Erik Velasco and Luisa Molina, Molina Center for Energy and the Environment; Rafael Ramos, SIMAT.

Board 225

- 2K.13** Temporal Characterization of Individual Ambient Particles by using an Aerosol Time-of-Flight Mass Spectrometer (ATOFMS) in Toronto, Canada. CHEOL-HEON JEONG, Greg J. Evans, Krystal Godri, Andrew Knox, University of Toronto.

2L CHEMICAL TRANSPORT MODELING AND RECEPTOR MODELING OF REGIONAL AEROSOLS (POSTER)

SILVER STATE PAVILION

Board 227

- 2L.1** Application of Multivariate and Trajectory-Based Receptor Models to Regional Source Apportionment in the Eastern U.S. JOHN G. WATSON, Douglas H. Lowenthal, L.-W. Antony Chen, Darko Koracin, David Dubois, Desert Research Institute; Naresh Kumar, Eladio Knipping, EPRI; Neil Wheeler, Stephen Reid, Sonoma Technology, Inc.

Board 229

- 2L.2** Simulating IMPROVE-like Data for Use in Evaluating Receptor Models. NEIL J. M. WHEELER, Kenneth J. Craig, Stephen B. Reid, Erin K. Gilliland, Sonoma Technology, Inc.; Naresh Kumar, Eladio Knipping, EPRI; Douglas H. Lowenthal, L.-W. Antony Chen, John G. Watson, Darko Koracin, Desert Research Institute.

Board 231

- 2L.3** Identification of Source Regions of Aerosols in the Eastern Mediterranean Atmosphere by Exploiting Receptor Oriented Models. FATMA OZTURK, University of Maryland; Gurdal Tuncel, Middle East Technical University.

Board 233

- 2L.4** Impacts of Plug-in Hybrid Electric Vehicles on Regional Haze and PM. UARPORN NOPMONGCOL, John Grant, Alison Pollack, Greg Yarwood, ENVIRON; Eladio Knipping, Mark Duvall, Charlie Clark, EPRI.

Board 235

- 2L.5** Regional Air Quality-Atmospheric Nucleation Interactions. JAEGUN JUNG, Peter J. Adams, and Spyros N. Pandis, Carnegie Mellon University (S.N. Pandis also University of Patras, Patra, Greece).

2M CHARACTERIZATION OF ORGANIC COMPONENTS IN PM (POSTER)

SILVER STATE PAVILION

Board 237

- 2M.1** A Method for Extracting Additional Information on the Organic, Elemental and Pyrolyzed Carbon from Real Time Measurements with the Sunset Carbon Aerosol Analyzer. MIN-SUK BAE, James J. Schwab, Kenneth L. Demerjian, University at Albany, State University of New York; Oliver Rattigan, Dirk Felton, New York State Department of Environmental Conservation.

Board 239

- 2M.2** Interference of Organic Signals in Highly-time Resolved Nitrate Measurements by Aerosol Mass Spectrometer. Min-Suk Bae, James J. Schwab, QI ZHANG, Olga Hogrefe, Kenneth L. Demerjian, University at Albany, State University of New York; Silke Weimer, Paul Scherrer Institute; Kevin Rhoads, Doug Orsini, Siena College; Prasanna Venkatachari, Philip K. Hopke, Clarkson University.



Board 241

- 2M.3** Single Particle Black Carbon and BC Mixing State Measurements over Mexico City and Seattle: Results from the MILAGRO and INTEX-B Studies. R SUBRAMANIAN, Gregory L Kok, Droplet Measurement Technologies; Darrel Baumgardner, Universidad Nacional Autonoma de México.

Board 243

- 2M.4** Carbonaceous aerosols in the remote free troposphere: A time series from the Mauna Loa Observatory. STEVEN HOWELL, Barry Huebert, John Zhuang, University of Hawaii; Trevor Kaplan, Mauna Loa Observatory.

Board 245

- 2M.5** Organic functional groups in submicron aerosol by FTIR measurements in the Gulf of Mexico during TEXAQS/GoMACCS 2006. Lynn M Russell, LELIA N HAWKINS, Scripps Institution of Oceanography; Tim S Bates, National Oceanic and Atmospheric Administration Pacific Marine Environmental Laboratory.

Board 247

- 2M.6** Searching for Evidence of Acid-Catalyzed Enhancement of Secondary Organic Aerosol Formation Using Ambient Aerosol Data. ROGER L. TANNER, Kenneth J. Olszyna, Tennessee Valley Authority; Eric S. Edgerton, ARA, Inc.; Eladio Knipping, EPRI.

Board 249

- 2M.7** Investigating the chemical nature of humic-like substances in atmospheric aerosols using LC-MS/MS. ELIZABETH A. STONE, Curtis J. Hedman, Martin M. Shafer, James J. Schauer, University of Wisconsin-Madison and Wisconsin State Laboratory of Hygiene.

Board 251

- 2M.8** Airborne aerosol measurements over West Africa during the AMMA SOP 1 and 2 field campaign. GERARD CAPES, Hugh Coe, Paul Williams, Jonathon Crosier, University Of Manchester, UK; Jennifer Murphy, Claire Reeves, University Of East Anglia, Norwich, UK; Doug Parker, University Of Leeds, UK.

Board 253

- 2M.9** Evaluation of Influences in Ambient Organic Compounds Levels by the Operations of a Coal-Fired Power Station in Tong Liang, China. STEVEN SAI HANG HO, Judith C. Chow, John G. Watson, Desert Research Institute; Deliang Tang, Frederica Perera, Columbia University.

Board 255

- 2M.10** Organic Speciation of Detroit Exposure and Aerosol Research Study (DEARS) Samples for Source Apportionment. STEPHEN R. McDOW, John Turlington, Sania W. Tong Argao, Ronald Williams, National Exposure Research Laboratory, U.S. EPA.

Board 257

- 2M.11** Investigation of Sources of OC and EC at Rural Sites in the Northeast US Using Highly Time-Resolved Data. GEORGE ALLEN, Iyad Kheirbek, John Graham, Gary Kleiman, NESCAUM; Jeff Emery, ME-DEP.

2N METHODS AND MEASUREMENTS FOR ORGANIC COMPONENTS (POSTER)

SILVER STATE PAVILION

Board 259

- 2N.1** Application of Anion Exchange Chromatography with Pulsed Amperometric Detection for Measurement of Levoglucosan in Ambient Aerosol Samples. AMANDA S. HOLDEN, Amy P. Sullivan, Sonia Kreidenweis, Jeffrey L. Collett, Jr., Colorado State University; Bret Schichtel, William Malm, National Park Service/CIRA, Colorado State University; Graham Bench, Lawrence Livermore National Laboratory.

Board 261

- 2N.2** Identification of Organic Compounds in Aerosols using GCxGC TOF-MS. AMY LEITHEAD, Shao-Meng Li, Douglas Lane, Yu Cheng, Environment Canada.

Board 263

- 2N.3** A Quantitative Protocol for Highly Polar Organic Compounds in PM_{2.5} from the New York City Airshed. HARMONIE HAWLEY, Min Li, Monica A. Mazurek, Rutgers University.

Board 265

- 2N.4** Extractability and Determination of Different Polarity Organic Species in Air Particulate Matter. Tylor J. Lahren, JOSEF BERANEK, Irina Smoliakova, Steven B. Hawthorne, Alena Kubatova, University of North Dakota; Artur Braun, Empa Switzerland.

Board 267

- 2N.5** Characterization of Sugars in Fine Particles Collected at Three Rural and Urban Sites in Texas. YULING JIA, Shagun Bhat, Matthew Fraser, Rice University.

Board 269

- 2N.6** Organic Functional Group Composition of Atmospheric Aerosol During MILAGRO 2006 on the NCAR C130. STEFANIA GILARDONI, Lynn M. Russell, Satoshi Takahama, Grag C. Roberts, Scripps Institution of Oceanography, University of California San Diego; Jose L. Jimenez, Peter F. DeCarlo, University of Colorado.

Board 271

- 2N.7** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

Board 273

- 2N.8** Characterization of Carbonaceous Aerosols Using CCSEM -An Update on Analysis Methodology. GARY S. CASUCCIO, Traci L. Lersch, RJ Lee Group, Inc.

Board 275

- 2N.9** Detection of Particle-Phase Polycyclic Aromatic Hydrocarbons in Mexico City using an Aerosol Mass Spectrometer. KATJA DZEPINA, Jose-Luis Jimenez, University of Colorado at Boulder; Janet Arey, University of California at Riverside; Linsey C. Marr, Virginia Tech; Douglas R. Worsnop, Timothy B. Onasch, Aerodyne Research, Inc.; Dara Salcedo, Universidad Autonoma del Estado de Morelos, Cuernavaca, Mexico.



20 CARBONACEOUS AEROSOL MODEL- ING AND MODEL EVALUATION (POSTER)

SILVER STATE PAVILION

Board 277

- 20.1** Comparison of Several Secondary Organic Aerosol (SOA) Models for a Mexico City case study of April 9, 2003. KATJA DZEPINA, Ingrid Ulbrich, Jose-Luis Jimenez, University of Colorado at Boulder; Pierre Tulet, Météo France / CNRM-GREI; Robert J. Griffin, University of New Hampshire; Rainer Volkamer, University of California at San Diego; Julia Lee Taylor, Sasha Madronich, National Center for Atmospheric Research; Bernard Aumont, Marie Camredon, Universités Paris.

Board 279

- 20.2** Validation of Soot Aging Models with Particle-Resolved Simulations. NICOLE RIEMER, Stony Brook University; Matthew West, Stanford University; Rahul Zaveri, Richard C. Easter, James C. Barnard, Pacific Northwest National Laboratory.

Board 281

- 20.3** Tracking organic particulate matter in Europe with the Polyphemus system. EDOUARD DEBRY, Teaching and Research Center on Atmospheric Environment (CEREA, ENPC & EdF). Christian Seigneur, Atmospheric and Environmental Research (AER), Inc.

Board 283

- 20.4** Composition Effects on Secondary Organic Aerosol (SOA) Partitioning: CMAQ simulations of the southeastern U.S. Xinlian Chang, Vanderbilt University; FRANK BOWMAN, University of North Dakota.

2P INSTRUMENTATION - INERTIAL (POSTER)

SILVER STATE PAVILION

Board 285

- 2P.1** Design and Development of a Passive Large Particle Impactor. SANG-RIN LEE, Suresh Dhaniyala, Thomas M Holsen, Clarkson University.



Board 287

- 2P.2** Wind Tunnel Evaluation of a Novel Large Particle Inlet (LPI). SANG-RIN LEE, Suresh Dhaniyala, Thomas M Holsen, Clarkson University.

Board 289

- 2P.3** Tribulations in the Development of an Aerosol Concentrator. DAVID ALBURTY, Zachary Packingham, Alburtylab; Andrew Page, Page Applied Research.

Board 291

- 2P.4** Improved Versatile Aerosol Concentration Enrichment System (iVACES). YONGJING ZHAO, Boris Grits, Anthony S. Wexler, University of California-Davis.

Board 293

- 2P.5** A Model for Designing Sampling Cyclones with Specific Cutpoint and Slope. THOMAS PETERS, The University of Iowa; Lee Kenny, Health and Safety Laboratory; Robert Gussman, BGI Inc.

Board 295

- 2P.6** A New Instrument for Large Particle (10-100 micron) Size-segregated Analysis. KRISHANU BANERJEE, Sang-Rin Lee, Suresh Dhaniyala, Thomas Holsen, Clarkson University.

Board 297

- 2P.7** Use of CFD for Design of Circumferential Slot Virtual Impactors. SHISHAN HU, Daniel LaCroix, Clinton Adams, John S. Haglund, Andrew R. McFarland, Texas A&M University.

Board 299

- 2P.8** Transmission Efficiency of a pm_{2.5} Aerodynamic Lens: Comparison of Model Calculations and Laboratory Measurements. DAGMAR TRIMBORN, Leah R. Williams, Achim M. Trimborn, Timothy B. Onasch, John T. Jayne, Douglas R. Worsnop, Aerodyne Research, Inc.; Jennifer P. McInnis, Cornell University; Dahai Tang, Kenneth A. Smith, Massachusetts Institute of Technology.



2Q AEROSOL SAMPLING AND CONDITIONING (POSTER)

SILVER STATE PAVILION

Board 301

- 2Q.1** The Influence of Ice Crystal Bounce and Fragmentation on Aircraft-based Optical Particle Probe Measurements. DEREK J. STRAUB, Susquehanna University; Darrel Baumgardner, Universidad Nacional Autonoma de México.

Board 303

- 2Q.2** Aerosol Penetration Through Electroformed Wire Screens. TAEWON HAN, Sridhar Hari, John S. Haglund, Andrew R. McFarland, Texas A&M University.

Board 305

- 2Q.3** Development and Validation of the Releasable Asbestos Field Sampler. JONATHAN THORNBURG, Jeremy Seagraves, RTI International; John Kominsky, Environmental Quality Management Inc.; John Tish, Tisch Environmental

Board 307

- 2Q.4** Digital Microfluidic Impactor for Measurements of the Aerosol Chemical Composition. ANDREY KHLYSTOV, Ming-Yeng Lin, Randy Evans, Richard Fair, Duke University.

Board 309

- 2Q.5** Collection Efficiency and Diffusion Broadening in an Electrostatic Classification Aerosol Inlet for Thermal Desorption. ANGELA I. SHIBATA, Sonya C. Collier, Denis J. Phares, University of Southern California.

Board 311

- 2Q.6** Development and Experimental Evaluation of Aerodynamic Lens as an Inlet of Single Particle Mass Spectrometry. KWANG-SEUNG LEE, Sung-Woo Cho, Donggeun Lee, Pusan National University.

Board 313

- 20.7** An Overview of NASA-Sponsored Research to Characterize and Improve Methods for Measuring Aircraft Particle Emissions. BRUCE E. ANDERSON, NASA Langley Research Center; Chwen C. Wey, NASA Glenn Research Center; David S. Liscinsky, United Technologies Research Center; Anuj Bhargava, Pratt and Whitney; Phillip Whitefield, University of Missouri at Rolla; Richard C. Miake-Lye, Aerodyne Research Inc.; Robert Howard, AEDC/ATA.

Board 315

- 20.8** Sample Line Efficiency Measured with a Real Time Particulate Size Spectrometer. JONATHAN P.R. SYMONDS, Jason S. Olfert, Kingsley St.J. Reavell, Cambustion Ltd, U.K.

Board 317

- 20.9** The Effectiveness of Bubble Aerosol Generators for Sensitive Bacteria. GEDIMINAS MAINELIS, Heyreoun An, Rutgers, The State University of New Jersey; Jana Kesavan, US ARMY ECBC.

Board 319

- 20.10** Experimental evaluation of electrodynamically focused nanoparticle behavior in the quadrupole electric field. JINYOUNG CHOI, Sangsoo Kim, Korea Advanced Institute of Science and Technology; Seokjoo Park, Korea Institute of Energy Research.

2R INSTRUMENTATION – CHEMICAL ANALYZERS (POSTER)

SILVER STATE PAVILION

Board 321

- 2R.1** The Use of Gold-Coated Filters to Measure Mercury Deposition. Ying Liu, JIAOYAN HUANG, Thomas M. Holsen, Clarkson University.

Board 323

- 2R.2** Effects of Flame Conditions and Atmospheric Aging on the Speciation of Metal Oxide Nanoparticles as determined by X-Ray Absorption Near Edge Structure (XANES). BENJAMIN KUMFER, Cort Anastasio, Ian Kennedy, University of California - Davis; Peter Nico, Lawrence Berkeley National Laboratory.

Board 325

- 2R.3** Evaluation and Comparison of High Time Resolution Wetted Denuder-Ion Chromatography Methods for the Determination pm Ion and Gaseous Precursors Concentrations during Controlled Laboratory and Field Intensive Studies. RUSSELL W. LONG, Brett D. Grover, Matthew S. Landis, Robert W. Vanderpool, U.S. EPA, National Exposure Research Laboratory; Keith G. Kronmiller, Alion Science and Technology; Robert Murdoch, RTI International; Delbert J. Eatough, Brigham Young University; Robert K. Stevens, Florida Department of Environmental Protection.

Board 327

- 2R.4** Mini TD-GC/MS Round Robin: an Interlaboratory Study of the Performance of Thermal Desorption GC/MS for Particulate Matter Analysis. GIANNI CARAVAGGIO, Jean-Pierre Charland, Penny MacDonald, Ajae Hall, Tony McPhee, Natural Resources Canada, CANMET Energy Technology Centre-Ottawa; Anthony Tong, Luyi Ding, Gary Poole, Lisa A. Graham, Cathy Cheng, Jeff Brook, Environment Canada.

Board 329

- 2R.5** Development and Characterization of a Fast Stepping Thermodenuder for Chemically-Resolved Aerosol Volatility Measurements. J. ALEX HUFFMAN, Jose L. Jimenez, University of Colorado at Boulder; Paul J. Ziemann, University of California-Riverside; John T. Jayne, Douglas R. Worsnop, Aerodyne Research, Inc.

Board 331

- 2R.6** Hourly Speciation of Water-Soluble Metals in Aerosols Using a Particle-Into-Liquid Sampler and Liquid Waveguide Capillary Cell. MICHELLE OAKES, Neeraj Rastogi, Rodney Weber, Georgia Institute of Technology; Brian Majestic, Martin Shafer, James Schauer, University of Wisconsin-Madison.

Board 333

- 2R.7** Development of an in-situ two Dimensional Thermal desorption Aerosol Gas chromatography instrument (2D-TAG). DAVID R WORTON, Amanda A. Frossard, Brent J. Williams, Allen H. Goldstein, University of California - Berkeley; Nathan M. Kreisberg, Susanne V. Hering, Aerosol Dynamics Inc.; Ognjen Panic, Tadeusz Gorecki, University of Waterloo.

Board 335

- 2R.8** MARGA Semi-Continuous Monitor for Aerosols and Gases. RENE OTJES, Harry Ten Brink, Energy Research Center of the Netherlands; Jon Bowser, Applikon Instruments Inc.

Board 337

- 2R.9** Evaluating PAH Concentrations from Diesel Emissions in an Underground Mine with and without Controls Using A GSMS Thermal Desorption Method. JIM NOLL, Emanuel Caude, National Institute for Occupation Safety and Health.

2S INSTRUMENTATION FOR AMBIENT AEROSOL MONITORING (POSTER)

SILVER STATE PAVILION

Board 339

- 2S.1** An On-Freeway Exposure and Measurement System for Freeway Aerosol Health Effects Study. YIFANG ZHU, Texas A&M University - Kingsville; David C. Fung, Arantzazu Eiguren-Fernandez, William C. Hinds, University of California Los Angeles.

Board 341

- 2S.2** An Aerosol-Unmanned Aerial Vehicle System for Mesoscale Studies. MEILU HE, Suresh Dhaniyala, Pier Marzocca, Clarkson University.

Board 343

- 2S.3** Evaluation of the Thermo DR-4000 on Ambient Air Under Different Operating Conditions. GEORGE ALLEN, NESCAUM; Peter Babich, CT-DEP.

Board 345

- 2S.4** Hourly Size-Segregated Trace Element Measurements in Ambient Air Using Synchrotron X-Ray Fluorescence Spectrometry. NICOLAS BUKOWIECKI, Peter Lienemann, Christoph N. Zwicky, Renato Figi, Matthias Hill, Robert Gehrig, Empa - Materials Science and Technology; Markus Furger, Urs Baltensperger, Paul Scherrer Institut; Daniel Grolimund, Markus Willmann, Swiss Light Source at Paul Scherrer Institut; Gerald Falkenberg, Hamburger Synchrotronstrahlungslabor at Deutsches Elektronensynchrotron.

Board 347

- 2S.5** Contribution of biomass burning to organic carbon in fine particles in Helsinki, Finland. Karri Saarnio, Sanna Saarikoski, Anna Frey, Hilikka Timonen, Minna Aurela, Timo Makela, MARKUS SILLANPAA, Risto Hillamo, Finnish Meteorological Institute.

2T ATMOSPHERIC AEROSOLS – EDUCATION (POSTER)

SILVER STATE PAVILION

Board 349

- 2T.1** A Web-Based Interactive Program on Atmospheric Aerosols for Undergraduate Education. YING LI, Chang-Yu Wu, Randy Switt, Anne Donnelly, Adam Denny, University of Florida; Pratim Biswas, Washington University in St. Louis.

2U CONTROL TECHNOLOGIES (POSTER)

SILVER STATE PAVILION

Board 351

- 2U.1** On-Road and Laboratory Evaluations of Cabin Air Filters using Integral Number and Surface Area Concentration Monitors. CHAOLONG QI, Nick Stanley, David Y. H. Pui, University of Minnesota.

Board 353

- 2U.2** Filter Performance Under The Liquid-Coated Particle Loading. TA-CHIH HSIAO, Da-Ren Chen, Washington University in St. Louis.

Board 355

- 2U.3** Investigation of Multi-layer Nanofiber Filters. JING WANG, Seong Chan Kim, Yue Bai and David Pui, University of Minnesota.

Board 357

- 2U.4** Numerical Analysis of Fluid Flow in Pulse-Jet Cleaning for Pleated Filter Bag. KYOUNGSOO LIM, Youngok Park, Junghwan Lim, Korea Institute of Energy Research.

Board 359

- 2U.5** Evaluation of air filtration system including a diffusion pre-charger and a medium filter for removal of nano particles. JAE-HONG PARK, Yee-Kyeong Jung, Jeong-Hoon Byeon, Ki-Young Yoon, Jungho Hwang, Yonsei University.

Board 361

- 2U.6** Electrostatic Control of Particulate Emissions from Diesel-Powered Machinery. ALI FARNOUD, Alfredo Juan Armendariz, Southern Methodist University.

Board 363

- 2U.7** Measurements of Bipolar Aerosol Charge Fractions of Initially Neutral 70 nm Particles for Various Neutralizers with Different Ion Sources and Geometries over a Range of Source Strengths and Flowrates. CHUNGMAN KIM, Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota; Xiaoliang Wang, Stanley L. Kaufman, Gilmore Sem, TSI Inc.; Hiromu Sakurai, National Institute of Advanced Industrial Science and Technology (AIST), Japan.



2V NUCLEAR AND RADIOACTIVE AEROSOLS (POSTER)

SILVER STATE PAVILION

Board 365

- 2V.1** Experiments and Modelling on the Behaviour of Ruthenium Oxides at High Temperature. TEEMU KARKELA, Ulrika Backman, Ari Auvinen, Yuko Enqvist, Riitta Zilliacus, Maija Lipponen, Tommi Kekki, Unto Tapper, Jorma Jokiniemi, VTT Technical Research Centre of Finland; Jorma Jokiniemi, University of Kuopio; Jouko Lahtinen, Helsinki University of Technology.

