

## American Association for Aerosol Research - Abstract Submission



**AAAR 32nd Annual Conference**  
**September 30 - October 4, 2013**  
**Oregon Convention Center**  
**Portland, Oregon, USA**

**Tuesday**

### **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**

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1AC AEROSOL CHEMISTRY I

B115/116

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**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, ManishKumar Shrivastava, Evan Abramson, Lawrence Kleinman, Jerome Fast, Stephen Springston, *Pacific Northwest National Laboratory*  
10:30
- 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*  
10:45
- 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*  
11:00
- 1AC.7 Volatility-Resolved Measurements of the Amount and Oxidation State of Gas-Phase and Particulate Organic Compounds in a Forested Environment.** JAMES HUNTER, Eben Cross, Anthony Carrasquillo, Patrick Hayes, Pedro Campuzano-Jost, Douglas Day, Brett Palm, LaxmiNarasimha Yatavelli, Harald Stark, Samantha Thompson, Jose-Luis Jimenez, Scott Herndon, Douglas Worsnop, Jesse Kroll, *MIT*  
11:15
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#### 1AP AEROSOL PHYSICS I

A105

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#### Rajan Chakrabarty and Max Eggersdorfer, chairs

- 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*  
9:45
- 1AP.2 Size-Dependent Condensation of Organics – Parameterization for Nanoparticle Growth.** SILJA HÄKKINEN, Hanna Manninen, Taina Yli-Juuti, Joonas Merikanto, Maija Kajos, Tuomo Nieminen, Stephen D'Andrea, Ari Asmi, Jeffrey Pierce, Markku Kulmala, Ilona Riipinen, *University of Helsinki*  
10:00
- 1AP.3 Adsorption of Organic Molecules may Explain Enhanced Growth of Nucleated Clusters and New Particle Formation.** JIAN WANG, Anthony Wexler, *Brookhaven National Laboratory*  
10:15
- 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*  
10:30
- 1AP.5 Measuring the Atmospheric Organic Aerosol Volatility Distribution: A Theoretical Analysis.** ELENI KARNEZI, Ilona Riipinen, Spyros Pandis, *Carnegie Mellon University*  
10:45
- 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*  
11:00
- 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*  
11:15
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#### 1BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT I

B113/114

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#### J. Alex Huffman and Gannet Hallar, chairs

- 1BA.1 Interactions of Airborne Microbial Communities with Clouds: A Perspective from Metagenomic Analysis.** NATASHA DELEON-RODRIGUEZ, Terry Lathem, Bruce Anderson, Andreas Beyersdorf, Luke Ziemba, Michael Bergin, Athanasios Nenes, Kostantinos Kostantinidis, *Georgia Institute of Technology, Atlanta, GA*  
9:45
- 1BA.2 Primary Biological Aerosols as Cloud Condensation Nuclei.** FRANCIS POPE, Paul Griffiths, Markus Kalberer, Michael Herzog, *University of Birmingham, UK.*  
10:00

- 1BA.3 Potential Impact of Microbial Activity on the Oxidant Capacity and the Organic Carbon Budget in Clouds.** 10:15 Mickaël Vaitilingom, Laurent Deguillaume, Virginie Vinatier, Martine Sancelme, Pierre Amato, Nadine Chaumerliac, ANNE-MARIE DELORT, *Clermont Université, Institut de Chimie de Clermont-Ferrand*
- 1BA.4 Measurement and Observation of the Hygroscopic Growth Properties of Biological Aerosols.** SHANNA 10:30 RATNESAR-SHUMATE, Elizabeth Corson, Jonathan Eshbaugh, Sean Kinahan, Joshua Santarpia, *The Johns Hopkins Applied Physics Laboratory*
- 1BA.5 Studies of the Impacts of Biological Particles on Clouds and Precipitation in Aircraft and Sea Spray Studies.** 10:45 KIMBERLY PRATHER, Paul DeMott, Vicki Grassian, Timothy Bertram, Grant Deane, Matthew Ruppel, Douglas Collins, Andrew Ault, *University of California, San Diego*. INVITED.
- 1BA.6 Marine Biological Ice Nuclei – Estimation of Sources and Significance for Marine Clouds.** SUSANNAH 11:00 BURROWS, Corinna Hoose, Ulrich Pöschl, Mark Lawrence, Paul DeMott, Xiaohong Liu, Po-Lun Ma, Phil Rasch, *Pacific Northwest National Laboratory*. INVITED.
- 1BA.7 Studies on the Relation of Ice Nuclei from Sea Spray to Ocean Biological Cycles.** PAUL DEMOTT, Kimberly 11:15 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*
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## 1IA INDOOR AEROSOLS I

A106

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### Tiina Reponen and Yevgen Nazarenko, chairs

- 1IA.1 Ultrafine Particles Emitted from Scented Markers.** Cha-Chen Fung, Shi Shu, YIFANG ZHU, *UCLA* 9:45
- 1IA.2 Impact of Air Exchange Rates on Aerosol Mass Fractions Describing Indoor-Generated Secondary Organic Aerosol.** Somayeh Youssefi, MICHAEL WARING, *Drexel University* 10:00
- 1IA.3 Emissions of Secondary Organic Aerosol Initiated by Surface Reactions between Ozone and Squalene.** Chunyi 10:15 Wang, MICHAEL WARING, *Drexel University*
- 1IA.4 Particulate Reactive Oxygen Species in Retail Stores in Austin, Texas.** SHAHANA KHURSHID, Kerry Kinney, 10:30 Jeffrey Siegel, *The University of Texas at Austin*
- 1IA.5 Characterize the Size Distribution of Walking-induced Particle Resuspension.** YILIN TIAN, Andrea R. Ferro, 10:45 *Clarkson University*
- 1IA.6 Seasonal and Environmental Factors Associated with Microbes Living in Our Homes.** PATRICIA KEADY, Shelly 11:00 Miller, Noah Fierer, Joanne B. Emerson, Jonathan Awerbuch, Oluwaseun Oyatogan, Suraj Prabhu, Kangqian Wu, Allie James, Rob Dunn, Holly Menninger, *University of Colorado Boulder*
- 1IA.7 Modeling of Indoor Particles with Resuspension via Human Activity for a Commercial Building.** KYUNG SUL, 11:15 James Farnsworth, Andrea R. Ferro, *Clarkson University*
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## 1IM INSTRUMENTATION AND METHODS I

B117/118/119

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### Jim Smith and Brent Williams, chairs

- 1IM.1 Application of a Drift tube Ion Mobility Spectrometer (DTIMS) for Aerosol Particle Size Distribution and Vapor Uptake Measurements.** DEREK OBERREIT, Peter McMurry, Christopher Hogan Jr., *University of Minnesota* 9:45
- 1IM.2 Online Characterization of Nanoparticle Growth during Flame Aerosol Synthesis.** ARTO GROEHN, Sotiris E. 10:00 Pratsinis, Karsten Wegner, *ETH Zurich*
- 1IM.3 Performance Study of a Miniature, Corona-based Unipolar Aerosol Charger for Compact Particle Sizers.** 10:15 SIQIN HE, Da-Ren Chen, Paul Greenberg, *Washington University in St. Louis*

- 1IM.4 Near Real-time Measurement of Carbonaceous Aerosols Using Microplasma Spectroscopy: Application to Measurement of Carbon Nanomaterials.** LINA ZHENG, Pramod Kulkarni, M. Eileen Birch, Gregory Deye, Dionysios Dionysiou, *Centers for Disease Control and Prevention, NIOSH*  
10:30
- 1IM.5 Comparison of Half Mini DMA and Nano DMA for Measurement of Size Distributions in Electro spray and a Flame Aerosol Reactor.** YANG WANG, Jiaxi Fang, Tandeep Chadha, Wei-Ning Wang, Pratim Biswas, *Washington University in St. Louis*  
10:45
- 1IM.6 Semi-automated System for Measuring Oxidative Potential of Ambient Particles Collected on Filters Using Dithiothreitol (DTT) Assay.** TING FANG, Vishal Verma, Rodney Weber, *Georgia Institute of Technology*  
11:00
- 1IM.7 Evaluation of a Twin-head Electro spray System for Nanoparticle Exposure Study.** QIAOLING LIU, Da-Ren Chen, *Virginia Commonwealth University*  
11:15

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 Gilardoni, Angela Marinoni, Paolo Cristofanelli, Gian Paolo Gobbi, Amar Hamed, Ari Laaksonen, Hanna Manninen, Tuukka Petäjä, Johannes Groess, Laurent Poulain, Michela Maione, Vanes Poluzzi, *CNR-ISAC*  
9:45
- 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*  
10:00
- 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*  
10:15
- 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*  
10:30
- 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 Helmig, Jacques Hueber, *Michigan Tech*  
10:45
- 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. Charello, Sarah L. Paralovo, René Van Grieken, *Federal University of Parana - Curitiba, PR, Brazil*  
11:00
- 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*  
11:15

**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*  
1:00
- 2AC.2 Measurements of Organic Acids in Eastern U.S. Radiation Fogs.** DEREK STRAUB, *Susquehanna University*  
1:00

- 2AC.3 Chemical Composition, Sources and Processes of Urban Aerosols during Summertime in Northwest China: Insights from a High Resolution Time-of-Flight Aerosol Mass Spectrometer.** JIANZHONG XU, Qi Zhang, Min Chen, Jiawen Ren, Dahe Qin, *State Key Laboratory of Cryospheric Sciences, China*  
1:00
- 2AC.4 Formation and Aerosol Uptake of the Oxidation Products of Isoprene Nitrooxyhydroperoxide (a Product of Isoprene Nighttime Chemistry).** REBECCA SCHWANTES, Tran Nguyen, Matthew Coggon, Katherine Schilling, Xuan Zhang, Paul Wennberg, John Seinfeld, *Caltech*  
1:00
- 2AC.5 Trends in PM<sub>2.5</sub> Strong Acidity Across Canada between 1990 and 2010.** JENNIFER MURPHY, Alex Tevlin, *University of Toronto*  
1:00
- 2AC.6 The Effect of Particle Size on Iron Solubility in Atmospheric Aerosols.** AURELIE MARCOTTE, Brian Majestic, Ariel Anbar, Pierre Herckes, *Arizona State University*  
1:00
- 2AC.7 Mineral Dust Produces Visible Laser Induced Incandescence.** TINGTING CAO, Lulu Ma, Jonathan E. Thompson, *Texas Tech University*  
1:00
- 2AC.8 TPD Aerosol-CIMS – Investigating the Volatility of Organic Salts.** SILJA HÄKKINEN, Joseph Woo, Greg Drozd, V. Faye McNeill, *Columbia University*  
1:00
- 2AC.9 The Effects of Particle Size, Relative Humidity, and Sulfur Dioxide on Iron Solubility in Atmospheric Particulate Matter.** BENTON CARTLEDGE, Brian Majestic, Aurelie Marcotte, Pierre Herckes, Ariel Anbar, *University of Denver*  
1:00
- 2AC.10 Quantification of the Catalytic Effect of Nitric Acid on Dehydration of Particulate Cyclic Hemiacetals.** APRIL RANNEY, Paul Ziemann, *UC Riverside*  
1:00
- 2AC.11 Uptake of Organic Compounds from Ultra-Low Sulfur Diesel (ULSD) Exhaust onto Laboratory Generated Inorganic Seed Particles.** ZAMIN KANJI, John Liggio, Katherine Hayden, Tak Chan, Marie-Josée Poitras, Shao-Meng Li, *Environment Canada*  
1:00
- 2AC.12 Heterogeneous Reaction of SOA-Coated Ammonium Bisulfate Aerosol with Gas-phase Ammonia: Impact of SOA Diffusivity.** SHOUMING ZHOU, Alex Tevlin, Jennifer Murphy, Jonathan Abbatt, *University of Toronto*  
1:00
- 2AC.13 The Effect of Relative Humidity (RH) on Sulfate Aerosol Optical Properties Using Cavity Ring-Down Spectroscopy.** XIJING ZHU, Dean Atkinson, *Portland State University*  
1:00
- 2AC.14 Effects of Acidity on the Chemical Composition of Secondary Aerosol from the Isoprene/NO<sub>x</sub> Photooxidation: Measurements Using an Aerosol Mass Spectrometer.** KEI SATO, Akinori Takami, Takashi Imamura, Hong Li, Xuezhong Wang, *National Institute for Environmental Studies*  
1:00
- 2AC.15 Secondary Organic Aerosol Production from Pinanediol.** PENGLIN YE, Neil Donahue, *Carnegie Mellon University*  
1:00
- 2AC.16 SimpleGAMMA: Reduced Mechanism for Aqueous Aerosol SOA Modeling.** Joseph Woo, V. FAYE MCNEILL, *Columbia University*  
1:00
- 2AC.17 Gas and Particle Phase Chemical Composition of Marine Emissions from Mediterranean Seawaters: Primary Aerosol Particles and Formation of Secondary Organic Components.** J. PEY, H. Langley DeWitt, Brice Temime-Roussel, A. Mème, E. Sarrasin, C. Rose, E. Freney, M. Hervo, B. Charriere, R. Sempere, K. Sellegri, B. D'Anna, Nicolas Marchand, *Aix-Marseille Université-CNRS, LCE FRE 3416*  
1:00

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## 2AP AEROSOL PHYSICS II

### EXHIBIT HALL A

- 2AP.1 Predicting Porosity of Dust Cakes under General Conditions Via Brownian Simulation.** GUSTAF LINDQUIST, Christopher Hogan Jr., David Y. H. Pui, *University of Minnesota*  
1:00
- 2AP.2 Observing Water Microdroplet Freezing below “Homogenous Nucleation Temperature Limit” with Ultrafast X-ray Laser at LCLS.** 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*  
1:00
- 2AP.3 Investigation of Poissonian Sampling Behavior for Nanometer-Sized Aerosols.** BRIAN DAMIT, Chang-Yu Wu, 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 Julin, 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.** ADAM AHERN, Ellis Shipley Robinson, Daniel S. Tkacik, Rawad Saleh, Robert J. Yokelson, Albert A. Presto, Allen Robinson, Neil Donahue, Ryan Sullivan, *Carnegie Mellon University*  
1:00

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## 2BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT II

### EXHIBIT HALL A

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- 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 Pongrance, Jerold Bottiger, *Inspirotec LLC, Chicago, IL*  
1:00
- 2BA.2 Evaluating Bioaerosol Transport Using Unique DNA-Barcoded Aerosol Test Particles and Passive Sampling.** Ruth N. Udey, Elizabeth K. Wheeler, A. Daniel Jones, GEORGE R. FARQUAR, *Lawrence Livermore National Laboratory*  
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 Hellsten, Pertti Pasanen, TIINA REPONEN, Jorma Keskinen, *Tampere University of Technology*  
1:00
- 2BA.8 A New Concept for Single Bioaerosol Particle Material Characterization.** MATTHEW BERG, *Mississippi State University*  
1:00

