Tuesday 8:00 AM - 9:15 AM
Plenary I: AEESP Lecture

8:00  **Welcoming Remarks** Murray Johnston, Conference Chair. *University of Delaware.*

8:05  **AEESP Lecture: Lessons from the Workplace: Hazards from Exposure to Engineered Nanomaterials** Thomas Peters. *University of Iowa.*

  **Moderator** Cliff Davidson. *Syracuse University.*

9:00  **Sinclair Award Presentation, Mercer Award Announcement** Sheryl Ehrman, Awards Committee Chair. *University of Maryland.*

Tuesday 9:00 AM - 4:00 PM
Exhibits Open

Tuesday 9:15 AM - 9:45 AM
Coffee Break

Tuesday 9:45 AM - 11:30 AM
Session 1: Platform

**1AC AEROSOL CHEMISTRY I**

*B115/116*

**Kelley Barsanti and Jesse Kroll, chairs**

**1AC.1**  Adsorption-Based Chemical Thermodynamics of Atmospheric Aerosols: Towards Reduced Parameterization, Temperature Dependence, and Organic Solvents. CARI DUTCHER, Caitlin Asato, Anthony Wexler, Simon Clegg, *University of California, Davis*

**1AC.2**  Functional Group Distributions in Photolytically Generated Organic Aerosol. Alicia Kalafut-Pettibone, Joseph Klems, W. SEAN MCGIVERN, *National Institute of Standards and Technology*

**1AC.3**  Aerosol Phase Chemistry of Isoprene Derived Epoxides Evaluated Using Density Functional Theory. IVAN PILETIC, Edward Edney, Libero Bartolotti, *U.S. Environmental Protection Agency*
1AC.4 New, Experimentally Based, Secondary Organic Aerosol Paradigm Removes Discrepancies between Models and Data. ALLA ZELENYUK, Dan Imre, Manish Kumar Shrivastava, Evan Abramson, Lawrence Kleinman, Jerome Fast, Stephen Springer, Pacific Northwest National Laboratory

1AC.5 Implications of Low Volatility SOA and Gas-Phase Fragmentation Reactions on SOA Loadings and their Spatial and Temporal Evolution in the Atmosphere. MANISHKUMAR SHRIVASTAVA, Alla Zelenyuk, Dan Imre, Richard Easter, Josef Beranek, Rahul Zaveri, Jerome Fast, Pacific Northwest National Laboratory

1AC.6 Constraining the Range of Product Chemical Formulas, Volatilities, and Reaction Mechanisms of SOA-forming Reactions. JESSE KROLL, Kelly Daumit, James Hunter, Sean Kessler, MIT


1AP AEROSOL PHYSICS I

1AP.1 Ethanol/Water Binary Nucleation Rates in Supersonic Laval Nozzles: Analyses via the First and Second Nucleation Theorems. Shinobu Tanimunra, Alexandra Manka, Harshad Pathak, Ashutosh Bhabhe, Kelley Mullick, BARBARA WYSLOUZIL, The Ohio State University

1AP.2 Size-Dependent Condensation of Organics – Parameterization for Nanoparticle Growth. SILJA HÄKKINEN, Hanna Manninen, Taina Yli-Juutila, Juoons Merikanto, Majia Kajos, Tuomo Nieminen, Stephen D'Andrea, Ari Asmi, Jeffrey Pierce, Markku Kulmala, Ilona Riipinen, University of Helsinki

1AP.3 Adsorption of Organic Molecules may Explain Enhanced Growth of Nucleated Clusters and New Particle Formation. JIAN WANG, Anthony Wexler, Brookhaven National Laboratory

1AP.4 Spectro-microscopic Characterization of Physical Properties and Phase Separations in Individual Atmospheric Particles. RACHEL O'BRIEN, Bingbing Wang, Steven Kelly, Nils Lundt, Scott A. Epstein, Amanda MacMillan, Yuan You, Alexander Laskin, Sergey Nizkorodov, Allan Bertram, Ryan Moffet, Mary Gilles, LBNL and University of the Pacific


1AP.6 The Evaporation Loss of Fine Particles in the Multi-Filter PM10-PM2.5 Sampler (MFPPS). CHUN-NAN LIU, Shi-Fan Lin, Chuen-Jinn Tsai, National Chiao Tung University

1AP.7 Summer-time Volatility Measurement of Ultrafine Particles in the Midwestern United States: Field Measurement from Bondville, IL and Iowa City, IA. ASHISH SINGH, Robert Bullard, Charles Stanier, University of Iowa

1BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT I

1BA.1 Interactions of Airborne Microbial Communities with Clouds: A Perspective from Metagenomic Analysis. NATASHA DELEON-RODRIGUEZ, Terry Latham, Bruce Anderson, Andreas Beyersdorf, Luke Ziemba, Michael Bergin, Athanasios Nenes, Kostantinos Kostantinidis, Georgia Institute of Technology, Atlanta, GA

1BA.2 Primary Biological Aerosols as Cloud Condensation Nuclei. FRANCIS POPE, Paul Griffiths, Markus Kalberer, Michael Herzog, University of Birmingham, UK
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<th>Session</th>
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<tr>
<td>1BA.3</td>
<td>Potential Impact of Microbial Activity on the Oxidant Capacity and the Organic Carbon Budget in Clouds.</td>
<td>Mickaël Vaitilingom, Laurent Deguillaume, Virginie Vinatier, Martine Sancelme, Pierre Amato, Nadine Chaumerliac, Anne-Marie Delort, Clermont Université, Institut de Chimie de Clermont-Ferrand</td>
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<tr>
<td>1BA.5</td>
<td>Studies of the Impacts of Biological Particles on Clouds and Precipitation in Aircraft and Sea Spray Studies.</td>
<td>Kimberly Prather, Paul DeMott, Vicki Grassian, Timothy Bertram, Grant Deane, Matthew Ruppel, Douglas Collins, Andrew Ault, University of California, San Diego. INVITED.</td>
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<td>1BA.6</td>
<td>Marine Biological Ice Nuclei – Estimation of Sources and Significance for Marine Clouds.</td>
<td>Susannah Burrows, Corinna Hoose, Ulrich Pöschl, Mark Lawrence, Paul DeMott, Xiaohong Liu, Po-Lun Ma, Phil Rasch, Pacific Northwest National Laboratory. INVITED.</td>
</tr>
<tr>
<td>1BA.7</td>
<td>Studies on the Relation of Ice Nuclei from Sea Spray to Ocean Biological Cycles.</td>
<td>Paul DeMott, Kimberly Prather, Thomas C. Hill, Taehyoung Lee, Chung Hwang, Yukata Tobo, Douglas Collins, Matthew Ruppel, Jessica Axson, Christopher Lee, Camille Sultana, Bruce Moffett, Colorado State University</td>
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1IA INDOOR AEROSOLS I

Tiina Reponen and Yevgen Nazarenko, chairs

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<td>1IA.1</td>
<td>Ultrafine Particles Emitted from Scented Markers.</td>
<td>Cha-Chen Fung, Shi Shu, Yifang Zhu, UCLA</td>
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<td>1IA.3</td>
<td>Emissions of Secondary Organic Aerosol Initiated by Surface Reactions between Ozone and Squalene.</td>
<td>Chunyi Wang, Michael Waring, Drexel University</td>
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<tr>
<td>1IA.4</td>
<td>Particulate Reactive Oxygen Species in Retail Stores in Austin, Texas.</td>
<td>Shahanah Khurshid, Kerry Kinney, The University of Texas at Austin</td>
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<td>1IA.5</td>
<td>Characterize the Size Distribution of Walking-induced Particle Resuspension.</td>
<td>Yilin Tian, Andrea R. Ferro, Clarkson University</td>
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<td>1IA.6</td>
<td>Seasonal and Environmental Factors Associated with Microbes Living in Our Homes.</td>
<td>Patricia Keady, Shelly Miller, Noah Flierer, Joanne B. Emerson, Jonathan Awerbuch, Oluwaseun Oyatogun, Suraj Prabhu, Kangqian Wu, Allie James, Rob Dunn, Holly Menninger, University of Colorado Boulder</td>
</tr>
<tr>
<td>1IA.7</td>
<td>Modeling of Indoor Particles with Resuspension via Human Activity for a Commercial Building.</td>
<td>Kyung Sul, James Farnsworth, Andrea R. Ferro, Clarkson University</td>
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1IM INSTRUMENTATION AND METHODS I

Jim Smith and Brent Williams, chairs

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<tr>
<td>1IM.1</td>
<td>Application of a Drift tube Ion Mobility Spectrometer (DTIMS) for Aerosol Particle Size Distribution and Vapor Uptake Measurements.</td>
<td>Derek Oberreit, Peter McMurry, Christopher Hogan Jr., University of Minnesota</td>
</tr>
<tr>
<td>1IM.2</td>
<td>Online Characterization of Nanoparticle Growth during Flame Aerosol Synthesis.</td>
<td>Arto Groehn, Sotiris E. Pratsinis, Karsten Wegner, ETH Zurich</td>
</tr>
<tr>
<td>1IM.3</td>
<td>Performance Study of a Miniature, Corona-based Unipolar Aerosol Charger for Compact Particle Sizers.</td>
<td>Siqin He, Da-Ren Chen, Paul Greenberg, Washington University in St. Louis</td>
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</table>

1IM.5 Comparison of Half Mini DMA and Nano DMA for Measurement of Size Distributions in Electrospray and a Flame Aerosol Reactor. YANG WANG, Jiaxi Fang, Tandeep Chadha, Wei-Ning Wang, Pratim Biswas, Washington University in St. Louis


1IM.7 Evaluation of a Twin-head Electrospray System for Nanoparticle Exposure Study. QIAOLING LIU, Da-Ren Chen, Virginia Commonwealth University

1RA REMOTE AND REGIONAL ATMOSPHERIC AEROSOLS I
B110/111/112

Jay Turner and Jim Schwab, chairs

1RA.1 Ground Based Observations of New Particle Formation during the PEGASOS - SUPERSITO Joint Campaign in the Po Valley. STEFANO DECESARI, M. Cristina Facchini, Claudio Carbone, Stefania Giliaroni, Angela Marinoni, Paolo Cristofanelli, Gian Paolo Gobbi, Ama Hamed, Ari Laaksonen, Hanna Manninen, Tuukka Petäjä, Johannes Groess, Laurent Poulain, Michel Maione, Vanes Poluzzi, CNR-ISAC

1RA.2 Quantitative and Time-Resolved Nanoparticle Composition Measurements during New Particle Formation. BRYAN R. BZDEK, Andrew Horan, M. Ross Pennington, Joseph DePalma, Murray Johnston, University of Delaware

1RA.3 Use of Long-Term, Co-located, Vertical and Ground-based Particle Number Concentration Data to Examine Nucleation Intensity Patterns in a Rural Continental Environment. ROBERT BULLARD, Charles Stanier, John Ogren, Patrick Sheridan, University of Iowa

1RA.4 Long-term Interannual Variability of Aerosol Sources Impacting Mauna Loa Observatory, Hawaii. LAUREN POTTER, Sonia Kreidenweis, Molly Morman, Barry Huebert, Steven Howell, John Zhuang, Nicole Hyslop, Warren White, Colorado State University

1RA.5 Chemical and Molecular Characterization of Free Tropospheric Aerosol Sampled at the Pico Mountain Observatory, Azores. LYNN MAZZOLENI, Katja Dzepina, Claudio Mazzoleni, Paulo Fialho, Sumit Kumar, Bo Zhang, Swarup China, Seth Olsen, R. Chris Owen, Kendra Wright, Judith Perlinger, Noel Urban, Louisa Kramer, Michael Dziobak, Detlev Helming, Jacques Hueber, Michigan Tech

1RA.6 Integrated Analysis of Air Pollution at Antarctic: Past, Present and Future of Monitoring of Brazilian Antarctic Program. RICARDO H. M. GODOI, Heitor Evangelista, Marcio Cataldo, Ana Flavia L. Godoi, Renata C. Chareilo, Sarah L. Paralovo, René Van Grieken, Federal University of Parana - Curitiba, PR, Brazil

1RA.7 Aerosols over the Remote Forest Regions of Amazonia and Siberia Investigated by STXM-NEXAFS. MEINRAT O ANDREAE, Christopher Pöhlker, Paulo Artaxo, Eugene Mikhailov, Alexey Panov, Arthur L. D. Kilcoyne, Ulrich Pöschl, Bärbel Sinha, Kenia T. Wiedemann, Max Planck Institute for Chemistry

Tuesday 1:00 PM - 3:00 PM
Session 2: Poster

2AC AEROSOL CHEMISTRY II
EXHIBIT HALL A

2AC.1 Aqueous Photooxidation of Fresno, CA and Po Valley, Italy Fogs: Insights into Cloud Processing. JEFFREY R. KIRKLAND, Yong Lim, Stefano Decesari, M. Cristina Facchini, Jeffrey L. Collett, Jr., Barbara Turpin, Rutgers University

2AC.2 Measurements of Organic Acids in Eastern U.S. Radiation Fogs. DEREK STRAUB, Susquehanna University
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<tr>
<td>2AC.3</td>
<td>Chemical Composition, Sources and Processes of Urban Aerosols during Summertime in Northwest China: Insights from a High Resolution Time-of-Flight Aerosol Mass Spectrometer.</td>
<td>JIANZHONG XU, Qi Zhang, Min Chen, Jiwen Ren, Dahe Qin, State Key Laboratory of Cryospheric Sciences, China</td>
<td></td>
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<tr>
<td>2AC.4</td>
<td>Formation and Aerosol Uptake of the Oxidation Products of Isoprene Nitrooxyhydroperoxide (a Product of Isoprene Nighttime Chemistry).</td>
<td>REBECCA SCHWANTES, Tran Nguyen, Matthew Coggon, Katherine Schilling, Xuan Zhang, Paul Wennberg, John Seinfeld, Caltech</td>
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<tr>
<td>2AC.5</td>
<td>Trends in PM2.5 Strong Acidity Across Canada between 1990 and 2010.</td>
<td>JENNIFER MURPHY, Alex Tevlin, University of Toronto</td>
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<tr>
<td>2AC.6</td>
<td>The Effect of Particle Size on Iron Solubility in Atmospheric Aerosols.</td>
<td>AURELIE MARCOTTE, Brian Majestic, Ariel Anbar, Pierre Herckes, Arizona State University</td>
<td></td>
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<tr>
<td>2AC.7</td>
<td>Mineral Dust Produces Visible Laser Induced Incandescence.</td>
<td>TINGTING CAO, Lulu Ma, Jonathan E. Thompson, Texas Tech University</td>
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<tr>
<td>2AC.8</td>
<td>TPD Aerosol-CIMS – Investigating the Volatility of Organic Salts.</td>
<td>FAYE McNEILL, Columbia University</td>
<td></td>
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<tr>
<td>2AC.9</td>
<td>The Effects of Particle Size, Relative Humidity, and Sulfur Dioxide on Iron Solubility in Atmospheric Particulate Matter.</td>
<td>BENTON CARTLEDGE, Brian Majestic, Aurelie Marcotte, Pierre Herckes, Ariel Anbar, University of Denver</td>
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<tr>
<td>2AC.10</td>
<td>Quantification of the Catalytic Effect of Nitric Acid on Dehydration of Particulate Cyclic Hemiacetals.</td>
<td>APRIL RANNEY, Paul Ziemann, UC Riverside</td>
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<tr>
<td>2AC.11</td>
<td>Uptake of Organic Compounds from Ultra-Low Sulfur Diesel (ULSD) Exhaust onto Laboratory Generated Inorganic Seed Particles.</td>
<td>ZAMIN KANJI, John Liggio, Katherine Hayden, Tak Chan, Marie-Josee Poitras, Shao-Meng Li, Environment Canada</td>
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<tr>
<td>2AC.12</td>
<td>Heterogeneous Reaction of SOA-Coated Ammonium Bisulfate Aerosol with Gas-phase Ammonia: Impact of SOA Diffusivity.</td>
<td>SHOUMING ZHOU, Alex Tevlin, Jennifer Murphy, Jonathan Abbatt, University of Toronto</td>
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<tr>
<td>2AC.13</td>
<td>The Effect of Relative Humidity (RH) on Sulfate Aerosol Optical Properties Using Cavity Ring-Down Spectroscopy.</td>
<td>XIJING ZHU, Dean Atkinson, Portland State University</td>
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<tr>
<td>2AC.14</td>
<td>Effects of Acidity on the Chemical Composition of Secondary Aerosol from the Isoprene/NOx Photooxidation: Measurements using an Aerosol Mass Spectrometer.</td>
<td>KEI SATO, Akinori Takami, Takashi Imamura, Hong Li, Xuezhong Wang, National Institute for Environmental Studies</td>
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<td>2AC.15</td>
<td>Secondary Organic Aerosol Production from Pinanediol.</td>
<td>PENGLIN YE, Neil Donahue, Carnegie Mellon University</td>
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<tr>
<td>2AC.16</td>
<td>SimpleGAMMA: Reduced Mechanism for Aqueous Aerosol SOA Modeling.</td>
<td>Joseph Woo, V. FAYE MCNEILL, Columbia University</td>
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**2AP AEROSOL PHYSICS II**

**EXHIBIT HALL A**

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<tr>
<td>2AP.1</td>
<td>Predicting Porosity of Dust Cakes under General Conditions Via Brownian Simulation.</td>
<td>GUSTAF LINDQUIST, Christopher Hogan Jr., David Y. H. Pui, University of Minnesota</td>
<td></td>
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<tr>
<td>2AP.2</td>
<td>Observing Water Microdroplet Freezing below &quot;Homogenous Nucleation Temperature Limit&quot; with Ultrafast X-ray Laser at LCLS.</td>
<td>HARTAWAN LAKSMONO, Trevor A. McQueen, Jonas A. Sellberg, Congcong Huang, N. Duane Loh, Raymond G. Sierra, Dmitri Starodub, Dennis Norlund, Martin Beye, Daniel P. DePonte, Andrew Martin, Anton Barty, Jan Feldkamp, Sebastien Boutet, Garth J. Williams, Michael J. Bogan, Anders Nilsson, SLAC National Accelerator Laboratory</td>
<td></td>
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</table>
### 2AP.3 Investigation of Poissonian Sampling Behavior for Nanometer-Sized Aerosols.