TUESDAY

11:00 AM – 12:30 PM

PLATFORM SESSION

3A AEROSOLS, CLOUDS AND CLIMATE: ATMOSPHERIC AEROSOLS - GLOBAL PERSPECTIVES (PLATFORM)

RENO BALLROOM

Thanos Nenes and Sonia Kreidenweis, chairs

11:00

- 3A.1** Tropospheric Aerosol Chemistry via Aerosol Mass Spectrometry. DOUGLAS WORSNOP
Aerodyne Research, University of Helsinki.

11:15

- 3A.2** Measurements of the impact of aerosols on climate using on-line single particle mass spectrometry. KIMBERLY PRATHER, Scripps Institution of Oceanography, University of California, San Diego.

11:30

- 3A.3** Examining the Relationship between El Niño, Biomass Burning, and Aerosol Levels in the Southern United States. BRET ANDERSON, Erik Snyder, U.S. Environmental Protection Agency; Jay R. Turner, Washington University in St. Louis.

11:45

- 3A.4** Extratropical waves drive boreal wildfire impact frequency and regional air quality dynamics. KEITH BEIN, Yongjing Zhao, Anthony Wexler, University of California Davis; Murray Johnston, University of Delaware; Natalie Pekney, National Energy Technology Laboratory; Cliff Davidson, Carnegie Mellon University; Greg Evans, University of Toronto.

12:00

- 3A.5** Mineral Dust Simulation in a Global Aerosol Microphysics Model and Evaluation with Remote Sensing Data. YUNHA LEE, Peter J. Adams, Carnegie Mellon University.

12:15

- 3A.6** Effects of Photochemistry and Convection on the UT/LS Aerosol Nucleation: Observations. DAVID R. BENSON, Li-Hao Young, William M. Montanaro, Shan-Hu Lee, Kent State University; Heikki Junninen, Markku Kulmala, University of Helsinki; Teresa L. Campos, David C. Rogers, Jorgen Jensen, National Center for Atmospheric Research.

3B BIOAEROSOL HEALTH EFFECTS (PLATFORM)

NEVADA 1/2

Tiina Reponen and Gedi Mainelis, chairs

11:00

- 3B.1** Molecular Source Tracking of Bioaerosols in the Quarantined Katrina Flood Zone. MARI RODRIGUEZ-HERNANDEZ, Jeffrey Walker, Norm Pace, Mark Hernandez, University of Colorado Boulder.

11:15

- 3B.2** Airborne Aspergillus Particles in a Hospital: Effects of Construction and other Potential Factors. MARIAN D. GOEBES, Lynn Hildemann, Stanford University.

11:30

- 3B.3** Effect of Protein Loading on Particle Size, Density and Shape. PATRICIA FRITZ, Lupita Montoya, Rensselaer Polytechnic Institute; Daniel Hershey, New York State Department of Environmental Conservation.

11:45

- 3B.4** Indoor air quality of four Southern High Plains dairy milking parlors in summer and winter. CHARLES W. PURDY, R. Nolan Clark, USDA-ARS; David C. Straus, Texas Tech University Health Sciences Center.

12:00

- 3B.5** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

12:15

- 3B.6** Design and Development of an Electrostatic Sampler for Biological Aerosols with High Concentrating Rate. GEDIMINAS MAINELIS, Tae Won Han, Rutgers University.

3C INSTRUMENTATION 1 (PLATFORM)

NEVADA 3/4

William (Pat) Arnott and Arthur Sedlacek, chairs

11:00

- 3C.1** Single Scatter Albedo Monitor For Airborne Particulates. Paul L. Kebejian, Timothy B. Onasch and ANDREW FREEDMAN, Aerodyne Research, Inc.

11:15

- 3C.2** Photophoretic Velocimetry for the Characterization of Aerosols. REINHARD NIESSNER, Carsten Kykal, Christoph Haisch, Technical University of Munich.

11:30

- 3C.3** Soot Agglomerate Concentration and Size Instrument by Two-Angle Light Scattering. DONALD HOLVE, Jessica Chapman, Process Metrix, LLC.

11:45

- 3C.4** Laser Induced Breakdown Spectroscopy with an aerosol focusing device for elemental analysis of submicrometer particles. GANGNAM CHO, Jihyun Kwak and Kihong Park, Gwangju Institute of Science and Technology, Korea.

12:00

- 3C.5** Inertial Classification of Nanoparticles with Air Filters. YOSHIO OTANI, Kazunobu Eryu, Takafumi SETO, Masami Furuuchi, Kanazawa University; Naoko Tajima, Takaharu Kato, Kanomax Japan Inc.

12:15

- 3C.6** Gentle Collection of an Airborne Virus with a Cyclone for Online Detection with Flow Cytometry. DOUGLAS A. ORSINI, Beijing Normal University; Kevin P. Rhoads, Kyle McElhoney, Erin Schick, Siena College; Olga Hogrefe, State University of New York at Albany

3D URBAN AEROSOLS 1 (PLATFORM)

NEVADA 6/7

Thomas Kirchstetter and Rodney Weber, chairs

11:00

- 3D.1** Chemically resolved aerosol emission fluxes above six urban areas. EIKO NEMITZ, Rick Thomas, Gavin Phillips, Daniela Famulari, David Fowler, Centre for Ecology and Hydrology, Edinburgh; Jose Jimenez, Alex Huffmann, University of Colorado / CIRES; Hugh Coe, Keith Bower, James Allan, Paul Williams, Manchester University; Shelley Pressley, Brian Lamb, Washington State University; Erik Velasco, Molina Center for Energy and Environment; Mikaela Alexander, Pacific Northwest National Laboratory; Doug Worsnop, Aerodyne Research Inc.

11:15

- 3D.2** Vertical Profile of PM Size Distribution in Milan (Italy). VORNE GIANELLE, ARPA Lombardia; GIOVANNI LONATI, DIAR - Politecnico di Milano Guido Pirovano.

11:30

- 3D.3** Number-based Emission Factors and New Particle Formation/Growth Events from Mexico City SMPS Data (MILAGRO). ALICIA PETTIBONE, Charles Stanier, University of Iowa.

11:45

- 3D.4** Highlights of PM_{2.5} Continuous Speciation Measurements in New York. OLIVER V RATTIGAN, Dirk H. Felton, New York State Department of Environmental Conservation; James J. Schwab, Kenneth L. Demerjian, University at Albany, SUNY.

12:00

- 3D.5** Daily Measurements of Speciated PM_{2.5} in Denver, CO with Seasonal and Weekly Patterns. STEVEN J DUTTON, Michael P Hannigan, Shelly L. Miller, University of Colorado; Sverre Vedal, University of Washington.

12:15

- 3D.6** Daily Variation in Chemical Characteristics of Urban Ultrafine Aerosols and Inference of Their Sources. ZHI NING, Michael D. Geller, Katharine F. Moore, Constantinos Sioutas, University of Southern California; Rebecca Sheesley, James J. Schauer, University of Wisconsin, Madison.

3E SECONDARY ORGANIC AEROSOL CHEMISTRY (PLATFORM)

NEVADA 9/10

Michael Hannigan and Mohammed Jaoui, chairs

11:00

- 3E.1** Secondary Organic Aerosol Formation from Photochemical Transformations of Modern Diesel Vehicle Emissions. BARBARA ZIELINSKA, Shar Samy, Desert Research Institute; Jacob McDonald, Jean-Clare Seagrave, Lovelace Respiratory Research Institute; Monica Vazquez, Klaus Wirtz, Fundacion Centro de Estudios Ambientales del Mediterraneo.

11:15

- 3E.2** Formation of Secondary Organic Aerosol from Reactions of Cyclic and Branched Alkanes with OH Radicals in the Presence of NO_x. YONG B. LIM, Paul J. Ziemann, University of California, Riverside.

11:30

- 3E.3** Predicting Secondary Organic Aerosol Formation from Aromatics: m-Xylene Case Study. BETHANY WARREN, David R. Cocker III, University of California-Riverside and CE-CERT, University of California-Riverside; Chen Song, currently at Pacific National Laboratories.

11:45

- 3E.4** Products and Mechanism of Secondary Organic Aerosol Formation from the Reaction of OH Radicals with Linear Alkenes. AIKO MATSUNAGA, Paul Ziemann, University of California, Riverside.

12:00

- 3E.5** Organic Tracers Formed Under Acidic Conditions from Isoprene Photooxidation. M. JAOUI, Alion Science and Technology; T.E. Kleindienst, J.H. Offenberg, M. Lewandowski, E.O. Edney; National Exposure Research Laboratory, U.S. Environmental Protection Agency.

12:15

- 3E.6** Evaluating the Effects of Gas-Particle Partitioning and Aging of Primary Organic Emissions using the Chemical Transport Model pmCAMx. MANISH K. SHRIVASTAVA, Timothy E. Lane, Neil M. Donahue, Spyros N. Pandis, Allen L. Robinson, Carnegie Mellon University.

TUESDAY

12:30 PM - 2:00 PM

LUNCH (ON YOUR OWN)

TUESDAY

2:00 PM - 3:30 PM

PLATFORM SESSION

**4A AEROSOLS, CLOUDS AND CLIMATE:
ATMOSPHERIC AEROSOLS - NEW INSIGHTS
TO AEROSOL-CLOUD INTERACTIONS
(PLATFORM)**

RENO BALLROOM

Patrick Chuang and Kip Carrico, chairs

2:00

- 4A.1** Global Contribution of Nucleation and Primary Particle Emissions to CN and CCN. JEFFREY R. PIERCE, Peter Adams, Carnegie Mellon University.

2:15

- 4A.2** Linking Pacific Storms to Asian Pollution Aerosols. RENYI ZHANG, Guohui Li, Jiwen Fan, Texas A&M University; Dong L. Wu, Jet Propulsion Laboratory, California Institute of Technology; Mario J. Molina, University of California.

2:30

- 4A.3** GCM Assessment of Aerosol-Cloud Interactions: The Importance of Entrainment on Indirect Forcing and Autoconversion. ATHANASIOS NENES, Donifan Barahona, Georgia Institute of Technology; Peter J. Adams, Carnegie Mellon University; John H. Seinfeld, California Institute of Technology.

2:45

- 4A.4** Cloud Condensation Nuclei Sizes. JAMES G. HUDSON, Subhashree Mishra, Desert Research Institute.

3:00

- 4A.5** Variations in Cloud Drop Number Concentrations with Changes in Aerosol Hygroscopicity. Markus Petters, Trude Eidhammer, SONIA KREIDENWEIS, Colorado State University.

3:15

- 4A.6** Aerosol Residual Water Content, CCN Activity and Hygroscopicity of Mixed Aerosols. TIMOTHY RAYMOND, Mark Zimmerman, Bucknell University.

4B INFECTIOUS AND TOXIC AEROSOLS (PLATFORM)

NEVADA 1/2

Sergey Grinshpun and Risa Robinson, chairs

2:00

- 4B.1** Generation of Hydroxyl Radicals from Ambient Particulate Matter in a Surrogate Lung Fluid. EDGAR VIDRIO, Chin Phuah, Ann M. Dillner, Cort Anastasio, University of California - Davis.

2:15

- 4B.2** Removal Efficiency and Disinfection Capacity of Iodine-Treated Filter for Virus Aerosols. JIN-HWA LEE, Chang-Yu Wu, Katherine M. Wysocki, Christiana N. Lee, University of Florida; Joseph Wander, Brian Heimbuch, Air Force Research Laboratory, Tyndall Air Force Base.

2:30

- 4B.3** Collection of influenza virus aerosols: comparison of sampler efficiencies with molecular and infectivity assays. PATRICIA FABIAN, James McDevitt, Harvard School of Public Health; Donald Milton, University of Massachusetts Lowell.

2:45

- 4B.4** Detection of Airborne Influenza And Avian Influenza Virus. Pei-Shih Chen, Qian Kun Lin, FENG-DA TSAI, Kaohsiung Medical University.

3:00

- 4B.5** Acute Injury to Rat Airway Epithelium by Exposure to Flame-Generated Soot Particles Doped with 1-Nitronaphthalene. BENJAMIN KUMFER, Lindsay Davison, Evan Wallis, Michelle Fanucchi, Ian Kennedy, University of California - Davis.

3:15

- 4B.6** Comparative Composition and Inhalation Toxicity of Urban versus Rural Samples of Resuspended Paved Roadway Material. JAKE MCDONALD, JeanClare Seagrave, Matthew Campen, Joe Mauderly, Lovelace Respiratory Research Institute.

4C INSTRUMENTATION:

MASS SPECTROMETERS 1 (PLATFORM)

NEVADA 3/4

Kimberly Prather and Kenneth Farmer, chairs

2:00

- 4C.1** Understanding the interaction of an intense laser pulse with nanoparticles: Application to the quantification of single particle mass spectrometry. LEI ZHOU, Howard Milchberg, Michael Zachariah University of Maryland; Kihong Park, Gwangju Institute of Science and Technology, Korea.

2:15

- 4C.2** Development and Characterization of an Ion Trap Mass Spectrometer for the On-line Chemical Analysis of Aerosol Particles. ANDREAS KUERTEN, Max Planck Institute for Chemistry (now a California Institute of Technology); Joachim Curtius, Johannes Gutenberg University, Anneli Ehlerding, Stephan Borrmann, Max Planck Institute for Chemistry; Johannes Gutenberg University.

2:30

- 4C.3** Single Particle Mass Spectrometry of Aerosols Alternately Ionized by Laser Desorption and Laser-Induced Plasma. MELISSA S. REINARD, Murray V. Johnston, University of Delaware.

2:45

- 4C.4** Single Particle Characterization using a Light Scattering Module Coupled to a Time-of-Flight Aerosol Mass Spectrometer. EBEN CROSS, Paul Davidovits, Boston College; Joel Kimmel, CIRES, University of Colorado and Aerodyne Research Inc; Xiao-Ying Yu, Lizabeth Alexander, Pacific Northwest National Laboratory; Timothy Onasch, Doug Worsnop, Aerodyne Research Inc.

3:00

- 4C.5** Rapid Analysis of PAHs in Aerosol Using Desorption Electrospray Ionization Mass Spectrometry. Hong Chen, Mei Li, Jinjun Lian, Yaping Zhang, XIN YANG, Jianmin Chen, Fudan University.

3:15

- 4C.6** Elemental Analysis of Organic Species with Electron Impact High Resolution Mass Spectrometry. ALLISON C. AIKEN, Peter F. DeCarlo, Jose L. Jimenez, University of Colorado at Boulder.

4D COMBUSTION 1 (PLATFORM)

NEVADA 6/7

Daren Chen and Sheldon Davis, chairs

2:00

- 4D.1** Modeling of Soot Formation in Diesel Engine with A Sectional Aerosol Model. CHOWDHURY MONIRUZZAMAN, Fangqun Yu, State University of New York at Albany.

2:15

- 4D.2** Nucleation Mode Particle Emissions from In-use Heavy Duty Vehicles Equipped with DPF and SCR Retrofits. JORN D. HERNER, Alberto Ayala, William H. Robertson, Oliver Chang, California Air Resources Board; Constantinos Sioutas, Subhasis Biswas, University of Southern California.

2:30

4D.3 Investigation of Diesel Nanoparticle Nucleation Mechanisms. HEEJUNG JUNG, University of California, Riverside; Hongbin Ma, Cummins Inc.; David B. Kittelson, University of Minnesota, Minneapolis.

2:45

4D.4 Physical, Chemical, and Toxicological Characteristics of Combustion Generated Iron-Soot Aerosols. AUDREY T. TURLEY, North Carolina State University; Jost O.L. Wendt, University of Utah; Seung-Hyun Cho, C. Andrew Miller, M. Ian Gilmour, William P. Linak, U.S. Environmental Protection Agency.

3:00

4D.5 Effects of sampling conditions on size-segregated PM mass and its chemical composition emitted from a diesel backup generator. KWANGSAM NA, CE-CERT; Abhilash Nigam, Ajay Chaudhary, William Welch, Kent Johnson, Wayne J. Miller, David R. Cocker III, University of California-Riverside, CE-CERT.

3:15

4D.6 Characteristics of Diesel Exhaust Particles and their Health Effects in Mice. SEUNG-HYUN CHO, William P. Linak, C. Andrew Miller, National Risk Management Research Laboratory, U.S. EPA; Jost O.L. Wendt, University of Utah; M. Ian Gilmour, Q. Todd Krantz, National Health & Environmental Effects Research Laboratory, U.S. EPA; Tina Stevens, University of North Carolina; Kymberly Gowdy, North Carolina State University.

4E BIOMASS BURNING AEROSOL AND ITS PROPERTIES (PLATFORM)

NEVADA 9/10

Roger Tanner and Sherri Hunt, chairs

2:00

4E.1 Measurements of Smoke Aerosol Size Distributions and Refractive Indices During a Series of Laboratory Biomass Burning Experiments. GAVIN MCMEEKING, Christian Carrico, Ezra Levin, Sonia Kreidenweis, Jeffrey Collett, Jr., Colorado State University; Hans Moosmeuller, Patrick Arnott, Desert Research Institute; Cyle Wold, Wei Min Hao, United States Forest Service, William Malm, National Park Service.



2:15

4E.2 Diversity of Biomass Burn Aerosols Based on Fuel. Rebecca J. Hopkins, Zi Wang, A.V. Tivanski, MARY K. GILLES, Lawrence Berkeley National Laboratory; Kirsten Lewis, W.P. Arnott, University of Nevada; Yury Desyaterik, Alexander Laskin, Pacific Northwest National Laboratory.

2:30

4E.3 The chemical and physical characteristics of biomass burning particulate emissions studied at the Fire Science Laboratory. TIMOTHY B. ONASCH, Achim Trimborn, Jesse Kroll, Doug Worsnop, Aerodyne Research Incorporated; Ingrid Ulbrich, J. Alex Huffman, Jose Jimenez, University of Colorado; Sonia Kreidenweis, Colorado State University; Wei Min Hao, United States Forest Service.

2:45

4E.4 Determination of Particle-phase Organic Compounds as Wood Burning Tracers in a Residential Site of Germany. MD. AYNUL BARI, Guenter Baumbach, Bertram Kuch, Guenter Scheffknecht, Universitaet Stuttgart.

3:00

4E.5 Characterizing of smoke properties from laboratory combustion of forest fuels using an aerosol mass spectrometer. TAEHYOUNG LEE, Jeffrey L. Collett, Sonia M. Kredenweis, Colorado State University; Jose L. Jimenez, Joel Kimmel, University of Colorado; Jesse H. Kroll, Timothy B. Onasch, Achim M. Trimborn, Aerodyne Research Incorporated; William Malm, National Park Service/CIRA; Wei Min Hao, Cyle Wold, US Forest Service, RMRS Fire Sciences Laboratory.

3:15

4E.6 Dual-wavelength Photoacoustic Measurements of Light Absorption and Scattering by Wood Smoke. KRISTIN A. LEWIS, William P. Arnott, University of Nevada, Reno; Hans Moosmueller, Desert Research Institute.

TUESDAY

3:30 PM - 3:50 PM

COFFEE BREAK

SILVER STATE PAVILION

TUESDAY

3:50 PM - 5:20 PM

PLATFORM SESSION

5A AEROSOLS, CLOUDS AND CLIMATE: CLOUD PROCESSING AND COMPOSITION (PLATFORM)

RENO BALLROOM

Tim Raymond and Rafaella Sotiropoulou, chairs

3:50

5A.1 Cloud Processing of Atmospheric Organic Matter: New Insights from LC/MS. JEFFREY L. COLLETT JR., Lynn. R. Mazzoleni, Amy P. Sullivan, and Xinhua Shen, Colorado State University.

4:05

5A.2 The chemical composition of intercepted clouds in northern Arizona during North American monsoon season. JAMES HUTCHINGS, Jennifer Triplett, Heide McIlwraith, Pierre Herckes, Arizona State University; Marin Robinson, Northern Arizona University.

4:20

5A.3 Chemistry of Organic Substances in Atmospheric Fog and Cloud Waters: Insights from High Resolution Mass Spectrometry. QI ZHANG, Yele Sun, University at Albany, SUNY; Lynn Rinehart, Jeff Collett, Colorado State University.

4:35

5A.4 Cloud-Processing and Aerosol Optical Properties at a Polluted Continental Site. ELISABETH ANDREWS, University of Colorado and NOAA/GMD; John Ogren, NOAA/GMD; James Allan, Keith Bower, Hugh Coe, Ben Corris, Michael Flynn, Dantong Liu, William Morgan, Paul Williams, University of Manchester.

4:50

- 5A.5** Interaction of Saharan Dust with Liquid and Ice Clouds. CYNTHIA TWOHY, Oregon State University; Andrew Heymsfield, Aaron Bansemer, National Center for Atmospheric Research; Bruce Anderson, NASA Langley Research Center.

5:05

- 5A.6** A Further Analysis of the Phase Transitions in Mixed Phase Cloud During the CLACE Series of Aerosol-Cloud Interaction Experiments at the Jungfraujoch High Alpine Research Station, Switzerland. KEITH N. BOWER, Ian Crawford, Tom Choularton, Martin Gallagher, Paul Connolly, Hugh Coe, Michael Flynn, Jonny Crosier, University of Manchester; Ernest Weingartner, Urs Baltensperger, Rami Alfarra, Paul Scherrer Institut, Switzerland; and Bart Verheggen, ETH, Switzerland.

5B METHODS AND MEASUREMENTS FOR ORGANIC COMPONENTS (PLATFORM)

NEVADA 1/2

Matthew Fraser and Gavin McMeeking, chairs

3:50

- 5B.1** A Method for Smoke Marker Measurements for Determining Air Quality Impacts of Biomass Burning. AMY P. SULLIVAN, Amanda S. Holden, Lynn R. Mazzoleni, Sonia M. Kreidenweis, Jeffrey L. Collett, Jr., Colorado State University; William C. Malm, National Park Service/CIRA, Colorado State University; Wei Min Hao, Cyle E. Wold, USDA Forest Service, Fire Sciences Laboratory.

4:05

- 5B.2** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

4:20

5B.3 Field Investigation of Sources and Processes of Organic Aerosols with High-Resolution Aerosol Mass Spectrometry and Positive Matrix Factorization. JOSE L. JIMENEZ, Ingrid Ulbrich, Kenneth Docherty, Peter DeCarlo, Edward Dunlea, Allison Aiken, Joel Kimmel, J. Alex Huffman, Donna Sueper, University of Colorado-Boulder; Qi Zhang, SUNY-Albany; Douglas Worsnop, Manjula Canagaratna, Aerodyne Research, Inc.