- 2BA.11 Use of Air-Sampling-Culturing, Free Settling and Filtration Revealed Strikingly Different Bacterial Aerosol Species through High Throughput Gene Sequence.** MINGZHEN LI, Kai Wei, Yunhao Zheng, Jing Li, Zhuanglei Zou, Maosheng Yao, Xu Zhencheng, *Peking University*  
1:00
- 2BA.12 Enhancing Bioaerosol Collection by Andersen Impactors Using Mineral-Oil-Spread Agar Plate.** Maosheng Yao, Zhenqiang Xu, KAI WEI, Mingzhen Li, Fangxia Shen, *Peking University*  
1:00
- 2BA.13 Non-Human Primate Animal Model Development Using Aerosolized Cowpox Virus.** Matthew Lackemeyer, KYLE BOHANNON, Reed Johnson, Peter Jahrling, *NIAID*  
1:00

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2CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE I

EXHIBIT HALL A

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- 2CA.1 In-situ Measurements of Particle Size and Volatility in a Traffic Tunnel.** ALBERT A. PRESTO, Xiang Li, *Carnegie Mellon University*  
1:00
- 2CA.2 Source Apportionment of PM<sub>10</sub>, PM<sub>2.5</sub>, PM<sub>1</sub> Organic Aerosol Using Aerosol Mass Spectrometry.** ANDRE PRÉVÔT, Carlo Bozzetti, Imad El Haddad, Robert Wolf, Emily Bruns, Adela Krepelova, Kaspar Daellenbach, Jay Slowik, Urs Baltensperger, *Paul Scherrer Institute*  
1:00
- 2CA.3 Time-resolved Organic Speciation at the Theodore Roosevelt National Park, North Dakota, USA.** ARANTZAZU EIGUREN-FERNANDEZ, Gregory Lewis, Nathan Kreisberg, David Worton, Derek Day, Jeffrey L. Collett, Jr., Allen H. Goldstein, Susanne Hering, *Aerosol Dynamics Inc.*  
1:00
- 2CA.4 Black Carbon Emissions from Prescribed Forest Fires in the Southeast United States.** AMARA HOLDER, Gayle Hagler, Gavin McMeeking, William Mitchell, Robert Black, Johanna Aurell, Michael Hays, Amy P. Sullivan, Taehyoung Lee, Shawn P. Urbanski, Robert J. Yokelson, Sonia Kreidenweis, Brian Gullett, *U.S. EPA*  
1:00
- 2CA.5 Regional-scale Modeling of Organic Aerosol Composition in Europe: Insights from Comparison with Aerosol Mass Spectrometer Factor Analysis.** CHRISTOS FOUNTOUKIS, Athanasios Megaritis, Ksakousti Skyllakou, Panagiotis Charalampidis, Christodoulos Pilinis, Spyros Pandis, *Foundation for Research & Technology, Hellas*  
1:00
- 2CA.6 Modeling of Carbonaceous Aerosol in a European Megacity.** CHRISTOS FOUNTOUKIS, Athanasios Megaritis, Ksakousti Skyllakou, Panagiotis Charalampidis, Christodoulos Pilinis, Spyros Pandis, *Foundation for Research & Technology, Hellas*  
1:00
- 2CA.7 Seasonal Variation of Organic Compounds in PM<sub>10</sub> at Seoul, Korea.** Se Pyo Lee, Hyung Bae Lim, Eun Jin Hwang, JIYI LEE, Yong Pyo Kim, *Chosun University*  
1:00
- 2CA.8 The Organic Characteristics of PM<sub>2.5</sub> and TSP in Asian Dust Episodes at Urban and Background Sites in Korea.** HYUNG BAE LIM, JiYi Lee, Se Pyo Lee, Eun Jin Hwang, Jin Young Kim, Hyoun-Cher Jin, *Chosun University*  
1:00
- 2CA.9 BC Mixing State during CARES 2010: Results from and Limitations of the Single Particle Soot Photometer.** R. SUBRAMANIAN, Arthur J. Sedlacek, Rahul Zaveri, Claudio Mazzoleni, Noopur Sharma, *RTI International*  
1:00
- 2CA.10 Long Range Transport of Biomass Burning Emissions based on Organic Molecular Markers and Carbonaceous Thermal Distribution.** MIN-SUK BAE, *Mokpo National University*  
1:00
- 2CA.11 Simultaneous Bulk and Speciated Measurements of Low Volatility Organic Compounds in a Pine Forest during BEACHON-RoMBAS 2011.** ARTHUR CHAN, Nathan Kreisberg, Yunliang Zhao, Thorsten Hohaus, Pedro Campuzano-Jost, John Jayne, Douglas Worsnop, Jose-Luis Jimenez, Susanne Hering, Allen H. Goldstein, *University of California, Berkeley*  
1:00
- 2CA.12 Black Carbon Mixing State in Paris during MEGAPOLI: Connecting Particle-Resolved Observations to Particle-Resolved Modeling.** SWARNALI SANYAL, Nicole Riemer, Robert Healy, Valérie Gros, John Wenger, Greg J. Evans, *University of Illinois at Urbana-Champaign*  
1:00
- 2CA.13 Chemical Composition Changes in Biomass Burning Organic Aerosol from FLAME-IV Perturbation Experiments.** ELLIS SHIPLEY ROBINSON, Daniel S. Tkacik, Rawad Saleh, Adam Ahern, Albert A. Presto, Ryan Sullivan, Robert J. Yokelson, Allen Robinson, Neil Donahue, *Carnegie Mellon University*  
1:00
- 2CA.14 Ambient Aerosol Volatility Measurements during SOAS, 2013:Thermodenuder Measurements to Constrain Equilibrium and Kinetics of Aerosol Phase Partitioning.** PROVAT SAHA, Andrey Khlystov, Andrew Grieshop, *North Carolina State University*  
1:00

**2CA.15 Brown Carbon in Fresh and Aged Biomass Burning Emissions.** RAWAD SALEH, Ellis Shipley Robinson, Daniel S. Tkacik, Adam Ahern, Shang Liu, Allison Aiken, Albert A. Presto, Ryan Sullivan, Manvendra Dubey, Neil Donahue, Allen Robinson, *Carnegie Mellon University*

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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*  
1:00
- 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*  
1:00
- 2CH.3 SO<sub>2</sub> 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*  
1:00
- 2CH.4 Emissions of NO<sub>x</sub>, NO, NH<sub>3</sub>, N<sub>2</sub>O 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*  
1:00
- 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*  
1:00
- 2CH.6 On the Development of Indoor Air Quality Control Using Synthetic Jets.** Brett McQuillan, Jean Hertzberg, LUPITA MONTOYA, *University of Colorado, Boulder*  
1:00
- 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 Santaripa, *Johns Hopkins University Applied Physics Laboratory*  
1:00
- 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*  
1:00
- 2CH.9 Bacillus Spore Filtration Efficiency of HEPA Filters.** JACKY ANN ROSATI ROWE, April Corbett, Alfred Eisner, *US EPA*  
1:00
- 2CH.10 Rapid Viral Aerosol Inactivation Using Atmospheric Cold Plasma.** Yan Wu, Yongdong Liang, MAOSHENG YAO, Jue Zhang, *Peking University*  
1:00
- 2CH.11 In Situ Viral Aerosol Inactivation and Mechanisms by Microwave Irradiation.** Yan Wu, MAOSHENG YAO, *Peking University*  
1:00

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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 FERLIO, Britt Holmén, *University of Vermont*  
1:00
- 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*  
1:00
- 2CO.3 Characterization of PM Emissions from Aircraft Auxiliary Power Units.** PREM LOBO, Donald Hagen, Philip Whitefield, *Missouri University of Science and Technology*  
1:00
- 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*  
1:00



- 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*  
1:00
- 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*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2CO.9 Characterization of Soot Particles from Heat Insulation Foam Combustion.** Jesse Fowler, DE-LING LIU, *The Aerospace Corporation*  
1:00
- 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*  
1:00
- 2CO.11 Evaluation of Dilution System for On-Road Aerosol Emission Measurement from Automobiles.** JAI PRAKASH, Akash Sharma, Anil Kumar, Gazala Habib, *IIT Delhi*  
1:00
- 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*  
1:00
- 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*  
1:00
- 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*  
1:00

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## 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*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2HA.4 Aerosol Deposition in Nasal Airway Replicas: Infants, Children, and Adults.** Mindy Guo, YUE ZHOU, Jinxiang Xi, Hammad Irshad, Yung-Sung Cheng, *Lovelace Respiratory Research Institute*  
1:00
- 2HA.5 Modeling Mainstream Cigarette Smoke Inhalation and Deposition in the Human Lung.** BAHMAN ASGHARIAN, Owen Price, Caner Yurteri, John McAughey, *Applied Research Associates, Inc.*  
1:00
- 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*  
1:00
- 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*  
1:00

- 2HA.8 Tobacco Smoke Dose at the Air-Liquid Interface In Vitro.** Jason Adamson, JOHN MCAUGHEY, *British American Tobacco*  
1:00
- 2HA.9 Aerosol Measurement of E-cigarettes.** Ross Cabot, Anna Koc, Caner Yurteri, JOHN MCAUGHEY, *British American Tobacco*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2HA.13 Correlation of Method 5040 with Other Methods for Carbon Nanotube Exposure Assessment.** PATRICK O'SHAUGHNESSY, Adrienne Horne, Ralph Altmaier, *University of Iowa*  
1:00
- 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*  
1:00
- 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.*  
1:00
- 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*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2HA.19 Characterization of Spray Velocities from a Pressurized Metered-Dose Inhaler.** ABUBAKER ALATRASH, Edgar Matida, *Carleton University*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2HA.22 Lung Cancer Inhibitory Effect of PLGA-coated Budesonide and Polyphenon E in A/J Mice.** JINGJIE ZHANG, *Virginia Commonwealth University*  
1:00

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## 2IA INDOOR AEROSOLS II

### EXHIBIT HALL A

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- 2IA.1 Commuter Exposure to Particle Matter and Carbon Dioxide inside High-speed Metro Cabins.** PENGYI CUI, Bin Xu, *Tongji University*  
1:00
- 2IA.3 Nanoparticle Loading and Agglomeration in Charged and Discharged Electret Filter Media.** JAMES MONTGOMERY, Steven Rogak, Sheldon Green, *University of British Columbia*  
1:00
- 2IA.4 Resuspension Fraction Estimations from 20 Homes in Northern New York.** Yuanyin Yin, Yan Ma, Lisa Bramwell, ANDREA R. FERRO, *Clarkson University*  
1:00
- 2IA.5 Ultrafine PM Emissions from Hardcopy Devices Measured per RAL UZ 171.** ELLIOTT HORNER, Scott Steady, *UL Environment*  
1:00
- 2IA.6 Person-to-Person Contaminant Transport in a Ventilated Room with Different Ventilation Systems.** S.M. Keshavarz, Mazyar Salmanzadeh, GOODARZ AHMADI, *Clarkson University*  
1:00
- 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.*  
1:00

- 2IA.8 Rapid Allergen Reduction By Atmospheric Cold Plasma.** Yan Wu, Yongdong Liang, MAOSHENG YAO, Jue Zhang, 1:00 *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, Gary Adamkiewicz, 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 Leavey, SAMEER PATEL, Jessica Londeree, Ravi Shrimali, Gautam Yadama, Pratim Biswas, *Washington University in St Louis*

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2IM INSTRUMENTATION AND METHODS II

EXHIBIT HALL A

- 2IM.1 Validation of the CPMA-Electrometer Suspended Mass Standard against Gravimetric Measurements.** 1:00 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.** 1:00 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.** 1:00 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.** 1:00 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.** 1:00 Hardik Amin, Sinan Yatkin, Trzepla Krystyna, ANN DILLNER, *University of California, Davis*
- 2IM.6 A CAPS-Based Single Scattering Albedo Monitor.** 1:00 Timothy Onasch, Paola Massoli, Paul Kebebian, ANDREW FREEDMAN, *Aerodyne Research, Inc.*
- 2IM.7 Black Carbon in Dust and Geological Material: Reconciling Thermal/Optical and Spectral Quantification Methods.** 1:00 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.** 1:00 RAGHAV RAMAN, Suresh Dhaniyala, *Clarkson University*
- 2IM.9 Semi-automated System for Measuring Oxidative Potential of Ambient Particles Collected on Filters Using Dithiothreitol (DTT) Assay.** 1:00 TING FANG, Vishal Verma, Rodney Weber, *Georgia Institute of Technology*
- 2IM.10 PAH Distribution with Particle Size by Hi-Volume Impactor: Positive Artifact Correction.** 1:00 JAN BENDL, Jan Hovorka, Jan Topinka, *Charles University in Prague*

- 2IM.11 An Aerosol Detection Technique for Diesel Fuel Contaminants.** KAI XIAO, Chenxing Pei, Jacob Swanson, David Kittelson, David Y. H. Pui, *University of Minnesota*  
1:00
- 2IM.12 Aerosol Mixing in Concentric Jets.** MATTHEW BROWN, Suresh Dhaniyala, *Clarkson University*  
1:00
- 2IM.13 Aerosol Analysis Using a Thermal-Desorption Mass Spectrometer (TD-MS) Modified from a Conventional Carbon Analyzer.** XUFEI YANG, L.-W. Antony Chen, Xiaoliang Wang, Jerome Robles, John Watson, Judith Chow, *Desert Research Institute*  
1:00
- 2IM.14 Making the Particle Number Concentration Standard Liquid Suspension Using Aerosol Technique.** KENJIRO IIDA, Hiromu Sakurai, Junko Nakanishi, Kensei Ehara, *AIST*  
1:00
- 2IM.15 Comparison of the Organic Composition of Generated and Ambient Marine Aerosol Measured Using Four Complementary Techniques.** AMANDA FROSSARD, Lynn Russell, Timothy Bates, Patricia Quinn, *Scripps Institution of Oceanography*  
1:00
- 2IM.16 Evaluation of Selective Ion Flow Tube Mass Spectrometry for Controlled Laboratory Studies.** ASHLEY VIZENOR, Chia-Li Chen, Derek Price, Mary Kacarab, Xinze Peng, Kelly McCoy, Igor Irianto, Shaokai Gao, David R. Cocker III, Akua Asa-Awuku, *University of California, Riverside*  
1:00
- 2IM.17 Development and Evaluation of a High-Volume Aerosol-Into-Liquid Collector for Fine and Ultrafine Particulate Matter.** DONGBIN WANG, Payam Pakbin, Arian Saffari, Martin Shafer, James Schauer, Constantinos Sioutas, *University of Southern California*  
1:00
- 2IM.18 Improvement of a Particle Trap Laser Desorption Mass Spectrometer (PT-LDMS) for Ambient Measurement.** TAKEDA NAOKI, Ozawa Yuya, Miyakawa Takuma, Koizumi Kazuhiro, Hirayama Noritomo, Takegawa Nobuyuki, *Fuji Electric CO., LTD.*  
1:00
- 2IM.19 Results of On-line Measurement of Volatile Organic Compounds Adsorbed on Diesel Exhaust Particles by PTR-TOFMS.** NOBUHIRO YANAGISAWA, Kenji Enya, *ISUZU Advanced Engineering Center, Ltd.*  
1:00
- 2IM.20 Development of Aerosol Mass Spectrometer (AMS) with Two Switchable Ionization Methods for Characterization of Refractory and Non-refractory Components in Particles.** HEE-JOO CHO, Heesung Kwak, Kihong Park, *Gwangju Institute of Science and Technology*  
1:00
- 2IM.22 Chemically Specific Online Removal of Submicron Aquadag Aerosol with the Single Particle Soot Photometer.** ALLISON AIKEN, Gavin McMeeking, Manvendra Dubey, Paul DeMott, Ezra Levin, *Los Alamos National Lab*  
1:00