Meng-Dawn Cheng, *University of Florida*

1:00

### 2AP.4 Q-Space Analysis of Scattering by Particles of Arbitrary Shape.

CHRIS SORENSEN, William Heinson, Amit Chakrabarti, Evgenij Zubko, *Kansas State University*

1:00

### 2AP.5 A Computationally Efficient Multi-particle Sintering Model.

VIVEK SHAH, Pratim Biswas, *Washington University in St. Louis*

1:00

### 2AP.6 Theoretical and Experimental Investigation of Particle Formation from Evaporating Microdroplets.

Mohammed Boraey, Alberto Baldelli, REINHARD VEHRING, *University of Alberta, Canada*

1:00

### 2AP.7 Aggregation during the Crossover from Ballistic to Diffusive Motion.

William Heinson, Chris Sorensen, AMIT CHAKRABARTI, *Kansas State University*

1:00

### 2AP.8 The Optical Behavior of Soot as a Function of Relative Humidity.

YIYI WEI, Qing Zhang, Jonathan E. Thompson, *Texas Tech University*

1:00

### 2AP.9 Numerical Evaluation of Fuch’s Bipolar Charging Theory Using Stochastic Ion Mass and Mobility in a Non-Equilibrium Neutralizer.

JEAN DE LA VERPILLIERE, Jacob Swanson, Adam M Boies, *University of Cambridge*

1:00

### 2AP.10 Identification of Airborne Particles by Forward Light Scattering.

PAUL LANE, Matthew Hart, Brian Saar, Jay Eversole, *Naval Research Laboratory*

1:00

### 2AP.11 Spectro-microscopic Characterization of Physical Properties and Phase Separations in Individual Atmospheric Particles.

RACHEL O’BRIEN, Bingbing Wang, Steven Kelly, Nils Lundt, Scott A. Epstein, Amanda MacMillan, Yuan You, Alexander Laskin, Sergey Nizkorodov, Allan Bertram, Ryan Moffet, Mary Gilles, *LBNL and University of the Pacific*

1:00

### 2AP.12 Molecular Dynamics Simulations of the Mass Accommodation of Dicarboxylic Acids and Other Organic Compounds.

Jan Junin, ILONA RIIPINEN, *Stockholm University*

1:00

### 2AP.13 Composition and Mixing Timescale Measurements of Biomass-burning Aerosol and Secondary Organic Aerosol from alpha-pinene Using Two Particle Mass Spectrometers.


1:00

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### 2BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT II

**EXHIBIT HALL A**

### 2BA.1 Evaluation of an Ion Capture Device for Determination of Aerosolized Venezuelan Equine Encephalitis Virus and a Novel Method for Absolute Particle Count Determination.

JULIAN GORDON, Prasanthi Gandhi, Tiffany Sutton, Karen Pongrace, Jerold Bottiger, *Inspirotec LLC, Chicago, IL*

1:00

### 2BA.2 Evaluating Bioaerosol Transport Using Unique DNA-Barcoded Aerosol Test Particles and Passive Sampling.


1:00

### 2BA.3 Fluorescence of Bioaerosols: Concentrations and Optical Properties of Relevant Molecules Needed for Modeling Emission from Bacteria.

STEVEN HILL, Yong-Le Pan, Chatt Williamson, Joshua Santarpia, Hanna Hill, *US Army Research Laboratory*

1:00

### 2BA.4 Performance of Cascade Impactors for Sampling Aerosolized Viruses.

MICHAEL SCHUIT, Jamie Kline, Kristin Bower, Paul Dabisch, *NBACC*

1:00

### 2BA.5 A Multiparameter Bioaerosol Spectrometer (MBS).

Paul Kaye, Warren Stanley, Edwin Hirst, MARTIN GALLAGHER, Niall Robinson, Ian Crawford, *University of Hertfordshire*

1:00

### 2BA.6 Investigation of ATP-based Bioluminescence Effectiveness for Bioaerosol Quantification.

TAEWON HAN, Ting Cai, Kelsey DuBois, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

1:00

### 2BA.7 Real-Time Characterization of Fungal Aerosol.

Sampo Saari, Jacob Mensah-Attipoe, Anniina Hellisten, Pertti Pasanen, *Tampere University of Technology*

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<td>2BA.8</td>
<td>A New Concept for Single Bioaerosol Particle Material Characterization.</td>
<td>MATTHEW BERG, Mississippi State</td>
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<td>2BA.11</td>
<td>Use of Air-Sampling-Culturing, Free Settling and Filtration Revealed Strikingly Different Bacterial Aerosol Species through High Throughput Gene Sequence.</td>
<td>MINGZHEN LI, Kai Wei, Yunhao Zheng, Jing Li, Zhuanglei Zou, Maosheng Yao, Xu Zhencheng, Peking University</td>
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<td>2BA.12</td>
<td>Enhancing Bioaerosol Collection by Andersen Impactors Using Mineral-Oil-Spread Agar Plate.</td>
<td>Maosheng Yao, Zhenqiang Xu, KAI WEI, Mingzhen Li, Fangxia Shen, Peking University</td>
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<td>2BA.13</td>
<td>Non-Human Primate Animal Model Development Using Aerosolized Cowpox Virus.</td>
<td>Matthew Lackemeyer, KYLE BOHANNON, Reed Johnson, Peter Jahrling, NIAID</td>
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<tr>
<td>2CA.1</td>
<td>In-situ Measurements of Particle Size and Volatility in a Traffic Tunnel.</td>
<td>ALBERT A. PRESTO, Xiang Li, Carnegie Mellon University</td>
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<td>2CA.2</td>
<td>Source Apportionment of PM10, PM2.5, PM1 Organic Aerosol Using Aerosol Mass Spectrometry.</td>
<td>ANDRE PRÉVÔT, Carlo Bozetti, Imad El Haddad, Robert Wolf, Emily Bruns, Adela Krepelova, Kaspar Daellenbach, Jay Slowik, Urs Baltensperger, Paul Scherrer Institute</td>
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<td>2CA.7</td>
<td>Seasonal Variation of Organic Compounds in PM10 at Seoul, Korea.</td>
<td>Se Pyo Lee, Hyung Bae Lim, Eun Jin Hwang, JIYI LEE, Yong Pyo Kim, Chosun University</td>
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<td>2CA.8</td>
<td>The Organic Characteristics of PM2.5 and TSP in Asian Dust Episodes at Urban and Background Sites in Korea.</td>
<td>HYUNG BAE LIM, JIYI Lee, Se Pyo Lee, Eun Jin Hwang, Jin Young Kim, Hyoun-Cher Jin, Chosun University</td>
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<td>2CA.9</td>
<td>BC Mixing State during CARES 2010: Results from and Limitations of the Single Particle Soot Photometer.</td>
<td>R. SUBRAMANIAN, Arthur J. Sedlacek, Rahul Zaveri, Claudio Mazzoleni, Noopur Sharma, RTI International</td>
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<td>2CA.10</td>
<td>Long Range Transport of Biomass Burning Emissions based on Organic Molecular Markers and Carbonaceous Thermal Distribution.</td>
<td>MIN-SUK BAE, Mokpo National University</td>
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<td>2CA.12</td>
<td>Black Carbon Mixing State in Paris during MEGAPOLI: Connecting Particle-Resolved Observations to Particle-Resolved Modeling.</td>
<td>SWARNALI SANYAL, Nicole Riemen, Robert Healy, Valérie Gros, John Wenger, Greg J. Evans, University of Illinois at Urbana-Champaign</td>
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2CH CONTROL TECHNOLOGY AND HOMELAND SECURITY I

EXHIBIT HALL A

2CH.1 The Study of the Fibrous Membrane Produced by Electrospinning Technology. Kuo Pei-Chen, JIN-YUAN SYU, Chang Yuan-Yi, Chih-Chieh Chen, Wen-Yinn Lin, National Taipei University of Technology

2CH.2 Filter Testing Using Technetium-99m Labeled Airborne Particles. TSZ YAN LING, Lin Li, Kai Xiao, Shigeru Kimoto, Bradley Humphrey, David Y. H. Pui, Jerry Froelich, University of Minnesota

2CH.3 SO2 and PM Removal Performance of a Packed-Bed Scrubber Combined with Electrostatic Precipitation for Marine Diesel Engines. HAK-JOON KIM, Bangwoo Han, Yong-Jin Kim, Hwang Sung-Chul, Korea Institute of Machinery and Materials

2CH.4 Emissions of NOx, NO, NH3, N2O and BC from a Diesel Engine Equipped with an SCR System Fueled with Diesel and Biodiesel: Dispersion Analysis and Pollutant Risk Assessment in Curitiba, Brazil. RICARDO H. M. GODOI, Yara S. Tadano, Guilherme C. Borillo, Thiago O. B. Silva, Amanda Cichon, Fabio B. Valebona, Carlos I. Yamamoto, Marcelo R. Errera, Lucas Martin, Denis Rempel, Ana Flavia L. Godoi, Federal University of Parana - Curitiba, PR, Brazil

2CH.5 Correlation between Number Concentration of Generated Particles and Concentration of Airborne Molecular Contamination at Different Relative Humidity and Residence Time under Soft X-ray Irradiation. CHANG HYUK KIM, Zhili Zuo, Hartmut Finger, Stefan Haep, Heinz Fissan, David Y. H. Pui, University of Minnesota

2CH.6 On the Development of Indoor Air Quality Control Using Synthetic Jets. Brett McQuillan, Jean Hertzberg, LUPITA MONTOYA, University of Colorado, Boulder

2CH.7 Development of a Rotating Drum System for Studying the Effects of Humidity and Ozone on Biological Aerosols. Shanna Ratnesar-Shumate, ELIZABETH CORSON, Jonathan Eshbaugh, Christopher Bare, Sean Kinahan, Joshua Santarpia, Johns Hopkins University Applied Physics Laboratory

2CH.8 Development of Clutter Aerosol Profiles for Test and Evaluation of Biological Detectors. JONATHAN ESHBAUGH, Shanna Ratnesar-Shumate, Elizabeth Corson, Johns Hopkins University Applied Physics Laboratory

2CH.9 Bacillus Spore Filtration Efficiency of HEPA Filters. JACKY ANN ROSATI ROWE, April Corbett, Alfred Eisner, US EPA

2CH.10 Rapid Viral Aerosol Inactivation Using Atmospheric Cold Plasma. Yan Wu, Yongdong Liang, MAOSHENG YAO, Jue Zhang, Peking University

2CH.11 In Situ Viral Aerosol Inactivation and Mechanisms by Microwave Irradiation. Yan Wu, MAOSHENG YAO, Peking University

2CO COMBUSTION I

EXHIBIT HALL A

2CO.1 Predicting Transient Particle Number Emissions from Different Blends and Feedstocks of Biodiesel Using an Artificial Neural Network. TYLER FERALIO, Britt Holmén, University of Vermont

2CO.2 Organic Chemical Composition of Biodiesel Exhaust Particulate Matter Derived from Two Feedstocks: Soybean and Waste Grease. JOHN KASUMBA, Britt Holmén, University of Vermont

2CO.3 Characterization of PM Emissions from Aircraft Auxiliary Power Units. PREM LOBO, Donald Hagen, Philip Whitefield, Missouri University of Science and Technology
2CO.4 Validation of the Moment Method for Determining Smoke Aerosol Properties in Space. MARIT MEYER, George Mulholland, David Urban, Gary Ruff, Zeng-guang Yuan, Victoria Bryg, Thomas Cleary, Jiann Yang, NASA Glenn Research Center

2CO.5 Particle Size Distributions from a Light-Duty Conventional Vehicle and Comparable Hybrid-Electric Vehicle During Real-World Driving. KAREN SENTOFF, Britt Holmén, University of Vermont

2CO.6 Characterizing the Gaseous Toxic Pollutants, Ultrafine Particle Emissions, Size Distributions, Electrophilic, and Redox Properties of Biodiesel Exhaust from Heavy-Duty Vehicles with and without Aftertreatment Controls. NICHOLAS GYSEL, Thomas D. Durbin, Debra A. Schmitz, Arthur K. Cho, Georgios Karavalakis, University of California Riverside

2CO.7 Comparison of Real-World Tailpipe Emissions to MOVES 2010 Model Predictions as a Function of Road Grade. BRITT HOLMÉN, Karen Sentoff, Wenchao Zhang, University of Vermont

2CO.8 High-Frequency Size-Resolved Sampling of Aerosols from a Three-Stone Fire and a High-Efficiency Cookstove to Determine the Minimum Sampling Rate to Avoid Aliasing. DANIEL WILSON, Yungang Wang, Kathleen Lask, Ashok Gadgil, University of California, Berkeley

2CO.9 Characterization of Soot Particles from Heat Insulation Foam Combustion. Jesse Fowler, DE-LING LIU, The Aerospace Corporation

2CO.10 Morphology of Particles Emitted from a GDI Engine Fuelled on Gasoline and Ethanol Blends. Brian Graves, Ramin Dastanpour, Steven Rogak, Phillip Mireault, Manuel Ramos, James S. Wallace, JASON S. OLFERT, University of Alberta

2CO.11 Evaluation of Dilution System for On-Road Aerosol Emission Measurement from Automobiles. JAI PRAKASH, Akash Sharma, Anil Kumar, Gazala Habib, IIT Delhi

2CO.12 Characterization of Mixed Diesel and Gasoline Exhaust by High-Resolution Aerosol Mass Spectrometry under Varied Engine Load and Dilution Conditions. COURTNEY L. HERRING, Matthew H. Erickson, Mylene Gueneron, Jacob D. McDonald, B. Thomas Jobson, Timothy M. VanReken, Washington State University

2CO.13 Analysis of Real-time Emission Data from In-Home Use of Cookstoves in Rural Karnataka, India. ANDREW GRIESHOP, Grishma Jain, Karthik Sethuraman, Ther Aung, Julian Marshall, North Carolina State University

2CO.14 A Comparative Study on Emission Characteristics of Different Cook Stoves and Modeling of Particle Formation During Cook Stove Operation. SAMEER PATEL, Jiaxi Fang, Anna Leavey, Siqin He, Chang Ki Kang, Kyle O'Malley, Smit Shah, Pratim Biswas, Washington University in St Louis

2HA HEALTH RELATED AEROSOLS I

EXHIBIT HALL A

2HA.1 Some Aspects of Aerosol Production by Modern Flush Toilets of Various Designs. DAVID L. JOHNSON, Robert A. Lynch, Jacob F. Jones, Kenneth R. Mead, Deborah V.L. Hirst, Dept Occup/Envir Health, Univ OK HSC

2HA.2 Toilet Plume Droplet Nuclei Aerosol Production and Bowl Clearance during Sequential Flushes. DAVID L. JOHNSON, Robert A. Lynch, Jacob F. Jones, Kenneth R. Mead, Deborah V.L. Hirst, Dept Occup/Envir Health, Univ OK HSC

2HA.3 Characterization of a Vortex Shaking Method for Aerosolizing Fibers. BON KI KU, Gregory Deye, Leonid Turkevich, Centers for Disease Control and Prevention, NIOSH

2HA.4 Aerosol Deposition in Nasal Airway Replicas: Infants, Children, and Adults. Mindy Guo, YUE ZHOU, Jinxian Xi, Hammad Irshad, Yung-Sung Cheng, Lovelace Respiratory Research Institute


2HA.6 Distinct Reaction of Bacterial Culturability and Viability on Antimicrobial Air Filters Coated with Sophora Flavescens Nanoparticles. GI BYOUNG HWANG, Kyoung Mi Sim, Jae Hee Jung, Gwi Nam Bae, Korea Institute of Science and Technology
2HA.7 Characterization of Atmospheric Bioaerosols Found in Tijuana, Mexico. LILIA HURTADO, Guillermo Rodriguez, Penelope Quintana, Miguel Zavala, Jonathan Lopez, Mariela Juarez, Universidad Autonoma de Baja California, Tijuana, Mexico

2HA.8 Tobacco Smoke Dose at the Air-Liquid Interface In Vitro. Jason Adamson, JOHN MCAUGHEY, British American Tobacco


2HA.10 Temporal and Spatial Distributions of PAHs in the Atmosphere of Korea and Their Toxicity. HYE JUNG SHIN, JiYi Lee, Soon A Rho, Jong Choon Kim, Seok Jo Lee, National Institute of Environmental Research

2HA.11 Contamination Level of Traffic-related Air Pollutants outside of the Children Day-Care Facilities in Seoul. SEUNG-BOK LEE, Kyung Hwan Kim, Dae-Kwang Woo, Sungho Woo, Gwi Nam Bae, Korea Institute of Science and Technology

2HA.13 Correlation of Method 5040 with Other Methods for Carbon Nanotube Exposure Assessment. PATRICK O'SHAUGHNESSY, Adrienne Horne, Ralph Altmaier, University of Iowa

2HA.14 Fiber Transport and Deposition in Human Upper Tracheobronchial Airways -- the Effect of Brownian Dynamics. Lin Tian, GOODARZ AHMADI, Philip K. Hopke, Yung-Sung Cheng, Clarkson University

2HA.15 Collection of House Dust Aerosols Complemented with Common Allergen Proteins: Comparison of Sampler Efficiencies with MARIA™ Allergen Assay. DAVID ALBURTY, Pamela Murowchick, AlburtyLab, Inc.