4:35

5B.4 Spatial and Seasonal Variations of Secondary Organic Tracers in the Southeastern United States. XIANG DING, Liping Yu, Rodney Weber, Mei Zheng, Georgia Institute of Technology; Eric Edgerton, Atmospheric Research and Analysis, Inc.; Armistead Russell, ;Georgia Institute of Technology.

4:50

5B.5 Temporal and Spatial Variations of Primary Organic Carbon Sources and Biogenic SOA Impacts. BO YAN, Mei Zheng, Amy Sullivan, Rodney Weber, Sangil Lee, Charles Evan Cobb, Santosh Chandru, Hyeon Kook Kim, Armistead G. Russell, Georgia Institute of Technology; Eric S. Edgerton, Atmospheric Research & Analysis, Inc.

5:05

5B.6 Source apportionment of fine organic aerosol in Mexico City during the MILAGRO-2006 field campaign. ELIZABETH A. STONE, David C. Snyder, Rebecca J. Sheesley, and James J. Schauer, University of Wisconsin-Madison.

5C INSTRUMENTATION: AEROSOL SAMPLING AND CONDITIONING (PLATFORM) NEVADA 3/4

Thomas Peters and Andrea Polidori, chairs

3:50

5C.1 Development of an Aerosol Cascade Impactor Interactive Design Tool. SCOT WAYE, Steven Biegalski, Ofodike Ezekoye, The University of Texas at Austin.

4:05

5C.2 A New Short Wind Tunnel with Large Test Section for Aerosol Inlet Evaluation. VIRGIL MARPLE, Bernard Olson, University of Minnesota.

4:20

5C.3 Design and Development of Wide Range Impactor Particle Sampler: Part II: Large particle concentrator (Two-stage Virtual Impactor). SANG-RIN LEE, Suresh Dhaniyala, and Thomas M Holsen, Clarkson University.

4:35

5C.4 An Evaluation of the Sample Inlet Probes used in Characterizing Gas Turbine Engine Particle Emissions. BRUCE E. ANDERSON, NASA Langley Research Center; Eddie L. Winstead, K. Lee Thornhill, Science Systems and Applications Inc.; David S. Liscinsky, United Technologies Research Center; Anuj Bhargava, Pratt and Whitney; Chowen C. Wey, NASA Glenn Research Center; Don Hagen, Ben Baker, Phil Whitefield, University of Missouri at Rolla; Richard C. Miake-Lye, Aerodyne Research Inc.; Robert Howard, AEDC/ATA.

4:50

5C.5 The Emory Concentrator: Laboratory Characterization of an Economical and Compact Aerosol Concentrator Suitable for Human Exposure Experiments. ROBY GREENWALD, W. Gerald Teague, Emory University.

5:05

5C.6 Application of a particle concentrator and electrostatic precipitator for direct in vitro exposure of cells to aerosol particles. MARKUS SILLANPAA, Finnish Meteorological Institute; Michael Geller, Harish Phuleria, Subhasis Biswas and Constantinos Sioutas, University of Southern California.



5D COMBUSTION 2 (PLATFORM)

NEVADA 6/7

Heejung Jung and William Linak, chairs

3:50

5D.1 Spark Ignition Exhaust Particle Composition from Ethanol-Gasoline Blends: A Single Particle Perspective. DABRINA D DUTCHER, University of Minnesota; Deborah S. Gross, Carleton College; Marcus Drayton, Mark Stolzenburg, David Kittelson, Peter H. McMurry, University of Minnesota.

4:05

5D.2 Regulated Emissions from Yard-tractors: In-use and Futuristic Technologies. ABHILASH NIGAM, Ajay K. Chaudhary, J. Wayne Miller, Kent C. Johnson, and David R. Cocker III, University of California Riverside, CE-CERT.

4:20

5D.3 Elemental Composition of Motor Vehicle Fuel, Oil, and Particulate Matter Emissions. MICHAEL A. ROBERT, Chris A. Jakober, Peter G. Green, Michelle A. Gras, Michael J. Kleeman, University of California, Davis

4:35

5D.4 Physical Properties of Particulate Matter (PM) from Newer Heavy Duty Diesel Vehicles Operating with Advanced Emission Control Technologies. SHAOHUA HU, Subhasis Biswas, Constantinos Sioutas, University of Southern California; Jorn D. Herner, William H. Robertson, Alberto Ayala, California Air Resources Board.

4:50

5D.5 Effect of Dilution Temperature on the Measured Particle Size Distributions from a Coal-Firing Power Plant. ERKKI LAMMINEN, Henna Isherwood, Dekati Ltd.

5:05

5D.6 A Model for Sooting Limits in Diffusion Flames. SCOTT SKEEN, Richard Axelbaum, Washington University in St. Louis; Ben Kumfer, University of California at Davis.

**5E HETEROGENEOUS AEROSOL AGING
(PLATFORM)**

NEVADA 9/10

Neil Donahue and Kara Huff Hartz, chairs

3:50

5E.1 Photochemical Aging of Organic Aerosol Particles. JIA-HUA XING, Adam P. Bateman, Stephen A. Mang, Sergey A. Nizkorodov, University of California Irvine.

4:05

5E.2 Changes in condensed-phase reactivity of organic compounds with solvent composition. AMY M. SAGE, Neil M. Donahue, Carnegie Mellon University.

4:20

5E.3 Laboratory Investigation of Photochemical Oxidation of Organic Molecular Markers used for Source Apportionment. EMILY A WEITKAMP, Amy M. Sage, Andrew T. Lambe, Neil M. Donahue, and Allen L. Robinson, Carnegie Mellon University; Kara E. Huff Hartz, Southern Illinois University.

4:35

5E.4 Extremely Rapid Volatilization and Oligomer Formation via OH Radical Initiated Oxidation of Organic Aerosols. JARED D. SMITH, Erin Mysak, Stephen R. Leone, Musahid Ahmed, and Kevin R. Wilson, Lawrence Berkeley National Laboratory.

4:50

5E.5 AFT-FTIR Investigation of the Heterogeneous Chemical Reactions of Multi-component Aerosols and Ozone. CINDY DEFOREST HAUSER, Stephanie Scott, DJ Singleterry, Davidson College.

5:05

5E.6 A New Mini-flow-reactor for Aging Aerosols Without Wall Effects. Xin Yang, Fudan University; Shanghai, China; Martin J. Iedema, Hashim Ali, JAMES P COWIN, Pacific Northwest National Laboratory.

TUESDAY

5:30 PM - 6:30 PM

AAAR BUSINESS MEETING

AAAR 26th Annual Conference

September 24–28, 2007 • Grand Sierra Resort • Reno, Nevada

WEDNESDAY

8:00 AM – 9:25 AM

PLENARY 2

6 PLENARY SESSION

RENO BALLROOM

- 8:00 Opening Remarks
 Jay Turner, Washington University, Conference Chair
- 8:05 Inhaled Insulin and the Marvelous New
 Innovations in Aerosol Medicines.
 John Patton, Nektar Therapeutics
- 8:55 Tribute to Dr. Sheldon K. Friedlander
 Sheryl Ehrman, University of Maryland
- 9:10 Presentation of the S. K. Friedlander Award
 Roger McClellan, Awards Committee Chair
-

9:00 AM – 2:00 PM

6:00 PM – 8:00 PM

SILVER STATE PAVILION

EXHIBITS OPEN

POSTER AREA OPEN

WEDNESDAY

9:25 AM – 9:45 AM

COFFEE BREAK

SILVER STATE PAVILION

WEDNESDAY

9:45 AM – 11:00 AM

PLATFORM SESSION

**7A AEROSOLS, CLOUDS AND CLIMATE:
FIELD OBSERVATIONS OF CCN
CHARACTERISTICS (PLATFORM)
RENO BALLROOM**

Jeffrey Collett and Pierre Herckes, chairs

9:45

- 7A.1** Cloud activating properties of aerosol observed during the Marine Stratus/Stratocumulus Experiment (MASE). JIAN WANG, Yin-Nan Lee, Peter Daum, Brookhaven National Laboratory; Liz Alexander, Pacific Northwest National Laboratory; John Jayne, Aerodyne Research Inc.

10:00

7A.2 Study of the nucleation of cloud droplets on ambient aerosols in stratiform and convective cloud. W. RICHARD LEITCH, Wanmin Gong, Desiree Tom-Sauntry, Katherine Hayden, Anne Marie Macdonald, Kurt Anluaf, Shao-Meng Li, Walter Strapp, Mohammed Wasey, Environment Canada.

10:15

7A.3 Aerosol hygroscopicity and CCN distributions at Gosan and Seoul, Korea, measured in Summer and Autumn 2006. SEONG SOO YUM, J. H. Kim, S.-C. Lee, K. Y. Song, S. B. Shim, Yonsei University; James G. Hudson, Desert Research Institute; Kang H. Ahn, Hanyang University.

10:30

7A.4 Analysis of Cloud Condensation Nuclei using a Pumped Counterflow Virtual Impactor and Aerosol Mass Spectrometer. JAY SLOWIK, Jonathan Abbatt, University of Toronto; Richard Leitch, Environment Canada.

10:45

7A.5 Measurements of the Rate of Cloud Droplet Formation on Atmospheric Particles. CHRIS RUEHL, Patrick Chuang, University of California, Santa Cruz; Athanasios Nenes, Georgia Institute of Technology.

7B INDOOR AEROSOLS 1 (PLATFORM)

NEVADA 1/2

Andrea Ferro and Jana Kesavan, chairs

9:45

7B.1 Spatial and Compositional Relationships of Indoor Aerosols in the Detroit Exposure and Aerosol Research Study (DEARS). ALAN VETTE, Carvin Stevens, U.S. EPA; Charles Rodes, Jonathan Thornburg, RTI International; Carry Croghan, Ron Williams, U.S. EPA.

10:00

7B.2 Indoor Air Monitoring in Day-Care Centers. Pei-Shih Chen, YI-LIEN LEE, Ting-Yu Huang, Yu-Han Zhang, Kaohsiung Medical University.

10:15

- 7B.3** Indoor and Outdoor Concentration of Fine Particles at Control Site in Mumbai City: A Case Study. ABBA ELIZABETH JOSEPH, Seema Unnikrishnan National Institute of Industrial Engineering; Rakesh Kumar, National Environmental Engineering Research Institute.

10:30

- 7B.4** Ultrafine and Fine Particulate Matter Variation in Skating Arenas. KELLY SABALIAUSKAS, Greg Evans, University of Toronto; Monica Campbell, Sarah Gingrich, Toronto Public Health; Dave Stieb, Amanda Wheeler, Health Canada; Jeff Brook, Environment Canada.

10:45

- 7B.5** Size Characteristics of Airborne Particles and Bioaerosols in Home Environments. QING CHEN, Lynn M. Hildemann, Stanford University.

7C INSTRUMENTATION: MOBILITY MEASUREMENTS (PLATFORM)

NEVADA 3/4

Gil Sem and Suresh Dhaniyala, chairs

9:45

- 7C.1** Evaluation of TSI 3068B Aerosol Electrometer and 3790 Engine Exhaust CPC. XIAOLIANG WANG, Rob Caldwell, Gilmore J. Sem, TSI Inc.; Hiromu Sakurai, National Institute of Advanced Industrial Science and Technology (AIST); Naoya Hama, Tokyo Dylec Corp.

10:00

- 7C.2** Analysis of transfer functions of scanning DMA. DUBEY PRANEY, Dhaniyala Suresh, Clarkson University.

10:15

- 7C.3** Scanning Mobility CCN Analysis - A new method for fast measurements of size-resolved CCN activity and growth kinetics. Athanasios Nenes, JEESY MEDINA, Georgia Institute of Technology.

10:30

7C.4 Application Of A Diffusion Charger For The Measurement Of Particle Surface Concentration In Different Environments. Leonidas Ntziachristos, ANDREA POLIDORI, Harish Phuleria, Michael Geller and Constantinos Sioutas, University of Southern California.

10:45

7C.5 Rapid Measurements of Aerosol Size Distributions Using a Fast Integrated Mobility Spectrometer. JASON OLFERT, Brookhaven National Laboratory; Pramod Kulkarni, National Institute for Occupational Safety and Health; Jian Wang, Brookhaven National Laboratory.

7D AEROSOL CHEMICAL ANALYSIS (PLATFORM) NEVADA 6/7

Alan Hansen and Eric Edgerton, chairs

9:45

7D.1 Probing Hygroscopic Properties of Atmospheric Particles Using Complementary Methods of Micro FTIR Spectroscopy and Micro Analyses. Yong Liu, Pacific Northwest National Laboratory; Zhiwei Yang, University of Delaware; Yuri Desyaterik, Paul L. Gassman, Pacific Northwest National Laboratory; Hai Wang, University of Southern California; Alexander Laskin, Pacific Northwest National Laboratory.

10:00

7D.2 Probing the photochemistry of monoterpene-derived secondary organic aerosols with chemical ionization mass spectrometry. XIANG PAN, Joelle S. Underwood, and Sergey A. Nizkorodov, University of California, Irvine.

10:15

7D.3 Measuring Particle Acidity in the Atmospheric Aerosol Using a Colorimetric Analysis. MYOSEON JANG, Gang Cao, Amanda L. Northcross, Jared Paul, The University of North Carolina at Chapel Hill.

10:30

7D.4 FTIR Spectroscopy of Surficial Ozonolysis Reactions. SCOTT A. EPSTEIN, Greg T. Drozd, Neil M. Donahue, Carnegie Mellon University.

10:45

- 7D.5** A New Chamber Design for Aerosol Evolution Studies in the Ambient Environment. CRYSTAL REED, Don Collins, Texas A&M University.
-

7E CHEMICAL TRANSPORT MODELING AND RECEPTOR MODELING OF REGIONAL AEROSOLS (PLATFORM)

NEVADA 9/10

Michael Kleeman and Cliff Davidson, chairs

9:45

- 7E.1** Regulatory Decision Making using Advancements in Aerosol Science. RALPH MORRIS, Bonyoung Koo, Bo Wang, Greg Yarwood, ENVIRON International Corporation; Gail Tonnesen, Chao-Jung Chien, UC Riverside; Dennis McNally, Greg Stella, Alpine Geophysics.

10:00

- 7E.2** Regional Modelling of pm2.5: Case Study for the Po Valley (Italy). GIOVANNI LONATI, Giovanni Sghirlanzoni, Andrea Zanoni, DIAR - Politecnico di Milano Guido Pirovano.

10:15

- 7E.3** Strengths and Limitations of Multivariate Receptor Models: Experiments with Simulated Regional-Scale PM2.5 Data. L.-W. ANTONY CHEN, Douglas H. Lowenthal, John G. Watson, Darko Koracin, Desert Research Institute; Naresh Kumar, Eladio Knipping, EPRI; Neil Wheeler, Stephen Reid, Sonoma Technology, Inc.

10:30

- 7E.4** Evaluation Receptor Models with Synthetic IMPROVE Data. DOUGLAS LOWENTHAL, Antony Lung-Wen Chen, John Watson, Darko Koracin, Dave Dubois, Desert Research Institute; Naresh Kumar, Eladio Knipping, EPRI; Neil Wheeler, Stephen Reid, Sonoma Technology, Inc.

10:45

- 7E.5** Variable Moment General Dynamic Equations for Global and Regional Aerosol Modeling. BORIS GRITS, Anthony Wexler, University of California, Davis.

WEDNESDAY

11:00 AM – 11:20 AM

BREAK

WEDNESDAY

11:20 AM – 12:35 PM

PLATFORM SESSION

8A AEROSOLS, CLOUDS AND CLIMATE: LABORATORY OBSERVATIONS AND MODELING OF CCN CHARACTERISTICS (PLATFORM)

RENO BALLROOM

Timothy Vanreken and Thanos Nenes, chairs

11:20

- 8A.1** The Ability of Fresh and Aged Monoterpene Secondary Organic Aerosol to Act as Cloud Condensation Nuclei. GABRIELLA ENGELHART, Spyros Pandis, Carnegie Mellon University; Spyros Pandis, University of Patras, Greece; Akua Asa-Awuku, Athanasios Nenes, Georgia Institute of Technology.

11:35

- 8A.2** Synthetic Biomass Aerosol Activation in Static and Continuous-flow CCN Instruments. JEFFERSON R. SNIDER, University of Wyoming; Heike Wex, Leibniz Institute for Tropospheric Research, Leipzig, Germany; Adam Kristensson, University of Copenhagen; Diana Rose, Max Planck Institute for Chemistry, Mainz, Germany.

11:50

- 8A.3** Cloud Condensation Nucleus (CCN) Behavior of Organic Aerosol Particles Generated by Atomization of Water and Methanol Solutions. TRACEY A. RISSMAN*, Varuntida Varutbangkul**, Jason D. Surratt, Richard C. Flagan, John H. Seinfeld, California Institute of Technology; David O. Topping, Gordon McFiggans, The University of Manchester (*Currently with DuPont, **Currently with Boston Consulting Group).

12:05

- 8A.4** The Impact of Surface Ocean Organics on Surface Tension, CCN Activity, and Droplet Growth Kinetics of Marine Aerosol. RICHARD MOORE, Ellery Ingall, Athanasios Nenes, Georgia Institute of Technology.

12:20

- 8A.5** Studying the properties and vapor processing of organic coated water droplets using Molecular Dynamics Simulation. PURNENDU CHAKRABORTY, Michael Zachariah, University of Maryland.

8B INDOOR AEROSOLS 2 (PLATFORM) NEVADA 1/2

Lupita Montoya and Jacky Rosati, chairs

11:20

- 8B.1** Experimental Measurement Of Particle Resuspension From A Tile Floor By Walking. MARK R. SIPPOLA, Richard G. Sextro, Lawrence Berkeley National Laboratory.

11:35

- 8B.2** A Model for Resuspension of Particles due to Human Walking including Electrostatic Effects. XINYU ZHANG, Jing Qian, Goodarz Ahmadi, Andrea Ferro, Clarkson University.

11:50

- 8B.3** Measurement of Ultrafine Particles Generated by Indoor Combustion and Electric Appliances. FANG WANG, Harbin Institute of Technology, Harbin, China; Lance Wallace, Cynthia Howard-Reed, National Institute of Standards and Technology.

12:05

- 8B.4** Secondary organic aerosol from ozone-initiated reactions with terpene-rich household products. BEVERLY K. COLEMAN, William W Nazaroff, University of California, Berkeley; Melissa M. Lunden, Hugo Destailhats, Lawrence Berkeley National Laboratory.

12:20

- 8B.5** SOA formation and growth from ozonolysis of terpene in indoor environments. XI CHEN and Philip K. Hopke, CClarkson University.

8C CONTROL TECHNOLOGIES (PLATFORM) NEVADA 3/4

Yung Sung Cheng and Ye Zhuang, chairs

11:20

- 8C.1** Investigation of Thermal Rebound below 20 nm and under elevated temperature up to 420 K. WEON GYU SHIN, Kenjiro Iida, David Y.H. Pui, University of Minnesota.

11:35

- 8C.2** Fundamental Electrical Properties of a Small-Scale Electrostatic Precipitator. ALI FARNOUD, Alfredo Juan Armendariz, Southern Methodist University.

11:50

- 8C.3** Inactivation Potential of Filter Immobilized Airborne Mammalian and Avian Viruses in Weak Electric Fields. Raydel Mair, Paul A. Rota, Centers for Disease Control and Prevention, Peter McKinney, Strion Air Corporation, Ralph A. Tripp, S. Mark Thompkins, Dept of Infectious Diseases, College of Veterinary Medicine, University of Georgia, MARK HERNANDEZ, Department of Civil, Environmental and Architectural Engineering, University of Colorado at Boulder.

12:05

- 8C.4** Investigation of Aerosol Penetration through Individual Protective Equipment in Elevated Wind Conditions. MICHAEL A. HILL, Suresh Dhaniyala, Clarkson University; Terence A. Ghee, Jonathan Kaufman, NAVAIR.

12:20

- 8C.5** Performance of facepiece respirator filters against bioaerosols. SERGEY A. GRINSHPUN, Robert Eninger, Takeshi Honda, Atin Adhikari, Tiina Reponen, University of Cincinnati.

8D EMISSIONS CHARACTERIZATION AND INVENTORY VERIFICATION (PLATFORM) NEVADA 6/7

Andrew Miller and Allen Robinson, chairs

11:20

- 8D.1** Quinone Emissions from Gasoline and Diesel Motor Vehicles. CHRIS JAKOBER, M. Judith Charles, Michael Robert, Peter Green, Michael Kleeman, Sarah Riddle, Cort Anastasio, University of California - Davis.

11:35

- 8D.2** Determination of Aldehydes and Carboxylic Acids in Diesel Exhaust Particulate Matter. JOSEF BERANEK, Tylor J. Lahren, Alena Kubatova, University of North Dakota.

11:50

- 8D.3** **New Chemical Tracers for Diesel Source Emission Apportionment in Ambient Fine Particulate Matter.** JEAN-PIERRE CHARLAND, Gianni Caravaggio, Penny MacDonald, Tony MacPhee, Natural Resources Canada, CANMET Energy Technology Centre-Ottawa; Lisa A. Graham, Environment Canada.

12:05

- 8D.4** **Can satellite fire detections improve the emission inventories from forest fires in the southeastern United States?** TAO ZENG, Yuhang Wang, Georgia Institute of Technology; Yasuko Yoshida, NASA Goddard Space Flight Center; Di Tian, Georgia Department of Environmental Protection; Amistead G. Russell, Georgia Institute of Technology; William R. Barnard, MACTEC Engineering and Consulting, Inc.

12:20

- 8D.5** **Top-down correction of 2004 black carbon emissions inventory in the United States by inverse modeling using CAMQ-DDM.** YONGTAO HU, M. Talat Odman, Amistead G. Russell, Georgia Institute of Technology.

8E CHEMISTRY AND MECHANISMS OF SOA FORMATION (PLATFORM)

NEVADA 9/10

John Offenberg and Mei Zheng, chairs

11:20

- 8E.1** **On-Line and Off-line Product Studies From Biogenic and Anthropogenic Aerosol Precursors Under High, Low, Ultra-Low, and No NO_x Conditions.** QUENTIN G. J. MALLOY, Qi Li, Bethany A. Warren, David R. Cocker III, University of California-Riverisde and CE-CERT; Hiroyuki Hagino, Japan Automobile Research Institute; Wentai Luo, James F. Pankow, Oregon Health and Science University.

11:35

- 8E.2** Recent Results in Molecular Speciation of Secondary Organic Aerosol. JASON D. SURRATT, Jesse H. Kroll, Shane M. Murphy, Armin Sorooshian, Puneet S. Chhabra, Nga L. Ng, Arthur Chan, Richard C. Flagan, John H. Seinfeld, California Institute of Technology; Tadeusz E. Kleindienst, Edward O. Edney, John H. Offenberg, Michael Lewandowski, U.S. Environmental Protection Agency; Mohammed Jaoui, Alion Science and Technology, Inc.; Magda Claeys, Yadian Gomez, Rafal Szmigielski, Reinhilde Vermeylen, Katarzyna Szmigielska, University of Antwerp; Willy Maenhaut, Ghent University.