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## 2SA SOURCE APPORTIONMENT I

### EXHIBIT HALL A

- 2SA.1 Radiocarbon-Based Source Apportionment of EC and OC in Fine Particulate Matter at a Regional Background Site on Hainan Island, South China.** YANLIN ZHANG, Jun Li, Gan Zhang, Jianhui Tang, Peter Zotter, Lukas Wacker, Andre Prévôt, Soenke Szidat, *University of Bern*  
1:00
- 2SA.2 Source Apportionment and Organic Compound Characterization of Ambient Ultrafine Particulate Matter (PM) in the Los Angeles Basin.** SINA HASHEMINASSAB, Nancy Daher, James Schauer, Constantinos Sioutas, *University of Southern California*  
1:00
- 2SA.3 Receptor Modeling of Ambient PM<sub>2.5</sub> Collected at the National Air Pollution Surveillance (NAPS) Speciation Sites in Ontario for the Years 2005 -2010.** UWAYEMI SOFOWOTE, Yushan Su, Ewa Dabek-Zlotorzynska, Ankit Rastogi, Jeff Brook, *AQARU, EMRB, Ontario Ministry of the Environment*  
1:00
- 2SA.4 Indication of Aerosol Aging by Optical Absorption Properties.** LUKA DRINOVEC, Grisa Mocnik, Jean-Eudes Petit, Jean Sciare, Olivier Favez, Peter Zotter, Robert Wolf, Andre Prévôt, Anthony D.A. Hansen, *Aerosol d.o.o., Slovenia*  
1:00
- 2SA.5 Retrospective Source Attribution for Source-Oriented Sampling and Toxicity.** KEITH BEIN, Yongjing Zhao, Anthony Wexler, *UC Davis*  
1:00
- 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*  
1:00

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

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2UA URBAN AEROSOLS I

EXHIBIT HALL A

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- 2UA.1 Macrophage Reactive Oxygen Species Activity of Water-soluble and Water-insoluble Fractions of Ambient Coarse, PM<sub>2.5</sub> and Ultrafine PM in Los Angeles.** DONGBIN WANG, Payam Pakbin, Martin Shafer, James Schauer, Constantinos Sioutas, *University of Southern California*  
1:00
- 2UA.2 Seasonal and Spatial Variability in Oxidative Potential of Quasi-Ultrafine Particles (PM<sub>0.25</sub>) 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*  
1:00
- 2UA.3 Source Apportionment of Carbonaceous Aerosol in Urban Environments through Single Particle Mass Spectrometry.** ROBERT HEALY, Jean Sciare, Laurent Poulain, Monica Crippa, Alfred Wiedensohler, Andre Prévôt, Urs Baltensperger, Roland Sarada-Esteve, Maygan McGuire, Cheol-Heon Jeong, Eoin McGillicuddy, Ian O'Connor, John Sodeau, Alex K. Y. Lee, Megan D. Willis, Jonathan Abbatt, Greg J. Evans, John Wenger, *SOCAAR, University of Toronto*  
1:00
- 2UA.4 Intermodal Fraction of Particulate Matter in Indoor and Outdoor Microenvironments.** MARTIN BRANIS, Jana Kozakova, *Charles University in Prague, Faculty of Science*  
1:00
- 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*  
1:00
- 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*  
1:00
- 2UA.7 Light-absorbing Organic Aerosol Emissions from Cultural Practices in South Asia: Contribution to Enhanced Regional Warming.** Rajan K. Chakrabarty, Shamsh Pervez, HANS MOOSMULLER, Judith Chow, John Watson, *Desert Research Institute*  
1:00
- 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*  
1:00
- 2UA.9 Sources of Black Carbon Condensation Nuclei.** Shaokai Gao, Michael Giordano, Daniel Short, Diep Vu, AKUA ASA-AWUKU, *University of California, Riverside*  
1:00
- 2UA.10 Gas/particle Partitioning Measurements of Polar Semi-volatile Organic Compounds.** MINGJIE XIE, Michael Hannigan, Kelley C. Barsanti, *University of Colorado-Boulder*  
1:00
- 2UA.11 Azaarenes in Atmospheric Particulate Matter Samples of Three Different Urban Sites in East of France.** OLIVIER DELHOMME, Maurice Millet, *University of Strasbourg*  
1:00

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

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

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3AC AEROSOL CHEMISTRY III

B115/116

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**Gabriel Isaacman and Anmarie 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*  
3:30

- 3AC.2 SOA Aging and Oligomer Content and their Effect on Volatility and Viscosity of SOA Particles Generated from Different Precursors.** JACQUELINE WILSON, Alla Zelenyuk, Dan Imre, Josef Beranek, *Pacific Northwest National Laboratory*  
3:45
- 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*  
4:00
- 3AC.4 Partitioning of Inorganic Gases to Atmospheric Ice: Effects on CMAQ Predictions of Nitrogen and Sulfur Compounds.** Brian Marmo, ANNMARIE CARLTON, *Rutgers University*  
4:15
- 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*  
4:30
- 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*  
4:45
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### 3BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT III

B113/114

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#### Gavin McMeeking and Susannah Burrows, chairs

- 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*  
3:30
- 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 Clauss, Jens Voigtländer, Laura Tomsche, Heike Wex, Frank Stratmann, *Vienna University of Technology*. INVITED.  
3:45
- 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*  
4:00
- 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 Möhler, Ulrike Lohmann, *ETH Zurich, Institute for Atmospheric & Climate Science*  
4:15
- 3BA.5 Characterizing the Organic Ice Nuclei in Soils.** THOMAS C. HILL, Paul DeMott, Yukata Tobo, Janine Froelich-Nowoisky, William L. Stump, Gary D. Franc, *University of Wyoming*  
4:30
- 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*  
4:45
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### 3CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE II

A105

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#### Qi Zhang and Keith Bein, chairs

- 3CA.1 Effect of Aggregation and Mixing on Optical Properties of Black Carbon.** BARBARA SCARNATO, *NASA Ames*  
3:30
- 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*  
3:45
- 3CA.3 Optical and Morphological Properties of Free Tropospheric Aerosol Sampled at the Pico Mountain 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*  
4:00

- 3CA.4 Morphology and Mixing State of Fresh and Aged Wildfire Aerosols.** SWARUP CHINA, Allison Aiken, Rachael Huempfer, Kyle Gorkowski, Manvendra Dubey, Claudio Mazzoleni, *Michigan Technological University*  
4:15
- 3CA.5 Chemical and Optical Changes to Black Carbon during Aging.** ELEANOR BROWNE, Jonathan Franklin, Jesse Kroll,  
4:30 *MIT*
- 3CA.6 Black Carbon Aging from Biomass Burning.** ALLISON AIKEN, Manvendra Dubey, Kyle Gorkowski, Claudio Mazzoleni,  
4:45 Swarup China, Shang Liu, Caleb Arata, Team FLAME-IV, *Los Alamos National Lab*

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### 3IM INSTRUMENTATION AND METHODS III

B117/118/119

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#### Lara Gundel and Antonio Miguel, chairs

- 3IM.1 Design and Characterization of a New Coarse Particle Collector Based on Microtrap Impactor Technology.**  
3:30 Erin Lennox, Nathan Kreisberg, LUPITA MONTOYA, *University of Colorado Boulder*
- 3IM.2 Causes and Implications of Large Particle Penetration during PM10 Sampling.** WILLIAM FAULKNER, John Haglund, Raleigh Smith, *Texas A&M University*  
3:45
- 3IM.3 The Splitter Bias Measurements for Calibration of Optical Particle Sizer (OPS) Using Wafer Surface Scanner (WSS) Method for 3 µm Particles at Ultra-Low Concentrations.** SHIGERU KIMOTO, Lin Li, George Mulholland, Miles Owen, David Y. H. Pui, *University of Minnesota*  
4:00
- 3IM.4 DMA Size-Selection and Electrostatic Deposition of Particle Size Standards down to 10nm.** BENJAMIN HUNT,  
4:15 William Dick, Zeeshan Syedain, *MSP Corporation*
- 3IM.5 Coupling Electrostatic Precipitation with Attenuated Total Reflectance FTIR for Spectral Signature Studies.**  
4:30 ZAHRA CHAUDHRY, Timothy Lippa, Thomas Buckley, Clinton Cahall, Rebecca Koslover, *JHU APL*
- 3IM.6 Validation of a Personal Sampler's Performance in Sampling Inorganic Acids According to OSHA Guideline.**  
4:45 LIN SHOU, Danielle Hall, Yu-Mei Hsu, Alex Theodore, Chang-Yu Wu, Brian Birky, *University of Florida*

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### 3RA REMOTE AND REGIONAL ATMOSPHERIC AEROSOLS II

B110/111/112

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#### Bryan Bzdek and Paul Solomon, chairs

- 3RA.1 A Study on Submicrometer Particles and Biological Materials in Seawater and Their Contribution to Primary Marine Aerosol Formation.** JIYEON PARK, Hyunji, Kim Kim, Seungyong Lee, Minsoo Kang, Hee-joo Cho, Seunghee Han, Kihong Park, *Gwangju Institute of Science and Technology*  
3:30
- 3RA.2 Ultrafine Sea Spray Aerosol over the South Eastern Pacific: Open-Ocean Contributions to Marine Boundary Layer CCN.** Romain Blot, ANTONY CLARKE, Steffen Freitag, Vladimir Kapustin, Steven Howell, Jensen Jorgen, Lindsey Shank, Cameron McNaughton, Vera Brekhovskikh, *University of Hawaii, Honolulu, HI 96822*  
3:45
- 3RA.3 Size-Dependent Changes in Sea Spray Aerosol Composition and Properties with Different Seawater Conditions.** ANDREW AULT, Ryan Moffet, Jonas Baltrusaitis, Douglas Collins, Matthew Ruppel, Luis Cuadra-Rodriguez, Defeng Zhao, Timothy Guasco, Carlena Ebben, Franz Geiger, Timothy Bertram, Kimberly Prather, Vicki Grassian, *University of Iowa*  
4:00
- 3RA.4 Precipitation Scavenging of Aerosols in the Niigata Plain, Japan, during the Winter Season.** SHIN OHARA,  
4:15 Shin-ichi Fujita, Naoto Kihara, Soichiro Sugimoto, Akira Takahashi, *Central Research Institute of Electric Power Industry*
- 3RA.5 Saharan Dust in Southern Europe in the Period 2001-2011: Estimation and Geographical Distribution.** J. PEY,  
4:30 N. Pérez, Xavier Querol, Andrés Alastuey, F. Forastiere, M. Stafoggia, *Aix-Marseille Université-CNRS, LCE FRE 3416*
- 3RA.6 The Color of Aerosol Deposition and the Browning of the Taj Mahal.** J. JAI DEVI, Michael Bergin, S.N. Tripathi,  
4:45 Tarun Gupta, Michael McKenzie, Martin Shafer, James Schauer, K.S. Rana, *Georgia Institute of Technology*
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**Mei Zheng and Sonia Kreidenweis, chairs**

- 3SA.1 Seasonal and Spatial Variation of Trace Elements and Metals in Quasi-Ultrafine (PM<sub>0.25</sub>) 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*  
3:30
- 3SA.2 Characteristics and Source Apportionment of Marine Aerosol over Chinese Seas.** MEI ZHENG, Huaiyu Fu, Caiqing Yan, Xiaoying Li, *Peking University*  
3:45
- 3SA.3 Source Apportionment of Fine Atmospheric Particles in Marseille: A One Year Study.** DALIA SALAMEH, Anaïs Detournay, Henri Wortham, Jean Luc Jaffrezo, Christine Piot, Alexandre Armengaud, Damien Piga, Michaël Parra, Magali Deveze, Nicolas Marchand, *Aix Marseille University, Laboratoire Chimie Environnement*  
4:00
- 3SA.4 Is Alaska Truly the Great Escape from Air Pollution? – Long Term Source Apportionment of Fine Particulate Matter in Fairbanks, AK.** YUNGANG WANG, Philip K. Hopke, *Lawrence Berkeley National Laboratory*  
4:15
- 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*  
4:30
- 3SA.6 Harmonization of Source Apportionment with Receptor Models in Europe.** CLAUDIO A. BELIS, Philip K. Hopke, *European Commission - Joint Research Centre*  
4:45

**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 9:00 AM - 5:00 PM**  
**Exhibits Open**

**Wednesday 9:15 AM - 9:45 AM**  
**Coffee Break**

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



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4AC AEROSOL CHEMISTRY IV

B115/116

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**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  $\beta$ -caryophyllene Oxidation.** ANTONIOS TASOGLU, Spyros Pandis, *Carnegie Mellon University*  
10:00
- 4AC.3 Characterization of Organic Aerosol from Mixed Biogenic / Anthropogenic Emissions.** DHRUV MITROO, Brent Williams, Raul Martinez, Yaping Zhang, William Brune, 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, Sergey Nizkorodov, Alexander Laskin, Julia Laskin, *University of California, Irvine*  
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
- 4AC.7 A Dual-Chamber Enhancement (DUCE) Method for Quantifying Secondary Organic Aerosol from Biomass Burning Emissions.** DANIEL S. TKACIK, Ellis Shiple Robinson, Rawad Saleh, Adam Ahern, Albert A. Presto, Ryan Sullivan, Neil Donahue, Allen Robinson, *Carnegie Mellon University*  
11:15
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4BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT IV