2HA.16 Commercial Charbroiling Emission Induces Inflammatory Response in Human Bronchial Epithelial Cells: The Role of Oxidative Stress and p38 MAPK. NING LI, Keisha Williams, Nicholas Gysel, Nachamari Rivera-Rios, Georgios Karavalakis, Michigan State University

2HA.17 Association of Ambient PM2.5 with Pulmonary and Heart Rate Variability Functions among Healthy Individuals of IIT Delhi. GAURAV SINGH, Gazala Habib, Mukesh Khare, IIT Delhi

2HA.18 Biodiesel Exhaust Particulate Matter (PM) Pretreatment and Screening for Health Effect Studies. JIM DUNSHEE, Brian C. Palmer, Tyler Feralio, Muyao Li, Naomi K. Fukagawa, Britt Holmén, University of Vermont

2HA.19 Characterization of Spray Velocities from a Pressurized Metered-Dose Inhaler. ABUBAKER ALATRASH, Edgar Matida, Carleton University

2HA.20 Leakages of Bioaerosols through Controlled Gaps in Respirators: Experiments and Computational Fluid Dynamics. SUVAJYOTI GUHA, Prasanna Hariharan, Matthew Myers, Food and Drug Administration

2HA.21 In vitro Aerosol Delivery to the Lungs during Non-Invasive Ventilation High Flow Nasal Therapy. LALEH GOLSHAHI, Worth Longest, Mandana Azimi, Ross Walenga, Michael Hindle, Virginia Commonwealth University

2HA.22 Lung Cancer Inhibitory Effect of PLGA-coated Budesonide and Polyphenon E in A/J Mice. JINGJIE ZHANG, Virginia Commonwealth University

2IA INDOOR AEROSOLS II

EXHIBIT HALL A

2IA.1 Commuter Exposure to Particle Matter and Carbon Dioxide inside High-speed Metro Cabins. PENGYI CUI, Bin Xu, Tongji University

2IA.3 Nanoparticle Loading and Agglomeration in Charged and Discharged Electret Filter Media. JAMES MONTGOMERY, Steven Rogak, Sheldon Green, University of British Columbia

2IA.4 Resuspension Fraction Estimations from 20 Homes in Northern New York. Yuanyin Yin, Yan Ma, Lisa Bramwell, ANDREA R. FERRO, Clarkson University

2IA.5 Ultrafine PM Emissions from Hardcopy Devices Measured per RAL UZ 171. ELLIOTT HORNER, Scott Steady, UL Environment
2IA.6 Person-to-Person Contaminant Transport in a Ventilated Room with Different Ventilation Systems. S.M. Keshavarz, Mazyar Salanzadeh, GOODARZ AHMADI, Clarkson University

2IA.7 Chemical Composition of Hookah Smoke Aerosol Measured with an Aerosol Chemical Speciation Monitor. PHILIP CROTEAU, John Jayne, Douglas Worsnop, Tim Oh, Cindy DeForest Hauser, Aerodyne Research, Inc.

2IA.8 Rapid Allergen Reduction By Atmospheric Cold Plasma. Yan Wu, Yongdong Liang, MAOSHENG YAO, Jue Zhang, Peking University

2IA.9 Development of a Particle Resuspension Modelling Capability within a Computational Fluid Dynamics Framework. SARAH WILLIAMSON, Sarah Harrison, Jonathan Hill, John Locke, Defence, Science and Technology Laboratory, UK

2IA.10 PM2.5 and Ultrafine Particles in Green Vs. Non-Green Homes. KANISTHA CHATTERJEE, Patrick Ryan, Sergey A. Grinshpun, Chris Schaffer, Eric Kettleson, Reshmi Indugula, Yang Qiu, Tiina Reponen, University of Cincinnati

2IA.11 Introduction of the Upstate New York Weatherization Project. DENINA HOSPODSKY, Largus Angenent, Cornell University

2IA.12 Optimal Cleaning Strategies for HVAC Heat Exchangers. AMIN ENGARNEVIS, James Montgomery, Sheldon Green, Steven Rogak, University of British Columbia

2IA.13 Assessing Indoor Air Quality Impact of Wildfires with Chemical Signatures. ODESSA GOMEZ, Alina M. Handorean, Jane Turner, Mark T. Hernandez, University of Colorado Boulder

2IA.14 Real-time, Size-Resolved Particle Concentrations in a Neonatal Intensive Care Unit. SEEMA BHANGAR, Brandon Brooks, Fuqun Vasiknanonte, Xiaochen Tang, Jillian Banfield, William Nazaroff, University of California, Berkeley

2IA.15 Particulate Mass and Lung-Deposited Surface Area Concentrations from Cookstove Emissions in Rural Households in Udaipur, India. Anna Leavent, SAMEER PATEL, Jessica Londere, Ravi Shrimai, Gautam Yadama, Pratim Biswas, Washington University in St Louis

2IM INSTRUMENTATION AND METHODS II

EXHIBIT HALL A

2IM.1 Validation of the CPMA-Electrometer Suspended Mass Standard against Gravimetric Measurements. JONATHAN SYMONDS, Kingsley Reavell, Jason S. Olfert, Cambustion

2IM.2 Development of a Triggering-LIBS for Determination of Elemental Composition of Single Particles in Real Time. HEESUNG LEE, Jihyun Kwak, Gibaek Kim, Kihong Park, Gwangju Institute of Science and Technology

2IM.3 Real-time Elemental Characterization of Polydisperse Aerosol Particles Using a DMA Coupled with an Inductively Coupled Plasma-Mass Spectrometer. VIVEK RAWAT, Thaseem Thajudeen, Christopher Hogan Jr., University of Minnesota

2IM.4 Determination of Chemical and Morphological Properties of Size-Segregated Aerosol Particles Using the Electrical Low Pressure Impactor. PATRICIA FRITZ, Shida Tang, David Guerrieri, Brian P. Frank, New York State Dept. of Environmental Conservation

2IM.5 Preparation of Lead (Pb) Reference Materials by Aerosol Deposition for XRF Analysis of Ambient Particulate Matter. Hardik Amin, Sinan Yatkin, Trzepla Krystyna, ANN DILLNER, University of California, Davis

2IM.6 A CAPS-Based Single Scattering Albedo Monitor. Timothy Onasch, Paola Massoli, Paul Keabian, ANDREW FREEDMAN, Aerodyne Research, Inc.

2IM.7 Black Carbon in Dust and Geological Material: Reconciling Thermal/Optical and Spectral Quantification Methods. L.-W. ANTONY CHEN, Yongming Han, Jerome Robles, Judith Chow, Junji Cao, John Watson, Desert Research Institute

2IM.8 Towards Fast, Accurate Calculation of Particle Hygroscopic Growth Rates: System Modeling of H-TDMA Performance. RAGHAV RAMAN, Suresh Dhaniyala, Clarkson University
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<td>2IM.9</td>
<td>Semi-automated System for Measuring Oxidative Potential of Ambient Particles Collected on Filters Using Dithiothreitol (DTT) Assay.</td>
<td>TING FANG, Vishal Verma, Rodney Weber</td>
<td>Georgia Institute of Technology</td>
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<td>2IM.10</td>
<td>PAH Distribution with Particle Size by Hi-Volume Impactor: Positive Artifact Correction.</td>
<td>JAN BENDL, Jan Hovorka, Jan Topinka</td>
<td>Charles University in Prague</td>
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<td>2IM.11</td>
<td>An Aerosol Detection Technique for Diesel Fuel Contaminants.</td>
<td>KAI XIAO, Chenxing Pei, Jacob Swanson, David Kittelson, David Y. H. Pui</td>
<td>University of Minnesota</td>
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<td>2IM.12</td>
<td>Aerosol Mixing in Concentric Jets.</td>
<td>MATTHEW BROWN, Suresh Dhaniyala</td>
<td>Clarkson University</td>
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<td>2IM.13</td>
<td>Aerosol Analysis Using a Thermal-Desorption Mass Spectrometer (TD-MS) Modified from a Conventional Carbon Analyzer.</td>
<td>XUFEI YANG, L.-W. Antony Chen, Xiaoliang Wang, Jerome Robles, John Watson, Judith Chow</td>
<td>Desert Research Institute</td>
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<td>2IM.14</td>
<td>Making the Particle Number Concentration Standard Liquid Suspension Using Aerosol Technique.</td>
<td>KENJIRO IIDA, Hiromu Sakurai, Junko Nakanishi, Kensei Ehara</td>
<td>AIST</td>
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<td>2IM.15</td>
<td>Comparison of the Organic Composition of Generated and Ambient Marine Aerosol Measured Using Four Complementary Techniques.</td>
<td>AMANDA FROSSARD, Lynn Russell, Timothy Bates, Patricia Quinn</td>
<td>Scripps Institution of Oceanography</td>
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<td>2IM.16</td>
<td>Evaluation of Selective Ion Flow Tube Mass Spectrometry for Controlled Laboratory Studies.</td>
<td>ASHLEY VIZENOR, Chia-Li Chen, Derek Price, Mary Kacarab, Xinze Peng, Kelly McCoy, Igor Irianto, Shaokai Gao, David R. Cocker III</td>
<td>University of California, Riverside</td>
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<td>2IM.18</td>
<td>Improvement of a Particle Trap Laser Desorption Mass Spectrometer (PT-LDMS) for Ambient Measurement.</td>
<td>TAKEDA NAOKI, Ozawa Yuya, Miyakawa Takuma, Koizumi Kazuhiro, Hirayama Norimoto, Takegawa Nobuyuki</td>
<td>Fuji Electric CO., LTD.</td>
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<td>2IM.19</td>
<td>Results of On-line Measurement of Volatile Organic Compounds Adsorbed on Diesel Exhaust Particles by PTR-TOFMS.</td>
<td>NOBUHIRO YANAGISAWA, Kenji Enya</td>
<td>ISUZU Advanced Engineering Center, Ltd.</td>
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<td>2IM.20</td>
<td>Development of Aerosol Mass Spectrometer (AMS) with Two Switchable Ionization Methods for Characterization of Refractory and Non-refractory Components in Particles.</td>
<td>HEE-JOO CHO, Heesung Kwak, Kihong Park</td>
<td>Gwangju Institute of Science and Technology</td>
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<td>2IM.22</td>
<td>Chemically Specific Online Removal of Submicron Aquadag Aerosol with the Single Particle Soot Photometer.</td>
<td>ALLISON AIKEN, Gavin McMeeking, Manvendra Dubey, Paul DeMott, Ezra Levin</td>
<td>Los Alamos National Lab</td>
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**2SA SOURCE APPORTIONMENT I**

**EXHIBIT HALL A**

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<td>2SA.1</td>
<td>Radiocarbon-Based Source Apportionment of EC and OC in Fine Particulate Matter at a Regional Background Site on Hainan Island, South China.</td>
<td>YANLIN ZHANG, Jun Li, Gan Zhang, Jianhui Tang, Peter Zottet, Lukas Wacker, Andre Prévôt, Soenke Szidat</td>
<td>University of Bern</td>
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<td>2SA.2</td>
<td>Source Apportionment and Organic Compound Characterization of Ambient Ultrafine Particulate Matter (PM) in the Los Angeles Basin.</td>
<td>SINA HASHEMINASSAB, Nancy Daher, James Schauer, Constantinos Sioutas</td>
<td>University of Southern California</td>
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<td>2SA.3</td>
<td>Receptor Modeling of Ambient PM2.5 Collected at the National Air Pollution Surveillance (NAPS) Speciation Sites in Ontario for the Years 2005 -2010.</td>
<td>UWAYEMI SOFOWOTE, Yushan Su, Ewa Dabek-Zlotozynska, Ankit Rastogi, Jeff Brook, AQQARU, EMRB</td>
<td>Ontario Ministry of the Environment</td>
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<td>2SA.4</td>
<td>Indication of Aerosol Aging by Optical Absorption Properties.</td>
<td>LUKA DRINEVEC, Grisa Mocnik, Jean-Eudes Petit, Jean Sciare, Oliver Favez, Peter Zottet, Robert Wolf, Andre Prévôt, Anthony D.A. Hansen</td>
<td>Aerosol d.o.o., Slovenia</td>
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<td>2SA.5</td>
<td>Retrospective Source Attribution for Source-Oriented Sampling and Toxicity.</td>
<td>KEITH BEIN, Yongjing Zhao, Anthony Wexler</td>
<td>UC Davis</td>
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2SA.6 Anthropogenic and Biogenic Contributions to Secondary Organic Aerosols at two Industrial Cities in the Upper Midwest. ANDREW RUTTER, David Snyder, Elizabeth Stone, Brandon Shelton, Jeff Deminter, James Schauer, University of Wisconsin-Madison

2SA.7 Sources of Ultrafine Particles in the Atmosphere over the Eastern United States. LAURA POSNER, Spyros Pandis, Carnegie Mellon University

2UA URBAN AEROSOLS I

EXHIBIT HALL A

2UA.1 Macrophage Reactive Oxygen Species Activity of Water-soluble and Water-insoluble Fractions of Ambient Coarse, PM2.5 and Ultrafine PM in Los Angeles. DONGBIN WANG, Payam Pakbin, Martin Shafer, James Schauer, Constantinos Sioutas, University of Southern California

2UA.2 Seasonal and Spatial Variability in Oxidative Potential of Quasi-Ultrafine Particles (PM0.25) and its Relation to Water Soluble Metals in the Los Angeles Metropolitan Area. ARIAN SAFFARI, Nancy Daher, Martin Shafer, James Schauer, Constantinos Sioutas, University of Southern California


2UA.4 Intermodal Fraction of Particulate Matter in Indoor and Outdoor Microenvironments. MARTIN BRANIS, Jana Kozakova, Charles University in Prague, Faculty of Science

2UA.5 Characterization of Ultrafine Particles and Other Traffic Related Pollutants near Roadways in Beijing. Nu Yu, YIFANG ZHU, Xiaosen Xie, Caiqing Yan, Mei Zheng, UCLA

2UA.6 Traffic-Related Pollutant Emission Factors from Near-Road Measurements for Various Vehicle Types in Downtown Toronto. JON M WANG, Cheol-Heon Jeong, Robert Healy, Greg J. Evans, SOCAAR, University of Toronto


2UA.8 Ground-Based Measurements of CCN Concentrations in Singapore. SAMUEL ATWOOD, Sonia Kreidenweis, Jeffrey Reid, Shiguo Jia, Wei Hong Fan, Liya Yu, Colorado State University

2UA.9 Sources of Black Carbon Condensation Nuclei. Shaokai Gao, Michael Giordano, Daniel Short, Diep Vu, AKUA ASA-AWUKU, University of California, Riverside


2UA.11 Azaarenes in Atmospheric Particulate Matter Samples of Three Different Urban Sites in East of France. OLIVIER DELHOMME, Maurice Millet, University of Strasbourg

Tuesday 3:00 PM - 3:30 PM
Coffee Break

Tuesday 3:30 PM - 5:00 PM
Session 3: Platform

3AC AEROSOL CHEMISTRY III

B115/116

Gabriel Isaacman and Annmarie Carlton, chairs
### 3AC.1  
**Secondary Organic Aerosol Oligomerization, Particle Viscosity, and the Trapping of Volatiles in the Aerosol Phase.**  
DAVID DE HAAN, Melissa Galloway, Nahzaneen Sedehi, Jonathan Bartolomucci, *University of San Diego*

### 3AC.2  
**SOA Aging and Oligomer Content and their Effect on Volatility and Viscosity of SOA Particles Generated from Different Precursors.**  
JACQUELINE WILSON, Alia Zelenyuk, Dan Imre, Josef Beranek, *Pacific Northwest National Laboratory*

### 3AC.3  
**Gas-particle Partitioning of Atmospheric Aerosols: Interplay of Physical State, Non-ideal Mixing and Morphology.**  
MANABU SHIRAIWA, Andreas Zuend, Allan Bertram, John Seinfeld, *California Institute of Technology*

### 3AC.4  
**Partitioning of Inorganic Gases to Atmospheric Ice: Effects on CMAQ Predictions of Nitrogen and Sulfur Compounds.**  
Brian Marmo, ANNMARIE CARLTON, *Rutgers University*

### 3AC.5  
**Phase Transitions and Phase Miscibility of Mixed Particles of Ammonium Sulfate, Toluene-Derived Secondary Organic Material, and Water.**  
Mackenzie Smith, Yuan You, Mikinori Kuwata, Allan Bertram, SCOT MARTIN, *Harvard University*

### 3AC.6  
**Liquid-liquid Phase Separation in Particles Containing Ammonium Sulfate, Ammonium Bisulfate, Ammonium Nitrate and Sodium Chloride Mixed with Organics.**  
YUAN YOU, Jacqueline Yakobi-Hancock, Allan Bertram, *University of British Columbia*

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### 3BA.1  
**Biological Ice Nucleation Activity in Cloud Water.**  
Muriel Joly, Pierre Amato, Laurent Deguillaume, Eleonore Attard, Marie Monier, Cindy E. Morris, Martine Sancelme, ANNE-MARIE DELORT, *Clermont Université, Institut de Chimie de Clermont-Ferrand*

### 3BA.2  
**Immersion Freezing of Birch Pollen Washing Water.**  
HINRICH GROTHE, Bernhard Pummer, Heidi Bauer, Johannes Bernardi, Philippe Schmitt-Kopplin, Constanze Mueller, Stefanie Augustin, Susan Hartmann, Dennis Niedermeier, Tina Claus, Jens Voigtlander, Laura Tomische, Heike Wex, Frank Stratmann, *Vienna University of Technology*. INVITED.