11:50

- 8E.3** Is the Gas-Particle Partitioning in alpha-Pinene Secondary Organic Aerosol Reversible? ANDREW GRIESHOP, Neil Donahue, Allen Robinson, Carnegie Mellon University.

12:05

- 8E.4** Secondary Organic Carbon Contributions to Ambient PM_{2.5} in the Midwestern United States. MICHAEL LEWANDOWSKI, Tad E. Kleindienst, John H. Offenberg, Edward O. Edney, National Exposure Research Laboratory, US EPA; Mohammed Jaoui, Alion Science and Technology; Rebecca J. Sheesley, James J. Schauer, University of Wisconsin-Madison.

12:20

- 8E.5** Comparison of Health Effects and Composition of Secondary Organic Aerosols Formed With and Without Sulfur Dioxide. MELANIE DOYLE, Matt Campen, JeanClare Seagrave, Jake McDonald, Lovelace Respiratory Research Institute; John Seinfeld, California Institute of Technology; Annette Rohr, Eladio Knipping, EPRI.

WEDNESDAY

12:35 PM - 2:00 PM

LUNCH (ON YOUR OWN)

WEDNESDAY

2:00 PM - 3:30 PM

PLATFORM SESSION

9A URBAN AEROSOL SOURCE CHARACTERISATION AND APPORTIONMENT (PLATFORM)

RENO BALLROOM

Ted Russell and R. Subramanian, chairs

2:00

- 9A.1** Characterization, Seasonality and Source Apportionment of Fine Particulate Organic Matter at Urban and Rural Sites During TexAQS II. Matthew Fraser, SHAGUN BHAT, Rice University.

2:15

- 9A.2** Receptor Modelling of Chemically Speciated Aerosols Sampled with High Time Resolution by an Aerosol Mass Spectrometer and a Semi-Continuous Elements in Aerosol System. MAYGAN MCGUIRE, Greg. J. Evans, Cheol-Heon Jong, University of Toronto; Jeffrey Brook, Gang Lu, Environment Canada; John Ondov, University of Maryland.

2:30

- 9A.3** Source Apportionment of the Particulate Organic Mass During Winter and Summer in Zurich, Switzerland. ANDRE S.H. PREVOT, M. Rami Alfara, Jisca Sandradewi, Silke Weimer, Nolwenn Perron, Urs Baltensperger, Paul Scherrer Institute, Switzerland; Valentin Lanz, Christoph Hueglin, Swiss Federal Laboratories for Materials Testing and Research, Empa, Switzerland; Soenke Szidat, University of Bern, Switzerland.

2:45

- 9A.4** Source Apportionment of Ultrafine Airborne Particulate Matter During a Winter Pollution Episode. MICHAEL J. KLEEMAN, Sarah G. Riddle, Michael A. Robert, Chris A. Jakober, University of California, Davis; James J. Schauer, University of Wisconsin, Madison; Michael P. Hannigan, University of Colorado, Boulder.

3:00

- 9A.5** Bayesian Approaches for Pollution Source Location Identification and Apportionment. WILLIAM F. CHRISTENSEN, Basil Williams, C. Shane Reese, Brigham Young University.

3:15

- 9A.6** Near-Road PM_{2.5} Mass Concentrations of Manganese, Iron, Chromium and Lead: Mixed Model Analyses of Contributing Factors. Timothy M. Barzyk, Alan Vette, Carvin Stevens, BJ George, Carry Croghan, U.S. EPA; Jonathan Thornburg, Charles Rodes, RTI International; Ronald Williams, U.S. EPA.

9B INNOVATION IN MEDICINAL NANOPOARTICLES (PLATFORM)

NEVADA 1/2

Warren Finlay and Reinhard Vehring, chairs

2:00

- 9B.1** Inhaled Liquid Vaccines: Implications for Devices and Delivery. JAMES FINK, Nektar Therapeutics.

2:15

- 9B.2** The Staccato System for Thermal Aerosols and its Clinical Evaluation. DAN MYERS, Pravin Soni, Jim Cassella, Ramesh Damani, Reynaldo Quintana, Martin Wensley, Pete Lloyd, Patrik Munzar, Krishna Sharma, Amy Lu, Ron Hale, Alexza Pharmaceuticals; Josh Rabinowitz, Princeton University.

2:30

- 9B.3** Development of Inhalable Nanoparticles. RAIMAR LOEBENBERG, Warren H Finlay, University of Alberta; Wilson H Roa, Cross Cancer Institute; Elmar J Prenner, University of Calgary.

2:45

- 9B.4** Targeted Delivery of High Aspect Ratio Particles in Small Airway Bifurcations. ANDREW R. MARTIN, Warren H. Finlay, University of Alberta.

3:00

- 9B.5** Leucine Shells on Spray-dried Medicinal Microparticles. Christopher I. Grainger; King's College London, UK; James W. Ivey, Lisa A. Williams, Reinhard Vehring; Medimmune Inc.

3:15

- 9B.6** Drying Behavior of Polymer Solution Droplets during the Production of Microparticles for Sustained Drug Release. WILLARD R. FOSS, Amgen, Inc.

**9C INSTRUMENTATION:
MASS SPECTROMETERS 2 (PLATFORM)
NEVADA 3/4**

Murray Johnston and Qi Zhang, chairs

2:00

- 9C.1** Comparison of the effects of two cluster analysis methods on aerosol time of flight mass spectrometry data. Weixiang Zhao, University of California, Davis; PHILIP K. HOPKE, Clarkson University; Kimberly A. Prather, University of California, San Diego.

2:15

- 9C.2** Detection Limit Improvements of a Thermal Desorption Aerosol Gas Chromatograph Mass Spectrometer (TAG). NATHAN M. KREISBERG, Susanne V. Hering, Aerosol Dynamics Inc; Brent J. Williams, David R. Worton, Allen H. Goldstein, University of California at Berkeley.

2:30

- 9C.3** ClusterSculptor: Software for Expertly Steering the Classification of Single Particle Mass Spectra. ALLA ZELENYUK, Pacific Northwest National Laboratory; Dan Imre, Imre Consulting; Eun Ju Nam, Yiping Han, Klaus Mueller, Stony Brook University.

2:45

- 9C.4** High-time Resolution Measurements of Ambient Organic Aerosols with the Photoionization Aerosol Mass Spectrometer (PIAMS). MATTHEW DREYFUS, Murray Johnston, University of Delaware.

3:00

9C.5 Evaluation of an Automated Water-Based Aerosol Concentrator with an AMS During Two Field Campaigns. Allison Aiken, Ingrid Ulbrich, Jose Jimenez, MIKE CUBISON, University of Colorado; Qi Zhang, State University of New York- Albany; Katherine Hayden, Richard Leitch, Environment Canada; Constantinos Sioutas, Katharine Moore, University of Southern California.

3:15

9C.6 Laser-induced-fluorescence spectra of single atmospheric organic carbon and biological aerosol particles; measurements at New Haven, CT and Las Cruces, NM, USA. YONG-LE PAN, Richard K. Chang, Yale University; Ron G. Pinnick, Steven C. Hill, US Army Research Laboratory, Adelphi, MD; James M. Rosen, New Mexico State University.

9D ORGANIC AEROSOL MODELING (PLATFORM)

NEVADA 6/7

Eladio Knipping and Betty Pun, chairs

2:00

9D.1 Integrated Raoult's Law and Henry's Law Approach for Multiphase Organic Aerosol Partitioning. FRANK BOWMAN, Karen Eskelson, Bonnie Fort, University of North Dakota.

2:15

9D.2 Simulating the Partitioning of Semivolatile Inorganic Aerosol during the MILAGRO 2006 Campaign. CHRISTOS FOUNTOUKIS, Athanasios Nenes, Amy Sullivan, Rodney Weber, Georgia Institute of Technology; Timothy Vanreken, National Center for Atmospheric Research; Marc Fischer, Lawrence Berkeley National Laboratory; Edith Matias, Mireya Moya; Universidad Nacional Autonoma de Mexico; Delphine Farmer, Ronald Cohen, University of California Berkeley.

2:30

- 9D.3** Evaluation of New Approaches to Modeling Organic Particulate Matter in CAMx. Bonyoung Koo, GREG YARWOOD, Ralph Morris, ENVIRON International Corporation; Kirk Baker, Lake Michigan Air Directors Consortium.

2:45

- 9D.4** Effects of Uncertainties in the Thermodynamic Properties of Organic Aerosol Components in an Air Quality Model. SIMON L. CLEGG, University of East Anglia, Norwich, U.K.; Michael J. Kleeman, University of California, Davis; Robert J. Griffin, University of New Hampshire; John H. Seinfeld, California Institute of Technology.

3:00

- 9D.5** Describing Volatility Evolution and Reversible Partitioning Using the Volatility Basis Set. NEIL M. DONAHUE, Allen L. Robinson, Carnegie Mellon University.

3:15

- 9D.6** Considering Compound Complexity and Aging in Models of Organic Particulate Matter (OPM) Formation. JAMES PANKOW, Oregon Health & Science University; Kelley Barsanti, James Smith, National Center for Atmospheric Research.

9E HYGROSCOPICITY AND OTHER PHYSICAL PROPERTIES OF ORGANIC AEROSOL (PLATFORM)

NEVADA 9/10

Charlie Stanier and Jason Surratt, chairs

2:00

- 9E.1** Optical Properties and Hygroscopicity of Fresh Biomass Aerosols Generated from Various Combustion Conditions. CHRISTOPH RODEN, Tami Bond, University of Illinois - Urbana-Champaign.

2:15

- 9E.2** Cloud condensation nucleus activity of secondary organic aerosol particles mixed with sulfate. STEPHANIE KING, Thomas Rosenoern, John Shilling, Qi Chen, Scot Martin, Harvard University.

2:30

9E.3 Characterizing the CCN characteristics and Droplet Growth Kinetics of Ageing Secondary Organic Aerosol from Beta-caryophyllene. AKUA ASA-AWUKU, Athanasios Nenes, Georgia Institute of Technology; Gabriella Engelhart, Byong Hyoek Lee, Spyros Pandis, Carnegie Mellon University.

2:45

9E.4 Hygroscopic Growth and Cloud Condensation Nuclei Activity and Chemical Composition of Primary Biomass Smoke. CHRISTIAN M. CARRICO, Markus D. Petters, Sonia M. Kreidenweis, Anthony J. Prenni, Paul J. DeMott, Gavin R. McMeeking, Amy Sullivan, Lynn Rinehart, Jeffrey L. Collett, Colorado State University; William Malm, U.S. National Park Service; Cyle Wold, Wei-Min Hao, USDA/USFS Fire Sciences Laboratory.

3:00

9E.5 Investigation of Thermodynamic Properties, CCN Activity and Droplet Growth Kinetics of Carbonaceous Aerosol in Mexico City. LUZ TERESA PADRO, Chris Hennigan, Terry Latham, Athanasios Nenes, Rodney J. Weber, Georgia Institute of Technology.

3:15

9E.6 Water-Aerosol Interactions Downwind of Mexico City: Inferences about Mixing State, Droplet Growth Kinetics and Aging of Ambient Aerosol. SARA LANCE, Luz Padro, Athanasios Nenes, Georgia Institute of Technology; Eben Cross, Boston College; Tim Onasch, Douglas Worsnop, Aerodyne Research Inc; Xiao-Ying Yu, Lizabeth Alexander, Pacific Northwest National Laboratory; James N. Smith, National Center for Atmospheric Research.

WEDNESDAY

3:30 PM – 3:50 PM

COFFEE BREAK

CENTRAL AREA NEVADA CONFERENCE ROOMS

AAAR 26th Annual Conference

September 24–28, 2007 • Grand Sierra Resort • Reno, Nevada

WEDNESDAY

3:50 PM – 4:50 PM

Working Group Meetings 1

Nevada 1/2 – Aerosol Physics

Nevada 3/4 – Atmospheric Aerosol

Nevada 5 – History of Aerosol Science

Nevada 6/7 – Indoor Aerosol

Nevada 9/10 – Control Technology

WEDNESDAY

5:00 PM – 6:00 PM

Working Group Meetings 2

Nevada 1/2 – Instrumentation

Nevada 3/4 – Combustion/Materials

Nevada 6/7 – Health Related Aerosols

Nevada 9/10 – Fundamental Aerosol Chemistry

WEDNESDAY

6:00 PM – 8:00 PM

EXHIBITOR RECEPTION

SILVER STATE PAVILION

THURSDAY

8:00 AM – 9:10 AM

PLENARY 3

10 PLENARY SESSION

RENO BALLROOM

- 8:00 Opening Remarks
 Jay Turner, Washington University, Conference Chair
- 8:05 The Devil is in the Details: On the Role of
 Molecular Structure in Secondary Organic
 Aerosol Chemistry.
 Paul Ziemann, University of California - Riverside
- 8:55 Presentation of the Kenneth T. Whitby Award
 Roger McClellan, Awards Committee Chair
-

9:00 AM – 3:00 AM

SILVER STATE PAVILION

EXHIBITS OPEN

POSTER AREA OPEN



THURSDAY

9:15 AM – 11:00 AM

CONTINENTAL BREAKFAST AND POSTER SESSION 2

11A ADVANCES IN INSTRUMENTATION FOR ORGANIC AEROSOLS (POSTER) SILVER STATE PAVILION

Board 4

- 11A.1** Simultaneous On-line Size and Chemical Analysis of Gas Phase and Particulate Phase of Mainstream Tobacco Smoke. JOHN McAUGHEY, Conor McGrath, British American Tobacco; Thomas Adam, Christoph Mocker, Ralf Zimmermann, University of Augsburg.

Board 6

- 11A.2** Highly Time-Resolved Ambient Measurements of Organic Molecular Markers and Air Toxics in Pittsburgh Using Thermal Desorption Aerosol GC-MS (TAG). ANDREW T. LAMBE, Jennifer M. Logue, Allen L. Robinson, Neil M. Donahue, Carnegie Mellon University; David R. Worton, Brent J. Williams, Allen H. Goldstein, University of California, Berkeley; Nathan M. Kreisberg, Armond Gauthier, Susanne V. Hering, Aerosol Dynamics Inc.

Board 8

- 11A.3** Analysis of Organic Aerosols Using Methods of High-resolution Mass Spectrometry. YURY DESYATERIK, Pacific Northwest National Laboratory; Maggie L. Walser, Sergey A. Nizkorodov, University of California, Irvine; Julia Laskin, Alexander Laskin*, Pacific Northwest National Laboratory.

Board 10

- 11A.4** Measurements of Organic Nitrogen Budget in Atmospheric Aerosol. ANDREY KHLISTOV, Ming-Yeng Lin, Duke University.

Board 12

- 11A.5** Characterization of Nitrogen Containing Organic Species in Atmospheric Aqueous Samples and Aerosol Particles Using a High Resolution Time-of-Flight Aerosol Mass Spectrometer. Yele Sun, QI ZHANG, University at Albany, SUNY.



Board 14

- 11A.6** A Community Software for Quality Control and Analysis of Data from the Aerodyne Time-of-Flight Aerosol Mass Spectrometers (ToF-AMS). DONNA SUEPER, Aerodyne and University of Colorado, Boulder; James Allan, University of Manchester; Edward Dunlea, University of Colorado, Boulder; Jonny Crosier, University of Manchester; Joel Kimmel, Peter DeCarlo, Allison Aiken, Jose-Luis Jimenez, University of Colorado, Boulder; Doug Worsnop, Aerodyne.

Board 16

- 11A.7** Application of Positive Matrix Factorization (PMF) to Aerosol Mass Spectrometer (AMS) Data: Pitfalls and Results. Ingrid Ulbrich, JOSE L. JIMENEZ, Katja Dzepina, Kenneth Docherty, University of Colorado-Boulder; Qi Zhang, SUNY-Albany; Manjula Canagaratna, Douglas Worsnop, Aerodyne Research; Dara Salcedo, Univ. Estado Morelos.

Board 18

- 11A.8** Investigation of biomass combustion aerosol by H-NMR spectroscopy. James Hutchings, Pierre Herckes, Arizona State University; GAVIN MACMEEKING, Sonia Kreidenweis, Jeffrey L. Collett, Jr., Colorado State University; Wei Min Hao, Cyle Wold, US Forest Service; W.C. Malm, National Park Service.

Board 20

- 11A.9** Cross flow ion mobility spectrometry. MANG ZHANG, Anthony S Wexler, University of California, Davis.

Board 22

- 11A.10** A New Automated Monitor for the Measurement of Particulate Reactive Oxidant Concentrations in the Atmosphere. PRASANNA VENKATACHARI, Philip K. Hopke, Clarkson University.

Board 24

- 11A.11** Contribution of Carboxylic Acids in Ambient Aerosol to the m/z 44 Signal of an Aerodyne Aerosol Mass Spectrometer. NOBUYUKI TAKEGAWA, Takuma Miyakawa, Masamichi Watanabe, Yutaka Kondo, RCAST, University of Tokyo; Kimitaka Kawamura, Hokkaido University.

Board 26

- 11A.12** Low-Pressure Chemical Ionization Mass Spectrometry of Ultrafine Aerosols. SONYA C. COLLIER, Angela I. Shibata, Denis J. Phares, University of Southern California.

11B HOMELAND SECURITY AND BIOTERRORISM DEFENSE (POSTER)

SILVER STATE PAVILION

Board 28

- 11B.1** Estimating Exposure Risk for Escaping Office Personnel. ALFRED EISNER, Alion Life and Environmental Sciences; Russell Wiener, US EPA, NHSRC.

Board 30

- 11B.2** Electrical Enrichment of Bioaerosols near Ground Level. DAVID ALBURTY, Zachary Packingham, Alburtylab; Andrew Page, Page Applied Research.

Board 32

- 11B.3** Control-Volume Numerical Simulation of Bioaerosol Dispersion in the Atmospheric Surface Layer. JOSH HUBBARD, John Haglund, Ofodike Ezekoye, University of Texas at Austin.

Board 34

- 11B.4** Development of an Aerosol System for Uniformly Depositing *Bacillus anthracis* Spore Particles on Surfaces. PAUL A. BARON, Cherie F. Estill, Gregory J. Deye, Misty J. Hein, National Institute for Occupational Safety and Health; Jeremy K. Beard, John D. Wright, Lloyd. D. Larsen, Gregory E. Dahlstrom, U.S. Army Dugway Proving Ground.

11C NANOPARTICLES AND MATERIALS SYNTHESIS (POSTER)

SILVER STATE PAVILION PAVILION

Board 36

- 11C.1** Flame synthesis and Characteristics of SiO₂-TiO₂ Composite Nanoparticles. HEE-DONG JANG, Hankwon Chang, Kuk Cho, KIGAM; Daejeon, Korea; Soon-Joong Kim, Jin-Ho Park, Jeong-Woo Choi, Sogang University, Seoul, Korea

Board 38

- 11C.2** Flame Aerosol Synthesis of Phase-Pure Polymorphic Ceramic Oxide Particles: Effect of Particle Size. BING GUO, Mallika Mukundan, Texas A&M University, Zhiping Luo, Texas A&M University, College Station.

Board 40

- 11C.3** Synthesis of Nanoparticles for the Studies of Their Health Effects. MIRELLA MIETTINEN, Jorma Joutsensaari, Jorma Jokiniemi, University of Kuopio, Finland.

Board 42

- 11C.4** Synthesis of Bimetallic Noble Metal Aerosol Nanoparticles by Heterogeneous Spark Discharges. JEONG HOON BYEON, Jae-Hong Park, Ki-Young Yoon, Chul-Woo Park, Jungho Hwang, Yonsei University.

Board 44

- 11C.5** Water Droplet Formation in Humidified Nitrogen under Irradiation of 20 MeV Proton Beam and Corona Discharge. MASASHI IMANAKA, RIKEN (The Institute of Physical and Chemical Research); Shigeo Tomita, Suguru Kanda, Mitsuteru Fujieda, Shigeo Tomita, Hiroshi Kudo, University of Tsukuba.

Board 46

- 11C.6** Measurement of nascent charge distribution of nanoparticles and its manipulation in flame aerosol reactors. JINGKUN JIANG, Pratim Biswas, Washington University, St. Louis.

Board 48

- 11C.7** Micro/nano Patterning by Electrostatic Atomization with Controlled Frequency by Applying AC Superimposed on DC Fields. JOONGHYUK KIM, Hyun Cheol Oh, Sang Soo Kim, KAIST, Korea.

Board 50

- 11C.8** Particle Deposition for Nanopatterning Controlled by Highly Charging of Silver Nanoparticle Using Condensation and Evaporation Method. JOONGHYUK KIM, Sang Soo Kim, KAIST, Korea.

Board 52

- 11C.9** Gas-Phase Organic Passivation of Aerosolized Silicon Nanoparticles: Mobility Diameter Growth and Chemical Characterization. JASON HOLM, Jeffrey T. Roberts, University of Minnesota.

Board 54

- 11C.10** Characterization of Diffusion Flame Synthesis of Single-walled Carbon Nanotubes. CHAD UNRAU, Richard Axelbaum, Pratim Biswas, Washington University in St Louis; Phil Fraundorf, University of Missouri-St Louis.

Board 56

- 11C.11** Synthesis and Characterization of Doped Tin Oxide Nanocrystals for Gas Sensing Applications. GANHUA LU, Junhong Chen, University of Wisconsin-Milwaukee.

Board 58

- 11C.12** Numerical Investigations on the Coating Uniformity of the Multiplexed Electro spray Deposition System. HYUNCHEOL OH, Kyoungtae Kim, Sangsoo Kim, KAIST, Korea.

Board 60

- 11C.13** Semiempirical Description For Nanosize Material Production. MICHAEL P. ANISIMOV, Institute of Chemical Kinetics and Combustion, Siberian Division of the Russian Academy of Sciences, Novosibirsk, Russia

Board 62

- 11C.14** Iron Oxide Nanoparticle Aerosol Gel Formation in Counterflow Diffusion Flames. Hector Ruiz, YANGCHUAN XING, University of Missouri-Rolla.

Board 64

- 11C.15** Fabrication of Ag Nanoparticles-Based Devices by an Aerosol Process for Bio-Sensing Applications. D.-H. TSAI, M. R. Zachariah, University of Maryland and the National Institute of Standards and Technology; S.-J. Tsai, H.-C. Kan, S.-H. Guo, and R. J. Phaneuf, University of Maryland and Laboratory of Physical Science.