B113/114

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**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. Bohannon, 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 HOSPODSKY, Naomichi Yamamoto, William Nazaroff, Jordan Peccia, *Yale University*  
10:15
- 4BA.4 Biological Components in PM<sub>2.5</sub> 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
- 4BA.6 Seasonal Variability in Bacterial and Fungal Diversity of the Near-Surface Atmosphere across Urban and Rural Sites.** ROBERT M. BOWERS, Nicholas Clements, Joanne B. Emerson, Christine Wiedinmyer, Michael Hannigan, Noah Fierer, *University of Hawaii*  
11:00
- 4BA.7 Characterization of Atmospheric Biological Particles Collected at the Storm Peak Laboratory.** VERA SAMBUROVA, Alison Murray, Anna Gannet Hallar, Lynn Mazzoleni, Douglas Lowenthal, Barbara Zielinska, *Desert Research Institute*  
11:15
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**Ann Dillner and Nathan Kreisberg, chairs**

- 4CA.1 Single Particle Characterization Using a Soot Particle Aerosol Mass Spectrometer (SP-AMS) with a Light Scattering Module in Downtown Toronto.** ALEX K. Y. LEE, Megan D. Willis, Robert Healy, Jonathan Abbatt, *University of Toronto*  
9:45
- 4CA.2 The SP-AMS Inter-Comparison Campaign.** AMEWU A. MENSAH, 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 & Climate Science*  
10:00
- 4CA.3 Enhanced Light Absorption by Internally Mixed Atmospheric Black Carbon in Europe.** SHANG LIU, Allison Aiken, Kyle Gorkowski, Manvendra Dubey, Scott Herndon, Leah Williams, Paola Massoli, Edward Fortner, Andrew Freedman, Douglas Worsnop, Nga Lee Ng, Claudia Mohr, Felipe Lopez-Hilfiker, Joel Thornton, James Allan, Christopher Cappa, *Los Alamos National Lab*  
10:15
- 4CA.4 Identify Major Oxalate Salts in PM<sub>2.5</sub>.** Shiguo Jia, Liming Yang, LIYA YU, *National University of Singapore*  
10:30
- 4CA.5 Hourly Measurement of the Concentration and Gas-Particle Partitioning of Oxygenated Organic Tracers in Ambient Aerosol: First Results from Berkeley, CA and Rural Alabama.** GABRIEL ISAACMAN, Nathan Kreisberg, Lindsay Yee, Arthur Chan, David Worton, Susanne Hering, Allen H. Goldstein, *University of California, Berkeley*  
10:45
- 4CA.6 A Sensitivity Analysis of Organic Aerosol Retrieved Volatility Distributions to Kinetic Parameters.** JAMES HITE, Kate Cerully, Athanasios Nenes, *Georgia Institute of Technology*  
11:00
- 4CA.7 First Field Measurements of Volatility- and Polarity-Resolved Organic Aerosol Using the Volatility and Polarity Separator (VAPS).** RAUL MARTINEZ, Brent Williams, Yaping Zhang, Nathan Kreisberg, Susanne Hering, David Worton, Allen H. Goldstein, Jose-Luis Jimenez, Thorsten Hohaus, John Jayne, Douglas Worsnop, *Washington University in St. Louis*  
11:15

**Ryan Sullivan and Tony Wexler, chairs**

- 4CC.1 The Influence of Molecular Structure and Photochemical Aging on Organic Films Coating Microscopic Aqueous Droplets.** CHRIS RUEHL, Kevin Wilson, *Lawrence Berkeley National Laboratory*  
9:45
- 4CC.2 Hygroscopic Growth of Super-micron Particles in the Coastal Marine Atmosphere.** XIAOLU ZHANG, Christopher Cappa, Paola Massoli, Patricia Quinn, Timothy Bates, *University of California, Davis*  
10:00
- 4CC.3 Aerosol Optical Hygroscopicity Measurements during the 2010 CARES Campaign.** Dean Atkinson, James Radney, JANELL LUM, Christopher Cappa, Katheryn Kolesar, Daniel Cziczo, Mikhail Pekour, Qi Zhang, Ari Setyan, Chen Song, *Portland State University*  
10:15
- 4CC.4 Contribution of Biomass Burning to CCN Number and Hygroscopicity during Summertime in the Eastern Mediterranean.** AIKATERINI BOUGIATIOTI, Spyros Bezantakos, Iasonas Stavroulas, George Biskos, Nikolaos Mihalopoulos, Athanasios Nenes, *Georgia Institute of Technology*  
10:30
- 4CC.5 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*  
10:45
- 4CC.6 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*  
11:00
- 4CC.7 Sub-grid Aging: When is the Internal Mixture Assumption Good Enough?** LAURA FIERCE, Nicole Riemer, Tami Bond, *University of Illinois at Urbana-Champaign*  
11:15

**Marit Meyer and Toni Miguel, chairs**

- 4CH.1 Behavior of Fibrous Filter Media Loaded with Agglomerate Particles.** QISHENG OU, David Y. H. Pui, Da-Ren Chen, *Washington University in St. Louis*  
9:45
- 4CH.2 Collection Performance of Nanofiber Filters.** YOSHIO OTANI, Hiroaki Matsuhashi, Yoshikazu Mizutori, Takafumi Seto, *Kanazawa University*  
10:00
- 4CH.3 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*  
10:15
- 4CH.4 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*  
10:30
- 4CH.5 On the Electrical Properties of Carbon Sorbents and Their Impact on Electro-Hydrodynamic Phenomena within Utility ESPs: Numerical Simulation and Field Data.** HEREK CLACK, *University of Michigan*  
10:45
- 4CH.6 Performance of Electrostatic Battery for Emissions Control (ESBEC) when Challenged with Diesel Emissions.** TAEWON HAN, Huajun Zhen, Gediminas Mainelis, *Rutgers, The State University of New Jersey*  
11:00
- 4CH.7 Electrostatic Lunar Dust Collection.** NIMA AFSHAR-MOHAJER, Chang-Yu Wu, Nicoleta Sorloacia-Hickman, *University of Florida*  
11:15

**Patrick O'Shaughnessy and Chong Kim, chairs**

- 4HA.1 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*  
9:45
- 4HA.2 Chemical Characterization and Toxicological Properties of PM<sub>2.5</sub> Emissions from Commercial Cooking.** POORNIMA DIXIT, Nicholas Gysel, David R. Cocker III, Georgios Karavalakis, Arthur K. Cho, Debra A. Schmitz, *University of California, Riverside*  
10:00
- 4HA.3 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*  
10:15
- 4HA.4 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*  
10:30
- 4HA.5 A Comprehensive Study on the Composition and the Biological/Health Effects of Combustion-Derived Aerosols: First Results of the Virtual Helmholtz Institute HICE on Ship Diesel Aerosols.** RALF ZIMMERMANN, Gunnar Dittmar, Jeroen Buters, Hanns Paur, Carsten Weiss, Horst Harnsdorf, Jorma Jokiniemi, Thorsten Streibel, Olli Sippula, Karsten Hiller, et al., *Helmholtz Zentrum München and Rostock University*  
10:45
- 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**

**Eben Cross and Andre Prevot, chairs**

- 5AC.1 Alkane SOA Formation: Effect of Alkane Structure, NO<sub>x</sub> 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.** XUAN ZHANG, Katherine Schilling, Matthew Coggon, Rebecca Schwantes, Richard Flagan, John Seinfeld, *California Institute of Technology* 1:15
- 5AC.3 Insights into SOA Formation Chemistry from the Isolation of Individual Reactive Pathways.** ANTHONY CARRASQUILLO, Kelsey Boulanger, James Hunter, Sean Kessler, Kelly Daumit, Jesse Kroll, *MIT* 1:30
- 5AC.4 Secondary Organic Aerosol Formation from Aromatic Compounds: Describe SOA Yield Using [OH]/[HO<sub>2</sub>] Ratio.** Ping Tang, Shunsuke Nakao, Chia-Li Chen, DAVID R. COCKER III, *University of California, Riverside* 1:45
- 5AC.5 Secondary Organic Aerosol Formation from Naphthalene and Methylnaphthalene Photooxidation.** CHIA-LI CHEN, Mary Kacarab, Ping Tang, David R. Cocker III, *University of California, Riverside* 2:00
- 5AC.6 Secondary Aerosol Production from Modern Diesel and Gasoline Light Duty Vehicles.** 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, Grisa Mocnik, Covadonga Astorga, Urs Baltensperger, ANDRE PRÉVÔT, *Paul Scherrer Institute* 2:15
- 5AC.7 Secondary Organic Aerosol Formation from Photo-oxidation of Evaporated Fuel: Experimental Results and Implications for Aerosol Formation from Combustion Emissions.** SHANTANU JATHAR, Marissa Miracolo, Daniel S. Tkacik, Neil Donahue, Peter Adams, Allen Robinson, *UC Davis* 2:30
- 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.** 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* 2:45

## 5CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE IV

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

- 5CA.1 Comparing Ambient Organic Aerosol Volatility at an Urban and a Remote Site in Europe.** ANDREA PACIGA, Lea Hildebrandt Ruiz, Gabriella Engelhart, Evangelia Kostenidou, Monica Crippa, Andre Prévôt, Urs Baltensperger, Spyros Pandis, *Carnegie Mellon University* 1:00
- 5CA.2 An Improved Volatility Basis Set for Modeling Organic Aerosol in both CAMx and CMAQ.** BONYOUNG KOO, Greg Yarwood, Eladio Knipping, *ENVIRON International Corporation* 1:15
- 5CA.3 Average Chemical Properties and Potential Formation Pathways of Highly Oxidized Organic Aerosol.** KELLY DAUMIT, Sean Kessler, Jesse Kroll, *MIT* 1:30
- 5CA.4 The Influence of Aerosol Water in the Organic Phase on the Mass, Properties and Source Apportionment of Organic Aerosol in a Source-oriented Model.** SHANTANU JATHAR, Abdullah Mahmud, James F. Pankow, Michael Kleeman, *UC Davis* 1:45
- 5CA.5 Wintertime Organic Aerosols in Fresno, California: Characteristics, Sources and Aqueous-phase Processing.** 2:00 XINLEI GE, Ari Setyan, Yele Sun, Qi Zhang, *Univeristy of California, Davis*
- 5CA.6 Black Carbon Containing Particles at a Rural Site Southeast of London, UK during ClearLo (Winter 2012).** 2:15 LEAH WILLIAMS, Scott Herndon, John Jayne, Andrew Freedman, William Brooks, Jonathan Franklin, Paola Massoli, Edward Fortner, Puneet Chhabra, Mark Zahniser, Timothy Onasch, Manjula Canagaratna, Douglas Worsnop, Felipe Lopez-Hilfiker, Claudia Mohr, Joel Thornton, Nga Lee Ng, Lu Xu, Berk Knighton, Manvendra Dubey, Allison Aiken, Kyle Gorkowski, Shang Liu, Andre Prévôt, et al., *Aerodyne Research, Inc.*

- 5CA.7 A Study of Secondary Organic Aerosol Formation Influenced by Mixed Anthropogenic and Biogenic Emissions in Atlanta Area by High Resolution Mass Spectrometer.** LU XU, Hongyu Guo, Laura King, Vishal Verma, Rodney Weber, Nga Lee Ng, *Georgia Institute of Technology*  
2:30
- 5CA.8 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.** SAJEEV PHILIP, Randall Martin, Jeffrey Pierce, Caroline Nowlan, Dominick Spracklen, Jose-Luis Jimenez, Qi Zhang, Lok Lamsal, Nickolay Krotkov, *Dalhousie University, Canada*  
2:45

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5CC AEROSOLS, CLOUDS, AND CLIMATE II

B110/111/112

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**Nicole Riemer and Alex Huffman, chairs**

- 5CC.1 Aircraft Measurements of Aerosol and CCN activation Properties during TCAP.** FAN MEI, Jason Tomlinson, John Shilling, Jennifer Comstock, John Hubbe, Larry Berg, Beat Schmid, *Pacific Northwest National Laboratory*  
1:00
- 5CC.2 The Limitations of Electrical Mobility Diameter for Biomass Burning CCN Activation.** MICHAEL GIORDANO, Carlos Espinoza, Akua Asa-Awuku, *University of California, Riverside*  
1:15
- 5CC.3 A New Experimental Approach toward Determining Cloud Nucleating Activities of Haze Particles.** SHUNSUKE NAKAO, Sonia Kreidenweis, *Colorado State University*  
1:30
- 5CC.4 Weak Global Sensitivity of Cloud Condensation Nuclei and the Aerosol Indirect Effect to Criegee+SO<sub>2</sub> Chemistry.** JEFFREY PIERCE, Mat Evans, Catherine Scott, Stephen D'Andrea, Delphine Farmer, Erik Swietlicki, Dominick Spracklen, *Colorado State University*  
1:45
- 5CC.5 The Contribution of Sub-Grid, Plume-Scale Nucleation to Global and Regional Aerosol and CCN Concentrations.** ROBIN STEVENS, Jeffrey Pierce, *Dalhousie University*  
2:00
- 5CC.6 Investigating Sensitivities of Ice Crystal Concentration: The Evaluation of the Adjoint of a Physically-Based Cirrus Activation Parameterization.** BENJAMIN SHEYKO, Shannon Capps, Donifan Barahona, Athanasios Nenes, *Georgia Institute of Technology*  
2:15
- 5CC.7 The Composition of Droplet-Forming Aerosol as a Function of Supersaturation.** BETH FRIEDMAN, Eleanor Browne, Karin Ardon-Dryer, Anthony Carrasquillo, Kelly Daumit, Kelsey Boulanger, Jesse Kroll, Joel A. Thornton, Daniel Cziczo, *University of Washington*  
2:30
- 5CC.8 Effect of Rain on Evolution of Aerosol Concentration Distribution in Air Pollution Plumes.** BORIS KRASOVITOV, Tov Elperin, Andrew Fominykh, *Ben-Gurion University of the Negev*  
2:45

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5EN ENGINEERED NANOPARTICLES: EMISSIONS, TRANSFORMATION AND EXPOSURE I

A105

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**Philip Hopke and Linsey Marr, chairs**

- 5EN.1 Origin, Cure and Control of Nanosilver Toxicity.** Georgios Sotiriou, Kakeru Fujiwara, SOTIRIS E. PRATSINIS, *ETH Zurich*  
1:00
- 5EN.2 Single Particle Characterization of Nanoparticle Metal-Oxides by ICP-MS.** BRIAN MAJESTIC, Manuel Montano, James Ranville, *University of Denver*  
1:15
- 5EN.3 Performance of a Personal Thermal Precipitator to Assess Nanoparticle Exposures.** David Leith, John Volckens, DAN MILLER-LIONBERG, Traci Lersch, Gary Casuccio, *Colorado State University*  
1:30
- 5EN.4 Carbon Nanotube Penetration through Different Respirator and Nuclepore Filters: Models and Experiments.** SHENG-CHIEH CHEN, Jing Wang, Yeon Kyoung Bahk, Heinz Fissan, David Y. H. Pui, *University of Minnesota*  
1:45
- 5EN.5 Characterisation of Emitted Particles during Maintenance of Common Nano Particle Generator.** Patrik Nilsson, Linus Ludvigsson, Jenny Rissler, Maria E Messing, Christina Isaxon, Axel C. Eriksson, Maria Hedmer, Håkan Tinnerberg, Knut Deppert, ANDERS GUDMUNDSSON, Joakim Pagels, *Lund University*  
2:00