### 3BA.3  
**The Potential Role of Bacteria Acting as Ice Nuclei - A Numerical Model Study.**  
MAHER SAHYOUN, Ulrik Korsholm, Jens Sørensen, Niels Nielsen, Kai Finster, Ulrich Karlson, Tina Temkiv, Allan Gross, *Danish Meteorological Institute & Aarhus University*

### 3BA.4  
**Single Particle Mass Spectrometry of Biological Particles – Linking Their Chemical Composition to Ice-Nucleation Activity.**  
BERKO SIERAU, Cédric Chou, Monika Kohn, André Welti, Bernhard Pummer, Caroline Oehm, Isabelle Steinke, Olaf Stetzer, Ottmar Mühler, Ulrike Lohmann, *ETH Zurich, Institute for Atmospheric & Climate Science*

### 3BA.5  
**Characterizing the Organic Ice Nuclei in Soils.**  
THOMAS C. HILL, Paul DeMott, Yukata Tobe, Janine Froelich-Nowisky, William L. Stump, Gary D. Franc, *University of Wyoming*

### 3BA.6  
**Distribution of Biological Ice Nuclei in the Precipitation of Eastern China.**  
RUI DU, Zongmin Liang, Yaling Wang, Pengrui Du, Ziming Li, *University of Chinese Academy of Science*

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### 3CA.1  
**Effect of Aggregation and Mixing on Optical Properties of Black Carbon.**  
BARBARA SCARNATO, NASA Ames

### 3CA.2  
**Mixing of Biogenic Emissions with Urban Plume: A Case Study from CARES.**  
NOOPUR SHARMA, Swarup China, Manvendra Dubey, Kyle Gorkowski, Bradley Flowers, Madhu Gyawali, W. Patrick Arnott, Rahul Zaveri, Arthur J. Sedlacek, R. Subramanian, Claudio Mazzoleni, *Michigan Technological University*
3CA.3 Optical and Morphological Properties of Free Tropospheric Aerosol Sampled at the Pico Mountain
4:00 Observatory, Azores. CLAUDIO MAZZOLENI, Swarup China, Lynn Mazzoleni, Paulo Fialho, Sumit Kumar, Katja Dzepina, Michael Dziobak, Seth Olsen, Robert Owen, Kendra Wright, Louisa Kramer, Detlev Helmig, Jacques Hueber, Judith Perlinger, Bo Zhang, Michigan Technological University

3CA.4 Morphology and Mixing State of Fresh and Aged Wildfire Aerosols. SWARUP CHINA, Allison Aiken, Rachael Huempfner, Kyle Gorkowski, Manvendra Dubey, Claudio Mazzoleni, Michigan Technological University

3CA.5 Chemical and Optical Changes to Black Carbon during Aging. ELEANOR BROWNE, Jonathan Franklin, Jesse Kroll, MIT

3CA.6 Black Carbon Aging from Biomass Burning. ALLISON AIKEN, Manvendra Dubey, Kyle Gorkowski, Claudio Mazzoleni, Swarup China, Shang Liu, Caleb Arata, Team FLAME-IV, Los Alamos National Lab

3RA.6 The Color of Aerosol Deposition and the Browning of the Taj Mahal. J. JAI DEVI, Michael Bergin, S.N. Tripathi, Tarun Gupta, Michael McKenzie, Martin Shafer, James Schauer, K.S. Rana, Georgia Institute of Technology

3SA SOURCE APPORTIONMENT I

Mei Zheng and Sonia Kreidenweis, chairs

3SA.1 Seasonal and Spatial Variation of Trace Elements and Metals in Quasi-Ultrafine (PM0.25) Particles in the Los Angeles Metropolitan Area and Characterization of Their Sources. ARIAN SAFFARI, Nancy Daher, Martin Shafer, James Schauer, Constantinos Sioutas, University of Southern California

3SA.2 Characteristics and Source Apportionment of Marine Aerosol over Chinese Seas. MEI ZHENG, Huaiyu Fu, Caiqing Yan, Xiaoying Li, Peking University

3SA.3 Source Apportionment of Fine Atmospheric Particles in Marseille: A One Year Study. DALIA SALAMEH, Anais Detournay, Henri Wortham, Jean Luc Jaffrezo, Christine Piot, Alexandre Armengaud, Damien Piga, Michaël Parra, Magali Deveze, Nicolas Marchand, Aix Marseille University, Laboratoire Chimie Environnement


3SA.5 PMF*PMF: Towards a Better Link between PMF Outputs from ACSM Measurements and Aerosol Sources - First Application in the Region of Paris (France). JEAN-EUDES PETIT, Jean Sciare, Olivier Favez, Roland Sarda-Esteve, Valérie Gros, Jose B. Nicolas, Philip Croteau, John Jayne, Grisa Mocnik, INERIS

3SA.6 Harmonization of Source Apportionment with Receptor Models in Europe. CLAUDIO A. BELIS, Philip K. Hopke, European Commission - Joint Research Centre

Tuesday 5:00 PM - 6:00 PM
Working Group Meetings 1

Tuesday 6:00 PM - 8:00 PM
Welcome Reception

Wednesday

Wednesday 8:00 AM - 9:15 AM
Plenary II: Friedlander Lecture

8:00 Friedlander Lecture: Solarthermal Chemical Processing Using Particle Flow Reactors - Challenges and Opportunities Alan Weimer. University of Colorado, Boulder.

Moderator Sotiris Pratsinis. ETH, Zurich.

9:00 Friedlander Award Presentation, AAAR Fellows, IARA Fellows Sheryl Ehrman, Awards Committee Chair. University of Maryland.
Wednesday 9:15 AM - 9:45 AM
Coffee Break

Wednesday 9:45 AM - 11:30 AM
Session 4: Platform

4AC AEROSOL CHEMISTRY IV
B115/116

Brent Williams and Sally Ng, chairs

4AC.1 Effect of Humidity on Secondary Organic Aerosol (SOA) Formation from Biogenic Hydrocarbons and Nitrate Radicals. Nga Lee Ng, Christopher Boyd, Lu Xu, Greg Huey, Xiaoxi Liu, Georgia Institute of Technology
9:45

4AC.2 Formation and Aging of Secondary Organic Aerosol during the β-caryophyllene Oxidation. Antonios Tasoglou, Spyros Pandis, Carnegie Mellon University
10:00

4AC.3 Characterization of Organic Aerosol from Mixed Biogenic / Anthropogenic Emissions. Dhruv Mitroo, Brent Williams, Raul Martinez, Munkhbayar Baasandorj, Lu Hu, Dylan Millet, Washington University in St. Louis
10:15

4AC.4 Fluorescence, Photobleaching, and Molecular Level Analysis of Brown Carbon Aerosol. Hyun Ji Lee, Paige Aiona
10:30

4AC.5 Secondary Organic Material Formation from Isoprene Photooxidation Products Induced by Particle Phase Reactions. Mikinori Kuwata, Yingjun Liu, Karena McKinney, Scot Martin, Harvard University
10:45

4AC.6 Quantification of Organosulfate Formation in the SOA with Preexisting Acidic Sulfate Aerosol. Ross Beardsley, Jiaying Li, Myoseon Jang, University of Florida
11:00

11:15

4BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT IV
B113/114

J. Alex Huffman and John Sodeau, chairs

4BA.1 Structure and Function of Airborne Bacterial Communities: From Classrooms to Mountaintops. Ann M. Womack, James F. Meadow, Dan Jaffe, G.Z. Brown, Brendan J. M. Bohannan, Jessica L. Green, University of Oregon. INVITED
9:45

4BA.2 Exploring Bacterial, Fungal, and Viral Diversity in Indoor and Outdoor Air. Joanne B. Emerson, Noah Fierer, University of Colorado Boulder. INVITED
10:00

4BA.3 Indoor and Outdoor Size-Resolved Airborne Microorganism to Particle Number Ratios. Denina Hosposky, Naomichi Yamamoto, William Nazaroff, Jordan Peccia, Yale University
10:15

4BA.4 Biological Components in PM2.5 in Boulder, Colorado Latino Homes. Lupita Montoya, Luis Escobedo, Ning Li, University of Colorado Boulder
10:30

4BA.5 Wildfire Impact on Indicators of Primary Biological Load and Genotoxic Potential of Airborne Particulate Matter in Pristine Sub-Alpine Forests. Alina M. Handorean, Odessa Gomez, Jane Turner, Benjamin J. Miller, Mark T. Hernandez, University of Colorado Boulder
10:45
<table>
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<tr>
<th>Session</th>
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<th>Authors</th>
<th>Institutions</th>
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<tr>
<td>4BA.6</td>
<td>Seasonal Variability in Bacterial and Fungal Diversity of the Near-Surface Atmosphere across Urban and Rural Sites.</td>
<td>11:00</td>
<td>ROBERT M. BOWERS, Nicholas Clements, Joanne B. Emerson, Christine Wiedinmyer, Michael Hannigan, Noah Fierer, University of Hawaii</td>
<td></td>
</tr>
<tr>
<td>4BA.7</td>
<td>Characterization of Atmospheric Biological Particles Collected at the Storm Peak Laboratory.</td>
<td>11:15</td>
<td>SAMBUROVA, Alison Murray, Anna Gannet Hallar, Lynn Mazzoleni, Douglas Lowenthal, Barbara Zielinska, Desert Research Institute</td>
<td></td>
</tr>
<tr>
<td>4CA.1</td>
<td>Single Particle Characterization Using a Soot Particle Aerosol Mass Spectrometer (SP-AMS) with a Light Scattering Module in Downtown Toronto.</td>
<td>9:45</td>
<td>ALEX K. Y. LEE, Megan D. Willis, Robert Healy, Jonathan Abbatt, University of Toronto</td>
<td></td>
</tr>
<tr>
<td>4CA.2</td>
<td>The SP-AMS Inter-Comparison Campaign.</td>
<td>10:00</td>
<td>AMEWU A. MENSAAH, Joel Corbin, Sanna Saarikoski, Axel Eriksson, Martin Gysel, Raphael Färber, Berko Sierau, Manuel Abegglen, Veronika Hladnik, André Welti, Ulrike Lohmann, ETH Zurich, Institute for Atmospheric &amp; Climate Science</td>
<td></td>
</tr>
<tr>
<td>4CA.4</td>
<td>Identify Major Oxalate Salts in PM2.5.</td>
<td>10:30</td>
<td>Shiguo Jia, Liming Yang, LIYA YU, National University of Singapore</td>
<td></td>
</tr>
<tr>
<td>4CA.5</td>
<td>Hourly Measurement of the Concentration and Gas-Particle Partitioning of Oxygenated Organic Tracers in Ambient Aerosol: First Results from Berkeley, CA and Rural Alabama.</td>
<td>10:45</td>
<td>GABRIEL ISAACMAN, Nathan Kreisberg, Lindsay Yee, Arthur Chan, David Worton, Susanne Hering, Allen H. Goldstein, University of California, Berkeley</td>
<td></td>
</tr>
<tr>
<td>4CA.6</td>
<td>A Sensitivity Analysis of Organic Aerosol Retrieved Volatility Distributions to Kinetic Parameters.</td>
<td>11:00</td>
<td>JAMES HITE, Kate Cerully, Athanasios Nenes, Georgia Institute of Technology</td>
<td></td>
</tr>
<tr>
<td>4CC.1</td>
<td>The Influence of Molecular Structure and Photochemical Aging on Organic Films Coating Microscopic Aqueous Droplets.</td>
<td>9:45</td>
<td>CHRIS RUEHL, Kevin Wilson, Lawrence Berkeley National Laboratory</td>
<td></td>
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<tr>
<td>4CC.2</td>
<td>Hygroscopic Growth of Super-micron Particles in the Coastal Marine Atmosphere.</td>
<td>10:00</td>
<td>XIAOLU ZHANG, Christopher Cappa, Paola Massoli, Patricia Quinn, Timothy Bates, University of California, Davis</td>
<td></td>
</tr>
<tr>
<td>4CC.3</td>
<td>Aerosol Optical Hygroscopicity Measurements during the 2010 CARES Campaign.</td>
<td>10:15</td>
<td>Dean Atkinson, James Radney, JANELL LUM, Christopher Cappa, Katheryn Kolesar, Daniel Cziczo, Mikhail Pekour, Qi Zhang, Ari Setyan, Chen Song, Portland State University</td>
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<tr>
<td>4CC.4</td>
<td>Contribution of Biomass Burning to CCN Number and Hygroscopicity during Summertime in the Eastern Mediterranean.</td>
<td>10:30</td>
<td>AIKATERINI BOUGIATIOTI, Spyros Bezantakos, Iasonas Stavroulas, George Biskos, Nikolaos Mihalopoulos, Athanasios Nenes, Georgia Institute of Technology</td>
<td></td>
</tr>
</tbody>
</table>
Quantifying Water Diffusion in High-viscosity Atmospheric Aerosol Proxies. HANNAH PRICE, Benjamin Murray, Johan Mattsson, Daniel O’Sullivan, Theodore Wilson, Kelly Baustian, University of Leeds

Understanding and Constraining Global Secondary Organic Aerosol Amount and Size-Resolved Condensational Behavior. STEPHEN D’ANDREA, Silja Häkkinen, Daniel Westervelt, Chongai Kuang, Ezra Levin, Richard Leaitch, Dominick Spracklen, Ilona Riipinen, Jeffrey Pierce, Dalhousie University

Sub-grid Aging: When is the Internal Mixture Assumption Good Enough? LAURA FIERCE, Nicole Riemer, Tami Bond, University of Illinois at Urbana-Champaign

Behavior of Fibrous Filter Media Loaded with Agglomerate Particles. QISHENG OU, David Y. H. Pui, Da-Ren Chen, Washington University in St. Louis

Collection Performance of Nanofiber Filters. YOSHIO OTANI, Hiroaki Matsuhashi, Yoshikazu Mizutori, TakaFumi Seto, Kanazawa University

Numerical Modeling of the Influence of Nanofibers Covering the Fibrous Filter Surface on the Filtration Cake Removal Efficiency. JAKUB GAC, Leon Gradoń, Warsaw University of Technology

Determination of the Single Fiber Collection Efficiency for Fibrous Filters through Mean First Passage Time Analysis. BENJAMIN HUNT, Thaseem Thajudeen, Christopher Hogan Jr., University of Minnesota


Performance of Electrostatic Battery for Emissions Control (ESBEC) when Challenged with Diesel Emissions. TAENWON HAN, Huajun Zhen, Gediminas Mainelis, Rutgers, The State University of New Jersey

Electrostatic Lunar Dust Collection. NIMA AFSHAR-MOHAJER, Chang-Yu Wu, Nicoleta Soroaclia-Hickman, University of Florida

Relationship between the Redox Cycling Activity and Chemical Properties of Oxidized Soot Particles. MARIA ANTIÑOLO, Megan D. Willis, Shouming Zhou, Jonathan Abbatt, University of Toronto

Chemical Characterization and Toxicological Properties of PM2.5 Emissions from Commercial Cooking. POORNIMA DIXIT, Nicholas Gysel, David R. Cocker III, Georgios Karavalakis, Arthur K. Cho, Debra A. Schmitz, University of California, Riverside

Use of a Comprehensive Suite for the Toxicological Analysis of Airborne Particulate Matter. JANE TURNER, Kevin McCabe, Alina M. Handorean, Mark T. Hernandez, University of Colorado at Boulder

Contrasting Profiles of the Oxidative Properties of Ambient Aerosols Collected from Urban and Rural Environments in Atlanta. VISHAL VERMA, Ting Fang, Rodney Weber, Georgia Institute of Technology

### 4HA.6 Non-Symmetrical pMDI Aerosol Deposition on a Spacer. ELIZABETH SPRIGGE, Sandra Fiset, Edgar Matida, Carleton University
11:00

### 4HA.7 Deposition of Carbon Nanotubes in the Human Respiratory Tract. WEI-CHUNG SU, Yung-Sung Cheng, Lovelace Respiratory Research Institute
11:15

### Wednesday 1:00 PM - 3:00 PM
**Session 5: Platform**

### 5AC AEROSOL CHEMISTRY V

#### B115/116

**Eben Cross and Andre Prevot, chairs**

| 5AC.1 | Alkane SOA Formation: Effect of Alkane Structure, NOx Conditions, Relative Humidity and Acidity. | 1:00 | KATHERINE SCHILLING, Matthew Coggon, Jill Craven, Christine Loza, Tran Nguyen, Rebecca Schwantes, Lindsay Yee, Xuan Zhang, John Seinfeld, California Institute of Technology |
| 5AC.2 | Effect of Ozonolysis Chemistry on SOA Formation from Alkane Photooxidation | 1:15 | XUAN ZHANG, Katherine Schilling, Matthew Coggon, Rebecca Schwantes, Richard Flagan, John Seinfeld, California Institute of Technology |
| 5AC.3 | Insights into SOA Formation Chemistry from the Isolation of Individual Reactive Pathways. | 1:30 | ANTHONY CARRASQUILLO, Kelsey Boulanger, James Hunter, Sean Kessler, Kelly Daumit, Jesse Kroll, MIT |
| 5AC.4 | Secondary Organic Aerosol Formation from Aromatic Compounds: Describe SOA Yield Using [OH]/[HO2] Ratio. | 1:45 | Ping Tang, Shunsuke Nakao, Chia-Li Chen, DAVID R. COCKER III, University of California, Riverside |
| 5AC.5 | Secondary Organic Aerosol Formation from Naphthalene and MethylNaphthalene Photooxidation. | 2:00 | CHIA-LI CHEN, Mary Kacarab, Ping Tang, David R. Cocker III, University of California, Riverside |
| 5AC.6 | Secondary Aerosol Production from Modern Diesel and Gasoline Light Duty Vehicles. | 2:15 | Stephen Platt, Imad El Haddad, Simone Pieber, Alessandro Zardini, Ricardo Suarez-Bertoa, Jay Slowik, Ru-Jin Huang, Stig Hellebust, Brice Temime-Roussel, Nicolas Marchand, Luka Drinovec, Covadonga Astorga, Urs Baltensperger, Andre PREVÔT, Paul Scherrer Institute |
| 5AC.7 | Secondary Organic Aerosol Formation from Photo-oxidation of Evaporated Fuel: Experimental Results and Implications for Aerosol Formation from Combustion Emissions. | 2:30 | SHANTANU JATHAR, Marissa Miracolo, Daniel S. Tkacik, Neil Donahue, Peter Adams, Allen Robinson, UC Davis |
| 5AC.8 | Comparison of Gasoline and Diesel Vehicles - Emission Factors of Volatile Organic Compounds from EURO5 Diesel and Gasoline Vehicles and Their Potential Integrated Influence on Air Quality. | 2:45 | STIG HELLEBUST, Brice Temime-Roussel, Amelie Bertrand, Stephen Platt, Imad El Haddad, Simone Pieber, Alessandro Zardini, Ricardo Suarez-Bertoa, Jay Slowik, Ru-Jin Huang, Covadonga Astorga, Andre Prévôt, Nicolas Marchand, Aix Marseille Université, Laboratoire Chimie Environnement |

### 5CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE IV

#### B113/114

**Lea Hildebrandt Ruiz and R. Subramanian, chairs**

<p>| 5CA.1 | Comparing Ambient Organic Aerosol Volatility at an Urban and a Remote Site in Europe. | 1:00 | ANDREA PACIGA, Lea Hildebrandt Ruiz, Gabriella Engelhart, Evangelia Kostenidou, Monica Crippa, Andre Prévôt, Urs Baltensperger, Spyros Pandis, Carnegie Mellon University |
| 5CA.2 | An Improved Volatility Basis Set for Modeling Organic Aerosol in both CAMx and CMAQ. | 1:15 | BONYOUNG KOO, Greg Yarwood, Eladio Knipping, ENVIROX International Corporation |</p>
<table>
<thead>
<tr>
<th>Session</th>
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<tbody>
<tr>
<td>5CA.3</td>
<td>Average Chemical Properties and Potential Formation Pathways of Highly Oxidized Organic Aerosol.</td>
<td>KELLY DAUMIT, Sean Kessler, Jesse Kroll, MIT</td>
</tr>
<tr>
<td>5CA.4</td>
<td>The Influence of Aerosol Water in the Organic Phase on the Mass, Properties and Source Apportionment of Organic Aerosol in a Source-oriented Model.</td>
<td>SHANTANU JATHAR, Abdullah Mahmud, James F. Pankow, Michael Kleeman, UC Davis</td>
</tr>
<tr>
<td>5CA.5</td>
<td>Wintertime Organic Aerosols in Fresno, California: Characteristics, Sources and Aqueous-phase Processing.</td>
<td>XINLEI GE, Ari Setyan, Yele Sun, Qi Zhang, University of California, Davis</td>
</tr>
<tr>
<td>5CA.7</td>
<td>A Study of Secondary Organic Aerosol Formation Influenced by Mixed Anthropogenic and Biogenic Emissions in Atlanta Area by High Resolution Mass Spectrometer.</td>
<td>LU XU, Hongyu Guo, Laura King, Vishal Verma, Rodney Weber, Nga Lee Ng, Georgia Institute of Technology</td>
</tr>
<tr>
<td>5CA.8</td>
<td>Spatially and Seasonally Resolved Estimate of the Global Organic Matter to Organic Carbon Ratio Inferred from Aerosol Mass Spectrometer Measurements and Satellite-Derived Ground-Level Nitrogen Dioxide Concentrations.</td>
<td>SAJEЕV PHILIP, Randall Martin, Jeffrey Pierce, Caroline Nowlan, Dominick Spracklen, Jose-Luis Jimenez, Qi Zhang, Lok Lamsal, Nickolay Krotkov, Dalhousie University, Canada</td>
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5CC AEROSOLS, CLOUDS, AND CLIMATE II