Board 66

- 11C.16** Mobility Characterization of SAM Functionalized Au Nanoparticles. D-H. TSAI, L. F. Pease III, R. A. Zangmeister, M. J. Tarlov, M. R. Zachariah
University of Maryland and the National Institute of Standards and Technology.

Board 68

- 11C.17** Stability Characterization of Colloidal Gold by Gas-Phase Differential Mobility Analysis-Kinetic Study. D-H. TSAI, L. F. Pease III, R. A. Zangmeister, M. J. Tarlov, and M. R. Zachariah, University of Maryland and National Institute of Standards and Technology.

Board 70

- 11C.18** Art Glass Colouring Using Liquid Flame Spray Generated Nanoparticles. JYRKI MAKELA,
Tampere University of Technology, Finland.

Board 72

- 11C.19** Current Characterization Studies of a Candidate Carbon Nanotube Reference Material at NIST. RABIA OFLAZ SPATZ, Rolf Zeisler, and Rick L. Paul, National Institute of Standards and Technology.

Board 74

- 11C.20** Synthesis of Silica Nanopowder from Siliceous Mudstone. KUK CHO, Hankwon Chang, Hee-Dong Jang, Korea Institute of Geoscience and Mineral Resources, Korea; Jin-Ho Park, Se-Young Oh, Sogang University.

Board 76

- 11C.21** Synthesis of Nanoparticles and Nanostructured Films Using Biological Complexes. CHRISTOPHER J. HOGAN JR., Luis B. Modesto Lopez, Pratim Biswas, Washington University in St. Louis.

11D AEROSOL PHYSICS (POSTER)

SILVER STATE PAVILION

Board 78

- 11D.1** Monte Carlo Simulations of Porous Film Deposition by Electrohydrodynamic Atomization. CHRISTOPHER J. HOGAN JR., Pratim Biswas, Washington University in St. Louis.

Board 80

- 11D.2** Multiple Scattering Measurements using Multistatic Lidar in Aerosol Research Chamber. JIN H. PARK, C. R. Philbrick, The Pennsylvania State University; Roy Gilles, Defence Research and Development Canada Valcartier.

Board 82

- 11D.3** Photosynthesis in suspended bacterial aerosol droplet and capsules in morphology dependent resonance conditions. MIKHAIL JOURAVLEV, Tel-Aviv University, Israel.

Board 84

- 11D.4** Surface Scattering for Charge Detection of Aerosol Droplets. MIKHAIL JOURAVLEV, Tel-Aviv University, Israel.

Board 86

- 11D.5** Controlled Multiscale Interaction of Aerosols. OLEG KIM, Patrick Dunn, University of Notre Dame.

Board 88

- 11D.6** Problems And Achievements In A Vapor-Gas Nucleation Research. MICHAEL P. ANISIMOV, Institute of Chemical Kinetics and Combustion, Siberian Division of the Russian Academy of Sciences. Novosibirsk, Russia.

Board 90

- 11D.7** Supercritical Vapor-Gas Binary Solution Nucleation. MICHAEL P. ANISIMOV, Vladimir F. Podgornyy, Institute of Chemical Kinetics and Combustion, Siberian Division of the Russian Academy of Sciences. Novosibirsk, Russia; Philip Hopke, Clarkson University.

Board 92

- 11D.8** Measurements of hygroscopic properties of ultrafine/nano particles using the NanoTDMA technique. JAE-SEOK KIM, Jiyeon Park, Kihong Park, Gwangju Institute of Science and Technology, Gwangju, Korea.

Board 94

- 11D.9** A CECD Web-Based Course for Particle Transport, Deposition and Removal. GOODARZ AHMADI, Stephen Doheny-Farina, John McLaughlin, Suresh Dhaniyala, Cetin Cetinkaya, Jeffrey Taylor, Kambiz Nazridoust, David J. Schmidt, Xinli Jia, and Xiangwei Liu, Clarkson University; Mark Glauser, Syracuse University; Fa-Gung Fan, Xerox Corporation; Ahmed Busnaina, Northeastern University.

Board 96

- 11D.10** Bumpy Particle Adhesion and Removal in Turbulent Flows -. GOODARZ AHMADI, Shiguang Guo, Clarkson University.

Board 98

- 11D.11** Prediction of Deposition Pattern in a Particle Laden Turbulent Channel Flow by Large Eddy Simulatio. Mazyar Salmanzadeh, Shahid Bahonar University of Kerman (Iran) and Clarkson University; Mohammad Rahnama, Shahid Bahonar University of Kerman (Iran); GOODARZ AHMADI, Clarkson University.

Board 100

- 11D.12** Characteristics of Aerosol Growth Events at Urban and Rural Locations in New York. MIN-SUK BAE, James J. Schwab, Kenneth L. Demerjian, Olga Hogrefe, G. Garland Lala, Qi Zhang, University at Albany, SUNY; Brian P. Frank, New York State Department of Environmental Conservation.

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- 11D.13** Method for parameterizing the effect of sub-grid scale aerosol dynamics on aerosol number concentration emission rates. JEFFREY R. PIERCE, Peter J. Adams, Carnegie Mellon University; Georgia Theodoritsi, Spyros N. Pandis, University of Patras, Greece.

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- 11D.14** Estimating the contribution of wall loss and condensation/evaporation to aerosol size evolution in smog chamber experiments. JEFFREY PIERCE, Gabriella Engelhart, Emily Weitkamp, Ravikant Pathak, Neil Donahue, Allen Robinson, Peter Adams, Carnegie Mellon University; Spyros Pandis, University of Patras, Greece.



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- 11D.15** The Influence of Particle Shape on the VUV Photoelectron Imaging of Nanoparticles. MATTHEW J. BERG, Christopher M. Sorensen, Amit Chakrabarti, Kansas State University; Kevin R. Wilson, Musahid Ahmed, Stephen R. Leone, Lawrence Berkeley National Laboratory.

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- 11D.16** Bipolar Diffusion Charging Characteristics of Airborne, Single-Walled Carbon Nanotubes. PRAMOD KULKARNI, Gregory Deye, Paul Baron, National Institute for Occupational Safety and Health.

Board 110

- 11D.17** Motion of a Drop through a Fabric in Presence of Wettability Gradient. HOJAT NASR, Goodarz Ahmadi, John B. McLaughlin, Xinli Jia, Clarkson University.

Board 112

- 11D.18** Dependence of Aerosol Scattering on Relative Humidity and Particulate Composition. WIESJE MOOIWEER, Derek C. Montague, Yong Cai, Terry Deshler, University of Wyoming.

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- 11D.19** High Speed Aircraft-Particle Interaction: Application to Aerosol Sampler Design. ARASH MOHARRERI, Suresh Dhaniyala, Clarkson University.

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- 11D.20** Estimating Single Scattering Albedo, Asymmetry Parameter and Aerosol Optical Depth in the Ultraviolet Using an Operational Retrieval Algorithm for Houston, TX. CHELSEA CORR, Thomas Taylor, Sonia Kreidenweis, James Slusser, John Davis, Colorado State University; Barry Lefer, University of Houston.

Board 118

- 11D.21** Relation between Electrical Mobility, Mass, and Size in the Nanometer Range of Charged Nanoparticles Generated by Electrospays. BON KI KU, National Institute for Occupational Safety and Health; Juan Fernandez de la Mora, Yale University; Sven Ude, Germany.

Board 120

- 11D.22** Experimental Study for Charge Limit of Nanoparticle Using Condensation and Evaporation Method for Particle Charging. JOONGHYUK KIM, Youngjoo Choi, Woojin Kim, Sang Soo Kim, KAIST, Korea.

Board 122

- 11D.23** FracMAP: A Graphical User-interactive Package for Performing Simulation and Morphological Analysis of Fractal-like Aerosol Agglomerates. Rajan K. Chakrabarty, Mark A. Garro, Hans Moosmueller, Desert Research Institute

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- 11D.24** Forces Affecting Particle Adhesion to Complex Surfaces. JONATHAN THORNBURG, Li Han, RTI International; Jacky Rosati, U.S. EPA NHRSC.

Board 126

- 11D.25** Adhesion and Removal Mechanism for Particles in Turbulent Flows with Electrostatic Effects. XINYU ZHANG, Goodarz Ahmadi, Clarkson University.

Board 128

- 11D.26** Volatility Measurements of Secondary Organic Aerosol Using a Thermodesorber. BYONG-HYOEK LEE, Gabriella J. Engelhart, Jeffery R. Pierce, Carnegie Mellon University; Spyros N. Pandis, Carnegie Mellon University and University of Patras.

Board 130

- 11D.27** Size-Resolved Kinetics Measurement of Nickel Nanoparticle Oxidation by Electrical Mobility Classification. LEI ZHOU, Ashish Rai, Nicholas Piekuel, Michael R. Zachariah, University of Maryland.

11E NANOPARTICLE MEASUREMENT AND HEALTH EFFECTS (POSTER)

SILVER STATE PAVILION

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- 11E.1** Development of Sampling and Analysis Methods to Monitor Nanoparticles in the Workplace Environment. GARY CASUCCIO, Traci Lersch, Keith Rickabaugh, RJ Lee Group, Inc.; Randall Ogle, John Jankovic, Oak Ridge National Laboratory.

Board 134

- 11E.2** Increases of Iron Concentrations of Human Airway Epithelial Cells in Vitro by Exposure to Magnetic Nanoparticles Coated with Organic Aerosol and Inorganic Acid. MYOSEON JANG, The University of North Carolina at Chapel Hill; Andrew J. Ghio, Environmental Protection Agency.

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- 11E.3** A Study on Magnetic Passive Aerosol Sampler for Measuring Aerosol Particle Penetration through Protective Ensembles. Zhong-Min Wang

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- 11E.4** Measurement of Airborne Nanoparticle Exposures Associated with the Use of Fume Hoods. SU-JUNG TSAI, Earl Ada, Michael J. Ellenbecker, University of Massachusetts Lowell.

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- 11E.5** Generation of Agglomerates of Nanoparticles for use in Biological Studies. DAVID G. NASH, Owen R. Moss, Brian A. Wong, The Hamner Institutes for Health Sciences.

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- 11E.6** Occupational Monitoring of Carbonaceous Nanomaterials. M. EILEEN BIRCH, Douglas E. Evans, Bon-Ki Ku, National Institute for Occupational Safety and Health.

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- 11E.7** Modeling of Workplace Nanoparticle Exposure. CHRISTOF ASBACH, Heinz Kaminski, U. Rating, Heinz Fissan, Thomas A.J. Kuhlbusch, Institute of Energy and Environmental Technology (IUTA).

11 F INORGANIC AEROSOL HEALTH EFFECTS (POSTER) SILVER STATE PAVILION

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- 11F.1** Physical and Chemical Characteristics of Aerosol Mists in Fertilizer Manufacturing Facilities. YU-MEI HSU, Chang-Yu Wu, Dale A. Lundgren, University of Florida; Brian Birky, Florida Institute of Phosphate Research.

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- 11F.2** Time-Dependent Release of Iron from Soot Particles by Acid Extraction and the Reduction of Fe³⁺ by Elemental Carbon. STEPHEN DRAKE, Bing Guo, Texas A&M University.

Board 150

- 11F.3** Tracking personal exposure to diesel exhaust at a trucking industry freight terminal using organic tracer analysis by thermal desorption GCMS. REBECCA J SHEESLEY, James J Schauer, University of Wisconsin, Madison; Thomas J Smith, Francine Laden, Drew Blicharz, Harvard School of Public Health; Eric Garshick, VA Boston Healthcare System, Channing Laboratory, Brigham and Women's Hospital and Harvard Medical School; Jeff DeMinter, Mark Meiritz, University of Wisconsin-Madison, Wisconsin State Lab of Hygiene.

Board 152

- 11F.4** Characterization of welding fume particles generated from a robotic welding system. BEAN T. CHEN, Sam Stone, Diane Schwegler-Berry, Amy Frazer, Michelle Donlin, Jared Cumpston, Aliakbar A. Afshari, David G. Frazer, Vincent Castranova, James M. Antonini, National Institute for Occupational Safety and Health.

Board 154

- 11F.5** Stimulation of Rat Alveolar Macrophages by Water-Soluble Components of PM_{2.5} Aerosols. Amy Prasch, MARTIN SHAFER, Jocelyn Hemming, James Schauer, University of Wisconsin-Madison; Michael Hannigan, University of Colorado.

11G NEAR ROADWAY IMPACTS (POSTER) **SILVER STATE PAVILION**

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- 11G.1** Fine, Ultrafine and Nanoparticle Trace Element Compositions Near a Major Freeway with a High Heavy-Duty Diesel Fraction. Leonidas Ntziachristos, Zhi Ning, MICHAEL D. GELLER, Constantinos Sioutas*, University of Southern California; Rebecca J. Sheesley, James J. Schauer, University of Wisconsin, Madison.



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- 11G.2** Particle Concentration And Characteristics Near A Major Freeway With Heavy-Duty Diesel Traffic. Leonidas Ntziachristos, Zhi Ning, MICHAEL D. GELLER and Constantinos Sioutas*, University of Southern California.

Board 160

- 11G.3** Real-Time Measurement of Ambient Particle Concentrations in Pune, India. MANISHA SINGH, TSI Inc.; Rakesh Kumar, Vikram Shenvi, National Environmental Engineering, Research Institute, P. Satyanarayana, Tesscorn Systems India.

Board 162

- 11G.4** Roadside measurements of size-segregated particulate organic compounds near gasoline and diesel-dominated freeways in Los Angeles, CA. HARISH C. PHULERIA, Philip M. Fine, Constantinos Sioutas, University of Southern California; Rebecca Sheesley, James J. Schauer, University of Wisconsin-Madison.

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- 11G.5** Evaluate PM emission impacts air quality concentrations and population exposure to traffic-generated pollutants in the near road environment. FU-LIN CHEN, Ronald Williams, Fred Dimmick, Richard Baldauf, U.S. Environmental Protection Agency.

Board 166

- 11G.6** Study of particulate mater at Mitrovica roadside in rural and urban area. AFRIM SYLA, Agron Veliu, Kadri Berisha, Syle Tahirsylaj, Leonora Nuli Universitet of Prishtina - Research Aerosol Institute Prishtina, Kosova.

Board 168

- 11G.7** Study Of Particulate Mater At Mtrovica Roadside In Rural And Urban Area Of Northern Kosova. AFRIM SYLA, Emin Karakashi, Agron Veliu, Kadri Berisha, Leonora Nuli, Mexhit Musa, Universitet of Prishtina, Mitrovic.

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- 11G.8** Experimental and modeling study of particle deposition near roads. JOHN VERANTH, Scott Speckart, Eric Paradyjak, University of Utah.

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- 11G.9** Effects of a Sound Barriers and Vegetation on the Dispersion of Ultrafine Aerosol from Highways. ANDREY KHLYSTOV, Duke University.

Board 174

- 11G.10** Characterization of Seasonal Changes in Aerosol Characteristics in Toronto, Canada through the SPORT campaign. GREG J. EVANS, Jonathan P.D. Abbatt, Cheol-Heon Jeong, Xiaohong Yao, Krystal Godri, University of Toronto.

11H URBAN AEROSOL MODELING (POSTER) SILVER STATE PAVILION

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- 11H.1** Linked Dependencies of PM_{2.5} and Ozone Responses to Emissions Controls, Now and in the Future. KUO-JEN LIAO, Efthimios Tagaris, Kasemsan Manomaiphiboon, Armistead G. Russell, Georgia Institute of Technology, Jung-Hun Woo, Praveen Amar, Shan He, Northeast States for Coordinated Air Use Management.

Board 178

- 11H.2** Integrated PM₁₀ Emission Assessment and Modeling in Mediterranean Regions. Cristina Faricelli, Maria Chiara Metallo, ATTILIO A POLI, Francesca Raffaele, Alessandra Scifo, Environmental System Analysis S.r.l.

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- 11H.3** A DSS Application to Perform Operational PM₁₀ Forecast. MARIA CHIARA METALLO, Cristina Faricelli, Attilio A. Poli, Pierluca Di Giovandomenico, Francesca Raffaele, Alessandra Scifo, Environmental System Analysis S.r.l.

Board 182

- 11H.4** Improvements in Modeling Urban PM Concentrations using the St. Louis Super Site Data. RALPH MORRIS, Bonyoung Koo, Jeremiah Johnson, Greg Yarwood, ENVIRON International Corporation; Jay Turner, Jennifer Garlock, Washington University in St. Louis; Calvin Ku, Wendy Vit, Adel Alsharafi, Missouri Department of Natural Resources.

Board 184

- 11H.5** Numerical CFD Modelling of the Formation of an Aerosol Distribution close to a Car Traffic Linked Source. BASTIEN ALBRIET, Karine Sartelet, CEREAs.

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- 11H.6** Understanding Source Impacts on Particulate Matter Concentrations in the Eastern United States. KRISTINA WAGSTROM, Spyros Pandis, Carnegie Mellon University.

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- 11H.7** Simulating Present-Day and Future Regional Air Quality As Climate Changes: Model Evaluation. JOHN DAWSON, Pavan Racherla, Barry Lynn, Peter Adams, Spyros Pandis, Carnegie Mellon University.

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- 11H.8** Concentration and Composition of Fine Particulate Matter and Resulting Human Health Effects from Using Installed Backup Generators for Meeting Peak Electricity Demand. ELISABETH A. GILMORE, Peter J. Adams, Lester B. Lave, Carnegie Mellon University.

Board 192

- 11H.9** Regional Process Analysis of Wintertime Particulate Matter Formation in Central California. QI YING, California Air Resources Board.

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- 11H.10** Predicting Future Air Quality in California's San Joaquin Valley. MARK HIXSON, Michael J. Kleeman, University of California-Davis.

Board 196

- 11H.11** Reconciliation of an emission based model and a source based model via source apportionment of PM_{2.5} - Part 2. Trace metals. Jaameen Baek, Sangil Lee, Bo Yan, Mei Zheng, ARMISTEAD G. RUSSELL, Georgia Institute of Technology.



111 URBAN AEROSOLS (POSTER)

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- 111.1** Assessing Traffic Related Exposure to Ultrafine and Fine Particulate Matter, Particle-bound PAHs, CO and CO₂ Across Communities in the Greater Toronto Area. KELLY SABALIAUSKAS, Greg J. Evans, Elki Tsang, Amy Peers, University of Toronto; Monica Campbell, Toronto Public Health; Dave Stieb, Amanda Wheeler, Health Canada; Jeff Brook, Environment Canada.

Board 200

- 111.2** Emissions from an ocean going, crude oil vessel. HARSHIT AGRAWAL, William W. Welch, Abhilash Nigam, J. Wayne Miller, David R Cocker III, University of California Riverside, CE-CERT.

Board 202

- 111.3** The Effects of Meteorological Conditions upon Infiltration of Outdoor Particles into Residential Building with Shelter-In Place. INTAEK HAHN, National Research Council Senior Research Associate, US EPA, Russell W. Wiener, National Homeland Security Research Center, US EPA.

Board 204

- 111.4** Personal Exposure to Trace Organics in Fine Particulate Matter. GREGORY BRINKMAN, Michael P Hannigan, Jana B Milford, University of Colorado – Boulder.

Board 206

- 111.5** Seasonal variation of ultrafine particle events in ambient atmosphere at Gwangju, Korea. JIYEON PARK, Jae-Seok Kim, Jihyun Kwak, Youngju Heo, Gangnam Cho, Kihong Park, Gwangju Institute of Science and Technology, Gwangju, Korea.

Board 208

- 111.6** High-time Resolution Observation of Ultrafine Particle Size and Number Concentrations in an Urban Area. CHEOL-HEON JEONG, Greg J. Evans, University of Toronto.

Board 210

- 11I.7** Daily Variation in The Properties of Urban Ultrafine Aerosol: Physical Characterization and Volatility. KATHARINE MOORE, Zhi Ning, Leonidas Ntziachristos, Constantinos Sioutas, University of Southern California; James J. Schauer, University of Wisconsin, Madison, WI.

Board 212

- 11I.8** Seasonal Variability of Aerosol Optical Properties in a Mediterranean Coastal Zone. AUROMEET SAHA, Texas A&M University; Marc Mallet.

Board 214

- 11I.9** Aerosol Light Absorption and Scattering at Four Sites in and Near Mexico City: Comparison with Las Vegas, Nevada, USA. GUADALUPE PAREDES-MIRANDA, W. Patrick Arnott, University of Nevada - Reno and Desert Research Institute; Nancy A. Marley, Jeffrey S. Gaffney, University of Arkansas.

Board 216

- 11I.10** Interactions between boreal wildfire and urban emissions. KEITH BEIN, Yongjing Zhao, Anthony Wexler, University of California Davis; Murray Johnston, University of Delaware.

11J REMOTE AND REGIONAL AEROSOLS - FIELD MEASUREMENTS (POSTER)

SILVER STATE PAVILION

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- 11J.1** Ultrafine particles from boreal wildfires: Long range receptor estimates of emission factors and rates. KEITH BEIN, Yongjing Zhao, Anthony Wexler, University of California Davis; Murray Johnston, University of Delaware.

Board 220

- 11J.2** Phreatomagmatic to Magmatic: The Evolution of Aerosol Size and Composition during the 2006 Eruptions of Augustine Volcano. CATHERINE CAHILL, University of Alaska Fairbanks; Thomas Cahill, DELTA Group, University of California, Davis; Jonathan Dehn, Stephen McNutt, Ken Dean, Peter Webley, University of Alaska Fairbanks.

Board 222

- 11J.3** Variation of Perceived Visibility with Aerosol Optical Property in the Urban Area of Seoul, Korea. KYUNG W. KIM, Gyeongju University, Korea; Young J. Kim, Gwangju Institute of Science and Technology, Korea; KYUNG W. KIM, Gyeongju University; Jinsang Jung, Young J. Kim, Gwangju Institute of Science and Technology; Taesik Kim, Gyeongju University, Jaeyong Ryoo, Korea Institute of Environmental Science and Technology.

Board 224

- 11J.4** Estimation of the source contributions from long range transport to particulate matters in Seoul, Korea. KYE-SEON KIM, Jong-Bae Huh, Hyun-Sun Kim, Seung-Hee Kim, Yong-Seok Seo, Bora Choi, Eun-Mi Choi, Seung-Muk Yi, School of Public Health, Seoul National University.

Board 226

- 11J.5** Characterization of Ambient Aerosol in Summer and Winter in a Small Urban Setting and in Summer at a Remote Mountaintop Site. DEREK C. MONTAGUE, Mariya M. Petrenko, Wiesje Mooiweer, Yong Cai, Terry Deshler, University of Wyoming.

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- 11J.6** Aerosol Number and Volume Concentrations During the Rocky Mountain Nitrate and Sulfate Study (ROMANS). EZRA LEVIN, Gavin McMeeking, Christian Carrico, Jeffrey Collett, Jr., Sonia Kreidenweis, Colorado State University; William Malm, National Park Service.