- 5EN.6 Research Progress on Environmental, Health, and Safety Aspects of Engineered Nanomaterials.** PHILIP K. HOPKE, *Clarkson University*  
2:15
- 5EN.7 Oxidation of Aerosolized C60 by Ozone.** Andrea Tiwari, LINSEY MARR, *Virginia Tech*  
2:30
- 5EN.8 Physicochemical and Toxicological Characterizations of Laser Printer Emissions.** SANDRA PIRELA, Georgios Pyrgiotakis, Bingtao Zhao, Philip Demokritou, *Harvard University*  
2:45
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#### 5HA HEALTH RELATED AEROSOLS III

A106

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##### Gediminas Mainelis and Owen Price, chairs

- 5HA.1 Association of Respiratory and Circulatory Hospitalizations with PM<sub>2.5</sub> 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*  
1:00
- 5HA.2 Linking Different Exposure Patterns to Internal Lung Dose for Heterogeneous Ambient Aerosols.** CHONG KIM, Jung-il Choi, *USEPA*  
1:15
- 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*  
1:30
- 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, Cybelli 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*  
1:45
- 5HA.5 A Computationally Efficient Model for Estimating the Social Costs of Air Pollutant Emissions.** JINHYOK HEO, Peter Adams, *Carnegie Mellon University*  
2:00
- 5HA.6 Modeling Secondary Particulate Matter Concentrations and Sources for Health Effects Research in California.** JIANLIN HU, Hongliang Zhang, Michael Kleeman, *UC Davis*  
2:15
- 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.*  
2:30
- 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*  
2:45
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#### 5ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING I

B117/118/119

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##### Paul A. Solomon and Igor Paprotny, chairs

- 5ST.3 A Novel Method for Reliable Long-term Assessment of Exposure to Traffic-related Air Pollution Mixtures.** NATALIA MYKHAYLOVA, Kelly Sabaliauskas, Jon M Wang, Ezzat Jaroudi, Cheol-Heon Jeong, Jeff Brook, Greg J. Evans, *SOCAAR, University of Toronto*  
1:30
- 5ST.4 Personal Exposure Results for the M-Pod, a Portable Low-Cost Air Quality Monitor.** 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*  
1:45
- 5ST.5 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.** AJAY PILLARISETTI, David Holstius, Michael Johnson, Tracy Allen, Dana Charron, David Pennise, Edmund Seto, Kirk Smith, *University of California, Berkeley*  
2:00
- 5ST.6 Air Quality Networks using Amperometric Gas Sensors and Providing the Required Temporal and Spatial Spaces.** JOHN SAFFELL, Roderic Jones, Mohammed Mead, Ronan Baron, Dean Kavanaugh, Wah On Ho, *Professor, Atmospheric Chem Group, Univeristy of Cambridge*  
2:15

**5ST.7 Validating the Performance of the RTI MicroPEM to Support Indoor Air Pollution Exposure Health Studies.**  
2:30 Charles Rodes, Ryan Chartier, J. Randall Newsome, James Carlson, JONATHAN THORNBURG, *RTI International*

**5ST.8 BEACON: A High Density Urban Network for Observing Air Quality and Greenhouse Gases.** RONALD COHEN,  
2:45 Virginia Teige, Katja Weichsel, David Holstius, Andrew Hooker, Holly Maness, *UC Berkeley*

**Wednesday 3:00 PM - 3:30 PM**  
**Coffee Break**

**Wednesday 3:30 PM - 5:00 PM**  
**Session 6: Platform**

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6AC AEROSOL CHEMISTRY VI

B115/116

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**Lindsay Yee and LaxmiNarasimha Yatavelli, chairs**

**6AC.1 OH-initiated Heterogeneous Oxidation of Cholestane: A Model System for Understanding the Aging of Cyclic Alkane Aerosols.** HAOFEI ZHANG, Chris Ruehl, Arthur Chan, Theodora Nah, David Worton, Gabriel Isaacman, Allen H. Goldstein, Kevin Wilson, *Lawrence Berkeley National Laboratory*

**6AC.2 O3-initiated Heterogeneous Oxidation of Fatty Acids.** Chunbo Leng, Guang Zeng, Hai Pham, Yunhong Zhang,  
3:45 YONG LIU, *University of Colorado Denver*

**6AC.3 Hydroxyl Radical Mediated Aging of Oxidized Dodecanoic Acid Particles.** JOSEPH KLEMS, W. Sean McGivern,  
4:00 *National Institute of Standards and Technology*

**6AC.4 Constraining the Contribution of Organic Acids to Organic Aerosol Using MOVI-HRToF-CIMS and AMS data.**  
4:15 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*

**6AC.5 Synchrotron Studies of the Heterogeneous Oxidation of Organic Aerosols.** MICHAEL WARD, Kevin Wilson,  
4:30 *Lawrence Berkeley National Laboratory*

**6AC.6 Size Distribution Dynamics Reveal the Importance of Particle-Phase Chemistry in Organic Aerosol Formation.** Manabu Shiraiwa, LINDSAY YEE, Katherine Schilling, Christine Loza, Jill Craven, Andreas Zuend, Paul Ziemann, John Seinfeld, *California Institute of Technology*

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6AP AEROSOL PHYSICS III

A105

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**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.** 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.** IGOR NOVOSSELOV, Christopher Stipe, Rajan K. Chakrabarty, Hans Moosmuller, *Enertech Inc*

**6AP.6 Evaluating the Mobility of Nanorods in Electric Fields.** MINGDONG LI, Rian You, George Mulholland, Michael Zachariah, *University of Maryland*

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#### 6CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE V

B113/114

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**Lynn Russell and Amara Holder, chairs**

**6CA.1 Chemical and Optical Properties of Biomass Burning Aerosol.** 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*

**6CA.2 Secondary Organic Aerosol Formation from Gasoline and Diesel Vehicle Emissions Using a New Flow Reactor.** 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.** VILLE VAKKARI, Johan Paul Beukes, Petri Tiitta, Andrew D. Venter, Kerneels Jaars, Miroslav Josipovic, Pieter G. van Zyl, Veli-Matti Kerminen, Markku Kulmala, Lauri Laakso, *University of Helsinki, Helsinki, Finland*

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

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

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

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#### 6HA HEALTH RELATED AEROSOLS IV

A106

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**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.** 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. Olfert, *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*

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



**Williams Ronald and Lara Gundel, chairs**

- 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 Tehcnology*  
3:30
  - 6ST.2 Strategies for Reducing the Size and Power of Partical Exposure Monitors.** JOHN MUTH, Sushmit Mallik, *North Carolina State University*  
3:45
  - 6ST.3 PRECISE: Personal Real-time Exposure Using Cell-phone Integrated Portable Samplers.** NARESH KUMAR, Ian Longley, Sung Kim, *University of Miami*  
4:00
  - 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*  
4:15
  - 6ST.5 Inexpensive Electrochemical Sensor Technology for Air Quality Monitoring.** PRAVEEN KUMAR SEKHAR, Kumar Subramaniyam, *Washington State University*  
4:30
  - 6ST.6 Spatiotemporal Modeling of Indoor Aerosol Mass Concentration.** KIRSTEN KOEHLER, John Volckens, Kirk Lake, *Colorado State University*  
4:45
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6UA URBAN AEROSOLS II

**Charles Stanier and Sally Ng, chairs**

- 6UA.1 The Spatial Characterization of Ultrafine Particles in Toronto (SCULPT) Study: The Winter Campaign.** KELLY SABALIAUSKAS, Ezzat Jaroudi, Cheol-Heon Jeong, Jon M Wang, Natalia Mykhaylova, Krystal J. Godri-Pollitt, Jill Kearney, Amanda Wheeler, Ryan Kulka, Hongyu You, Greg J. Evans, *SOCAAR, University of Toronto*  
3:30
- 6UA.2 Particle Evolution near Major Roadways Based on Observed Ultrafine Particle Concentration Profiles under Stable Conditions.** Wonsik Choi, SUZANNE PAULSON, *UCLA*  
3:45
- 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*  
4:00
- 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*  
4:15
- 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*  
4:30
- 6UA.6 Exploring the Composition of Urban and Rural Organic Matter Found in Coarse Particles (PM<sub>10-2.5</sub>) 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*  
4:45

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

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

**Thursday**

**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, *Carelton 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

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7AC AEROSOL CHEMISTRY VII

B115/116

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**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, Anaïs 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*  
9:45
- 7AC.2 The Acid-Dependent Hydrolysis of Organic Nitrates in the Aerosol Phase.** JOEL RINDELAUB, Kevin McAvey, Paul Shepson, *Purdue University*  
10:00
- 7AC.3 Formation and Gas-Particle Partitioning of Organic Nitrates: Influence on Ozone Production.** LEA HILDEBRANDT RUIZ, Jeffrey Bean, Greg Yarwood, Bonyoung Koo, Uarporn Nopmongcol, *University of Texas at Austin*  
10:15
- 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*  
10:30
- 7AC.5 Model Evaluations of Heterogeneous Nitryl Chloride Production Sources during CalNex 2010.** WAYNE CHANG, Nicole Riemer, *University of Illinois at Urbana-Champaign*  
10:45
- 7AC.6 Hydrogen Peroxide Enhances the Heterogeneous Oxidation of Oxygenated Volatile Organic Compounds on Mineral Dust.** Yue Zhao, ZHONGMING CHEN, Dao Huang, *Peking University*  
11:00
- 7AC.7 Organic Aerosol Mixing Observed By Single Particle Mass Spectrometry.** ELLIS SHIPLEY ROBINSON, Rawad Saleh, Neil Donahue, *Carnegie Mellon University*  
11:15

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7AE AEROSOL EXPOSURE I

A106

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**Tiina Reponen and Kirsten Koehler, chairs**

- 7AE.1 Effect of Secondary Aspiration on Low Velocity Human Aspiration Efficiency Estimates: Computational Fluid Dynamics Investigation.** KIMBERLY ANDERSON, T. Renee Anthony, *University of Iowa*  
9:45

- 7AE.2 Characterization of the Exposure of Underground Miners to Mixed Aerosols.** EMANUELE CAUDA, Luca Stabile, 10:00 Giorgio Buonanno, Art Miller, *NIOSH*
- 7AE.3 Measuring Commuter Exposure to Black Carbon in the Context of a Multi-Pollutant Study.** NICHOLAS GOOD, 10:15 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*
- 7AE.4 The Effect of Horse Bedding Type on Air Quality in an Equine Farm.** YEVGEN NAZARENKO, Michael L. Westendorf, 10:30 Gediminas Mainelis, *Rutgers, The State University of New Jersey*
- 7AE.6 Shifts in the Gas-Particle Partitioning of Ambient Organics with Transport into the Indoor Environment.** 11:00 NATASHA HODAS, Barbara Turpin, *Rutgers University*
- 7AE.7 Potential Consumer Exposure to Airborne Ag and Zn Nanoparticles due to the Use of Nanotechnology-enabled Consumer Sprays.** LEONARDO CALDERÓN, Taewon Han, Prasad Subramaniam, Yevgen Nazarenko, Kibum Lee, Jim Zhang, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

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7BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT V

B113/114

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**Joshua Santarpia and Robert Bowers, chairs**

- 7BA.1 Inactivation of Bioaerosols by Nanoparticles from Consumer Products.** JENNIFER THERKORN, Leonardo 9:45 Calderón, Gediminas Mainelis, *Rutgers, The State University of New Jersey*
- 7BA.2 Differential Proteomic Analysis of Sphingomonas Aerolata Bioaerosols.** Valdis Krumins, Sjef Boeren, Peter 10:00 Schaap, Hauke Smidt, Gediminas Mainelis, Lee Kerkhof, DONNA FENNELL, *Rutgers, The State University of New Jersey*
- 7BA.3 NanoPCR Detection of Bacterial Aerosols.** Siyu Xu, MAOSHENG YAO, *Peking University* 10:15
- 7BA.4 Characterization of Aerosols Using an Electrodynamic Linear Quadrupole Trap.** MATTHEW HART, Erin Davis, 10:30 Jason Edmonds, Jay Eversole, *Naval Research Laboratory*
- 7BA.5 Fluorescence Characterization of Individual Bio-Aerosols and Ambient Air Measurements.** VASANTHI 10:45 SIVAPRAKASAM, John E. Tucker, Jay Eversole, *Naval Research Laboratory*
- 7BA.6 Study the Effects of Atmospheric Environmental Conditions on Fluorescence Spectra of Bioaerosols Using a Laboratory Reaction Chamber.** YONG-LE PAN, Joshua Santarpia, Shanna Ratnesar-Shumate, Elizabeth Corson, 11:00 Steven Hill, Mark Coleman, Chatt Williamson, Christopher Bare, Sean Kinahan, Jonathan Eshbaugh, *US Army Research Laboratory*. INVITED.
- 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 11:15 College Cork*

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7CO COMBUSTION II

A105

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**Prem Lobo and Georgios Karavalakis, chairs**

- 7CO.1 Morphology of Gas Turbine Particulate Matter.** ADAM M BOIES, Jacob Swanson, Paul Williams, Amewu A. Mensah, 9:45 Mark Johnson, Steven Rogak, Jason S. Olfert, Tyler Johnson, Ramin Dastanpour, Gregory Smallwood, Max L. Eggersdorfer, *University of Cambridge*
- 7CO.2 In-situ Measurements of Aircraft Engine Exhaust at Cruise Conditions during the 2013 ACCESS Chase Plane Experiment.** RICHARD MOORE, Edward Winstead, Lee Thornhill, Andreas Beyersdorf, Suzanne Crumeyrolle, Luke 10:00 Ziemba, Bruce Anderson, *NASA Langley Research Center*

- 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*  
10:15
- 7CO.4 Dynamics of Light Absorption by Biomass Burning Organic Aerosol Photochemically Aged Using the Ambient Sunlight.** MIN ZHONG, Myoseon Jang, *University of Florida*  
10:30
- 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*  
10:45
- 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*  
11:00
- 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*  
11:15

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#### 7IM INSTRUMENTATION AND METHODS IV