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<tr>
<th>Session</th>
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<tbody>
<tr>
<td>5CC.1</td>
<td>Aircraft Measurements of Aerosol and CCN activation Properties during TCAP.</td>
<td>FAN MEI, Jason Tomlinson, John Shilling, Jennifer Comstock, John Hubbe, Larry Berg, Beat Schmid, Pacific Northwest National Laboratory</td>
</tr>
<tr>
<td>5CC.2</td>
<td>The Limitations of Electrical Mobility Diameter for Biomass Burning CCN Activation.</td>
<td>MICHAEL GIORDANO, Carlos Espinoza, Akua Asa-Awuku, University of California, Riverside</td>
</tr>
<tr>
<td>5CC.3</td>
<td>A New Experimental Approach toward Determining Cloud Nucleating Activities of Haze Particles.</td>
<td>SHUNSUKE NAKAO, Sonia Kreidenweis, Colorado State University</td>
</tr>
<tr>
<td>5CC.4</td>
<td>Weak Global Sensitivity of Cloud Condensation Nuclei and the Aerosol Indirect Effect to Criegee+SO2 Chemistry.</td>
<td>JEFFREY PIERCE, Mat Evans, Catherine Scott, Stephen D’Andrea, Delphine Farmer, Erik Swietlicki, Dominick Spracklen, Colorado State University</td>
</tr>
<tr>
<td>5CC.5</td>
<td>The Contribution of Sub-Grid, Plume-Scale Nucleation to Global and Regional Aerosol and CCN Concentrations.</td>
<td>ROBIN STEVENS, Jeffrey Pierce, Dalhousie University</td>
</tr>
<tr>
<td>5CC.6</td>
<td>Investigating Sensitivities of Ice Crystal Concentration: The Evaluation of the Adjoint of a Physically-Based Cirrus Activation Parameterization.</td>
<td>BENJAMIN SHEYKO, Shannon Capps, Donifan Barahona, Athanasios Nenes, Georgia Institute of Technology</td>
</tr>
<tr>
<td>5CC.7</td>
<td>The Composition of Droplet-Forming Aerosol as a Function of Supersaturation.</td>
<td>BETH FRIEDMAN, Eleanor Browne, Karin Ardon-Dryer, Anthony Carrasquillo, Kelly Daumit, Kelsey Boulanger, Jesse Kroll, Joel A. Thornton, Daniel Cziczo, University of Washington</td>
</tr>
<tr>
<td>5CC.8</td>
<td>Effect of Rain on Evolution of Aerosol Concentration Distribution in Air Pollution Plumes.</td>
<td>BORIS KRASOVITOV, Tov Elperin, Andrew Fominykh, Ben-Gurion University of the Negev</td>
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5EN ENGINEERED NANOPARTICLES: EMISSIONS, TRANSFORMATION AND EXPOSURE I

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<td>5EN.1</td>
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<td>Philip Hopke and Linsey Marr, chairs</td>
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<tr>
<td>5EN.1</td>
<td><strong>Origin, Cure and Control of Nanosilver Toxicity.</strong> Georgios Sotiriou, Kakeru Fujiwara, SOTIRIS E. PRATSINIS, ETH Zurich</td>
<td></td>
</tr>
<tr>
<td>5EN.2</td>
<td><strong>Single Particle Characterization of Nanoparticle Metal-Oxides by ICP-MS.</strong> BRIAN MAJESTIC, Manuel Montano, James Ranville, <strong>University of Denver</strong></td>
<td></td>
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<tr>
<td>5EN.3</td>
<td><strong>Performance of a Personal Thermal Precipitator to Assess Nanoparticle Exposures.</strong> David Leith, John Volckens, DAN MILLER-LIONBERG, Traci Lersch, Gary Casuccio, <strong>Colorado State University</strong></td>
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<tr>
<td>5EN.4</td>
<td><strong>Carbon Nanotube Penetration through Different Respirator and Nuclepore Filters: Models and Experiments.</strong> SHENG-CHIEH CHEN, Jing Wang, Yeon Kyoung Bahk, Heinz Fissan, David Y. H. Pui, <strong>University of Minnesota</strong></td>
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<tr>
<td>5EN.5</td>
<td><strong>Characterisation of Emitted Particles during Maintenance of Common Nano Particle Generator.</strong> Patrik Nilsson, Linus Ludvigsson, Jenny Rissler, Maria E Messing, Christina Isaxon, Axel C. Eriksson, Maria Hedmer, Håkan Tinnerberg, Knut Deppert, ANDERS GUDMUNDSSON, Joakim Pagels, <strong>Lund University</strong></td>
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<tr>
<td>5EN.6</td>
<td><strong>Research Progress on Environmental, Health, and Safety Aspects of Engineered Nanomaterials.</strong> PHILIP K. HOPKE, <strong>Clarkson University</strong></td>
<td></td>
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<tr>
<td>5EN.7</td>
<td><strong>Oxidation of Aerosolized C60 by Ozone.</strong> Andrea Tiwari, LINSEY MARR, <strong>Virginia Tech</strong></td>
<td></td>
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<tr>
<td>5EN.8</td>
<td><strong>Physicochemical and Toxicological Characterizations of Laser Printer Emissions.</strong> SANDRA PIRELA, Georgios Pyrgiotakis, Bingtao Zhao, Philip Demokritou, <strong>Harvard University</strong></td>
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5HA HEALTH RELATED AEROSOLS III

A106

**Gediminas Mainelis and Owen Price, chairs**

| 5HA.1   | **Association of Respiratory and Circulatory Hospitalizations with PM$_{(2.5)}$ Elemental Carbon (EC), Organic Carbon (OC), and Gaseous Co-Pollutants in Pittsburgh, Pennsylvania, during 2001-2002.** RICHARD BILONICK, Daniel Connell, Evelyn Talbott, Judith Rager, **University of Pittsburgh** |
| 5HA.2   | **Linking Different Exposure Patterns to Internal Lung Dose for Heterogeneous Ambient Aerosols.** CHONG KIM, Jung-il Choi, **USEPA** |
| 5HA.3   | **Identification of PM Components that Contribute to Oxidative Potential in the Dithiothreitol (DTT) Assay.** JESSICA CHARRIER, Kennedy-Kiet Vu, Alam Hasson, Cort Anastasio, **University of California, Davis** |
| 5HA.4   | **Assessment of Gaseous and Particulate Air Pollutants at ATTO and Manaus: The Implication to the Health of Manaus Population.** RICARDO H. M. GODOI, Cybelle G. G. Barbosa, Sarah L. Paralovo, Ana Flavia L. Godoi, Rodrigo A. F. Souza, Claudomiro M. Silva, Antonio O. Manzi, Yara S. Tadano, **Federal University of Parana - Curitiba, PR, Brazil** |
| 5HA.5   | **A Computationally Efficient Model for Estimating the Social Costs of Air Pollutant Emissions.** JINHYOK HEO, Peter Adams, **Carnegie Mellon University** |
| 5HA.6   | **Modeling Secondary Particulate Matter Concentrations and Sources for Health Effects Research in California.** JIANLIN HU, Hongliang Zhang, Michael Kleeman, **UC Davis** |
| 5HA.7   | **Deposition of Aerosolized Perfluorocarbon (PFC) in the Lungs of Sprague Dawley Rats.** Bahman Asgharian, OWEN PRICE, Jeff Schroeter, Gene McClellan, Jason Rodriguez, Tim Bentley, **Applied Research Associates, Inc.** |
| 5HA.8   | **Probabilistic Modeling and Bayesian Updating of Concentrations of Carbon Monoxide and Fine Particulate Black Carbon in Fort Collins, Colorado for Exposure Estimation.** DANIEL MENDOZA, Amy L. Stuart, Getachew Dagne, **University of South Florida** |

5ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING I

B117/118/119

**Paul A. Solomon and Igor Paprotny, chairs**
### Session 5: Platform

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<th>Time</th>
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<tr>
<td>1:30</td>
<td>A Novel Method for Reliable Long-term Assessment of Exposure to Traffic-related Air Pollution Mixtures.</td>
<td>Natalia Mykhaylova, Kelly Sabaliauskas, Jon M Wang, Ezzat Jaroudi, Cheol-Heon Jeong, Jeff Brook, Greg J. Evans, SOCAAR, University of Toronto</td>
</tr>
<tr>
<td>1:45</td>
<td>Personal Exposure Results for the M-Pod, a Portable Low-Cost Air Quality Monitor.</td>
<td>Michael Hannigan, Ricardo Piedrahita, Nicholas Masson, John Ortega, Yifei Jiang, Xiang Yun, Kun Li, Qin Lv, Robert Dick, Li Shang, University of Colorado at Boulder</td>
</tr>
<tr>
<td>2:00</td>
<td>Laboratory and Field Evaluation of the UCB-PaCO (Particle and Carbon Monoxide) System: A Portable, Robust, and Low-cost Platform for Monitoring Combustion-related Household Air Pollution.</td>
<td>Ajay Pillarisetti, David Holstius, Michael Johnson, Tracy Allen, Dana Charron, David Pennise, Edmund Seto, Kirk Smith, University of California, Berkeley</td>
</tr>
<tr>
<td>2:15</td>
<td>Air Quality Networks using Amperometric Gas Sensors and Providing the Required Temporal and Spatial Spaces.</td>
<td>John Saffell, Roderic Jones, Mohammed Mead, Ronan Baron, Dean Kavanaugh, Wah On Ho, Professor, Atmospheric Chem Group, University of Cambridge</td>
</tr>
<tr>
<td>2:30</td>
<td>Validating the Performance of the RTI MicroPEM to Support Indoor Air Pollution Exposure Health Studies.</td>
<td>Charles Rodes, Ryan Chartier, J. Randall Newsome, James Carlson, Jonathan Thornburg, RTI International</td>
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### Wednesday 3:00 PM - 3:30 PM

**Coffee Break**

### Wednesday 3:30 PM - 5:00 PM

**Session 6: Platform**

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<tr>
<td>6AC.1</td>
<td>OH-initiated Heterogeneous Oxidation of Cholestane: A Model System for Understanding the Aging of Cyclic Alkane Aerosols.</td>
<td>Haofei Zhang, Chris Ruehl, Arthur Chan, Theodora Nah, David Worton, Gabriel Isaacman, Allen H. Goldstein, Kevin Wilson, Lawrence Berkeley National Laboratory</td>
</tr>
<tr>
<td>6AC.2</td>
<td>O3-initiated Heterogeneous Oxidation of Fatty Acids.</td>
<td>Chunbo Leng, Guang Zeng, Hai Pham, Yunhong Zhang, Yong Lii, University of Colorado Denver</td>
</tr>
<tr>
<td>6AC.3</td>
<td>Hydroxyl Radical Mediated Aging of Oxidized Dodecanoic Acid Particles.</td>
<td>Joseph Klemes, W. Sean McGivern, National Institute of Standards and Technology</td>
</tr>
<tr>
<td>6AC.4</td>
<td>Constraining the Contribution of Organic Acids to Organic Aerosol Using MOV HRTof CIMS and AMS data.</td>
<td>Laxminarasimha Yatavelli, Harald Stark, Douglas Day, Samantha Thompson, Brett Palm, Pedro Campuzano-Jost, Joel Kimmel, Manjula Canagaratna, Michael Cubison, Joel Thornton, John Jayne, Douglas Worsnop, Jose-Luis Jimenez, University of Colorado, Boulder</td>
</tr>
<tr>
<td>6AC.5</td>
<td>Synchrotron Studies of the Heterogeneous Oxidation of Organic Aerosols.</td>
<td>Michael Ward, Kevin Wilson, Lawrence Berkeley National Laboratory</td>
</tr>
<tr>
<td>6AC.6</td>
<td>Size Distribution Dynamics Reveal the Importance of Particle-Phase Chemistry in Organic Aerosol Formation.</td>
<td>Manabu Shiraiwa, Lindsay Yee, Katherine Schilling, Christine Loza, Jill Craven, Andreas Zuend, Paul Ziemann, John Seinfeld, California Institute of Technology</td>
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### 6AP AEROSOL PHYSICS III
Claudio Mazzoleni and Will Heinson, chairs

6AP.1 Calculations and Measurements of the Collision Cross Sections of Sub-2.0 nm Metal Iodide Clusters in Air.
3:30 HUI OUYANG, Carlos Larriba-Andaluz, Derek Oberreit, Christopher Hogan Jr., University of Minnesota

6AP.2 Aggregation and Growth Kinetics in the Transition Regime.
3:45 THASEEM THAJUDEEN, Hui Ouyang, Ranganathan Gopalakrishnan, Christopher Hogan Jr., University of Minnesota

6AP.3 Mesoscale Simulations of Nanoparticle Growth by Coagulation and Sintering in the Free Molecular Regime.
4:00 MAX L. EGGERSDORFER, Sotiris E. Pratsinis, ETH Zurich

6AP.4 A Collision-Based Model for the Kinetics of Bacteriochlorophyll c Self-Assembly in Methanol-Water Solution.
4:15 GERARD LAKIN, Vivek Shah, Gregory Orf, Robert Blankenship, Pratim Biswas, Washington University in St. Louis

6AP.5 Modeling of Nanoparticles Synthesis in Inverted Flames.
4:30 Chakrabarty, Hans Moosmuller, Enertechin Inc

6AP.6 Evaluating the Mobility of Nanorods in Electric Fields.
4:45 Zachariah, University of Maryland

6CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE V
B113/114
Lynn Russell and Amara Holder, chairs

6CA.1 Chemical and Optical Properties of Biomass Burning Aerosol.
3:30 ROYA BAHREINI, Joshua P. Schwarz, Anne Perring, Daniel Lack, Justin Langridge, Francesco Canonaco, Andre Prévôt, John Holloway, Carsten Warneke, Jessica Gilman, Brian Lerner, Joost de Gouw, Ann Middlebrook, University of California, Riverside

3:45 JAY SLOWIK, Ru-Jin Huang, Stephen Platt, Simone Pieber, Imad El Haddad, Alessandro Zardini, Ricardo Suarez-Bertoa, Stig Hellebust, Brice Temime-Roussel, Nicolas Marchand, Urs Baltensperger, Covadonga Astorga, Andre Prévôt, Paul Scherrer Institute

6CA.3 New Particle Formation Increases CCN Yield in Veldt Fire Plumes in Southern Africa.
4:00 VILLE VAKKARI, Johan Beukes, Petri Tiitta, Andrew D. Venter, Kerneels Jaars, Miroslav Josipovic, Pieter G. van Zyl, Veli-Matti Kerminen, University of Helsinki, Helsinki, Finland

6CA.4 Sources and Light Absorption Properties of Water-Soluble Organic Carbon in Beijing.
4:15 ZHENYU DU, Kebin He, Fengkui Duan, Yuan Cheng, Jiumeng Liu, Rodney Weber, Tsinghua University

6CA.5 Biomass Burning Contribution to Beijing Aerosol.
4:30 YUAN CHENG, Kebin He, Fengkui Duan, Guenter Engling, Rodney Weber, Tsinghua University

6CA.6 Atmospheric Soot Superaggregates: Implications for Health and Radiative Forcing.
4:45 NICHOLAS D BERES, Li Liu, Michael I Mishchenko, Rajan K. Chakrabarty, Desert Research Institute

6HA HEALTH RELATED AEROSOLS IV
A106
Bahman Asgharian and David L. Johnson, chairs

6HA.1 Infectivity and Survivability of Airborne Viruses Generated from Human Saliva, Artificial Saliva, and Cell Culture Media.
3:30 ZHILI ZUO, Thomas Kuehn, Aschalew Bekele, Harsha Verma, Sagar Goyal, Peter Raynor, David Y. H. Pui, University of Minnesota
6HA.2 Comparison of the Particle Size Distributions of Narghile-Waterpipe and Cigarette Mainstream Tobacco Smoke. EZZAT JAROUDI, Alan Shihadeh, SOCAAR, University of Toronto

6HA.3 Mass-mobility Measurements of Cigarette Smoke Using a CPMA-DMS System. TYLER JOHNSON, Ross Cabot, Conor Treacy, Caner Yurteri, Colin Dickens, John McAughey, Jonathan Symonds, Jason S. Olert, University of Alberta

6HA.4 Comparison of Culturability and Membrane Integrity Loss of Escherichia Coli during Aerosolization by Four Aerosol Generators. HUAJUN ZHEN, Taewon Han, Donna Fennell, Gediminas Mainelis, Rutgers, The State University of New Jersey

6HA.5 Effect of Aerosolization, Air Sampling and Relative Humidity on Influenza Virus. Nathalie Turgeon, Mélissa Marcoux-Voiselle, Marie-Josée Toulouse, Caroline Duchaine, MARTYNE AUDET, Université Laval, Canada

6HA.6 Preferential Aerosolisation of Respiratory Pathogens. PHILLIPA PERROTT, Nathalie Turgeon, Marc Veillette, Caroline Duchaine, Université Laval, Canada

6ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING II

6ST.1 Evaluation of Low-Cost PM Sensors, Intended for Use in a Dense Monitoring Grid. David M. Broday, Barak Fishbain, YAEL ETZION, Ilan Levy, Technion - Israel Institute of Technology

6ST.2 Strategies for Reducing the Size and Power of Partical Exposure Monitors. JOHN MUTH, Sushmit Mallik, North Carolina State University

6ST.3 PRECISE: Personal Real-time Exposure Using Cell-phone Integrated Portable SamplErs. NARESH KUMAR, Ian Longley, Sung Kim, University of Miami

6ST.4 Characterization of an Air-Microfluidic Direct-Reading MEMS PM Mass Sensor. IGOR PAPROTNY, Paul A. Solomon, Richard White, Lara Gundel, University of California, Berkeley

6ST.5 Inexpensive Electrochemical Sensor Technology for Air Quality Monitoring. PRAVEEN KUMAR SEKHAR, Kumar Subramaniyam, Washington State University

6ST.6 Spatiotemporal Modeling of Indoor Aerosol Mass Concentration. KIRSTEN KOEHLER, John Volckens, Kirk Lake, Colorado State University

6UA URBAN AEROSOLS II


6UA.2 Particle Evolution near Major Roadways Based on Observed Ultrafine Particle Concentration Profiles under Stable Conditions. Wonsik Choi, SUSANNE PAULSON, UCLA

6UA.3 Seasonal and Spatial Variability in Chemical Composition of Ambient Ultrafine Particles in the Megacity of Los Angeles. NANCY DAHER, Sina Hasheminassab, Martin Shafer, James Schauer, Constantinos Sioutas, University of Southern California

6UA.4 Diurnal and Seasonal Trends in the Apparent Density of Ambient Fine and Coarse Particles in Los Angeles. SINA HASHEMINASSAB, Payam Pakbin, Ralph J. Delfino, Constantinos Sioutas, University of Southern California

6UA.5 Particulate Matter Exposure and Risk Assessment in Urban and Rural Areas of the San Joaquin Valley. SURESH RAJA, Srikar Middala, Scott Nester, Neelesh Sule, Gary Casuccio, Traci Lersch, Roger R. West, Providence Engineering and Environmental Group
Exploring the Composition of Urban and Rural Organic Matter Found in Coarse Particles (PM$_{(10-2.5)}$) in Northeastern Colorado. NICHOLAS CLEMENTS, Tiffany Duhl, Eunkyung Lee, Bounkheana Chhun, Fernando Rosario-Ortiz, Jana Milford, Shelly Miller, Michael Hannigan, University of Colorado at Boulder

Wednesday 5:00 PM - 6:00 PM
Working Group Meetings 2

Wednesday 6:00 PM - 7:00 PM
Annual Business Meeting

Thursday 8:00 AM - 9:15 AM
Plenary III

8:00 Studying Aerosol Processes, One Particle at a Time Jonathan Reid. University of Bristol.