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- 11J.7** AMS measurements at Melpitz supersite (Germany) during winter 2007. LAURENT POULAIN, Gerald Spindler, Thomas Gnauk, Erika Bruggemann, Birgit Wehner, Hartmut Herrmann, Leibniz-Institute for Tropospheric Research.

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- 11J.8** Characterization Of Particulate Matter Along A North. PIERRE HERCKES, Jenny Cox, Kandis Knight, Nabin Upadhyay, Panjai Prapaipong; Arizona State University; Rainer Lohmann, University of Rhode Island; Luca Nizzetto, University of Insubria.



Board 234

- 11J.9** Three Years Measurement of sulfate at Okinawa, Japan in Spring Period. AKINORI TAKAMI, Xiaoxiu Lun, NIES; Takao Miyoshi, RIHN; Akio Shimono, SPS; Shiro Hatakeyama, TUAT.

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- 11J.10** Particulate Matter Characteristics During Transport Between Two Ground Sites in the 2006 MILAGRO Campaign. XIAO-YING YU, Nels S. Laulainen, M. Liz Alexander, J. Christopher Doran, Jerome D. Fast, Carl M. Berkowitz, Pacific Northwest National Laboratory; Timothy B. Onasch, Douglas R. Worsnop, Aerodyne Research Inc.; Eben S. Cross, Boston College; W. Pat Arnott, Desert Research Institute.

Board 238

- 11J.11** Continuous measurements of inorganic Reactive Gases and aerosols across Europe during the EMEP Intensive Measurement Campaigns 2006/07. EIKO NEMITZ, Rick Thomas, Gavin Phillips, Centre for Ecology and Hydrology, Edinburgh, UK; Chiara di Marco, Edinburgh University, UK; Rami Alfarra, Andre Prevot, Paul Scherrer Institute, CH; Rene Otjes, Jan Willem Erisman, Energy Research Centre of the Netherlands (ECN), NL; Ari Laaksonen, Jukka Rautiainen, University of Kuopio, FI; Laurent Poulain, Institute for Tropospheric Research, D.

Board 240

- 11J.12** Characterization of chemical constituents in PM_{2.5} during yellow sand events in Seoul, Korea. HYUN-SUN KIM, Jong-Bae Huh, Bo-Ra Choi, Kye-Seon Kim, Seung-Muk Yi, School of Public Health, Seoul National University; Jang-pyo Cheong, KyungSung University.

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- 11J.13** A Mass Spectral Fingerprint of Ship Emission Particles by Aerosol Time-of-Flight Mass Spectrometry and Applications for Source Apportionment. ANDREW P. AULT, Gerardo Dominguez, Hiroshi Furutani, Mark Thiemens, Kimberly Prather, University of California San Diego; Kimberly Prather, Scripps Institution of Oceanography.

Board 244

- 11J.14** Aviation-Related Meteorological Changes Of Fog In Southern Nigeria. Onifade, Yemi Sikiru.

Board 246

- 11J.15** Methodology Using Surrogate Surface for the Estimation of Atmospheric Dry Deposition Applicable in the Korean Peninsula. JANGPYO CHEONG, Seung-Hoon Lee, Kungsung University; Seung-Muk Yi, Seoul National University.

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- 11J.16** Effect of Atmospheric Deposition to Juam Reservoir in Korea. JangPyo Cheong, YOUNG-HOAN JANG, Kungsung University; Il-kyu Kim, Pukyong National University; Namik Jang, Yeongsan River Environment Research Center.

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- 11J.17** Atmospheric Aerosol Composition during the Convective and Orographically-induced Precipitation Study (COPS). WILLIAM MORGAN, Hugh Coe, Jonathan Crosier, James Allan, Paul Williams, University of Manchester, UK.

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- 11J.18** Measurement and Derivation of Emissions Factors for Cotton Field Preparation. APRIL L. HISCOX, David R. Miller, The University of Connecticut; Junming Wang, New Mexico State University; Britt A. Holmen, The University of Vermont; Wenli Yang, Crocker Nuclear Laboratory.

Board 254

- 11J.19** Does Phytoplankton DMS Affect Iron Bioavailability in Marine Atmospheric Aerosols? ANNE M. JOHANSEN, Lindsey M. Shank, Central Washington University.

Board 256

- 11J.20** Characterization of Saharan Dust Physical/Optical Properties as Derived from the NASA NAMMA Airborne Observations. GAO CHEN, Bruce Anderson, Lee Thornhill, Eddie Winstead, Kuan-man Xu, and Yali Luo, NASA Langley Research Center.

Board 258

- 11J.21** Implications of atmospheric SO₂ and aerosol SO₄²⁻ variability and transport on particle acidity in Toronto, Canada. KRYSTAL J. GODRI, Greg J. Evans, University of Toronto.

11K CARBONACEOUS AEROSOL HYGROSCOPICITY AND OTHER PHYSICAL PROPERTIES (POSTER) SILVER STATE PAVILION

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- 11K.1** Absorption Enhancement of Sulfate-Coated Black-Dyed PSL Particles. JEONGHOON LEE, Arthur J. Sedlacek III, Brookhaven National Laboratory.

Board 262

- 11K.2** Formation of highly hygroscopic soot aerosols by atmospheric processing with sulfuric acid vapor. ALEXEI KHALIZOV, Renyi Zhang, Dan Zhang, Huaxin Xue, Texas A&M University; Joakim Pagels, Peter H. McMurry, University of Minnesota; Jianmin Chen, Fudan University.

Board 264

- 11K.3** A Novel Optical Absorption Approach for Black Carbon Measurement in Snow. MARTIN SHAFER, Brian Majestic, James Schauer, University of Wisconsin-Madison.

Board 266

- 11K.4** Humidification Factors (f(RH)) for Fresh Biomass Smoke from Laboratory Controlled Burns. Derek Day, JENNY HAND, CIRA, Colorado State University; Gavin McMeeking, Sonia Kreidenweis, Jeff Collett, Jr., Colorado State University; Cyle Wold, Wei-Min Hao, USFS Missoula Fire Science Laboratory; William Malm, National Park Service.

Board 268

- 11K.5** Laboratory Investigation of the Photochemical Oxidation of Organic Aerosol from Wood Fires. ANDREW GRIESHOP, Allen Robinson, Carnegie Mellon University.

Board 270

- 11K.6** Effect of Hydrophobic Primary Organic Aerosols on the Yield of Secondary Organic Aerosol from Ozonolysis of alpha-Pinene. CHEN SONG, Rahul A. Zaveri, Mikaela L. Alexander, Pacific Northwest National Laboratory; Joel A. Thornton, University of Washington; Sasha Madronich, National Center for Atmospheric Research; John V. Ortega, Alexander Laskin, Xiao-Ying Yu, Alla Zelenyuk, Matt Newburn, David A. Maughan, Jerome Birnbaum, Pacific Northwest National Laboratory.

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- 11K.7** Analysis of PM_{2.5} Speciation Network Carbon Blank Data. Max Peterson, JAMES FLANAGAN, Larry Michael, and R.K.M. Jayanty, RTI International.

Board 274

- 11K.8** Observations of hygroscopic and optical properties of biogenic secondary organic aerosol generated using a simple continuous flow reaction chamber. Markus D. Petters, GAVIN R MCMECKING, Taehyoung Lee, Sonia M. Kreidenweis, Christian M. Carrico, Jeffrey L. Collett, Jr., Colorado State University; Paul J. Ziemann, University of California, Riverside.

11L ORGANIC AND ELEMENTAL CARBON METHODS (POSTER)

SILVER STATE PAVILION

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- 11L.1** A Comparison of Thermal-Optical Carbon Measurement Methods for Aerosols Emitted by a Series of Controlled Biomass Burning Experiments. GAVIN MCMECKING, Amy Sullivan, Sonia Kreidenweis, Jeffrey Collett, Jr., Colorado State University; Thomas Kirchstetter, Melissa Lunden, Lawrence Berkeley National Laboratory; Antony Chen, Daniel Obrist, Hans Moosmueller, Desert Research Institute.

Board 278

- 11L.2** Volatility of Organic Materials from Quartz Filters. CHIN H. PHUAH, Ann M. Dillner, University of California - Davis.

Board 280

- 11L.3** Real-time analyzers for routine measurement of HN03 , NH_3 , NO_3^- and NH_4^+ . ERIC EDGERTON, Ben Hartsell, Atmospheric Research & Analysis, Inc.; D. Alan Hansen, Eladio Knipping, EPRI.

11M CARBONACEOUS AEROSOL EMISSIONS CHARACTERIZATION (POSTER) SILVER STATE PAVILION

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- 11M.1** PM_{2.5} composition of several woodsmoke events observed during the winters of 2005-2007. Eric Edgerton, BEN HARTSELL, Atmospheric Research & Analysis, Inc.; Justin Walters, John Jansen, Southern Company.

Board 284

- 11M.2** Experimental and theoretical closure experiments for biomass smoke using extinction cells, photoacoustics and nephelometry. LAURA MACK, Daniel Obrist, Hans Moosmueller, Desert Research Institute

Board 286

- 11M.3** Chemistry of Air Toxics Emitted from In-use Heavy Duty Vehicles Equipped with DPF and SCR Retrofits. M.-C. OLICER CHANG, Paul Rieger, Jorn D. Herner, Alberto Ayala, William H. Robertson, Keshav Sahay, and Mark Fuentes, California Air Resources Board.

Board 288

- 11M.4** Diesel Engine Emissions Detection Using a Photoelectric Tandem Differential Mobility Analyzer. MICHAEL A. HILL, Suresh Dhaniyala, Clarkson University; Brian Frank, Thomas Lanni, New York State Department of Environmental Conservation.

Board 290

- 11M.5** The Impact of Primary Aerosol from Ocean-going Engines on Air Quality in the Southern California Air Basin. DAVID R. COCKER III, Harshit Agrawal, Abhilash Nigam, J. Wayne Miller, University of California Riverside, CE-CERT; William W. Welch, CE-CERT; Solomon Teffera, South Coast Air Quality Management District.

Board 292

- 11M.6** Using Multi-Wavelength Aethalometer Measurements to Characterize and Quantify Wood Burning Versus Traffic. ANDRE S.H. PREVOT, Jisca Sandradewi, Ernest Weingartner, Martin Gysel, Nolwenn Perron, M. Rami Alfarra, Urs Baltensperger, Paul Scherrer Institute, Switzerland; Soenke Szidat, University of Bern, Switzerland.

11N INSTRUMENTATION FOR OPTICAL MEASUREMENTS (POSTER)

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- 11N.1** Design and performance of a new 0.5-m cavity ring-down instrument for the measurement of aerosol optical extinction. DANIEL OBRIST, Hans Moosmueller, Desert Research Institute.

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- 11N.2** The Effect of Filter-Induced Absorption Enhancement in the Thermal-Optical Transmission Instrument for Measuring Particulate Black Carbon. JOSEPH M. CONNY, National Institute of Standards and Technology; Robert A. Cary, Sunset Laboratory, Inc.

Board 298

- 11N.3** Real-time atmospheric aerosol monitoring system for single-particle fluorescence spectra, size, & concentration. YONG-LE PAN, Richard K. Chang, Yale University; Ronald G. Pinnick, Steven C. Hill, US Army Research Laboratory.

11O INSTRUMENTATION FOR ELECTRICAL PROPERTIES (POSTER)

SILVER STATE PAVILION

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- 11O.1** Intercomparability study of electrical mobility particles sizers with NaCl, Diesel soot, and ambient aerosols. CHRISTOF ASBACH, Heinz Kaminski, Burkhard Stahlmecke, Heinz Fissan, Thomas A.J. Kuhlbusch, Institute of Energy and Environmental Technology (IUTA) ; Christian Monz, Dirk Dahmann, Institute fuer Gefahrstoff-Forschung.

Board 302

- 110.2** Ultrafine Particle Surface Area Measurement with NSAM and SMPS. CHRISTOF ASBACH, Heinz Kaminski, Heinz Fissan, Thomas A.J. Kuhlbusch, Institute of Energy and Environmental Technology (IUTA) Christian Monz, Dirk Dahmann, Institut f

Board 304

- 110.3** Instrument Measurement Response to Different Nanoparticle Aerosols. LINDA M. H. SCHMOLL, Patrick O'Shaughnessy, University of Iowa.

Board 306

- 110.4** A Compositional Miniature Electrical Aerosol Spectrometer (c-MEAS) for Volatility study of Ultrafine Particles. MANISH RANJAN, Suresh Dhaniyala, Philip K. Hopke, Clarkson University.

Board 308

- 110.5** Bipolar Charging of Soot Aggregates. MATTI MARICQ, Ford Motor Company.

Board 310

- 110.6** Characterization of the Nanoparticle Crossflow Differential Mobility Analyzer (NCDMA). SAYURI YAPA, Suresh Dhaniyala, Clarkson University.

Board 312

- 110.7** Development Of A Corona-Based Unipolar Aerosol Charger. CHAOLONG QI, David Y.H. Pui, University of Minnesota; Da-Ren Chen, Washington University in St. Louis.

Board 314

- 110.8** New User-Friendly Updated Software (TDMAFit) for Analyzing Data from Tandem Differential Mobility Analyzer Experiments. MARK R. STOLZENBURG, Peter H. McMurry, University of Minnesota; Xiaoliang Wang, TSI Inc.

Board 316

- 110.9** Opposed Migration Aerosol Classifier. HARMONY GATES, Richard Flagan, Caltech; Fred Brechtel, Brechtel Manufacturing Inc.

Board 318

- 110.10** Experimental and Numerical Studies of Particle Transmission Efficiency through Aerosol Neutralizers. XIAOLIANG WANG, Stanley L. Kaufman, Gilmore J. Sem, TSI Inc.; Naoya Hama, Tokyo Dylec Corp.; Hiromu Sakurai, Institute of Advanced Industrial Science and Technology (AIST); Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota.

Board 320

- 110.11** Non-Aerosol Measurements to Characterize Radioactive Aerosol Neutralizers. Stanley L. Kaufman, Gilmore J. Sem, XIAOLIANG WANG, TSI Inc; Takafumi Seto, Hiromu Sakurai, National Institute of Advanced Industrial Science and Technology (AIST); Eric Eastwold, Chungman Kim, Mark Stolzenburg, Peter H. McMurry, University of Minnesota.

Board 322

- 110.12** Inter-comparison of Instrumentation used in the Measurement of Particulate Emissions from Gas Turbine Engines. DAVID LISCINSKY, United Technologies Research Center; Anuj Bhargava, Pratt & Whitney; Bruce E. Anderson, Eddie Winstead, NASA Langley Research Center; Don Hagen, Prem Lobo, Phil Whitefield, University of Missouri-Rolla; Chowen Wey, Changlie Wey, NASA Glenn Research Center; Rick Miake-Lye, Tim Onasch, Aerodyne Research Inc.; Robert Howard, AEDC/ATA.

Board 324

- 110.13** Separating Particles with Different Shapes Using a TDMA system. ALLA ZELENYUK, Pacific Northwest National Laboratory; Dan Imre, Imre Consulting.

Board 326

- 110.14** Use Of Electrical Aerosol Detector (Ead) For Particle Size Distribution Measurement. LIN LI, Da-Ren Chen, Washington University in St. Louis; Perng-Jy. Tsai, National Cheng Kung University.



11P INSTRUMENTATION – MASS SPECTROMETRY (POSTER) SILVER STATE PAVILION

Board 328

- 11P.1** Numerical Characterization of the Airborne Multi-angle Light Scattering Spectrometer Inlet. MIHAI CHIRUTA, Francisco Romay, William Dick, James Marti, MSP Corporation.

Board 330

- 11P.2** On-line Characterization of Oligomers using a Novel Soft Ionization Aerosol Mass Spectrometer (SIAMS). JULIE A. LLOYD, Murray V. Johnston, University of Delaware.

Board 332

- 11P.3** Development of an Ion Optics for Effective Ion Detection in Single Particle Mass Spectrometry. SUNG-WOO CHO, Donggeun Lee, Pusan National University.

Board 334

- 11P.4** Adaptation of an Aerodyne ToF-AMS for the new NCAR HIAPER research aircraft and Pressure-Controlled Inlet development. Donna Sueper, Joel Kimmel, Jose Jimenez, MIKE CUBISON, University of Colorado; Bill Brooks, John Jayne, Aerodyne Research Inc.

Board 336

- 11P.5** A Thermodesorber-Mass Spectrometer Technique for Characterization of the Volatility and Composition of Organic Aerosol. ANNE LISE FAULHABER, Brenda Thomas, Paul Ziemann, University of California, Riverside; Alex Huffman, Jose Jimenez, CIRES and University of Colorado; John Jayne, Douglas Worsnop, Aerodyne Research Inc.

Board 338

- 11P.6** Component and Morphology Biases on Quantifying Size and Composition of Nanoparticles using Single-Particle Mass Spectrometry. LEI ZHOU, Ashish Rai, Michael R. Zachariah University of Maryland.

Board 340

- 11P.7** Analysis and comparison of mass spectrum of different particles measured by a Q-AMS on board a mobile lab. GANG LU, Cris Mihele, Patrick Lee, Lisa Graham, Jeffery R. Brook, Environment Canada.

Board 342

- 11P.8** Generation and Characterization of Secondary Organic Aerosols Using a High Resolution Time-of-Flight Aerosol Mass Spectrometer. Olga Hogrefe, Qi Zhang, Yongquan Li, Yele Sun, Min-Suk Bae, James J. Schwab, Kenneth L. Demerjian, University at Albany, SUNY; BRIAN P. FRANK, New York State Department of Environmental Conservation.

Board 344

- 11P.9** Characterization of Oxygenated Organic Compounds Using a High Resolution Time-of-Flight Aerosol Mass Spectrometer. Olga Hogrefe, Qi Zhang, Yele Sun, Min-Suk Bae, James J. Schwab and Kenneth L. Demerjian, University at Albany, SUNY; BRIAN P. FRANK, New York State Department of Environmental Conservation.

THURSDAY

11:00 AM – 12:30

PLATFORM SESSION

12A ADVANCES IN INSTRUMENTATION FOR ORGANIC AEROSOLS: NEW APPROACHES (PLATFORM) RENO BALLROOM

Allen Goldstein and Jose-Luis Jimenez, chairs

11:00

- 12A.1** Bridging the Gap Between Top-Down and Bottom-Up Characterization of Organic Aerosols. MURRAY JOHNSTON, Matthew Dreyfus, Katherine Heaton, Julie Lloyd, Christopher Zordan, University of Delaware.



11:15

12A.2 Tracing the Sources and Transformations of Oxidized Organic Aerosols in the Atmosphere by Spectroscopic methods: Results from Functional Group Analysis. Stefano Decesari, MARIA CRISTINA FACCHINI, Sandro Fuzzi, Emanuela Finessi, Italian National Research Council, Italy; Fabio Moretti, Emilio Tagliavini, Centro Interdipartimentale di Ricerca per le Scienze Ambientali, University of Bologna, Italy; also at Department of Chemistry, University of Bologna, Italy.

11:30

12A.3 Secondary Organic Aerosol Formation Through Cloud Processing: Acids and Oligomers from Aqueous Methylglyoxal Photooxidation. Katye Altieri, Annmarie Carlton, EPA; Yi Tan, Sybil Seitzinger, BARBARA TURPIN, Rutgers University.

11:45

12A.4 Comparison of Organic Functional Groups from FTIR and Organic Mass Fragments from AMS at Six North American Field Studies. LYNN M. RUSSELL, Stefania Gilardoni, Lelia N. Hawkins, Scripps Institution of Oceanography, UCSD; Tim S. Bates, Pacific Marine Environmental Laboratory, NOAA; James D. Allan, University of Manchester; Darrel Baumgardner, National Autonomous University of Mexico; Peter F. DeCarlo, Edward Dunlea, Jose L. Jimenez, University of Colorado at Boulder; Tim B. Onasch, Doug R. Worsnop, Aerodyne Research Inc.

12:00

12A.5 Introducing the Concept of Potential Aerosol Mass. Eunha Kang, WILLIAM H. BRUNE, Magaret Root, Pennsylvania State University; Darin Toohey, University of Colorado.

12:15

12A.6 Development and Application of a Soot Particle Mass Spectrometer. Achim Trimborn, DAGMAR TRIMBORN, Timothy Onasch, Manjula Canagaratna, Jesse Kroll, John Jayne, Douglas Worsnop, Aerodyne Research, Inc.; Gregory Kok, Droplet Measurement Technologies.



12B NANOPARTICLE MEASUREMENT AND HEALTH EFFECTS (PLATFORM) NEVADA 1/2

Peter Jaques and Bing Guo, chairs

11:00

12B.1 Effects on manufactured nanoparticles on lung and vascular cells. JOHN VERANTH, N. Shane Cutler, Cassandra Deering, Agnes Ostafin, Garold Yost, University of Utah.

11:15

12B.2 Size Distribution and Characteristics of Airborne Unrefined Carbon Nanotube Particles. JUDY Q. XIONG, Maire S.A. Heikkinen, Beverly S. Cohen, New York University School of Medicine.

11:30

12B.3 Measured Airborne Nanoparticle Exposures at an NSF Nanoscale Science and Engineering Center. SU-JUNG TSAI, Kwangseog Ahn, Earl Ada, Michael J. Ellenbecker, University of Massachusetts Lowell.

11:45

12B.4 The fate of airborne nanoparticles from a leak in a manufacturing process into a working environment. NICHOLAS STANLEY, David Y.H. Pui, Thomas Kuehn, University of Minnesota; Christof Asbach, Thomas Kuhlbusch, Heinz Fissan, Institute of Energy and Environmental Technology.

12:00

12B.5 Evaluating the potential for release of carbon nanotubes and subsequent occupational exposure during processing of a nanocomposite. AMIT GUPTA, Mark L. Clark, Battelle Toxicology Northwest; Daniel J. Gaspar, Pacific Northwest National Laboratory; Michael G. Yost, University of Washington; Gwen M. Gross, Paul E. Rempes, The Boeing Company; John C. Martin, Jr., Washington Technology Center, Seattle, WA.

12:15

12B.6 Murine Pulmonary Pathology and Systemic Immune Function Following Inhalation of Multiwalled Carbon Nanotubes (MWCNTs). LEAH A. MITCHELL, Andrew Gigliotti, Jacob D. McDonald, Lovelace Respiratory Research Institute; Jun Gao, Scott W. Burchiel, University of New Mexico.