B117/118/119

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#### 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*  
9:45
- 7IM.2 Online Measurement of Aerosol Mass Optical Cross Sections.** CHRISTOPHER ZANGMEISTER, James Radney, Michael Zachariah, *National Institute of Standards and Technology*  
10:00
- 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*  
10:15
- 7IM.4 Effect of Aerosol Volatility on the Sizing Accuracy of Differential Mobility Analyzers.** ANDREY KHLYSTOV, *Research Triangle Institute*  
10:30
- 7IM.5 Introduction to Project "Dispersion of Air Pollution in the Boundary Layer – New Approach with Scanning Doppler Lidars".** Anne Hirsikko, VILLE VAKKARI, Ewan J. O'Connor, Curtis R. Wood, *Finnish Meteorological Institute, Helsinki, Finland*  
10:45
- 7IM.6 Data Analysis Procedures for a Novel Volatility and Polarity Separator (VAPS) Instrument for Atmospheric Organic Aerosol Characterization.** YAPING ZHANG, Raul Martinez, John Jayne, Manjula Canagaratna, Thorsten Hohaus, Douglas Worsnop, Brent Williams, *Washington University in St. Louis*  
11:00
- 7IM.7 An Interactive Visual Analytics Framework for Multidimensional Data in a Geo-Spatial Context.** ALLA ZELENYUK, Dan Imre, Zhiyuan Zhang, Jenny Hyunjung Lee, Klaus Mueller, Kevin McDonnell, *Pacific Northwest National Laboratory*  
11:15

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#### 7UA URBAN AEROSOLS III

B110/111/112

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#### Chelsea Preble and Kristina Wagstrom, chairs

- 7UA.1 Understanding Spatial-temporal Variation and Sources of Black Carbon Using Stratified Mobile Monitoring.** YI TAN, Eric Lipsky, Rawad Saleh, Albert A. Presto, Allen Robinson, *Carnegie Mellon University*  
9:45
- 7UA.2 Ambient Primary PM<sub>2.5</sub> from Petroleum Refinery Operations.** LI DU, Jay Turner, *Washington University in St. Louis*  
10:00

- 7UA.3 Air quality during Landfill Fire in Iowa City, Summer 2012: Ambient Measurement and Plume Characterization.** ASHISH SINGH, Robert Bullard, Andrew Hesselink, Allaa Hassanein, Doug Beardsley, Michael D Wichman, Thomas Peters, Scott N. Spak, Elizabeth Stone, Charles Stanier, *University of Iowa*  
10:15
- 7UA.4 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*  
10:30
- 7UA.5 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*  
10:45
- 7UA.6 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*  
11:00

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

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

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8AC AEROSOL CHEMISTRY VIII

EXHIBIT HALL A

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- 8AC.1 Chemical Characterization of Secondary Organic Aerosol by Atmospheric Solid Analysis Probe Mass Spectrometry (ASAP-MS).** VERONIQUE PERRAUD, Carla Waring-Kidd, John Greaves, Barbara J. Finlayson-Pitts, *University of California, Irvine*  
12:15
- 8AC.2 The Photolytic Processing of Organic Aerosols through Carbonyl Photochemistry.** SANDRA BLAIR, Scott Esptein, Sergey Nizkorodov, *University of California, Irvine*  
12:15
- 8AC.3 SOA Yield from Ozonolysis of BVOC at Varying NO<sub>2</sub> Concentrations.** Danielle C Draper, Delphine Farmer, Yury Desyaterik, JULIANE L. FRY, *Reed College*  
12:15
- 8AC.5 Reaction Pathways of Primary, Secondary and Tertiary Amines with Ozone, Hydroxyl Radical and Nitrate Radical.** DEREK PRICE, Xiaochen Tang, David R. Cocker III, Kathleen Purvis-Roberts, Philip Silva, *University of California, Riverside*  
12:15
- 8AC.6 Quantification of the Carbonyl Group Contribution to Aqueous-Phase SOA Using Fourier Transform Infrared Spectroscopy.** Kathryn George, Travis Ruthenburg, Jeremy Smith, Lu Yu, Cort Anastasio, Qi Zhang, ANN DILLNER, *University of California, Davis*  
12:15
- 8AC.7 Secondary Organic Aerosol Produced from Aqueous Reaction of Phenols with an Organic Excited Triplet State and Hydroxyl Radical.** JEREMY SMITH, Haley Kinney, Lu Yu, Kathryn George, Travis Ruthenburg, Ann Dillner, Qi Zhang, Cort Anastasio, *University of California, Davis*  
12:15
- 8AC.8 The Heterogeneous Oxidation of Internally Mixed Primary and Secondary Organic Aerosol: A Case for the Importance of Secondary Chemistry.** KATHERYN KOLESAR, Chris Ruehl, Gabriel Isaacman, Gina Buffaloe, Theodora Nah, Allen H. Goldstein, Kevin Wilson, Christopher Cappa, *University of California, Davis*  
12:15
- 8AC.9 Simulation of Isoprene SOA Formation Using UNIPAR: A Lumping Model Integrated with Explicit Gas Phase Kinetic Mechanisms and Aerosol Phase Reactions.** ROSS BEARDSLEY, Yunseok Im, Myoseon Jang, *University of Florida*  
12:15
- 8AC.10 Secondary Organic Aerosol Formation from Glyoxal: Salting Behavior and Kinetics of SOA Formation and its Dependence on Aerosol Seed Composition.** ELEANOR WAXMAN, Jay Slowik, Christopher Kampf, Rupert Holzinger, Josef Dommen, Andre Prévôt, Urs Baltensperger, Rainer Volkamer, *University of Colorado*  
12:15
- 8AC.11 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.** Don Collins, NATHAN TAYLOR, Jill Matus, Carlos Antonietti, Chance Spencer, Robert Griffin, Yu Jun  
12:15

Leong, Basak Karakurt Cevik, *Texas A&M University*

- 8AC.12 Temperature Effects on Secondary Organic Aerosol Formation and its Properties.** MARY KACARAB, Ping Tang, Lijie Li, Derek Price, David R. Cocker III, *University of California, Riverside*  
12:15
- 8AC.13 Understanding Secondary Organic Aerosol Formation from Aqueous-phase Reactions of Phenolic Compounds.** LU YU, Jeremy Smith, Alexander Laskin, Julia Laskin, Kathryn George, Cort Anastasio, Ann Dillner, Qi Zhang, *University of California, Davis*  
12:15
- 8AC.14 Instantaneous Secondary Organic Aerosol Formation from M-xylene Photooxidation: Quantification of NO<sub>x</sub> and NO<sub>3</sub> Radical Effects on SOA Yield.** LIJIE LI, Ping Tang, Chia-Li Chen, Mary Kacarab, David R. Cocker III, *University of California, Riverside*  
12:15
- 8AC.15 OH Initiated Heterogeneous Degradation of Organophosphorus Compounds.** LIU YONGCHUN, Liggio John, Harner Tom, Jantunen Liisa, Shoeib Mahiba, Shao-Meng Li, *Environment Canada*  
12:15
- 8AC.16 The Influence of Molecular Structure and Chemical Functionality on the Heterogeneous OH-initiated Oxidation of Unsaturated Organic Particles.** THEODORA NAH, Sean Kessler, Kelly Daumit, Jesse Kroll, Stephen R. Leone, Kevin Wilson, *University of California, Berkeley*  
12:15
- 8AC.17 Aqueous Reaction Rates of Hydroxyacetone with Ammonium Sulfate and Amines Measured by NMR as a Function of pH.** MICHAEL SYMONS, Alyssa Rodriguez, Melissa Galloway, David De Haan, *University of San Diego*  
12:15
- 8AC.18 Infrared Spectra of Individual Wavelength-Scale Particles: Spectral Challenges and Novel Techniques.** ARUNA RAVI, Anriksh Luthra, James Coe, *The Ohio State University*  
12:15
- 8AC.19 Kinetics and pH Dependence of Aqueous-phase Reactions of Glycolaldehyde with Glycine, Ammonium Sulfate, and Methylamine.** ALYSSA RODRIGUEZ, Michael Symons, Alexia De Loera, Melissa Galloway, David De Haan, *University of San Diego*  
12:15
- 8AC.20 Glyoxal in the Po Valley, Italy as a Tracer for Aqueous Aerosol Processing.** KATE SKOG, Yong Lim, Amy P. Sullivan, Natasha Hodas, Barbara Turpin, Jeffrey L. Collett, Jr., Frank Keutsch, *University of Wisconsin - Madison*  
12:15
- 8AC.21 Determination of Setschenow Constants of Organic Compounds in Ammonium Sulfate Solutions and the Salt Effect on Air-Water Partitioning.** CHEN WANG, Ying Duan Lei, Frank Wania, *University of Toronto*  
12:15
- 8AC.22 React or Evaporate? Atmospheric Aldehydes in Aqueous Droplets Containing Amines or Ammonium Sulfate.** MICHELLE POWELSON, Melissa Galloway, David De Haan, *University of San Diego*  
12:15

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## 8AE AEROSOL EXPOSURE II

### EXHIBIT HALL A

- 8AE.1 Intake Fraction for Urban Emissions of Semivolatile Organic Compounds from Vehicles.** JOSHUA APTE, Julian Marshall, William Nazaroff, *University of California, Berkeley*  
12:15
- 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*  
12:15
- 8AE.3 From Rural to Personal Level PM<sub>2.5</sub> Concentrations and Their Linkages to Biological Sample Metal Concentrations.** QUENTIN MALLOY, Cortina Johnson, Jocelin Deese-Spruill, James Raymer, Jonathan Thornburg, Elizabeth Frey, Richard Perkins, Larry Michael, *RTI International*  
12:15
- 8AE.4 Estimating Population Exposure to Fine Particulate Matter (PM<sub>2.5</sub>) during Extreme Air Pollution Events in the Pacific Northwest.** ABDULLAH MAHMUD, Kelley C. Barsanti, *Portland State University*  
12:15
- 8AE.6 Characteristics of Personal Exposure to PM<sub>2.5</sub> in Public Transportations in Beijing, China.** CAIQING YAN, Mei Zheng, Qiaoyun Yang, Qunfang Zhang, Xinghua Qiu, Tong Zhu, Yifang Zhu, *Peking University*  
12:15
- 8AE.7 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*  
12:15
- 8AE.8 Assessment of Lead Particle and Acidic Gas Exposure During Gun Firing.** JUN WANG, Lin Shou, Chang-Yu Wu, *University of Oklahoma Health Sciences Center*  
12:15

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8BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT V

EXHIBIT HALL A

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- 8BA.1 Living Microorganisms in Clouds.** Mickaël Vaitilingom, Muriel Joly, Pierre Amato, Nicolas Gaiani, Laurent Deguillaume, Eleonore Attard, Martine Sancelme, ANNE-MARIE DELORT, *Clermont Université, Institut de Chimie de Clermont-Ferrand*  
12:15
- 8BA.2 Survival of Microorganisms to the Main Stress Factors Encountered in Clouds.** Muriel Joly, Pierre Amato, Martine Sancelme, Mickaël Vaitilingom, Virginie Vinatier, Laurent Deguillaume, ANNE-MARIE DELORT, *Clermont Université, Institut de Chimie de Clermont-Ferrand*  
12:15
- 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*  
12:15
- 8BA.4 Ubiquity and Persistence of Streptococcus Suis Bioaerosols in Swine Confinement Buildings.** LAETITIA BONIFAIT, Marc Veillette, Daniel Grenier, Caroline Duchaine, *Université Laval, Canada*  
12:15
- 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*  
12:15
- 8BA.6 Quantifying the Effect of Relative Humidity and Ozone on the Viability of Aged Bacillus Thuringiensis AI 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*  
12:15
- 8BA.7 Understanding Aerosolized Viral Particles Behaviour in a Mechanically Ventilated Agricultural Building Using Nebulized Bacteriophages.** MARTYNE AUDET, Matthieu Girard, Martin Belzile, Stéphane Godbout, Caroline Duchaine, *Centre de recherche de l'ITUCPQ, Université Laval*  
12:15
- 8BA.8 Measurement of Ribosomal RNA in Airborne Escherichia Coli: Sample Collection Methods Produce Bias in 16S rRNA-based Analysis Methods.** HUAJUN ZHEN, Valdis Kruminis, Taewon Han, Donna Fennell, Gediminas Mainelis, *Rutgers, The State University of New Jersey*  
12:15
- 8BA.9 Comparison of Airborne Bacterial Compositions in Bioaerosols Collected at 3,000m, 1,000m, 10m over Japan.** TERUYA MAKI, Fumihisa Kobayashi, Kakikawa Makiko, Maromu Yamada, Atsushi Matsuki, Yasunobu Iwasaka, *Kanazawa University*  
12:15
- 8BA.10 Seasonal Cycles of Fluorescent Biological Particles in Finland and Colorado Forests.** Carolyn J. Schumacher, Christopher Pöhlker, Pasi Aalto, Markku Kulmala, Ulrich Pöschl, J. ALEX HUFFMAN, *University of Denver*  
12:15
- 8BA.11 Hidden Biological Aerosol Exposure Risks from Vehicle Air Conditioner Filter.** Jing Li, MINGZHEN LI, Fangxia Shen, Zhuanglei Zou, Maosheng Yao, Chang-Yu Wu, *Peking University*  
12:15
- 8BA.12 Temporal Distribution of Gram-negative (G-) and Gram-positive (G+) Bacterial Aerosols with Different Charge Polarity and Level.** KAI WEI, Maosheng Yao, *Peking University*  
12:15
- 8BA.13 Real-time Measurements Of Airborne Fungal Spores Biomarkers Using PILS-LC-MS/MS.** ROLAND SARDA-ESTEVE, Nicolas Bonnaire, Marie-Helene Nadal, Lorna Foliot, Jean Sciare, *LSCE*  
12:15
- 8BA.14 Investigation on the Vertical Distribution of Japanese Cedar Pollen and its Potential Impact on Ice Cloud Formation.** IWATA AYUMI, Hara Kazutaka, Atsushi Matsuki, Iwamoto Yoko, Teruya Maki, Kakikawa Makiko, *Kanazawa University*  
12:15

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8CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE VI

EXHIBIT HALL A

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- 8CA.1 Wavelength-dependent Complex Refractive Indices of Different Types of Secondary Organic Materials.** PENGFEI LIU, Yue Zhang, Scot Martin, *Harvard University*  
12:15
- 8CA.2 Characterizing the Efficiency of the SP-AMS for Measuring Black Carbon in Organic Coated Particles.** MEGAN D. WILLIS, Alex K. Y. Lee, Jonathan Abbatt, *University of Toronto*  
12:15