Moderator Deborah Gross. Carleton College.

9:00 Whitby Award and Liu Award Presentations Sheryl Ehrman, Awards Committee Chair. University of Maryland

Thursday 9:00 AM - 3:30 PM
Exhibits Open

Thursday 9:15 AM - 9:45 AM
Coffee Break

Thursday 9:45 AM - 11:30 AM
Session 7: Platform

7AC AEROSOL CHEMISTRY VII
B115/116

Nicole Riemer and Lea Hildebrandt Ruiz, chairs

7AC.1 Evidence of the Secondary Origin of Nitrocatechols and Alkylated-Nitrocatechols in Atmospheric Aerosol Particles. Alexandre Sylvestre, Sylvain Ravier, Anais Detournay, Emily Bruns, Brice Temime-Roussel, Dogushan Kilic, Jay Slowik, Imad El Haddad, Stephen Platt, Andre Prévôt, NICOLAS MARCHAND, Aix Marseille Université, Laboratoire Chimie Environnement

7AC.2 The Acid-Dependent Hydrolysis of Organic Nitrates in the Aerosol Phase. JOEL RINDELAUB, Kevin McAvey, Paul Shepson, Purdue University

7AC.3 Formation and Gas-Particle Partitioning of Organic Nitrates: Influence on Ozone Production. LEA HILDEBRANDT RUIZ, Jeffrey Bean, Greg Yanwood, Bonyoungh Koo, Uarporn Nompangkol, University of Texas at Austin

7AC.4 Reactivity of Water Soluble Organic Acids with Inorganic Particles Investigated by Micro-spectroscopy Analysis. BINGBING WANG, Steven Kelly, Rachel O'Brien, John Shilling, Alexei Tivanski, Ryan Moffet, Mary Gilles, Alexander Laskin, Pacific Northwest National Laboratory
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<tr>
<td>7AC.5</td>
<td>Model Evaluations of Heterogeneous Nitrile Chloride Production Sources during CalNex 2010.</td>
<td>WAYNE CHANG, Nicole Riemer, University of Illinois at Urbana-Champaign</td>
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<tr>
<td>7AC.6</td>
<td>Hydrogen Peroxide Enhances the Heterogeneous Oxidation of Oxygenated Volatile Organic Compounds on Mineral Dust.</td>
<td>Yue Zhao, ZHONGMING CHEN, Dao Huang, Peking University</td>
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<tr>
<td>7AC.7</td>
<td>Organic Aerosol Mixing Observed By Single Particle Mass Spectrometry.</td>
<td>ELLIS SHIPLEY ROBINSON, Rawad Saleh, Neil Donahue, Carnegie Mellon University</td>
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<tr>
<td>7AE.1</td>
<td>Effect of Secondary Aspiration on Low Velocity Human Aspiration Efficiency Estimates: Computational Fluid Dynamics Investigation.</td>
<td>KIMBERLY ANDERSON, T. Renee Anthony, University of Iowa</td>
</tr>
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<td>7AE.2</td>
<td>Characterization of the Exposure of Underground Miners to Mixed Aerosols.</td>
<td>EMANUELE CAUDA, Luca Stabile, Giorgio Buonanno, Art Miller, NIOSH</td>
</tr>
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<td>7AE.3</td>
<td>Measuring Commuter Exposure to Black Carbon in the Context of a Multi-Pollutant Study.</td>
<td>NICHOLAS GOOD, Taylor Carpenter, Maggie Clark, Phil Clark, Ashleigh Kayne, Kirsten Koehler, Brianna Moore, Christian L'Orange, Amy L. Stuart, Jennifer Peel, John Volckens, Colorado State University</td>
</tr>
<tr>
<td>7AE.4</td>
<td>The Effect of Horse Bedding Type on Air Quality in an Equine Farm.</td>
<td>YEVEN NAZARENKO, Michael L. Westendorf, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
</tr>
<tr>
<td>7AE.6</td>
<td>Shifts in the Gas-Particle Partitioning of Ambient Organics with Transport into the Indoor Environment.</td>
<td>NATASHA HODAS, Barbara Turpin, Rutgers University</td>
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<tr>
<td>7AE.7</td>
<td>Potential Consumer Exposure to Airborne Ag and Zn Nanoparticles due to the Use of Nanotechnology-enabled Consumer Sprays.</td>
<td>LEONARDO CALDERÓN, Taewon Han, Prasad Subramaniam, Yevgen Nazarenko, Kibum Lee, Jim Zhang, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
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<tr>
<td>7BA.1</td>
<td>Inactivation of Bioaerosols by Nanoparticles from Consumer Products.</td>
<td>JENNIFER THERKORN, Leonardo Calderón, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
</tr>
<tr>
<td>7BA.2</td>
<td>Differential Proteomic Analysis of Sphingomonas Aerolata Bioaerosols.</td>
<td>Valdis Krumins, Sjef Boeren, Peter Schaap, Hauke Smidt, Gediminas Mainelis, Lee Kerkhof, DONNA FENNELL, Rutgers, The State University of New Jersey</td>
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<td>7BA.3</td>
<td>NanoPCR Detection of Bacterial Aerosols.</td>
<td>Siyu Xu, MAOSHENG YAO, Peking University</td>
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<tr>
<td>7BA.4</td>
<td>Characterization of Aerosols Using an Electrodynamic Linear Quadrupole Trap.</td>
<td>MATTHEW HART, Erin Davis, Jason Edmonds, Jay Eversole, Naval Research Laboratory</td>
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<tr>
<td>7BA.5</td>
<td>Fluorescence Characterization of Individual Bio-Aerosols and Ambient Air Measurements.</td>
<td>VASANTHI SIVAPRAKASAM, John E. Tucker, Jay Eversole, Naval Research Laboratory</td>
</tr>
<tr>
<td>7BA.6</td>
<td>Study the Effects of Atmospheric Environmental Conditions on Fluorescence Spectra of Bioaerosols Using a Laboratory Reaction Chamber.</td>
<td>YONG-LE PAN, Joshua Santarpia, Shanna Ratnesar-Shumate, Elizabeth Corson, Steven Hill, Mark Coleman, Chatt Williamson, Christopher Bare, Sean Kinahan, Jonathan Eshbaugh, US Army Research Laboratory. INVITED.</td>
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7BA.7 Using Spectral Analysis and Fluorescence Lifetime Imaging Microscopy (FLIM) to Discriminate between Grass and Non-grass Pollen. JOHN SODEAU, David O'Connor, David Healy, Daniela Iacopino, Pierre Lovera, University College Cork

7CO COMBUSTION II
A105

Prem Lobo and Georgios Karavalakis, chairs

7CO.1 Morphology of Gas Turbine Particulate Matter. ADAM M BOIES, Jacob Swanson, Paul Williams, Amewu A. Mensah, Mark Johnson, Steven Rogak, Jason S. Olfert, Tyler Johnson, Ramin Dastanpour, Gregory Smallwood, Max L. Eggersdorfer, University of Cambridge


7CO.3 Accurate Measurement of Particle Size and Number Concentration for Meeting Regulatory Limits on Vehicle Emissions: Inter-comparison of Three Particle Sizing Instruments. NAOMI ZIMMERMAN, Krystal J. Godri-Pollitt, Cheol-Heon Jeong, Terry Jung, Josephine Cooper, James S. Wallace, Greg J. Evans, SOCAAR, University of Toronto

7CO.4 Dynamics of Light Absorption by Biomass Burning Organic Aerosol Photochemically Aged Using the Ambient Sunlight. MIN ZHONG, Myoseon Jang, University of Florida

7CO.5 Particle Mass and Number Emissions, Size Distributions, and Composition from Commercial Charbroiling Operations - Are They Really Dangerous? NICHOLAS GYSEL, Daniel Short, Poornima Dixit, Chia-Li Chen, William A. Welch, Keisha Williams, Ning Li, Akua Asa-Awuku, David R. Cocker III, Georgios Karavalakis, University of California Riverside

7CO.6 Laboratory Characterization of Ultrafine Particle Number Size Distributions and Other Pollutants from Traditional and Improved Biomass Cookstoves. YUNGANG WANG, Daniel Wilson, Kathleen Lask, Ashok Gadgil, Lawrence Berkeley National Laboratory

7CO.7 Establishing the Role of Sulfur in Coal in Aerosol (Sulfuric Acid, Sulfate and Organic) Formation during Pulverized Combustion in a Drop-tube Furnace. XIAOFEI WANG, Brent Williams, Pratim Biswas, Washington University in St. Louis

7IM INSTRUMENTATION AND METHODS IV
B117/118/119

Andy Freedman and Jim Smith, chairs

7IM.1 A Novel Multi-wavelength Photoacoustic-nephelometer Instrument Using a Supercontinuum Light Source for Aerosol Absorption and Scattering Measurements. NOOPUR SHARMA, Ian Arnold, Hans Moosmuller, W. Patrick Arnott, Claudio Mazzoleni, Michigan Technological University

7IM.2 Online Measurement of Aerosol Mass Optical Cross Sections. CHRISTOPHER ZANGMEISTER, James Radney, Michael Zachariah, National Institute of Standards and Technology

7IM.3 The Captive Aerosol Growth and Evolution (CAGE) Chamber System. Don Collins, Jill Matus, NATHAN TAYLOR, Carlos Antonietti, Chance Spencer, Joshua Santarpia, Yong-Le Pan, Shanna Ratnesar-Shumate, Crystal Glen, Texas A&M University

7IM.4 Effect of Aerosol Volatility on the Sizing Accuracy of Differential Mobility Analyzers. ANDREY KHLYSTOV, Research Triangle Institute

7IM.5 Introduction to Project "Dispersion of Air Pollution in the Boundary Layer – New Approach with Scanning Doppler Lidars". Anne Hirskikko, VILLE VAKKARI, Ewan J. O'Connor, Curtis R. Wood, Finnish Meteorological Institute, Helsinki, Finland


Ambient Primary PM2.5 from Petroleum Refinery Operations. Li Du, Jay Turner, Washington University in St. Louis

Air quality during Landfill Fire in Iowa City, Summer 2012: Ambient Measurement and Plume Characterization. Ashish Singh, Robert Bullard, Andrew Hesselinck, Allaa Hassanein, Doug Beardsley, Michael Wichman, Thomas Peters, Scott N. Spak, Elizabeth Stone, Charles Stanier, University of Iowa

Mass-Mobility Measurements of Urban and Background Aerosol – Measured with a DMA-TD-APM System. Erik, Z Nordin, Jenny Rissler, Axel C. Eriksson, Emilie Hermansson, Adam Kristensson, Erik Swietlicki, Joakim Pagels, Lund University, Sweden

Morphology and Mixing State of Atmospheric Aerosol in Mexico City. Swarup China, Claudio Mazzoleni, Manvendra Dubey, Rajan K. Chakrabarty, Hans Moosmuller, W. Patrick Arnott, Timothy Onasch, Scott Herndon, Michigan Technological University

Development of an Air Quality Model for Particle Formation from Sulfur Compounds and Amines. Andrew Martinez, Matt Dawson, Veronique Perraud, Barbara J. Finlayson-Pitts, Donald Dabdub, University of California, Irvine


The Photolytic Processing of Organic Aerosols through Carbonyl Photochemistry. Sandra Blair, Scott Esptein, Sergey Nizkorodov, University of California, Irvine

SOA Yield from Ozonolysis of BVOC at Varying NO$_2$ Concentrations. Danielle C Draper, Delphine Farmer, Yury Desyaterik, Julianne L. Fry, Reed College

Reaction Pathways of Primary, Secondary and Tertiary Amines with Ozone, Hydroxyl Radical and Nitrate. Derek Price, Xiaochen Tang, David R. Cocker III, Kathleen Purvis-Roberts, Philip Silva, University of California, Riverside

Thursday 11:30 AM - 12:15 PM
Light Take-Away Lunch

Thursday 12:15 PM - 1:45 PM
Session 8: Poster


The Photolytic Processing of Organic Aerosols through Carbonyl Photochemistry. Sandra Blair, Scott Esptein, Sergey Nizkorodov, University of California, Irvine

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<tr>
<td>8AC.6</td>
<td>Quantification of the Carbonyl Group Contribution to Aqueous-Phase SOA Using Fourier Transform Infrared Spectroscopy.</td>
<td>Kathryn George, Travis Ruthenburg, Jeremy Smith, Lu Yu, Cort Anastasio, Qi Zhang, ANN DILLNER,</td>
<td>University of California, Davis</td>
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<td>8AC.7</td>
<td>Secondary Organic Aerosol Produced from Aqueous Reaction of Phenols with an Organic Excited Triplet State and Hydroxyl Radical.</td>
<td>JEREMY SMITH, Haley Kinney, Lu Yu, Kathryn George, Travis Ruthenburg, Ann Dillner, Qi Zhang, Cort Anastasio,</td>
<td>University of California, Davis</td>
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<td>8AC.8</td>
<td>The Heterogeneous Oxidation of Internally Mixed Primary and Secondary Organic Aerosol: A Case for the Importance of Secondary Chemistry.</td>
<td>KATHARYN KOLESAR, Chris Ruehl, Gabriel Isaacman, Gina Buffaloe, Theodora Nah, Allen H. Goldstein, Kevin Wilson, Christopher Cappa,</td>
<td>University of California, Davis</td>
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<td>8AC.9</td>
<td>Simulation of Isoprene SOA Formation Using UNIPAR: A Lumping Model Integrated with Explicit Gas Phase Kinetic Mechanisms and Aerosol Phase Reactions.</td>
<td>ROSS BEARDSLEY, Yunseok Im, Myoeseon Jang, University of Florida</td>
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<td>8AC.10</td>
<td>Secondary Organic Aerosol Formation from Glyoxal: Salting Behavior and Kinetics of SOA Formation and its Dependence on Aerosol Seed Composition.</td>
<td>ELEANOR WAXMAN, Jay Slowik, Christopher Kempf, Rupert Holzinger, Josef Dommens, Andre Prévôt, Urs Baltensperger, Rainer Volkamer,</td>
<td>University of Colorado</td>
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<td>8AC.11</td>
<td>Measurement of the Sensitivity of Biogenic SOA Formation under Ambient Conditions to Anthropogenic Factors Using a New Captive Aerosol Growth and Evolution Chamber System during the Southern Oxidant and Aerosol Study.</td>
<td>Don Collins, NATHAN TAYLOR, Jill Matus, Carlos Antonietti, Chance Spencer, Robert Griffin, Yu Jun Leong, Basak Karakurt Cevik, Texas A&amp;M University</td>
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<td>8AC.12</td>
<td>Temperature Effects on Secondary Organic Aerosol Formation and its Properties.</td>
<td>MARY KACARAB, Ping Tang, Derek Price, David R. Cocker III, University of California, Riverside</td>
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<td>8AC.13</td>
<td>Understanding Secondary Organic Aerosol Formation from Aqueous-phase Reactions of Phenolic Compounds.</td>
<td>LU YU, Jeremy Smith, Alexander Laskin, Julia Laskin, Kathryn George, Cort Anastasio, Ann Dillner, Qi Zhang, University of California, Davis</td>
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<td>8AC.14</td>
<td>Instantaneous Secondary Organic Aerosol Formation from M-xylene Photooxidation: Quantification of NOX and NO3 Radical Effects on SOA Yield.</td>
<td>LIJIE LI, Ping Tang, Chia-Li Chen, Mary Karacarab, David R. Cocker III, University of California, Riverside</td>
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<td>8AC.15</td>
<td>OH Initiated Heterogeneous Degradation of Organophosphorus Compounds.</td>
<td>LIU YONGCHUN, Ligio John, Harner Tom, Jantunen Lisa, Shoeb Mahiba, Shao-Meng Li, Environment Canada</td>
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<td>8AC.16</td>
<td>The Influence of Molecular Structure and Chemical Functionality on the Heterogeneous OH-initiated Oxidation of Unsaturated Organic Particles.</td>
<td>THEODORA NAH, Sean Kessler, Kelly Daumit, Jesse Kroll, Stephen R. Leone, Kevin Wilson, University of California, Berkeley</td>
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<td>8AC.17</td>
<td>Aqueous Reaction Rates of Hydroxyacetone with Ammonium Sulfate and Amines Measured by NMR as a Function of pH.</td>
<td>MICHAEL SYMONS, Alyssa Rodriguez, Melissa Galloway, David De Haan, University of San Diego</td>
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<td>8AC.18</td>
<td>Infrared Spectra of Individual Wavelength-Scale Particles: Spectral Challenges and Novel Techniques.</td>
<td>ARUNA RAVI, Antriksh Luthra, James Coe, The Ohio State University</td>
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<td>8AC.19</td>
<td>Kinetics and pH Dependence of Aqueous-phase Reactions of Glycolaldehyde with Glycine, Ammonium Sulfate, and Methylamine.</td>
<td>ALYSSA RODRIGUEZ, Michael Symons, Alexia De Loera, Melissa Galloway, David De Haan, University of San Diego</td>
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<td>8AC.20</td>
<td>Glyoxal in the Po Valley, Italy as a Tracer for Aqueous Aerosol Processing.</td>
<td>KATE SKOG, Yong Lim, Amy P. Sullivan, Natasha Hodas, Barbara Turpin, Jeffrey L. Collett, Jr., Frank Keutsch, University of Wisconsin - Madison</td>
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<td>8AC.21</td>
<td>Determination of Setschenow Constants of Organic Compounds in Ammonium Sulfate Solutions and the Salt Effect on Air-Water Partitioning.</td>
<td>CHEN WANG, Ying Duan Lei, Frank Wania, University of Toronto</td>
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<td>8AC.22</td>
<td>React or Evaporate? Atmospheric Aldehydes in Aqueous Droplets Containing Amines or Ammonium Sulfate.</td>
<td>MICHELLE POWELSON, Melissa Galloway, David De Haan, University of San Diego</td>
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8AE.1 Intake Fraction for Urban Emissions of Semivolatile Organic Compounds from Vehicles. JOSHUA APTE, Julian Marshall, William Nazaroff, University of California, Berkeley