**12C AEROSOL SAMPLING AND
MEASUREMENT (PLATFORM)
NEVADA 3/4**

Weiling Li and Richard Chang, chairs

11:00

12C.1 Thermal Equilibration of Soot Electrical Charge by Particle Coagulation. MATTI MARICQ, Ford Motor Company

11:15

12C.2 Bringing Bioaerosols into a Microfluidic Cell using Electrospray. HERMES HUANG, Richard Chang, Yale University.

11:30

12C.3 Sampling and Measurement of Mainstream Cigarette Smoke Puffs with a Cascade Impactor. David B. Kane, Steven S. Larson, Philip Morris USA.

11:45

12C.4 Shape selection of aerosol particles using electrostatic classifiers. RAJAN K. CHAKRABARTY, Hans Moosmueller, Desert Research Institute.

12:00

12C.5 Aerodynamic Focusing of Aerosol Particles Through a Micro-Nozzle: Modeling and Experiment. JUSTIN HOEY, Iskander Akhatov, Orven Swenson, Doug Schulz, North Dakota State University.

12:15

12C.6 A Mobile Air Quality Monitoring Trailer for Developing Countries, First Results. T. PETAJA, L. Laakso, H. Laakso, P.P. Aalto, T. Pohja, E. Siivola, P. Keronen, S. Haapanala, M. Kulmala, University of Helsinki, Finland; H. Hakola, Finnish Meteorological Institute, Finland; N.Kgabi, M. Molefe, D. Mabaso, J.J. Pienaar, The North-West University, Republic of South Africa; E. Sjoberg, M. Jokinen, Department of Agriculture, Conservation and Environment, Mafikeng, Republic of South Africa.

**12D AEROSOL NUCLEATION (PLATFORM)
NEVADA 6/7**

Keith Bein and Tony Wexler, chairs

11:00

12D.1 Molecular Dynamics simulations of the size dependence of deliquescence in atmospheric nano-particles: Effect of surface tension. RANJIT BAHADUR, Lynn M. Russell, Scripps Institution of Oceanography, UCSD.

11:15

12D.2 Homogeneous Nucleation in the Ozone - Alpha-pinene Reaction studied by tunable vacuum UV Photoionization Mass Spectrometry. ERIN R. MYSAK, Michael P. Tolocka, Tomas Baer, University of North Carolina; Paul J. Ziemann, University of California Riverside; Eric Gloaguen, Kevin R. Wilson, Musahid Ahmed, Lawrence Berkeley National Laboratory.

11:30

12D.3 Laboratory-Measured Nucleation Rates of Sulfuric Acid and Water from the SO₂ + OH Reaction. SHAN-HU LEE, David R. Benson, Kent State University.

11:45

12D.4 Measurements of Homogeneous Nucleation Rates of n-alcohols in a Supersonic Nozzle by Small Angle X ray Scattering. BARBARA WYSLOUZIL, The Ohio State University; David Ghosh, Reinhard Strey, University of Cologne, Germany.

12:00

12D.5 Heterogeneous Nucleation on Single Microdroplets. ASIT K. RAY, James L. Huckaby, University of Kentucky.

12:15

12D.6 Impurity Effect On A Nucleation Rate Of Single Vapor. LYUBOV ANISIMOVA, Binghamton University.



12E TRAFFIC-RELATED EMISSIONS (PLATFORM) NEVADA 9/10

Dane Westerdahl and Betty Pun, chairs

11:00

12E.1 Trends in Black Carbon Concentrations and Emission Factors from Diesel Vehicles in California. THOMAS W. KIRCHSTETTER, T. Novakov, Shaheen Tonse, Lawrence Berkeley National Laboratory; Jeffery Aguiar, University of the Pacific; David Fairley, Bay Area Air Quality Management District.

11:15

12E.2 Reconciling Emission Factors of PM Species Emitted by Vehicles in Freeways and Roadway Tunnel Environments. Zhi Ning, Harish C. Phuleria, MICHAEL D. GELLER, Constantinos Sioutas*, University of Southern California.

11:30

12E.3 On-Road Measurement of Gasoline and Diesel Vehicle Emission Trends. George Ban-Weiss, John McLaughlin, ROBERT HARLEY, University of California, Berkeley; Thomas Kirchstetter, Melissa Lunden, Lawrence Berkeley National Laboratory; Anthony Strawa, NASA.

11:45

12E.4 Commonalities between Nonroad and Onroad Diesel Emissions. HARSHIT AGRAWAL, Abhilash Nigam, Varalakshmi Jayaram, Ajay Chaudhary, Kent Johnson, William W. Welch, Wayne Miller, David Cocker, University of California-Riverside, CE-CERT; Aniket Sawant (currently at Johnson Matthey Inc.); Sandip Shah (currently at Ford Motor Company).

12:00

12E.5 Megacity Polycyclic Aromatic Hydrocarbon Exposure, Emissions, and Transformations in Mexico City. LINSEY C. MARR, Dwight A. Thornhill, Mei Jiang, Virginia Tech; Katja Dzepina, Jose L. Jimenez, University of Colorado; Janet Arey, University of California at Riverside; Scott C. Herndon, Timothy B. Onasch, Ezra C. Wood, John T. Jayne, Charles E. Kolb, Aerodyne, Inc.; Berk Knighton, University of Montana; Miguel A. Zavala, Luisa T. Molina, Massachusetts Institute of Technology.

12:15

- 12E.6** Abrasion Particles Produced by Road Traffic.
NICOLAS BUKOWIECKI, Peter Lienemann,
Christoph N. Zwicky, Matthias Hill, Brigitte
Buchmann, Robert Gehrig, Empa - Materials
Science and Technology; Markus Furger, Andre
Prevot, Urs Baltensperger, Paul Scherrer Institut.

THURSDAY

12:30 PM – 2:00 PM

LUNCH (ON YOUR OWN)

THURSDAY

2:00 PM - 3:30 PM

PLATFORM SESSION

**13A ADVANCES IN INSTRUMENTATION
FOR ORGANIC AEROSOLS: SEMIVOLATILE
ORGANIC AEROSOLS (PLATFORM)
RENO BALLROOM**

Andrey Khlystov and Maria Cristina Facchini, chairs

2:00

- 13A.1** Semivolatile Emissions and the Organic Aerosol Budget. ALLEN L. ROBINSON, Neil M. Donahue, Carnegie Mellon University.

2:15

- 13A.2** Chemical Characterization of Low, Medium, and High Volatility Biogenic Secondary Organic Aerosol Compoments Using an Aerosol Mass Spectrometer. EVANGELIA KOSTENIDOU, Spyros N. Pandis, Institute of Chemical Engineering and High Temperature Chemical Processes and also University of Patras; Byong-Hyoek Lee, Gabriella J. Engelhart, Spyros N. Pandis, Carnegie Mellon University.

2:30

- 13A.3** Volatility of Primary and Secondary Organic Aerosols: Source and Field Measurements. J. ALEX HUFFMAN, Allison C. Aiken, Ken Docherty, Ingrid Ulbrich, Jose L. Jimenez, University of Colorado at Boulder Jesse Kroll, Timothy Onasch, John T. Jayne, Douglas R. Worsnop, Aerodyne Research, Inc. Paul Ziemann, University of California - Riverside.

2:45

- 13A.4** Hourly Measurements of Organic Marker Compounds using an In-Situ Thermal desorption Aerosol Gas chromatograph (TAG). BRENT WILLIAMS, Allen Goldstein, University of California Berkeley; Nathan Kreisberg, Susanne Hering, Aerosol Dynamics Inc.; Laura Shields, Kimberly Prather, University of California San Diego.

3:00

- 13A.5** Biomass Burning and Pollution Aerosol over North America: Organic Components and their influence on Spectral Optical Properties and Humidification Response. ANTONY CLARKE, Cameron McNaughton, Vladimir Kapustin, Yohei Shinozuka, Steven Howell, Jingchuan Zhou, Vera Brekhovskikh, Mitchell Pinkerton, University of Hawaii; Jack Dibb, University of New Hampshire; Bruce Anderson NASA-LaRC; Harold Turner; University of Alabama.

3:15

- 13A.6** Investigating the Volatility of SOA in Different Urban Environments. CHRISTOPHER J. HENNIGAN, Amy P. Sullivan, Richard E. Peltier, Rodney J. Weber, Christos Fountoukis, Athanasios Nenes, Georgia Institute of Technology; Delphine Farmer, Paul J. Wooldridge, Ronald C. Cohen, University of California, Berkeley.

13B INORGANIC AEROSOL HEALTH EFFECTS (PLATFORM)

NEVADA 1/2

Judy Xiong and Michael Kleinman, chairs

2:00

- 13B.1** Relationship between redox activity and chemical speciation of size-fractionated particulate matter. CONSTANTINOS SIOUTAS, Leonidas Ntziachristos, University of Southern California; John R Froines, Arthur K Cho, UCLA.

2:15

- 13B.2** Correlation of atmospheric ultrafine particle ferrous iron and mitochondrial toxicity. ANNE M. JOHANSEN, Stephanie L. Bryner, Eric L. Bullock, Justin M. Johnston, Carin Thomas, Josie K. Wells, Central Washington University.

2:30

- 13B.3** Personal Exposures and Cardiopulmonary Responses of Children Riding Diesel Powered School Buses, A Pilot Study (Phase II). Xing Sheng, Sheela V Surisetty, Xiaodong Zhou, Bozhao Tan, Emily MacWilliams, Ryan LeBouf, Stephanie Schuckers, Alan Rossner, Andrea R. Ferro, PETER A. JAQUES, Clarkson University.

2:45

- 13B.4** Applying the thermal optical transmittance (TOT) method for estimating elemental carbon particle concentrations in biological samples. Rajiv Saxena, Jawaharlal Nehru University; Ian Gilmour, MICHAEL HAYS, U. S. Environmental Protection Agency.

3:00

- 13B.5** Reduction of Fe³⁺ by Elemental Carbon and Its Implication in the Health Effects of Aerosols. BING GUO, Stephen Drake, Texas A&M University, College Station; Airat Khasanov, John Stevens, University of North Carolina, Asheville.

3:15

- 13B.6** The relationship between particle active surface area, number and respirable mass concentration in an automotive foundry and engine machining facility. WILLIAM A. HEITBRINK, University of Iowa; Douglas E. Evans, ;Bon Ki Ku, National Institute for Occupational Safety and Health; Andrew D. Maynard, Woodrow Wilson International Center for Scholars; Thomas M. Peters, University of Iowa; Thomas J. Slavin, International Truck and Engine.

13C OPTICS AND CARBONACEOUS AEROSOLS (PLATFORM) NEVADA 3/4

Andrey Filippov and Dan Murphy, chairs

2:00

- 13C.1** Particle Soot Absorption Photometer (PSAP) Noise and Averaging. Stephen R. Springston, Jeonghoon Lee, ARTHUR J. SEDLACEK III, Brookhaven National Laboratory.



2:15

13C.2 Empirical Evaluation of the Aethalometer Spot Matrix Effect on Ambient Air Using A Thermodenuder. GEORGE ALLEN, NESCAUM; Jay Turner, Washington University at St. Louis.

2:30

13C.3 Albedo Measurements and Optical Sizing for Single Aerosol Particles. TODD SANFORD, David Thomson, Earth System Research Laboratory NOAA and Cooperative Institute for Research in the Environmental Sciences University of Colorado; Daniel Murphy, Earth System Research Laboratory NOAA; Richard Fox, National Institute of Standards and Technology.

2:45

13C.4 A Comprehensive Temperature Protocol for Thermal-Optical Transmission Analysis Optimized for Atmospheric Black Carbon. JOSEPH M. CONNY, National Institute of Standards and Technology; Gary Norris, National Exposure Research Laboratory, U.S. EPA.

3:00

13C.5 Single-Particle Size, Shape, and Carbon Composition of Ambient Aerosols by Scanning Transmission X-Ray Microscopy Analysis. SATOSHI TAKAHAMA, Stefania Gilardoni, Lynn Russell, Scripps Institution of Oceanography - University of California at San Diego; David Kilcoyne, Lawrence Berkeley National Laboratory.

3:15

13C.6 To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

**13D INORGANIC-ORGANIC INTERACTIONS
(PLATFORM)
NEVADA 6/7**

Rob Griffin and Nicole Riemer, chairs

2:00

13D.1 Interaction of Gas-Phase Nitric Acid and Primary Organic Aerosol in the Atmosphere of Houston, TX. Luke Ziemba, ROBERT GRIFFIN, Casey Anderson, Jack Dibb, Sallie Whitlow, University of New Hampshire; Barry Lefer, James Flynn, Bernhard Rappenglueck, University of Houston.

2:15

13D.2 The Impact of Organic Coatings on the Heterogeneous Hydrolysis of N₂O₅: Interaction of Atmospheric Transport and Chemistry. NICOLE RIEMER, Stony Brook University; Heike Vogel, Bernhard Vogel, Forschungszentrum Karlsruhe; Tatu Anttila, Finnish Meteorological Institute; Thomas F. Mentel, Astrid Kiendler-Scharr, Forschungszentrum Juelich.

2:30

13D.3 Humidity and Nitric Acid Effects on Particle Formation for Monoterpene Ozonolysis Using the Nanometer Aerosol Mass Spectrometer. KATHERINE J. HEATON, Murray V. Johnston, University of Delaware.

2:45

13D.4 Modeling and Computation of Thermodynamic Equilibrium for Mixtures of Aerosol Inorganic and Organic Species. Neal Amundson, ALEXANDRE CABOUSSAT, Jiwen He, Andrey V. Martynenko, University of Houston; John H. Seinfeld, California Institute of Technology.

3:00

13D.5 Secondary Organic Aerosol (SOA) Formation from Reaction of Isoprene with NO₃ Radicals. NGA LEE NG, Arthur Chan, Puneet Chhabra, Jason Surratt, Richard Flagan and John Seinfeld, California Institute of Technology.

3:15

- 13D.6** What Controls the Relative Abundance of Organic and Sulfate Aerosol Mass in the Northeastern United States? CHARLES BROCK, Joost de Gouw, Adam Wollny, NOAA Earth System Research Laboratory; Rodney Weber, Rick Peltier, Georgia Institute of Technology; Amy Sullivan, Colorado State University.

13E NEAR ROADWAY IMPACTS (PLATFORM) NEVADA 9/10

Paul Solomon and Darrell Winner, chairs

2:00

- 13E.1** Physical And Chemical Characterizatics Of Ultra-Fine And Accumulation Mode Particles Near The Los Angeles Port. MOHAMMAD ARHAMI, Andrea Polidori, Constantinos Sioutas, University of Southern California.

2:15

- 13E.2** A Comparison of Particles at Multiple Locations in Jakarta, Indonesia and Los Angeles, California. DANE WESTERDAHL, University of California at Los Angeles; Scott Fruin, Constantinos Sioutas, University of Southern California; Manisha Singh, TSI.

2:30

- 13E.3** Particle Volatility in the Vicinity of a Freeway with Heavy-duty Diesel Traffic. SUBHASIS BISWAS, Leonidas Ntziachristos, Katharine F. Moore, Constantinos Sioutas, University of Southern California.

2:45

- 13E.4** The Morphology of Ultrafine Particles on and Near Major Freeways. Teresa L. Barone, Oak Ridge National Laboratory; YIFANG ZHU, Texas A&M University - Kingsville,.

3:00

- 13E.5** Investigation on on-road ultrafine and submicron particles by combining 1-s time-resolution data obtained from a Fast-Mobility-Particle-Sizer and a Photoacoustic Instrument. XIAOHONG YAO, Andrew J. Knox, Greg J. Evans, University of Toronto; Jeffrey R. Brook, Environment Canada.

3:15

- 13E.6** Relative Toxicity Of Size-Fractionated Particulate Matter Obtained At Different Distances From A Highway. Seung-Hyun Cho, James R Lehmann, Q Todd Krantz, John McGee, Mary J Daniels, Donald L Doerfler, M IAN GILMOUR, U.S. Environmental Protection Agency, National Health Environmental Effects Research Laboratory.
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THURSDAY

3:30 PM – 3:50 PM

COFFEE BREAK

CENTRAL AREA NEVADA CONFERENCE ROOMS

THURSDAY

3:50 PM – 5:20 PM

PLATFORM SESSION

14A ADVANCES IN INSTRUMENTATION FOR ORGANIC AEROSOLS: LABORATORY STUDIES (PLATFORM)

RENO BALLROOM

James Smith and Rami Alfarrar, chairs

3:50

- 14A.1** Measurements and Interpretation of the Effect of Soluble Organic Surfactants on the Density, Shape and Water Uptake of Hygroscopic Particles. ALLA ZELENYUK, Pacific Northwest National Laboratory; Dan Imre, Imre Consulting; Luis A. Cuadra-Rodriguez, Barney Ellison, University of Colorado at Boulder.

4:05

- 14A.2** Evolution of SOA Mass Spectra from Photo-oxidation of Diesel Exhaust. AMY M. SAGE, Emily A Weitkamp, Allen L. Robinson, Neil M. Donahue, Carnegie Mellon University.

4:20

- 14A.3** HR-ToF-AMS Study of the Yield and Chemical Composition of alpha-Pinene SOA as a Function of Organic Particulate Loading. JOHN SHILLING, Qi Chen, Stephanie King, Thomas Rosenoern, Scot Martin, Harvard University; Jesse Kroll, Douglas Worsnop; Aerodyne Research Inc.; Peter DeCarlo, Allison C. Aiken, Donna Sueper, Jose L. Jimenez, University of Colorado and CIRES.

4:35

- 14A.4** Incorporating GCxGC-TOFMS Information on Compositional Complexity of Chamber-Derived Aerosol in Models of Secondary Organic Aerosol (SOA) Formation and Aging. KELLEY BARSANTI, James Smith, National Center for Atmospheric Research; James Pankow, Oregon Health & Science University.

4:50

- 14A.5** Oxygenated Organic Aerosols: Bridging Field and Smog Chamber Observations Using an Aerodyne Aerosol Mass Spectrometer. M.RAMI ALFARRA, Andre S.H. Prevot, Jonathan Duplissy, Axel Metzger, Josef Dommen, Ernest Weingartner, Urs Baltensperger, Laboratory of Atmospheric Chemistry, Paul Scherrer Institut; Valentin A. Lanz, Christoph Hueglin, Empa, Swiss Federal Laboratories for Materials Testing and Research.

5:05

- 14A.6** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

14B LUNG DEPOSITION (PLATFORM)

NEVADA 1/2

Bahman Asgharian and John Veranth, chairs

3:50

- 14B.1** Recent Advances in Mathematical Modeling of Lung Deposition of Inhaled Particles. CHONG KIM, USEPA National Health and Environmental Effects Research Laboratory; Jung-Il Choi, North Carolina State University.

4:05

- 14B.2** Airflow and Particle Deposition in the Central Airways of the Human Lung. KAMBIZ NAZRIDOUST, Bahman Asgharian, CIIT at the Hamner Institutes for Health Sciences

4:20

- 14B.3** The Comparison of Fiber Deposition in the Human Nasal Airway. WEI-CHUNG SU, Yung Sung Cheng, Lovelace Respiratory Research Institute.

4:35

- 14B.4** Transport and Deposition of Ellipsoidal Fiber in Human Tracheobronchial Tree. LIN TIAN, Goodarz Ahmadi, Philip K. Hopke, Clarkson University; Yung-Sung Cheng, Lovelace Respiratory Research Institute.

4:50

- 14B.5** Development of a two-phase drift flux model for the deposition of fine respiratory aerosols with comparisons to experimental results. P. WORTH LONGEST, Virginia Commonwealth University; Michael J. Oldham, University of California, Irvine (currently Philip Morris USA).

5:05

- 14B.6** Micro- and Nano- Particle Deposition in Human Tracheobronchial Airways. ZHE ZHANG, Clement Kleinstreuer, North Carolina State University.

14C BIOTERRORISM AND HOMELAND SECURITY (PLATFORM)

NEVADA 3/4

Jerold Bottiger and Edward Stuebing, chairs

3:50

- 14C.1** Can HEPA Filters Effectively Protect us from Viral Aerosols? Brian Heimbuch, Jacqueline Hodge, Joseph Wander, Air Force Research Laboratory, MLQL, Tyndall Air Force Base; CHANG-YU WU, University of Florida.

4:05

- 14C.2** Re-Aerosolization During Doffing of Contaminated Garments. JASON HILL, James Hanley, RTI International; James Hanzelka, U.S. Army Dugway Proving Ground.

4:20

- 14C.3** Bioaerosol Detect-to-Warn Concept Based on Combined UV-fluorescence and background Aerosol Monitoring. TARMO HUMPPI, Finnish Defence Forces Technical Research Centre; Kauko Janka, Riku Reinivaara, Juha Tikkanen, Dekati Ltd.; Antti Rostedt, Matti Putkiranta, Jaakko Laaksonen, Jorma Keskinen, Tampere University of Technology.

4:35

- 14C.4** Rapid Detection and Identification of Airborne Microorganisms by a High-Throughput Atmospheric Pressure MALDI-MS. BERK OKTEM, Appavu K. Sundaram, Vladimir M. Doroshenko; Science and Engineering Services Inc.

4:50

- 14C.5** Ambient aerosol measurements and field testing of a two wavelength fluorescence Excitation and Elastic Scatter bioaerosol system. V. SIVAPRAKASAM, A. Huston, H.B Lin, J. Eversole, J. Willey, Naval Research Laboratory, Washington DC

5:05

- 14C.6** Development and Characterization of a Sulfur Mustard Aerosol Counter Measures Laboratory. Jake McDonald, Yung-Sung Cheng, WAYLON WEBER, Yue Zhou, Lovelace Respiratory Research Institute.

14D AEROSOL PHYSICS: OPTICAL AND ELECTRICAL PROPERTIES (PLATFORM) NEVADA 6/7

Chris Sorensen and Derek Montague, chairs

3:50

- 14D.1** The connection between symmetry and the polarization state of scattered light. MATTHEW J. BERG, Christopher M. Sorensen, Amit Chakrabarti, Kansas State University.

4:05

- 14D.2** Relative Humidity Influence on Aerosol Light Absorption and Scattering by Biomass Burning Aerosol. W. Patrick Arnott, Kristin Lewis, Guadalupe Paredes-Miranda, Stephanie Winter, University of Nevada, Reno; Derek Day, National Park Service; Rajan K. Chakrabarty, Antony Chen, Hans Moosmueller, Desert Research Institute.

4:20

- 14D.3** Comparison of Measured and Calculated Scattering from Aerosols at the Surface Using Three Size Distribution Instruments (PCASP, SMPS, UHSAS) and Nephelometers. YONG CAI, Derek C. Montague, Wiesje Mooiweer, Terry Deshler, University of Wyoming.

4:35

- 14D.4** Electrical Mobility of Aerosol Nanowires: Theory and Experiment. Soo Kim, Pusan National University; GEORGE MULHOLLAND, Michael Zachariah, University of Maryland.