- 8CA.3 The Role of Organic Condensation on Ultrafine Particle Growth during Nucleation Events.** DAVID PATOULIAS, 12:15 Ilona Riipinen, Spyros Pandis, *University of Patras, Greece*
- 8CA.4 Microphysical Simulation of Biomass-Burning Aerosol Size Distributions from BORTAS 2011.** KIMIKO SAKAMOTO, James Allan, Hugh Coe, Jonathan Taylor, Thomas Duck, Jeffrey Pierce, *Colorado State University*
- 8CA.5 Evaporation Kinetics of Engine Lubricating Oil Aerosols at Near Ambient Conditions.** Sara Jaber, Rawad Saleh, 12:15 ALAN SHIHADDEH, *American University of Beirut*
- 8CA.6 Validation of Long-term Observations Using Sample-air Dilution with Particle Soot Absorption Photometer.** 12:15 JOHN BACKMAN, Aki Virkkula, Ville Vakkari, Johan Paul Beukes, Pieter G. van Zyl, Miroslav Josipovic, Stuart Piketh, Petri Tiitta, Kgaugelo Chiloane, Gerhard Fourie, Alfred Wiedensohler, Thomas Tuch, Tuukka Petäjä, Markku Kulmala, Lauri Laakso, *University of Helsinki*
- 8CA.7 Examining Evolution of Biogenic Organic Aerosols Using a Theoretical Carbon Number Functionality Grid.** 12:15 JUDITH PERLINGER, Tanvir Khan, Bo Zhang, Hans P. Arp, *Michigan Technological University*
- 8CA.8 Direct Determination of Soot Mass Absorption and Mass Extinction Coefficients at Multiple Wavelengths.** 12:15 JAMES RADNEY, Christopher Zangmeister, Michael Zachariah, *National Institute of Standards and Technology*
- 8CA.9 Measurements of Organic Haze Particles Formed from UV Irradiation of Acetylene by High-Resolution Soot-Particle Aerosol Mass Spectrometry.** JONATHAN FRANKLIN, Eleanor Browne, Manjula Canagaratna, Timothy Onasch, Paola Massoli, Douglas Worsnop, Hiroshi Imanaka, Kevin Wilson, Jesse Kroll, *Massachusetts Institute of Technology*
- 8CA.10 Plant Stress in a Changing Environment and its Impacts on Future Climate: The Effects of Simulated Herbivory on Biogenic Secondary Organic Aerosol.** CELIA FAIOLA, Graham VanderSchelden, Miao Wen, B. Thomas Jobson, Timothy M. VanReken, *Washington State University*
- 8CA.11 Experimental Studies of Particle Bounce: Comparison of Secondary Organic Material (SOM) from Harvard Environmental Chamber and Field Studies in Amazonia.** ADAM BATEMAN, Pengfei Liu, Scot Martin, *Harvard University*
- 8CA.12 Changes in Soot Aggregate Morphology Due to Coatings of Secondary Organic Aerosol from Anthropogenic and Biogenic Precursors.** ELIJAH G. SCHNITZLER, Ashneil Dutt, Jason S. Olfert, Wolfgang Jaeger, *University of Alberta*
- 8CA.13 Impact of Hygroscopicity and Refractive Index of Black Carbon Coatings on Absorption Enhancement.** 12:15 LAURA FIERCE, Francisco Mena, Tami Bond, Nicole Riemer, *University of Illinois at Urbana-Champaign*
- 8CA.14 Carbonaceous Nanoparticle Toxicity as a Function of Ferrous Iron Content.** DAN HINZ, Hsiang Teng, Hoi Ting, 12:15 Anne Johansen, *Central Washington University*

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8CC AEROSOLS, CLOUDS, AND CLIMATE III

EXHIBIT HALL A

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- 8CC.1 Chemical Composition of Rain Water Collected from 2009 to 2010 at Queretaro City and a Rural Mining Site of San Joaquín, Querétaro, México.** ROCIO GARCIA, Sara Solís, Carolina Muñoz, Gilberto Hernández, Ma. Elena Calderón, Armando Báez, *Centro de Ciencias de la Atmósfera, UNAM*
- 8CC.2 Contact Freezing Efficiency of Mineral Dust Particles Determined via Optical Tweezers.** RYAN SULLIVAN, 12:15 Hassan Beydoun, Kyle Gorkowski, Benjamin Dennis-Smithers, Toni Carruthers, Jonathan P. Reid, *Carnegie Mellon University*
- 8CC.4 Complex Refractive Index of Hematite in the Visible and Near Visible: A Review.** HANS MOOSMULLER, Johann Engelbrecht, *Desert Research Institute*
- 8CC.5 Aerosol-Vertical Velocity Coupling Effects on Stratus Cloud Microphysics.** STEPHEN NOBLE, James Hudson, 12:15 *Desert Research Institute*
- 8CC.6 Development of a Source Oriented Version of the WRF/Chem Model and Its Application to the California Regional PM<sub>10</sub>/PM<sub>2.5</sub> Air Quality Study.** HONGLIANG ZHANG, Steven DeNero, David Joe, Hsiang-He Lee, Shu-Hua Chen, Michael Kleeman, *UC Davis*



- 8CC.7** **Mixing State of Size-selected Submicrometer Particles in the Arctic (Ny-Ålesund, Svalbard) in the Spring and Fall of 2012.** Kihong Park, GIBA EK KIM, Jae-Seok Kim, Young Jun Yoon, Hee-joo Cho, *Gwangju Institute of Science and Technology*  
12:15
- 8CC.8** **Properties of Carbonaceous Aerosols during CARDEX 2012: An Instrument Intercomparison.** NICHOLAS BERES, Ian Arnold, Rajan K. Chakrabarty, Hans Moosmuller, P.S. Praveen, Ramanathan Veerabhadran, W. Patrick Arnott, James Schauer, Orjan Gustafsson, *Desert Research Institute*  
12:15
- 8CC.9** **Evaluating Simulated Profiles of Aerosol Optical Properties Using Measurements Collected during the Two Column Aerosol Project (TCAP).** JEROME FAST, Larry Berg, Jerome Barnard, Duli Chand, Richard Ferrare, Connor Flynn, Chris Hostetler, Arthur J. Sedlacek, John Shilling, Jason Tomlinson, Alla Zelenyuk, *Pacific Northwest National Laboratory*  
12:15
- 8CC.10** **Photooxidation of Polycyclic Aromatic Hydrocarbons in Clouds and Fog – Laboratory and Model Studies.** JERSHON EAGAR, Pierre Herckes, Barbara Ervens, *Arizona State University*  
12:15
- 8CC.11** **Impact of Biomass Burning Aerosols on Regional Climate over Southeast USA.** PENG LIU, Yongtao Hu, Athanasios Nenes, Armistead Russell, *Georgia Institute of Technology*  
12:15
- 8CC.12** **Assessing the Relative Contribution of Emissions to Cloud Droplet Formation with Sectoral and Spatial Specificity.** SHANNON CAPPS, Vlassis Karydis, Daven Henze, Armistead Russell, Athanasios Nenes, *US EPA*  
12:15
- 8CC.13** **New Particle Formation and Growth Events Observed under Clear-sky and Cloudy Conditions at Gosan Climate Observatory.** SOON-CHANG YOON, Yumi Kim, Sang-Woo Kim, *Seoul National University*  
12:15
- 8CC.14** **Forty-Seven Years of MSA Concentrations in the Finnish Arctic.** JAMES R. LAING, Philip K. Hopke, Eleanor F. Hopke, Liaquat Husain, Vincent A. Dutkiewicz, Jussi Paatero, Yro Viisinen, *Clarkson University*  
12:15
- 8CC.15** **Long-term Trend Analysis of 47 Years of Finnish Arctic Aerosol Composition.** JAMES R. LAING, Philip K. Hopke, Eleanor F. Hopke, Liaquat Husain, Vincent A. Dutkiewicz, Jussi Paatero, Yro Viisinen, *Clarkson University*  
12:15
- 8CC.16** **Effect of Pressures and Temperatures on Ion-induced Nucleation Rate Measurement in SO<sub>2</sub>/H<sub>2</sub>O/N<sub>2</sub> Gas Mixture by Soft X-ray Ionization.** TAKASHI OGI, Asep Suhendi, Kikuo Okuyama, Muhammad Miftahul Munir, Ferry Iskandar, *Hiroshima University*  
12:15
- 8CC.17** **Can Meteorology Obscure Aerosol Indirect Effects in Stratocumulus?** Jonathan Petters, Hongli Jiang, Graham Feingold, Dione Rossiter, Djamal Khelif, Lisa Sloan, PATRICK CHUANG, *University of California, Santa Cruz*  
12:15
- 8CC.18** **The Impact of Future Meteorology on Air Quality in the Eastern United States.** MELISSA DAY, Benjamin Murphy, Spyros Pandis, *Carnegie Mellon University, University of Patras*  
12:15
- 8CC.19** **The Effect of Ozone Stress on the Output of Volatile Organic Compounds and the Resulting Aerosol Properties Produced by Eastern White Pine.** Yin Wang, Dabrina Dutcher, TIMOTHY RAYMOND, *Bucknell University*  
12:15

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8EN ENGINEERED NANOPARTICLES: EMISSIONS, TRANSFORMATION AND EXPOSURE II

EXHIBIT HALL A

- 8EN.1** **Novel 3D Numerical Simulations to Calculate the Capacitance of Nanoparticle Aggregates with Necking Effect and Loose Agglomerates.** LEO N.Y. CAO, Jing Wang, Heinz Fissan, Max L. Eggersdorfer, David Y. H. Pui, *University of Minnesota*  
12:15
- 8EN.4** **The Application of the Universal Nanoparticle Analyzer for the Real-time Measurement of Engineered Nanoparticles in the Workplace.** DREW THOMPSON, Jing Wang, David Y. H. Pui, *University of Minnesota*  
12:15
- 8EN.5** **Formation of Nanoparticles as an Undesired Byproduct of an Industrial Accident.** SHERYL EHRMAN, Yoon Shin, *University of Maryland*  
12:15

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8IM INSTRUMENTATION AND METHODS V

EXHIBIT HALL A

- 8IM.1** **Performance Testing of MSP Model 1120 Water-based Condensation Particle Counter.** LIN LI, Francisco Romy, William Dick, *MSP Corporation*  
12:15

- 8IM.2** 12:15 **New Measurement System for PM and Ultrafine Particles.** JUERGEN SPIELVOGEL, Maximilian Weiss, *Palas GmbH*
- 8IM.3** 12:15 **The Iron Lung: A Device for the Continuous Delivery of Fine Particulate Matter.** IAN ARNOLD, Cory Berger, Hans Moosmuller, Noopur Sharma, Claudio Mazzoleni, *Desert Research Institute*
- 8IM.4** 12:15 **Beam Characteristics of Fiber-Based Supercontinuum Light Sources with Mirror- and Lens-Based Beam Collimators.** IAN ARNOLD, Hans Moosmuller, Noopur Sharma, Claudio Mazzoleni, *Desert Research Institute*
- 8IM.5** 12:15 **Application of an Eight-Channel Optical Particle Counter to Continuous, Long-term PM2.5 Monitoring.** ODELLE HADLEY, Mark Moore, *Olympic Region Clean Air Agency*
- 8IM.6** 12:15 **Airborne Measurement of Vertical and Horizontal Aerosol Distribution within Air Boundary Layer.** JAN HOVORKA, Veronika Docekalova, Jan Bendl, Filip Kobrcek, Petr Marecek, *Charles University in Prague*
- 8IM.7** 12:15 **Performance Evaluation of Miniature Cyclones with Multiple Inlets.** DI LIU, Da-Ren Chen, *Virginia Commonwealth University*
- 8IM.8** 12:15 **Modeling and Experimental Characterization of a Large Particle Inlet (LPI).** GUAN ZHAO, Thomas Holsen, Suresh Dhaniyala, *Clarkson University*
- 8IM.9** 12:15 **Aerosol Dry Powder Dissemination Device Characterization for Small-Scale Use.** ANDRES SANCHEZ, Crystal Glen, *Sandia National Laboratories*
- 8IM.10** 12:15 **Preventing the Spray Break-up in Electrohydrodynamic Atomization.** CHRISTIAN LUEBBERT, Jan Marijnissen, Wolfgang Peukert, *FAU Erlangen-Nuremberg, Germany*
- 8IM.11** 12:15 **Performance Study of the "Impaclone", a Miniature, Switchable Size-selective Inlet for a Compact Particle Sizer.** SIQIN HE, Da-Ren Chen, Paul Greenberg, *Washington University in St. Louis*
- 8IM.12** 12:15 **Data Merging of Size Distributions from Electrical Mobility and Optical Measurements.** AXEL ZERRATH, Sherrie Elzey, Hee-Siew Han, *TSI Incorporated*
- 8IM.13** 12:15 **Filter Leak Detection by Various Gases Using the Schlieren Imaging Technique.** SHIGERU KIMOTO, Lin Li, David Y. H. Pui, *University of Minnesota*
- 8IM.14** 12:15 **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 Dhaniyala, Steve Gabbard, *National Center for Atmospheric Research*
- 8IM.15** 12:15 **Extending the Size Range for Calibrating the Counting Efficiency of the Light Scattering Airborne Particle Counters toward Larger Particle Sizes.** Kenji Beppu, Shinjiro Takeyama, Toshio Kubota, KENJIRO IIDA, Hiromu Sakurai, Kensei Ehara, *JQA*
- 8IM.18** 12:15 **Development of a Non-Specific Monodisperse Aerosol Generation System.** JONATHAN ESHBAUGH, Shanna Ratnesar-Shumate, Paul Dabisch, Francisco Romay, *The Johns Hopkins University Applied Physics Laboratory*
- 8IM.19** 12:15 **Calibrating Black Carbon Mass Measurement Instruments Using the CPMA-electrometer System.** MATTHEW DICKAU, Tyler Johnson, Kevin Thomson, Gregory Smallwood, Jason S. Olfert, *University of Alberta*
- 8IM.20** 12:15 **Development of Optical Particle Sensor for Estimating Mass Concentration in Real Time.** JINHONG AHN, Kitai Kang, Yongtaek Kwon, *HCT Co., Ltd.*
- 8IM.21** 12:15 **Determination of Complex Refractive Index For Submicron Absorbing Spheres.** JEONGHOON LEE, *Korea University of Technology and Education*
- 8IM.22** 12:15 **Visualization of Restructuring of Oil Droplets Collected in Filter Media.** HIROAKI MATSUHASHI, Shoji Hirota, Hidenori Higashi, Mikio Kumita, Takafumi Seto, Yoshio Otani, *Kanazawa University*
- 8IM.23** 12:15 **A Laboratory Inter-comparison of CPC and SMPS Measurements of Submicron Aerosols.** Shouwen Zhang, ARI SETYAN, Véronique Riffault, *Ecole des Mines de Douai*
- 8IM.24** 12:15 **Application of Surface-Discharge Microplasma Device to Ion Mobility Spectrometer.** YOSHIKAZU MIZUTORI, Tetsuya Maekawa, Hidenori Higashi, Mikio Kumita, Takafumi Seto, Yoshio Otani, *Kanazawa University*
- 8IM.25** 12:15 **System for the Absolute Calibration of Black Carbon Mass Concentration Measurement Instruments.** KEVIN THOMSON, Fengshan Liu, Gregory Smallwood, *National Research Council Canada*