8AE.2 Development of a Human Lung Co-Culture Model System for Hazard Identification of Aerosolized Particles. CHRISTIE SAYES, Seung-Hyun Cho, Quentin Malloy, Christopher West, Madhuri Singal, Danielle Vitale, RTI International

8AE.3 From Rural to Personal Level PM2.5 Concentrations and Their Linkages to Biological Sample Metal Concentrations. QUENTIN MALLOY, Cortina Johnson, Jocelyn Deese-Spruill, James Raymer, Jonathan Thornburg, Elizabeth Frey, Richard Perkins, Larry Michael, RTI International

8AE.4 Estimating Population Exposure to Fine Particulate Matter (PM2.5) during Extreme Air Pollution Events in the Pacific Northwest. ABDULLAH MAHMUD, Kelley C. Barsanti, Portland State University

8AE.5 Characteristics of Personal Exposure to PM2.5 in Public Transportations in Beijing, China. CAIQING YAN, Mei Zheng, Qiaoyun Yang, Qianfang Zhang, Xinghua Qiu, Tong Zhu, Yifang Zhu, Peking University

8AE.6 Passive Deposition Following Reaerosolization of Bacillus Spores from Urban and Operationally Relevant Surfaces. KAREN PONGRANCE, Jana Kesavan, Jason Edmonds, Deborah Schepers, Jerold Bottiger, Donna Carlile, Dan Vanreenen, US ARMY ECBC

8AE.7 Assessment of Lead Particle and Acidic Gas Exposure During Gun Firing. JUN WANG, Lin Shou, Chang-Yu Wu, University of Oklahoma Health Sciences Center

8BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT V

EXHIBIT HALL A

8BA.1 Living Microorganisms in Clouds. Mickaël Vaitilingom, Muriel Joly, Pierre Amato, Nicolas Gaiani, Laurent Degaulluame, Eleonore Attard, Martine Sancelme, ANNE-MARIE DELORT, Clermont Université, Institut de Chimie de Clermont-Ferrand

8BA.2 Survival of Microorganisms to the Main Stress Factors Encountered in Clouds. Muriel Joly, Pierre Amato, Martine Sancelme, Mickaël Vaitilingom, Virginie Vatinier, Laurent Degaulluame, ANNE-MARIE DELORT, Clermont Université, Institut de Chimie de Clermont-Ferrand

8BA.3 The On-line Detection of Biological Particle Emissions from Selected Agricultural Materials Using the WIBS-4 (Waveband Integrated Bioaerosol Sensor) Technique. DAVID O’CONNOR, David Healy, John Sodeau, University College Cork

8BA.4 Ubiquity and Persistence of Streptococcus Suis Bioaerosols in Swine Confinement Buildings. LAETITIA BONIFAIT, Marc Veillette, Daniel Grenier, Caroline Duchaine, Université Laval, Canada

8BA.5 A Field-deployable Electrostatic Collector for Bioaerosols with High Concentration Rate. TAEWON HAN, Donna Fennell, Gediminas Mainelis, Rutgers, The State University of New Jersey

8BA.6 Quantifying the Effect of Relative Humidity and Ozone on the Viability of Aged Bacillus Thuringiensis Al Hakam and MS-2 Bacteriophage Biological Aerosols. SEAN KINAHAN, Elizabeth Corson, Shanna Ratnesar-Shumate, Yong-Le Pan, Jonathan Eshbaugh, Christopher Bare, Joshua Santarpia, Johns Hopkins University Applied Physics Laboratory

8BA.7 Understanding Aerolized Viral Particles Behaviour in a Mechanically Ventilated Agricultural Building. MARTYNE AUDET, Matthieu Girard, Martin Belzile, Stéphane Godbout, Caroline Duchaine, Centre de recherche de l’IUCPQ, Université Laval

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9BA.3 Measurements of Changes in the Fluorescence and Viability of Biological Particles Exposed to Outdoor Conditions in the Washington D.C. Metro Area. JOSHUA SANTARPIA, Don Collins, Yong-Le Pan, Shanna Ratnesar-Shumate, Crystal Glen, Andres Sanchez, Steven Hill, Carlos Antonietti, Jill Matus, Nathan Taylor, Christopher Bare, Sean Kinahan, Elizabeth Corson, Danielle Rivera, Mark Coleman, Chatt Williamson, Sandia National Laboratories
### 9BA.4 Design and Performance of Low-cost Aerosol Micro-Channel Collector. IGOR NOVOSSELOV, Riley Gorder, John Scott Meschke, Enertechnix, Inc

### 9BA.5 A Relaxed-Eddy Accumulation System for Measuring Microbial Emission Fluxes from the Vegetation. YVES BRUNET, Jean-Marc Bonnefond, Didier Garrigou, Frédéric Delmas, Christel Leyronas, Cindy E. Morris, INRA Bordeaux, France

### 9IM INSTRUMENTATION AND METHODS VI  
**B117/118/119**

Tim VanReken and Chongai Kuang, chairs

### 9IM.1 Advances in Water Condensation Particle Collectors and Concentrators. GREGORY LEWIS, Steven Spielman, Arantzazu Eiguren-Fernandez, Susanne Hering, Aerosol Dynamics Inc.

### 9IM.2 Towards a Miniature, Tippable, Water Condensation Particle Counter. SUSANNE HERING, Gregory Lewis, Steven Spielman, Aerosol Dynamics Inc.

### 9IM.3 Laboratory Characterization of a Size-Resolved CPC Battery to Infer the Composition of Freshly Formed Atmospheric Nuclei. CHONGAI KUANG, Juha Kangaslouma, Daniela Wimmer, Katrianne Lehtipalo, Jian Wang, Markku Kulmala, Tuukka Petäjä, Brookhaven National Laboratory

### 9IM.4 Method for Calibration of the Detection Efficiency of Condensation Particle Counters at Concentrations as Low as 1 cm$^{-3}$ Using a Faraday-cup Aerosol Electrometer. HIROMU SAKURAI, Kensei Ehara, AIST

### 9IM.5 A Scanning Mobility Particle Sizer for Nanoparticle Size Distribution Measurements in the Upper Troposphere/Lower Stratosphere. JOHN ORTEGA, James N. Smith, David C. Rogers, Suresh Dhanilyala, Steve Gabbard, National Center for Atmospheric Research

### 9NM NANOPARTICLES AND MATERIALS SYNTHESIS II  
**A105**

Suvajyoti Guha and Eric Lipsky, chairs

### 9NM.1 Graphene Synthesis via Controlled Detonation of Hydrocarbons. CHRIS SORENSEN, Arjun Nepal, Gajendra Singh, Bret Flanders, Kansas State University

### 9NM.2 Development of Crumpled Graphene-based Nanocomposites via Aerosol Route for Environmental Applications. WEI-NING WANG, Yi Jiang, John Fortner, Pratim Biswas, Washington University in St. Louis

### 9NM.3 TiO2 Nanoparticle Formation and Growth in ACVD Systems: Discrete Sectional Simulation. TANDEEP CHADHA, MengMeng Yang, Shuiqing Li, Pratim Biswas, Tsinghua University

### 9NM.4 The Crystallinity and Coalescence or Sintering Mechanism of Aerosol Nanoparticles by Molecular Dynamics. Beat Buesser, SOTIRIS E. PRATSINIS, ETH Zurich

### 9NM.5 Diffuse Vs. Specular Algorithms to Explain Electrical Mobility in Diatomic Gases. Carlos Larriba-Andaluz, CHRISTOPHER HOGAN JR., University of Minnesota

### 9SA SOURCE APPORTIONMENT II  
**A106**

Amy Sullivan and Cheol Jeong, chairs

### 9SA.1 Spatial and Temporal Assessment of a Hybrid Source Apportionment Model Using Nonlinear Optimization. CESUNICA IVEY, Heather Holmes, Yongtao Hu, James Mulholland, Armistead Russell, Georgia Institute of Technology
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<td>9SA.2</td>
<td>Source Apportionment of Primary Particulate Matter and its Carbonaceous and Trace Elemental Components in the Eastern US</td>
<td>HONGLIANG ZHANG, Gang Chen, Jianlin Hu, Shu-Hua Chen, Michael Kleeman, Qi Ying</td>
<td>Texas A&amp;M University</td>
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<td>9SA.3</td>
<td>Implementation of a High-Resolution Source-Oriented WRF-Chem Model Using Large Eddy Simulation at the Port of Oakland</td>
<td>David Joe, Steven DeNero, Hongliang Zhang, Hsiang-He Lee, Shu-Hua Chen, MICHAEL KLEEMAN, UC Davis</td>
<td>Texas A&amp;M University</td>
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<td>9SA.4</td>
<td>Source Contributions to Primary and Secondary Particulate Matter during a Severe PM2.5 Pollution Event in Xi’an, China</td>
<td>HONGLIANG ZHANG, Qi Ying, Dexiang Wang</td>
<td>Texas A&amp;M University</td>
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<td>9SA.5</td>
<td>Development and Application of a Particle Number Source Tagging Algorithm in an Aerosol Microphysics Model</td>
<td>DANIEL WESTERVELT, Jeffrey Pierce, Peter Adams</td>
<td>Carnegie Mellon University</td>
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9UA URBAN AEROSOLS V

Cliff Davidson and Andre Prevot, chairs

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<td>9UA.1</td>
<td>New Particle Formation in an Urban Atmosphere: Seasonal Dependence and Influence of Air Mass Origin.</td>
<td>ANNA WONASCHUETZ, Julia Burkart, Richard Haindl, Julia Palmethofer, Georg Reischl, Gerhard Steiner, Robert Wagner, Regina Hitzenberger</td>
<td>University of Vienna</td>
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<td>9UA.2</td>
<td>Wintertime Air Pollution and the Greek Financial Crisis.</td>
<td>KALLIOPI FLOROU, Christos Kaltsonoudis, Dimitrios Papanastasiou, Georgios Gkatzeisis, Evangelos Louvaris, Michael Pikidas, Spyros Pandis, University of Patras, Patra, Greece</td>
<td>Greece</td>
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<td>9UA.3</td>
<td>Sources and Chemical Processing of Organic Aerosol during the Summer in the Eastern Mediterranean.</td>
<td>EVANGELIA KOSTENIDOU, Kalliopi Florou, Christos Kaltsounoudis, Maria Tsiflikiotou, Magdalini Psichoudaki, Spyros Pandis, Institute of Chemical Engineering Sciences, ICE-HT, Greece</td>
<td>Greece</td>
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<td>9UA.4</td>
<td>Rainout, Washout and Dry Deposition Contributions to the Total Deposition Flux of Heavy Metal Aerosol onto Surfaces of a Small Urban Catchment (Pin Sec, Nantes).</td>
<td>STÉPHANE PERCOT, Véronique Ruban, Philippe Laguionie, Denis Maro, Pierre Rouspards, Dominique Demare, IRSN</td>
<td>France</td>
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<td>9UA.5</td>
<td>Contribution of Atmospheric Aerosols to Urban Stormwater Runoff.</td>
<td>JEREMY TAMARGO, Cliff Davidson, Syracuse University</td>
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Thursday 3:00 PM - 3:30 PM

Coffee Break

Thursday 3:30 PM - 5:00 PM

Session 10: Platform

10AC AEROSOL CHEMISTRY X

Simon Clegg and Scott Epstein, chairs

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<tr>
<td>10AC.1</td>
<td>Photolytic Processing of Organic Atmospheric Particulate Matter.</td>
<td>SCOTT A. EPSTEIN, Mallory Hinks, Sergey Nizkorodov, University of California, Irvine</td>
<td></td>
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</tbody>
</table>
10AC.3 Reactive Uptake and Aqueous Chemistry of Isoprene Epoxideyls (IEPOX) and Glycolaldehyde in Aerosol Liquid Water. TRÁN NGUYEN, Matthew Coggon, Kelvin Bates, Rebecca Schwantes, Xuan Zhang, Katherine Schilling, Christine Loza, Richard Flagan, Paul Wennberg, John Seinfeld, California Institute of Technology

10AC.4 Atmospheric Reactions between Glycolaldehyde, Formaldehyde, and Ammonium Sulfate: A Product Identification Study. MELISSA GALLOWAY, Alyssa Rodriguez, Jeremy Kua, Katherine Millage, David De Haan, University of San Diego

10AC.5 Aqueous Photooxidation of Water-Soluble Compounds in Po Valley, Italy during PEGASOS: Chemical Insights and Modeling. YONG LIM, Jeffrey R. Kirkland, Ron Lauck, Barbara Turpin, Rutgers University

10AC.6 Modelling the Water Uptake and Solubilities of Aminium Sulfate Salts. SIMON CLEGG, Chong Qiu, Renyi Zhang, University of California, Davis; University of East Anglia

10BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT VII

B113/114

Tiina Reponen and Alina Handorean, chairs

10BA.1 Investigation of Bioaerosol Contamination in New Jersey Homes Affected by Hurricane Sandy. Leonardo Calderón, Huajun Zhen, Zuocheng Wang, Brian Buckley, Joan W. Bennett, Paul J. Lioy, GEDIMINAS MAINEILIS, Rutgers, The State University of New Jersey


10BA.4 Automated Pollen Identification and Counting System (APICS). JAMES HOUSE, Gregory Griffin, Richard Flagan, Caltech

10BA.5 Effective Sampling of Infectious Viral Aerosols down to the Primary Virion Size. HOWARD WALLS, David S. Ensor, Lauren Harvey, Jean Kim, Ryan Chartier, Susanne Hering, Steven Spielman, Gregory Lewis, Research Triangle Institute

10BA.6 Survival of Aerosolized Simulants of Bacillus Anthracis Exposed to Combustion Products of Novel Halogen-Containing Reactive Metals. SERGEY A. GRINSHPUN, Michael Yermakov, Reshmi Indugula, Xinjian He, Tiina Reponen, Edward Dreizin, Mirko Schoenitz, Shasha Zhang, Y. Aly, University of Cincinnati

10CC AEROSOLS, CLOUDS, AND CLIMATE IV

B110/111/112

Faye McNeill and Akua Asa-Awuku, chairs

10CC.1 Cloud-Aerosol Interactions in Deep-Convective Systems: Particle Mass, Number, and Composition Effects. BENJAMIN MURPHY, Ilona Riipinen, Annica Ekman, Stockholm University

10CC.2 Evaluating Aerosols, Clouds, and Their Interactions in Three Global Climate Models Using COSP and Satellite Measurements. GEORGE BAN-WEISS, Susanne Bauer, Ralf Bennartz, Xiaohong Liu, Kai Zhang, Yi Ming, Ling Jin, Jonathan Jiang, University of Southern California

10CC.3 Combining Field and Laboratory Studies to Understand the Dominant Sources and Mechanisms of Cirrus Cloud Formation. DANIEL CZICZÓ, Sarvesh Garimella, Karl D. Froyd, Brian Hills, David Murphy, MIT

10CC.4 CCN and Vertical Velocity Influences on Droplet Concentrations and Supersaturations in Clean and Polluted Stratus Clouds. JAMES HUDSON, Stephen Noble, Desert Research Institute

10CC.5 Observations of Sharp Oxalate Reductions in Stratocumulus Cloud Water at Variable Altitudes. Armin Sorooshian, ZHEN WANG, Matthew Coggon, Haflidi Jonsson, Barbara Ervens, University of Arizona
Parameterization of In-Plume Aerosol Processing Effects on the Efficacy of Marine Cloud Albedo Enhancement from Controlled Sea-Spray Injections. Geoff Stuart, ROBIN STEVENS, Dominick Spracklen, Hannele Korhonen, Jeffrey Pierce, Dalhousie University

10IM INSTRUMENTATION AND METHODS VII
B117/118/119

Pete DeCarlo and Arthur Chan, chairs

10IM.1 Characterization of the Aerodyne Mini-Aerosol Mass Spectrometer. ANITA JOHNSON, J. Doug Goetz, Edward Fortner, Urs Rohrer, Michael Cubison, Marc Gonin, Thorsten Hoehler, John Jayne, Douglas Worsnop, Peter DeCarlo, Drexel University

10IM.2 Aerosol Chemical Speciation Monitor (ACSM) Inter-Comparison Study for Ambient Fine Aerosol Measurements in Downtown Atlanta, Georgia. SRI HAPSARI BUDISULISTIORINI, Manjula Canagaratna, Philip Croteau, Karsten Baumann, Eric Edgerton, Nga Lee Ng, Vishal Verma, Wendy Marth, Stephanie Shaw, Eladio Knipping, Douglas Worsnop, John Jayne, Rodney Weber, Jason Surratt, University of North Carolina at Chapel Hill

10IM.3 Development and Evaluation of a Laser Induced Incandescence - Mass Spectrometric Analyzer (LII-MS) for Online Measurements of Aerosol Chemical Composition. MIYAKAWA TAKUMA, Takeda Naoki, Koizumi Kazuhiro, Tabaru Masaya, Ozawa Yuya, Hirayama Noritomo, Takegawa Nobuyuki, University of Tokyo

10IM.4 Application of a SPAMS 3.0 Single Particle Aerosol Mass Spectrometer to Inhalational Pharmaceuticals and Real-time Microbiology. DAVID FERGENSON, Livermore Instruments Inc.