4:50

- 14D.5** On the Role of the Electric Field in the Scale-up of the Electrospray in High-Density Microfabricated Multiplexed Systems. WEIWEI DENG, Alessandro Gomez, Yale University; Chris Mike Waits, Nick Jankowski, Bruce Geil, Army Research Laboratory.

5:05

- 14D.6** Charge-to-mass Ratio of Progeny Droplets Produced by Coulombic Fissions. Harry H. Hunter, ASIT K. RAY, University of Kentucky.

14E AEROSOL SPATIAL VARIABILITY AND EXPOSURE (PLATFORM)

NEVADA 9/10

Constantinos Sioutas and K. Max Zhang, chairs

3:50

- 14E.1** Intra-community variability in ultrafine particle number concentrations in an urban mixed environment. KATHARINE MOORE, Payam Pakbin, Constantinos Sioutas, University of Southern California; Margaret Krudysz, University of California at Los Angeles.

4:05

- 14E.2** Spatial and Temporal Trends of Organic and Elemental Carbon as a Component of PM_{2.5} from the New York City Area. Steve Kurian, MONICA A. MAZUREK, Min Li, Rutgers, The State University of New Jersey; Stephen R. McDow, National Exposure Research Laboratory, U.S. Environmental Protection Agency.

4:20

- 14E.3** Mobile Measurements as a Powerful Tool for Characterization of Spatial Variability of Aerosol in Urban Areas. ANDREY KHLYSTOV, Denina Hospodsky, Duke University.

4:35

14E.4 Fine-Scale Spatial and Temporal Variability of PM Number and Size Distributions within a Community. MARGARET KRUDYSZ, University of California, Los Angeles; Katharine Moore, Michael Geller, Constantinos Sioutas, University of Southern California.

4:50

14E.5 Sources and Causes of Spatial Variability in Coarse Particulate Matter Concentrations in Detroit, Michigan. JONATHAN THORNBURG, Charles Rodes, RTI International; Ron Williams, U.S. EPA NERL.

5:05

14E.6 Spatial Variability of PM_{10-2.5} Measured with Passive Samplers. Darrin Ott, Naresh Kumar, THOMAS PETERS, The University of Iowa.

FRIDAY

8:00 AM – 9:10 AM

PLENARY 4

15 Plenary Session

Reno Ballroom

- 8:00 Opening Remarks
Jay Turner, Washington University, Conference Chair
- 8:05 CNN: Clusters, Nucleation and Nanoparticles;
Connecting the Dots.
M. Samy El-Shall, Virginia Commonwealth University
- 8:55 Presentation of the David Sinclair Award
Roger McClellan, Awards Committee Chair

FRIDAY

9:15 AM – 10:45 AM

PLATFORM SESSION



16A ADVANCES IN INSTRUMENTATION FOR ORGANIC AEROSOLS: FIELD STUDIES (PLATFORM)

RENO BALLROOM

Timothy Onasch and John Shilling, chairs

9:15

16A.1 Emissions and Secondary Formation of Organic Aerosols in the Polluted Atmosphere: New Results from the Northeastern U.S. in 2004 and Texas in 2006. JOOST DE GOUW, Charles Brock, Ann Middlebrook, NOAA Earth System Research Laboratory and CIRES, University of Colorado; Rodney Weber, Georgia Institute of Technology; Tim Bates, NOAA Pacific Marine Environmental Laboratory.

9:30

16A.2 Assessing Secondary Organic Aerosol Using Online Aerosol Mass Spectrometry. James Allan, Keith Bower, Gerard Capes, HUGH COE, Jonathan Crosier, Paul Williams, University of Manchester, UK.

9:45

16A.3 Measurements of the Composition of 6 - 30 nm Diameter Biogenic Secondary Organic Aerosols using Thermal Desorption Chemical Ionization Mass Spectrometry. JAMES SMITH, Jeff Rathbone, National Center for Atmospheric Research; Markku Kulmala, University of Helsinki; Peter McMurry, University of Minnesota.

10:00

16A.4 The search for marine organic aerosols. JAMES ALLAN, Jonathan Crosier, Paul Williams, Keith Bower, Nick Good, Martin Irwin, Gordon McFiggans, Michael Flynn, David Topping, Hugh Coe, University of Manchester, UK.

10:15

16A.5 Exploring the Magnitude and Formation Mechanism of Above-Cloud Organic Layers. SHANE MURPHY, Armin Sorooshian, Harmony Gates, Richard C. Flagan, John H. Seinfeld, California Institute of Technology; Graham Feingold, National Oceanic and Atmospheric Administration; Hafliði Jonsson, Naval Postgraduate School.

10:30

- 16A.6** A Study on the Sources and Chemical Processes of Organic Aerosol at the Whistler Summit with a High-Resolution Time-of-Flight Aerosol Mass Spectrometer. QI ZHANG, Yele Sun, State University of New York, University at Albany, NY; Richard Leitch, Anne Marie Macdonald, Kathy Hayden, Shao-Meng Li, John Liggio, Peter Liu, Environment Canada; Aaron van Donkelaar, Randall Martin, Dalhousie University; Douglas Worsnop, Aerodyne Research, Inc.; Michael Cubison, University of Colorado-Boulder, Colorado.

16B NANOPARTICLES AND MATERIALS SYNTHESIS 1 (PLATFORM)

NEVADA 1/2

Michael Zachariah and Jeff Roberts, chairs

9:15

- 16B.1** Developing a Scaling Law for Fractal Aggregate Sintering from MD Simulation. Takumi Hawa, MICHAEL R. ZACHARIAH, University of Maryland and NIST.

9:30

- 16B.2** One step synthesis of photoactive TiO₂ nanoparticle supported noble metal catalysts (Pt/TiO₂, Pd/TiO₂ and Pt-Pd/TiO₂) in a flame aerosol reactor. JINGKUN JIANG, Pratim Biswas, Washington University in St. Louis; Vinay Tiwari, Virendra Sethi, Indian Institute of Technology (Bombay).

9:45

- 16B.3** Predictive Modeling of Flow Reactor for Nanoparticle Generation. DAVID HESSE, Battelle Memorial Institute; Amit Gupta, Battelle Toxicology Northwest.

10:00

- 16B.4** Nanoparticle Agglomerates Penetration: Effect of Agglomerate Structure on Filtration Efficiency. SEONG CHAN KIM, Jing Wang, Mark S. Emery, David Y.H. Pui, University of Minnesota.

10:15

- 16B.5** Synthesis of Core-shell Ta₂O₅/SiO₂ Nanocomposite Based Potential Multifunctional Computer Tomography (CT) Contrast Agent. SOUBIR BASAK, Pratim Biswas, Washington University in Saint Louis; Jinda Fan, Samuel Achilefu, Washington University School of Medicine.

10:30

- 16B.6** Nanostructured Particles by Aerosol Assisted Self-Assembly. XINGMAO JIANG, Yung Sung Cheng, Jacob McDonald, Lovelace Respiratory Research Institute; C. Jeffrey Brinker, University of New Mexico and Sandia National Laboratories.

16C REMOTE AND REGIONAL AEROSOLS 1 (PLATFORM)

NEVADA 3/4

Brooke Hemming and Gregory Evans, chairs

9:15

- 16C.1** Coupled measurements of the size, chemical mixing state, and optical properties of individual atmospheric particles. KIMBERLY PRATHER, Ryan Moffet, University of California at San Diego.

9:30

- 16C.2** Transboundary Pollutant Impacts of Emissions in the Imperial Valley-Calexico Region and from Southern California. SANTOSH CHANDRU, Yongtao Hu, Armistead G. Russell, Georgia Institute of Technology; Ana yael Vanoye, Arturo Moran Romero, Alberto Mendoza, Instituto Tecnológico y de Estudios Superiores de Monterrey.

9:45

- 16C.3** Lead in single atmospheric particles. DANIEL MURPHY, Karl Froyd, Troy Thornberry, David Thomson, NOAA Earth System Research Laboratory; Paula Hudson, University of Iowa; Daniel Cziczo, Stephane Gallavardin, ETH Zurich; Murray Johnston, Melissa Reinard, University of Delaware; Anthony Wexler, UC Davis.



10:00

- 16C.4** Long-Term Measurements of Size-Resolved Particle Chemistry and its Dependence on Air Mass Origin in the German Lowlands. GERALD SPINDLER, Erika Brueggemann, Thomas Gnauk, Achim Gruener, Konrad Mueller, Birgit Wehner, Alfred Wiedensohler, Hartmut Herrmann, Leibniz-Institute for Tropospheric Research, Leipzig, Germany; Thomas M. Tuch, UFZ Centre for Environmental Research, Leipzig, Germany; Markus Wallasch, Umweltbundesamt, Dessau, Germany.

10:15

- 16C.5** Hygroscopic Properties of Sub-Micrometer Atmospheric Aerosol Particles Measured with H-TDMA Instruments in Various Environments—A Review. KAARLE HAMERI, University of Helsinki, Finland.

10:30

- 16C.6** Water-Insoluble Particles in Spring Snow at Mt. Tateyama, Japan: Characteristics of the Shape Factors in Relation with Their Origin, Transportation and Preferential Settling. JING-MIN LI, Kazuo Osada, Nagoya University, Japan.

16D AEROSOL PHYSICS (PLATFORM)

NEVADA 6/7

David Kane and Denis Phares, chairs

9:15

- 16D.1** Particle Resuspension in Turbulent Flow: A New Theoretical Model. Allison Harris, CLIFF DAVIDSON, Carnegie Mellon University.

9:30

- 16D.2** An Approach to Analytically Model Diffusional Nanoparticle Deposition under Low Pressure Conditions. CHRISTOF ASBACH, Heinz Fissan, Institute of Energy and Environmental Technology (IUTA); Jing Wang, David Y.H. Pui, University of Minnesota.

9:45

- 16D.3** Effects of Inter-Particle Collisions and Two-Way Coupling on Particle Deposition Velocity in a Turbulent Channel Flow. HOJJAT NASR, Goodarz Ahmadi, John B. McLaughlin, Clarkson University.

10:00

- 16D.4** Anomalies in the Evolution of Particle Size Distributions. JAMES W. GENTRY, University of Oklahoma.

10:15

- 16D.5** To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

10:30

- 16D.6** Algorithm Based on Self-Organizing Map for Classification of New Particle Formation Events. HEIKKI JUNNINEN, Ilona Riipinen, Miikka Dal Maso, Markku Kulmala, University of Helsinki, Finland.

16E URBAN AIR QUALITY MODELING (PLATFORM) NEVADA 9/10

Andrey Khlystov and James Flanagan, chairs

9:15

- 16E.1** Regional Transport of Secondary Particulate Matter in California with Source Contribution Analysis. QI YING, Michael J. Kleeman, University of California – Davis.

9:30

- 16E.2** Modeling a wintertime PM_{2.5} episode in the California Central Valley. BETTY K. PUN, Rochelle T. Balmori, Christian Seigneur, Atmospheric and Environmental Research, Inc.

9:45

- 16E.3** Reconciliation of an emission based model and a source based model via source apportionment of PM_{2.5} - Part 1. Organic molecular markers. Jaameen Baek, Bo Yan, Sangil Lee, Yongtao Hu, Mei Zheng, ARMISTEAD G. RUSSELL, Georgia Institute of Technology; Sunkyoung Park, North Central Texas Council of Government.

10:00

- 16E.4** A Comparison Study of CMAQ Aerosol Prediction Using Two Thermodynamic Modules: UHAERO V.S. ISORROPIA. FANG-YI CHENG, Daewon Byun, Andrey V. Martynenko, Jiwen He, University of Houston.

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10:15

- 16E.5** Response of Regional and Urban Air Quality to Future Changes in Climate and Emissions. JOHN DAWSON, Pavan Racherla, Barry Lynn, Peter Adams, Spyros Pandis, Carnegie Mellon University.

10:30

- 16E.6** Impact of Sea-Salt Aerosol on the Weekend Effect. ALEXANDER COHAN, Donald Dabdub, University of California, Irvine.

FRIDAY

10:45 AM – 11:00 AM

COFFEE BREAK

CENTRAL AREA NEVADA CONFERENCE ROOMS

FRIDAY

11:00 AM – 12:30 PM

PLATFORM SESSION

17A INSTRUMENTATION: PM MONITORS AND SAMPLERS (PLATFORM)

RENO BALLROOM

Andrew Mcfarland and Jerold Bottiger, chairs

11:00

- 17A.1** Met One Instruments BAM-1020 Beta Attenuation Mass Monitor US-EPA PM_{2.5} Federal Equivalent Method Winter Campaign Test Results. DAVID GOBELI, Herbert Schloesser, Thomas Pottberg, Met One Instruments, Inc.

11:15

- 17A.2** Agricultural Pollutant Emissions Determined via Standard Emission Rate Estimation Methods and Lidar Techniques. Gail Bingham, Vladimir Zavyalov, Tom Wilkerson, Christian Marchant, KORI MOORE, Derek Jones, Cassi Going, Jennifer Bowman, Nikita Pougatchev, Space Dynamics Laboratory; Randy Martin, Philip Silva, Utah State University.

11:30

- 17A.3** Laboratory and Field Studies with a Prototype Miniature Monitor for Real-Time Particulate Mass. LARA GUNDEL, Michael Apte, Lawrence Berkeley National Laboratory; Justin Black, Richard White, University of California, Berkeley.

11:45

- 17A.4** Multi-year Intercomparison of Collocated STN and IMPROVE Monitors. JAMES FLANAGAN, R.K.M. Jayanty, Larry Michael, Ed Rickman, Jr., RTI International; Paul Solomon, Jeffrey Lantz, U.S. EPA; Charles McDade, University of California, Davis.

12:00

- 17A.5** Sub-Micrometer Mass Measurement in Near-Real Time Using Portable TEOM Technology. JON C. VOLKWEIN, James D. Noll, Robert P. Vinson, National Institute for Occupational Safety and Health.

12:15

- 17A.6** An In-Line Virtual Impactor Pre-Separator for Bioaerosol Sampling Inlets. SATYA SESHADRI, Andrew R. McFarland, Texas A&M University.

17B NANOPARTICLES AND MATERIALS SYNTHESIS 2 (PLATFORM)

NEVADA 1/2

Junhong Chen and Mark Swihart, chairs

11:00

- 17B.1** Dual-capillary Electrospaying for Coated Particle Generation. FAN MEI, Daren Chen, Washington University in St. Louis.

11:15

- 17B.2** Production of cobalt and nickel nanoparticles by hydrogen reduction. Johanna Forsman, Unto Tapper, Ari Auvinen, VTT Technical Research Centre of Finland; JORMA JOKINIEMI, VTT Technical Research Centre of Finland and University of Kuopio.

11:30

- 17B.3** Flame Synthesis of Nanostructured Stabilized Zirconia for Fuel Cell Applications. Ranjan Pati, Osifo Akhemonkhan, Hillary Sadoff, SHERYL EHRMAN, University of Maryland.

11:45

- 17B.4** Production of Quantum Dots by Spray Pyrolysis. Hongwang Zhang, Sha Liu, MARK T. SWIHART, The University at Buffalo (SUNY).

12:00

- 17B.5** Synthesis of a Silica Aerosol Gel from the Aerosol Phase. RAJAN DHAUBHADEL, Amitabha Chakrabarti, Christopher M. Sorensen, Kansas State University.

12:15

- 17B.6** Photo-Assisted Chemical Vapor Deposition of Organic Coatings on Aluminum Nanoparticles. Yuanqing He, JEFFREY ROBERTS, Steven Girshick, University of Minnesota.

17C REMOTE AND REGIONAL AEROSOLS 2 (PLATFORM) NEVADA 3/4

Lowell Ashbaugh and Jay Turner, chairs

11:00

- 17C.1** Wintertime Measurements of Fine Aerosol Chemical Composition and Gas Phase Precursors Near the Flatirons in Boulder, Colorado. R. BAHREINI, B.M. Matthew, H.D. Osthoff, J.A. Neuman, T. Fortin, A.G. Wollny, E.J. Williams, B. Lerner, and F.C. Fehsenfeld, University of Colorado, CIRES and NOAA Earth System Research Laboratory, CSD; A.M. Middlebrook, S.S. Brown, C.A. Brock, and T.B. Ryerson, NOAA Earth System Research Laboratory, CSD; A. Swanson and F. Flocke, National Center for Atmospheric Research; P.K. Quinn and K. Schulz, NOAA Pacific Marine Environmental Laboratory.

11:15

- 17C.2** The Role of Climate and Emission Changes on PM_{2.5} over North America and Uncertainty Assessment of Global Climate Change Impacts. EFTHIMIOS TAGARIS, Kuo-Jen Liao, Kasemsan Manomaiphiboon, Armistead G. Russell, Georgia Institute of Technology,; Jung-Hun Woo, Shan He, Praveen Amar, Northeast States for Coordinated Air Use Management (NESCAUM); Lai-Yung (Ruby) Leung, Pacific Northwest National Laboratory; Chien Wang, Massachusetts Institute of Technology.

11:30

- 17C.3** Nucleation and particle growth over/in a forest. S.C. PRYOR, Indiana University - Bloomington and Risoe National Laboratory, Roskilde, Denmark; R.J. Barthelmie, University of Edinburgh, UK and Indiana University - Bloomington; F. Rahman and V. Cordova, Indiana University - Bloomington.

11:45

- 17C.4** Holme Moss 2006: Overview. James Allan, The University Of Manchester, UK; Betsy Andrews, NOAA; Karl Beswick, Keith Bower, Rachel Burgess, Hugh Coe, BENJAMIN CORRIS, Ian Crawford, James Dorsey, Michael Flynn, Martin Gallagher, Nicholas Good, Martin Irwin, Dantong Liu, Gordon McFiggans, William Morgan, The University Of Manchester, UK; John Ogren, NOAA; Paul Williams, The University Of Manchester, UK.

12:00

- 17C.5** Investigating apparent particle emission fluxes over forests. R.J. BARTHELMIE, University of Edinburgh and Indiana University - Bloomington; S.C. Pryor, Indiana University - Bloomington and Risoe National Laboratory, Roskilde, Denmark.

12:15

- 17C.6** Airborne measurements of the export of gaseous and particulate species from the UK. JONATHAN CROSIER, Hugh Coe, James Allan, Keith Bower, Paul Williams, Gerard Capes, University of Manchester, UK; Debbie Polson, David Fowler, Centre for Ecology and Hydrology, Edinburgh, UK; Dave Stewart, University of East Anglia, Norwich, UK.

17D INSTRUMENTATION 2 (PLATFORM) NEVADA 6/7

Susanne Hering and Christof Asbach, chairs

11:00

- 17D.1** DMA-APM Fitting Algorithm for Experimental Data. MARK S. EMERY, Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota.

11:15

17D.2 Nucleation Rate Standard. MICHAEL P. ANISIMOV, Vladimir A. Postnikov, Institute of Chemical Kinetics and Combustion, Siberian Division of the Russian Academy of Sciences. Novosibirsk, Russia; Philip Hopke, Clarkson University.

11:30

17D.3 High-flow Rate Water Condensation Growth Cell for Particle Collection. GREGORY S. LEWIS, Susanne V. Hering, Aerosol Dynamics Inc.

11:45

17D.4 Detecting Sub-3nm Particles Using Ethylene Glycol Based Laminar Flow Condensation Particle Counter. KENJIRO IIDA, Mark R. Stolzenburg, Peter H. McMurry, University of Minnesota.

12:00

17D.5 A New Instrument for Rapid Size-Resolved Hygroscopic Growth Measurements. ARMIN SOROOSHIAN, Fred J. Brechtel, Scott Hersey, Richard C. Flagan, John H. Seinfeld, California Institute of Technology; Andrew Corless, Brechtel Manufacturing Inc.

12:15

17D.6 To be announced. Consult the Summary of Program Changes sheet distributed with this Final Program booklet.

17E URBAN AEROSOLS 2 (PLATFORM) NEVADA 9/10

Eiko Nemitz and Satoshi Takahama, chairs

11:00

17E.1 Surface Chemistry Analysis of Urban and Rural Aerosols During a Night-time High PM Burning Event in Yuma, AZ. HEATHER A. HOLMES, Bonnie J. Tyler, Richard E. Peterson, Eric R. Paradyak, University of Utah.



11:15

17E.2 Characteristics of PAHs in Ambient Nanoparticles Collected by Nanoparticle Sampler with Inertial Filter. M. FURUUCHI, Y. Otani, S. Tsukawaki, Kanazawa University, Japan; N. Tajima, T. Kato, KANOMAX Inc., Japan; P. Hang, Authority for the Protection of the Site and the Management of Angkor and the Region of Siem Reap (APSARA), Cambodia; S. Sieng, Ministry of Industry, Mines and Energy, Cambodia.

11:30

17E.3 Organic Speciation of Vehicle Exhaust Particulates: Gasoline and Diesel Light Duty Vehicles. MIN LI, Monica A. Mazurek, Claire Belisle, Majad Ullah, Rutgers University; Shida Tang, Robert Whitby, New York Department of Environmental Conservation.

11:45

17E.4 Wintertime nitrate size distribution as an indicator of regional or local sources during the 2007 Seasonal Particulate Observations in the Region of Toronto (SPORT) Campaign. KRYSTAL J. GODRI, Greg J. Evans, Jay Slowik, Jonathan Abbatt, University of Toronto.

12:00

17E.5 Measurements of nitropolycyclic aromatic hydrocarbons, polycyclic aromatic hydrocarbons and azaarenes in urban air particulates in east of France. OLIVIER DELHOMME, Maurice Millet, Laboratoire de Physico-Chimie de l'Atmosphere (CRNS), France.

12:15

17E.6 High Time-Resolved Chemical Mass Closure of Fine Particles in Helsinki, Finland. SANNA SAARIKOSKI, Minna Aurela, Kimmo Teinila, Timo Makela, Risto Hillamo, Finnish Meteorological Institute.



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AWARDS PRESENTATION SCHEDULE

Tuesday, September 25

Announce recipient of previously awarded

Thomas T. Mercer Joint Prize

Presentation of the Benjamin Y. H. Liu Award 8:55 AM

Wednesday, September 26

Presentation of the Friedlander Award 9:10 AM

Thursday, September 27

Presentation of the Kenneth T. Whitby Award 8:55 AM

Friday, September 28

Presentation of the David Sinclair Award 8:55 AM

AAAR FUTURE CONFERENCES

AAAR 27th Annual Conference

October 20-24, 2008

Rosen Shingle Creek Resort and Golf Club

Orlando, FL

AAAR 28th Annual Conference

October 26-30, 2009

Hyatt Regency Minneapolis

Minneapolis, MN

AAAR 29th Annual Conference

October 25-29, 2010

Oregon Convention Center

Portland, OR