10IM.5 The Mass and Mobility Distributions of Ions Generated by a 10mCi Po-210 Alpha Particle Source as Measured by Differential Mobility Analysis-Mass Spectrometry. Mark Meredith, Carlos Larriba-Andaluz, Hui Ouyang, Ranganathan Gopalakrishnan, Derek Oberreit, CHRISTOPHER HOGAN JR., University of Minnesota


10NM NANOPARTICLES AND MATERIALS SYNTHESIS III
A105

Wang Wei-Ning and Gröhn Arto Juhani, chairs

10NM.1 Barium Hexaferrite and Yttrium Iron Garnet Thick Films Formed by the Aerosol Deposition Method. SCOOTER JOHNSON, Shu-Fan Cheng, Ming-Jen Pan, Fritz Kub, Charles Eddy, U.S. Naval Research Laboratory, Washington, D.C.

10NM.2 Plasmonic Multipetal Flower Assemblies for Hot-spots Engineered SERS(Surface-Enhanced Raman Spectroscopy) Nanosensor. KINAM JUNG, Jungsuk Hahn, Sungjun In, Heechul Lee, Peter Pikhtisa, Kwangjun Ahn, Kyungyun Ha, Junhoi Kim, Jongkwon Lee, Sunghoon Kwon, Namkyoo Park, Mansoo Choi, Seoul National University

10NM.3 Formation of 1.0-10 nm Ni Clusters in an Atmospheric Pressure DC Microplasma. R. MOHAN SANKARAN, Ajay Kumar, Seungkoo Kang, Carlos Larriba-Andaluz, Hui Ouyang, Christopher Hogan Jr., Case Western Reserve University

10NM.4 Evolution of Particle Size Distribution of Pristine and Doped Titanium Dioxide in a Flame Reactor: Role of Various Process Parameters. JIAXI FANG, Yang Wang, Tadeep Chadha, MengMeng Yang, Pratim Biswas, Washington University in St Louis

10NM.5 Spark Discharge Generator (SDG) – A Promising Tool for Generation of Sub-nanometer Atomic Clusters. ANNE MAISSER, Konstantinos Barmpounis, Michel Attoui, George Biskos, Andreas Schmidt-Ott, TU Delft

10NM.6 Photoassisted One-step Aerosol Fabrication of Zwitterionic Chitosan Nanoparticles. JEONG HOON BYEON, Jeffrey Roberts, Department of Chemistry, Purdue University

10SA SOURCE APPORTIONMENT III
Phil Hopke and Jeff Collett, chairs

10SA.1  Sensitivity of the Chemical Mass Balance Model to Different Molecular Marker Traffic Profiles. PALLAVI PANT, Jianxin Yin, Roy M. Harrison, University of Birmingham

10SA.2  ME-2 Analysis of Long-term On-line Mass Spectrometric Data of Non-refractory Submicron Aerosol in the City of Zurich. FRANCESCO CANONACO, Jay Slowik, Urs Baltensperger, Andre Prévôt, Paul Scherrer Institute

10SA.3  Direct Measurements of Near-Highway Aerosol Emissions and Volatile Organic Compounds in a High Diesel Environment. H. LANGLEY DEWITT, Stig Hellebust, Brice Temime-Roussel, Sylvain Ravier, Lucie Polo, Jean Luc Jaffrezo, Veronique Jacob, Aurelie Charron, Jean-Luc Besombes, Nicolas Marchand, Aix Marseille Université, Laboratoire Chimie Environnement

10SA.4  Examination of Airborne-Based Smoke Marker Ratios from Prescribed Burning. AMY P. SULLIVAN, Taehyoung Lee, Gavin McMeeking, Sonia Kreidenweis, Sheryl K. Akagi, Robert J. Yokelson, Shawn P. Urbanski, Jeffrey L. Collett, Jr., Colorado State University


10SA.6  Long-Term Trend Analysis of Factors Contributing to PM2.5 in Toronto: What is this Elemental Carbon-Rich Factor? CHEOL-HEON JEONG, Greg J. Evans, Dennis Herod, Ewa Dabek-Zlotorzynska, SOCAAR, University of Toronto

Friday

Friday 8:00 AM - 9:15 AM
Plenary IV


9:00  Student Poster Competition Award Presentation Chris Sorensen, Student Poster Program Chair. Kansas State University.


Friday 9:15 AM - 9:45 AM
Coffee Break

Friday 9:45 AM - 11:00 AM
Session 11: Platform

11CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE VII
B113/114

Arantza Eiguren Fernandez and Kelley Barsanti, chairs

11CA.1  Searching for Evidence of Aqueous SOA Formation in the Po Valley. AMY P. SULLIVAN, Natasha Hodas, Barbara Turpin, Kate Skog, Frank Keutsch, Stefano Decesari, M. Cristina Facchini, Jeffrey L. Collett, Jr., Colorado State
**University**

**11CA.2** Secondary Pollutant Formation in the Lake Tahoe Basin, USA. BARBARA ZIELINSKA, Andrzej Bytnerowicz, Alan Gertler, Mark McDaniel, Joel Burley, *Desert Research Institute*

**10:00**

**11CA.3** Characterization of Secondary Organic Aerosols from Isoprene, Monoterpenes, β-Caryophyllene, Toluene, and Naphthalene at Three Sites in the Pearl River Delta, China. JIAN ZHEN YU, Wing Yi Wong, X. H. Hilda Huang, *Hong Kong University of Science and Technology*

**10:15**

**11CA.4** Observational Constraints on High- and Low-NOx Aerosol Formation from Isoprene. DAVID WORTON, Allen H. Goldstein, Jason Surratt, Brian LaFranchi, Arthur Chan, Yunliang Zhao, Robin Weber, Jeong-Hoo Park, Jessica Gilman, Joost de Gouw, Changhyoun Park, Gunnar Schade, Melinda Beaver, Jason St. Clair, John Crounse, Paul Wennberg, Glenn Wolfe, Sara Harrold, Joel A. Thornton, Delphine Farmer, Kenneth Docherty, Michael Cubison, Jose-Luis Jimenez, Amanda Frossard, et al., *University of California, Berkeley*

**10:30**


**10:45**

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**11CC AEROSOLS, CLOUDS, AND CLIMATE V**

**B115/116**

Ben Murphy and Robin Stevens, chairs

**11CC.1** Modeling the Impact of Surface Adsorption of Organic Gases on Aerosol Surface Tension and Cloud Droplet Formation. V. FAYE MCNEILL, *Columbia University*

**9:45**

**11CC.2** Statistical Mechanics of Multilayer Sorption: Surface Tension. ANTHONY WEXLER, Cari Dutcher, Simon Clegg, *University of California, Davis*

**10:00**

**11CC.3** Quantifying Aerosol Mixing State with Entropy Measures. NICOLE RIEMER, Matthew West, *University of Illinois at Urbana-Champaign*

**10:15**

**11CC.4** Aerosol Dynamics Simulation Using Sparse Particle Methods. ROBERT MCGRAW, *Brookhaven National Laboratory*

**10:30**

**11CC.5** Cloud Condensation Nuclei Closure Study for Transient Drive Cycles. DIEP VU, Daniel Short, Mark Villela, Georgios Karavalakis, Thomas D. Durbin, *University of California, Riverside*

**10:45**

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**11CO COMBUSTION III**

**A105**

David Cocker and Eben Cross, chairs


**9:45**

**11CO.2** Chemistry and Partitioning Behavior of Inorganic and Organic Particulate Matter Measured in Real-time from Light-duty Vehicles under Varying Conditions. SONYA COLLIER, Toshihiro Kuwayama, Sara Forestieri, Michael Kleeman, Christopher Cappa, Qi Zhang, *University of California, Davis*

**10:00**


**10:15**

**11CO.4** Ethanol and Iso-Butanol Gasoline Blends Use in Light Duty Gasoline Direct Injection Vehicles: Real-time Measurements of Particle Number, Sizing, and Composition. DANIEL SHORT, Diep Vu, Georgios Karavalakis, Thomas D. Durbin, Akua Asa-Awuku, *University of California, Riverside*

**10:30**
Understanding the Affect of Biodiesel Fuels and Engine Mode on Primary Organic and Sulfate Aerosol Emissions from a Light Duty Diesel Engine. JOHN LIGGIO, Shao-Meng Li, Katherine Hayden, Jeremy Wentzell, Tak Chan, Gang Lu, Jeff Brook, Air Quality Research Division, Environment Canada

Indoor PM2.5 at Santiago, Chile, 2012. HECTOR JORQUERA, Francisco Barraza, Pontificia Universidad Catolica de Chile

Particle Concentrations in Retail Environments. Marwa Zaatar, JEFFREY SIEGEL, The University of Toronto

Ultrafine Particle Emissions from Desktop Three-Dimensional Printers. Parham Azimi, Zeineb El Orch, Tiffanie Ramos, Zylstra, Julie Steele, BRENT STEPHENS, Illinois Institute of Technology

Elevated Levels of Respirable Antimony (Sb) and Other Trace Elements inside an Elementary School. BRIAN MAJESTIC, Joseph Turner, Aurelie Marcotte, University of Denver

The Impact of Energy Efficiency Retrofits on Indoor PM Levels. SARAH FREY, Pierre Herckes, Matthew Fraser, Arizona State University
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<td>On-Road Gasoline and Diesel Vehicle Contributions to Fine Particulate Black Carbon and Primary Organic Aerosol Emissions.</td>
<td>TIMOTHY DALLMANN, Thomas Kirchstetter, Robert Harley, University of California, Berkeley</td>
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<td>11UA.4</td>
<td>Development and Implementation of Low Level Biodiesel Blend Formulations to Help the Air Quality Standards in California Related to Diesel Fuel.</td>
<td>MARYAM HAJBABAEI, Georgios Karavalakis, Kent C. Johnson, Alexander Mitchell, Jim Guthrie, David R. Cocker III, Thomas D. Durbin, University of California, Riverside</td>
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<td>11UA.5</td>
<td>Analyses of Emission Measurements for a Heavy-duty Diesel Bus through Experiments and Simulations: The Comparison between On-road and In-lab Methods.</td>
<td>ZHEMING TONG, Yan Wang, Bo Yang, Topi Ronkko, Jorma Keskinen, Lisa Pirjola, K. Max Zhang, Cornell University</td>
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**Friday 11:15 AM - 12:30 PM**

**Session 12: Platform**

12AC AEROSOL CHEMISTRY XI

**12AC.1** Chemistry of New Particle Growth Events in Mixed Biogenic and Urban Emissions - Results from the CARES 2010 Campaign. QI ZHANG, Ari Setyan, Maik Merkel, Berk Knighton, Cody Floerchinger, Scott Herndon, Timothy Onasch, Douglas Worsnop, Chen Song, John Shilling, University of California, Davis

**12AC.2** Nanoparticle Growth and Salt Formation - a Modeling Study. TAINA YLI-JUUTI, Kelley C. Barsanti, Lea Hildebrandt Ruiz, Anti-Jussi Kieloaho, Ulla Makkonen, Tuukka Petajä, Taina Ruuskanen, Markku Kulmala, Ilona Riipinen, University of Helsinki

**12AC.3** Characterization of Chemical Composition of Fog Water and Interstitial Aerosol in the Central Valley of California: Influence of Aqueous Chemistry. HWAJIN KIM, Xinlei Ge, Jianzhong Xu, Yele Sun, Youliang Wang, Pierre Herckes, Qi Zhang, University of California, Davis

**12AC.4** Stabilization of Sulfuric Acid Dimer Clusters by Various Basic Gases. COTY JEN, Peter McMurry, David Hanson, University of Minnesota

**12AC.5** The Role of Hydration in Formation and Reactivity of Sulfuric Acid Clusters Containing Ammonia and Amines. JOSEPH DEPALMA, Douglas Dore, Murray Johnston, University of Delaware

12AP AEROSOL PHYSICS IV

**12AP.1** Study of the Unipolar and Bipolar Diffusion Charging of Arbitrary Shaped Aerosol Particles by Brownian Dynamics Simulations. Ranganathan Gopalakrishnan, CHRISTOPHER HOGAN JR., University of Minnesota

**12AP.2** Influence of Back Electrostatic Field on the Collection Efficiency of an Electrostatic Lunar Dust Collector. NIMA AFSHAR-MOHAJER, Chang-Yu Wu, Nicoleta Soroicia-Hickman, University of Florida

**12AP.3** Modeling of Corona-Quenching in Tube-Wire Type Electrostatic Precipitators. CHRISTIAN LUEBBERT, Ulrich Riebel, FAU Erlangen-Nuremberg, Germany

**12AP.4** Interpreting SAXS Spectra of Nonspherical Water/Nonane Nanodroplets Using a New Particle Form Factor. GERALD WILEMSKI, Abdalla Obeidat, Fawaz Hrahsheh, Harshad Pathak, Barbara Wyslouzil, Missouri University of Science and Technology

**12AP.5** Effects of Multiple Scattering on the Radiative Properties of Fractal Soot Aggregates. FENGSHAN LIU, Gregory Smallwood, National Research Council Canada
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<td>12CA.1</td>
<td>Novel Smog Chamber Studies of Wood Burning Emissions at Low Temperatures.</td>
<td>Emily Bruns, Imad El Haddad, Stephen Platt, Brice Temime-Roussel, Dogushan Kilic, Jay Slowik, Anais Detournay, Luka Drinovec, Grisa Mocnik, Nicolas Marchand, Urs Baltensperger, Andre Prevot, Paul Scherrer Institute</td>
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<td>12CA.3</td>
<td>Secondary Organic Aerosol Formation Project from Single-Ring Aromatic TailPipe and Evaporative Emissions from California Gasoline Vehicles.</td>
<td>Antonio Miguel, University of California, Los Angeles</td>
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<td>12CA.4</td>
<td>Fuel-based Fine Particulate and Black Carbon Emission Factors from a Railyard Area in Atlanta.</td>
<td>Boris Galvis, Armistead Russell, Michael Bergein, Georgia Institute of Technology</td>
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<td>12CA.5</td>
<td>Brick Kiln Emissions Quantified with the Aerodyne Mobile Laboratory during the Short Lived Climate Forcing (SLCF) 2013 Campaign in Guanajuato Mexico.</td>
<td>Edward Fortner, Berk Knighton, Scott Herndon, Joseph Roscioli, Miguel Zavala, Timothy Onasch, John Jayne, Douglas Worsnop, Charles Kolb, Luisa Molina, Aerodyne Research, Inc.</td>
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<td>12IA.1</td>
<td>Rapid Size and Chemical Characterization of Outdoor and Indoor Particulate Matter, Implications for Transport and Environmental Influence.</td>
<td>Peter Decarlo, Michael Waring, Drexel University</td>
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<td>12IA.4</td>
<td>Outdoor and Indoor Exposure to Traffic Aerosols at Schools: Effect of Anti-idling Campaign.</td>
<td>Sergey A. Grinspun, Jin Yong Kim, Michael Yermakov, Tiina Reponen, Chris Schaffer, Patrick Ryan, University of Cincinnati</td>
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<td>12IA.5</td>
<td>Application of High Efficiency Cabin Air Filter for Simultaneous Control of Ultrafine Particles and Carbon Dioxide in Passenger Vehicles.</td>
<td>Eon Lee, Cha-Chen Fung, Yifang Zhu, University of California, Los Angeles</td>
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<td>12IM.1</td>
<td>Validation of New Fast Scanning Mobility Particle Sizing System.</td>
<td>James Farnsworth, Brandon Detmer, Nathan Birkeland, Fred Quant, Hans-Georg Horn, Brian Osmondson, TSI Incorporated</td>
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<td>12IM.2</td>
<td>Highly Size- and Time-Resolved Particulate Matter Characterized by Novel Optical Analysis.</td>
<td>Nicholas Spada, David Barnes, Shankar Chellam, Thomas A. Cahill, University of California, Davis</td>
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<td>12IM.3</td>
<td>Towards Accurate Calculation of Particle Size Distributions from Fast-SMPS Measurements.</td>
<td>Ishara Jayasuriya, Meilu He, Suresh Dhaniyala, Clarkson University</td>
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### 12IM.4  Aerodynamic Aerosol Classifier.
Farzan Tavakoli, Jonathan Symonds, JASON S. OLFERT, University of Alberta

### 12IM.5  Merging Multiple Instrument Measurements of Aerosol Size Distributions into a Best Estimate Aerosol Size Distribution.
JASON TOMLINSON, Fan Mei, Don Collins, Gunnar Senum, Stephen Springston, Chen Song, Jacqueline Wilson, Alla Zelenyuk, Jennifer Comstock, John Hubbe, John Shilling, Duli Chand, Mikhail Pekour, Beat Schmid, Larry Berg, Pacific Northwest National Laboratory

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### 12UA URBAN AEROSOLS VII

#### B110/111/112

**Suzanne Paulson and John Liggio, chairs**

**12UA.1  Scooter Emissions Dominate Urban Organic Aerosol.** Imad El Haddad, Stephen Platt, Alessandro Zardini, Jay Slowik, Michael Clairrotte, Covadonga Astorga, Peter Barmet, Josef Dommen, Urs Baltensperger, ANDRE PRÉVÔT, Paul Scherrer Institute

**12UA.2  Spatial Variation of Pollutants in the Near-Road Environment.** NICHOLE BALDWIN, Philip K. Hopke, Stuart Batterman, Suresh Raja, Clarkson University

**12UA.3  Characterizing Urban Roadside Environments through Long-Term Monitoring: Particle Mass, NOx, Traffic and Signal Phasing.** CHRISTINE M. KENDRICK, Linda A. George, Portland State University

**12UA.4  Effects of Diesel Particle Filters on Heavy-Duty Diesel Truck Emissions at the Port of Oakland.** CHELSEA PREBLE, Timothy Dallmann, Steven DeMartini, Nathan Kreisberg, Susanne Hering, Robert Harley, Thomas Kirchstetter, University of California, Berkeley

**12UA.5  Short-lived Increases in Particle Concentration Disproportionately Influence Exposure to Roadway Air Pollution and Health Outcomes.** ROBY GREENWALD, Priya Kewada, Fuyuen Yip, Jeremy Sarnat, Emory University