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8NM NANOPARTICLES AND MATERIALS SYNTHESIS I

EXHIBIT HALL A

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- 8NM.1 Synthesis of Pt-nanoparticles-Laden Graphene Crumples and Evaluation of Their Electrocatalytic Activity.** 12:15 HEE DONG JANG, Sun Kyung Kim, Hankwon Chang, Jeong Woo Choi, Jiayan Luo, Jiaying Huang, *Korea Institute of Geoscience and Mineral Resources*
- 8NM.2 Accounting for the Variable Df during Coagulation and Sintering of Fractal-like Particles.** Eirini Goudeli, MAX L. EGGERSDORFER, Sotiris E. Pratsinis, *ETH Zurich*
- 8NM.3 Gas Detection by Engineered Multi-scale Structures Composed of Nanoparticles.** YONGJUN BAE, Woongsik Nam, Hyesung Cho, Mansoo Choi, *Seoul National University*
- 8NM.4 Supramolecular Self-assembly of Photosynthetic Dyes in Aerosolized Droplets.** VIVEK SHAH, Pratim Biswas, *Washington University in St. Louis*
- 8NM.5 DMA Characterization of Sub-50nm Silica Nanoparticle Size Standards and Comparison with PSL Size Standards.** ZEESHAN SYEDAIN, Benjamin Hunt, William Dick, *MSP Corporation*
- 8NM.6 Controlling Composition and Morphology of Mixed Oxide Thin Films Synthesized by Aerosol Chemical Vapor Deposition (ACVD) Process.** TANDEEP CHADHA, Jiaxi Fang, Pratim Biswas, *Washington University in St. Louis*
- 8NM.7 Fabricating WO<sub>3</sub>-based Nanostructured Materials for Solid-State NO<sub>x</sub> Gas Sensors.** JULIEN GAURY, George Biskos, *Delft University of Technology*
- 8NM.8 Gas-phase Synthesis of Single-phase Spherical α'-Fe<sub>16</sub>N<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> Core-shell Nanoparticles.** TAKASHI OGI, Rizka Zulhijjah, Asep Bayu Dani Nandiyanto, Toru Iwaki, Kikuo Okuyama, *Hiroshima University*
- 8NM.9 Synthesis of Spherical Macroporous WO<sub>3</sub> Particles and Their High Photocatalytic Performance.** Asep Bayu Dani Nandiyanto, Osi Arutanti, TAKASHI OGI, Kikuo Okuyama, *Hiroshima University*
- 8NM.10 Preparation of Crumpled Graphene Particles with Enhanced Properties by Microwave Plasma-Assisted Capillary Compression Process.** HANKWON CHANG, Eun-Hee Jo, Hee Dong Jang, *Korea Institute of Geoscience and Mineral Resources*
- 8NM.11 Investigation of Transient Structural Behavior of Aerosol Particles during Their Aggregation Process Using Off-Lattice Kinetic Monte Carlo Simulations.** Riyan Zahaf, Kwang-Sung Lee, Song-Kil Kim, Dudi Adi Firmansyah, Michael Zachariah, DONGGEUN LEE, *Pusan National University, Busan, South Korea*
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8RA REMOTE AND REGIONAL ATMOSPHERIC AEROSOLS III

EXHIBIT HALL A

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- 8RA.2 Secondary Organic Aerosol Precursor Concentrations and Fluxes from a Temperate Deciduous Forest in East Tennessee.** RICK SAYLOR, Ariel Stein, *NOAA Air Resources Laboratory*
- 8RA.4 Assessing PM Concentrations at Urban Spatiotemporal Scale by Image Analysis Based on the Image Effective Bandwidth Measure.** YAEL ETZION, David M. Broday, Barak Fishbain, *Technion - Israel Institute of Technology*
- 8RA.5 Changes in Organic Aerosol in the United States over the Last Quarter-Century.** KELSEY BOULANGER, Jesse Kroll, *MIT*
- 8RA.7 Investigating Missing Sulfur Sources at Fairbanks, Alaska.** KABINDRA M. SHAKYA, Richard E. Peltier, *University of Massachusetts, Amherst*
- 8RA.8 Infrared Extinction and Visible Light Scattering Properties of Diatomaceous Earth Aerosol.** JENNIFER ALEXANDER, Olga Laskina, Vicki Grassian, Mark Young, Paul Kleiber, *University of Iowa*
- 8RA.9 Ammonia Emissions from Beef, Swine, and Poultry Production Estimated with Process-Based Models.** ALYSSA M. MCQUILLING, Peter Adams, *Carnegie Mellon University*

- 8RA.10 A Self-Consistent Global Emissions Inventory Spanning 1850-2050 – Why We Need One.** KRISTINA WAGSTROM, Sherri Hunt, *University of Connecticut*  
12:15
- 8RA.11 Sources and Processes of Submicron Particles at an Urban Downwind Location - Long Island New York.** SHAN ZHOU, Jianzhong Xu, Fan Mei, Jian Wang, Arthur J. Sedlacek, Stephen Springston, Yin-Nan Lee, Qi Zhang, *University of California, Davis*  
12:15
- 8RA.13 Dimethyl Sulfide Control of the Clean Summertime Arctic Aerosol and Cloud.** RICHARD LEAITCH, Sangeeta Sharma, Lin Huang, Desiree Toom-Sauntry, Alina Chivulescu, Annie-Marie Macdonald, Knut von Salzen, Jeffrey Pierce, Allan Bertram, Jason Schroder, Nicole Shantz, Rachel Chang, Ann-Lise Norman, *Environment Canada*  
12:15
- 8RA.14 Elemental Composition of PM<sub>10</sub> and PM<sub>2.5</sub> in Windblown Dust in Shiprock and Churchrock, New Mexico.** Cristina Gonzalez-Maddux, AURELIE MARCOTTE, Nabin Upadhyay, Pierre Herckes, Yolanda Williams, Gordon Haxel, Marin Robinson, *Arizona State University*  
12:15
- 8RA.15 A Long Term Variation of Chemical Species in PM<sub>2.5</sub> and PM<sub>10</sub> in the Ambient Atmosphere at Background Site in Jeju, Korea during 2008–2012.** KWANGYUL LEE, Tsatsral Batmunkh, Young Joon Kim, Kihong Park, *Gwangju Institute of Science and Technology (GIST), Korea*  
12:15
- 8RA.16 Chemical Characterization of Particles Sampled in Revin, France, during the EMEP 2012 Summer Campaign.** ARI SETYAN, Vincent Crenn, Véronique Riffault, Jean Luc Jaffrezo, Antoine Waked, Stéphane Sauvage, Jean-Luc Besombes, Thierry Leonardis, Nadine Locoge, *Ecole des Mines de Douai*  
12:15
- 8RA.17 Investigation of Aerosol in the Southeastern U.S. during the SOAS Field Campaign: Cloud Condensation Nuclei Activity, Hygroscopicity, Droplet Activation Kinetics, and Volatility of Ambient and Water-Soluble Aerosol.** KATE CERULLY, Aikaterini Bougiatioti, Lu Xu, Hongyu Guo, Rodney Weber, Nga Lee Ng, Athanasios Nenes, *Georgia Institute of Technology*  
12:15
- 8RA.18 Ferrous Iron and Hydrogen Peroxide Produced by Marine Aerosols Deposited in Ocean Water of the Equatorial Pacific Ocean.** HSIANG TENG, Hoi Ting, Dan Hinz, Anne Johansen, *Central Washington Universtiy*  
12:15
- 8RA.19 Measurement of Gas and Aerosol Agricultural Emissions.** PHILIP SILVA, *USDA - Agricultural Research Service*  
12:15

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#### 8ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING III

##### EXHIBIT HALL A

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- 8ST.1 Calibration and Assessment of Low-cost, Portable Particle Counters for Accurate In-field Monitoring of Cookstove Emissions.** DOMINIQUE INGATO, Alba Aguilar, Sunny Karnani, Rufus Edwards, Ali Mohraz, Derek Dunn-Rankin, *UC Irvine*  
12:15
- 8ST.2 A Low-Cost Real-Time Detector for Airborne Asbestos Fibers.** CHRIS STOPFORD, Paul Kaye, Edwin Hirst, Richard Greenaway, Zbigniew Ulanowski, *University of Hertfordshire*  
12:15
- 8ST.3 Simple Low-Cost Aerosol Field Sampler for Deployment by Volunteers.** ANDREY KHLYSTOV, A. Clint Clayton, David S. Ensor, *Research Triangle Institute*  
12:15
- 8ST.5 Next-Generation Air Monitoring - A Review of Portable Air Pollution Sensors.** PAUL A. SOLOMON, Margaret MacDonell, Ron Williams, Eben Thoma, Dena Vallano, Michelle Raymond, Olson David, *US EPA*  
12:15
- 8ST.6 Measuring In-field Emissions of Biomass Combustion.** RYAN THOMPSON, Cheryl Weyant, Tami Bond, *University of Illinois at Urbana-Champaign*  
12:15
- 8ST.7 An Efficient Algorithm for Very Low Cost Personal Particulate Monitors.** MICHAEL TAYLOR, Nourbakhsh Illah, *Carnegie Mellon University*  
12:15
- 8ST.8 Inexpensive Microfluidic Devices for Multiplexed Metal Measurement in Particulate Matter.** David Cate, Poomrat Rattanasarat, Killian OConaill, John Volckens, CHARLES HENRY, *Colorado State University*  
12:15
- 8ST.9 Quantification Methods for Metal-Oxide Semiconductor Gas Sensors.** NICHOLAS MASSON, Ricardo Piedrahita, Xiang Yun, Michael Hannigan, Qin Lv, Robert Dick, Li Shang, *University of Colorado at Boulder*  
12:15
- 8ST.10 Low Cost Air Quality Monitors for Citizen Science.** JOANNA GORDON, Ashley Collier, Ricardo Piedrahita, Nicholas Masson, Michael Russel, Michael Hannigan, *University of Colorado at Boulder*  
12:15
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- 8UA.1** **United States National PM<sub>2.5</sub> Chemical Speciation Monitoring Networks – CSN and IMPROVE: Description of Networks.** PAUL A. SOLOMON, Jeff J. Lantz, Dennis Crumpler, James B. Flanagan, R.K.M. Jayanty, Edward E. Rickman, Charles McDade, Lowell Ashbaugh, *U.S. EPA, Office of Research and Development, Las Vegas, NV*  
12:15
- 8UA.2** **Consistency of Long-term Black Carbon Trends from Thermal and Optical Measurements in the U.S. IMPROVE Network.** L.-W. ANTONY CHEN, Judith Chow, John Watson, Bret Schichtel, *Desert Research Institute*  
12:15
- 8UA.3** **Evaluation of Fine Particulate Matter (PM<sub>2.5</sub>) and Ultrafine Particulate Matter (PM<sub>0.1</sub>) in the Airshed of Tijuana, BC - San Ysidro, CA Border.** JAVIER EMMANUEL CASTILLO QUIÑONES, Guillermo Rodriguez, Penelope Quintana, Nina Bogdanchikova, *Universidad Autónoma de Baja California, Tijuana, México*  
12:15
- 8UA.4** **Evaluation of PM<sub>10</sub> Trace Metals in the Airshed of Tijuana, México.** YANETH GUTIERREZ, Guillermo Rodriguez, Penelope Quintana, Nina Bogdanchikova, Miguel Zavala, Luisa Molina, *Universidad Autonoma de Baja California, Tijuana, Mexico*  
12:15
- 8UA.5** **Correlation between Atmospheric Visibility and the Physical Properties and Chemical Compositions of Aerosol.** CHISUNG LIANG, Sheng-Kai Jan, Jin-Yuan Syu, Wen-Yinn Lin, *Institute of Environmental Engineering and Management*  
12:15
- 8UA.6** **Characterization and Near-Field Evolution of Fine Particles Emitted by a Metallurgy Plant: Results of the NANO-INDUS Project.** ARI SETYAN, Pascal Flament, Karine Deboudt, Nadine Locoge, Véronique Riffault, Laurent Alleman, Coralie Schoemaeker, Jovanna Arndt, Patrick Augustin, François Blond, Fabrice Cazier, Hervé Delbarre, Dorothee Dewaele, Pascale Dewalle, Marc Fourmentin, Paul Genevray, Robert Healy, Philippe Le Louer, Thierry Leonardis, Hélène Marris, Saliou Mbengue, Mickaël Starosta, John Wenger, *Université du Littoral Côte d'Opale*  
12:15
- 8UA.7** **Wintertime PM<sub>2.5</sub> in Edmonton, Alberta, Canada.** MATTHEW PARSONS, Wally Qiu, Yayne Aklilu, Andrew Clayton, Amy MacTaggart, Rachel Mintz, *Environment Canada*  
12:15
- 8UA.8** **Characterization of Size-segregated Particulate Matter in Houston TX.** INKYU HAN, Yuncan Guo, *University of Texas School of Public Health*  
12:15
- 8UA.9** **Metal Concentrations in Fine Particulate Matter from the Ground-Level Light Rail System in Denver Metro.** BENTON CARTLEDGE, Brian Majestic, *University of Denver*  
12:15
- 8UA.10** **Characterization of Coarse Aerosol in St. Louis and Phoenix: Results from EPA's 2010-2011 Pilot Study.** STEVEN BROWN, Jay Turner, Hilary Minor, Joann Rice, Paul Roberts, James B. Flanagan, Jeffrey Nichol, *Sonoma Technology, Inc.*  
12:15
- 8UA.11** **Source Characterization of Aerosol Metal and Trace Element Measurements in High-Time Resolution.** CHEOL-HEON JEONG, Jon M Wang, Greg J. Evans, *SOCAAR, University of Toronto*  
12:15
- 8UA.12** **Bacterial Bioaerosol Enrichment Downwind from a Conventional Wastewater Aeration Basin Manifests from Selective Actinomycete Partitioning.** Mark T. Hernandez, JANE TURNER, Charles Robertson, Odessa Gomez, Alison L. Ling, Bharath Prithiviraj, J. Kirk Harris, Daniel N. Frank, Alina M. Handorean, Norman R. Pace, *University of Colorado at Boulder*  
12:15
- 8UA.13** **An Assessment of Particulate Air Pollution in Jeddah, Saudi Arabia.** HAIDER A KHWAJA, Omar S. Abu-Rizaiza, Azhar Siddique, Abdullah Aburizaiza, Shedrack R. Nayebare, Mirza M Hussain, Jahan Zeb Qurashi, Jamal Qethmi, David Carpenter, Zafar Fatmi, *King Abdulaziz University, Jeddah, Saudi Arabia*  
12:15
- 8UA.14** **Effects of Diesel Particle Filters on the Size Distribution of Emitted Particles.** CHELSEA PREBLE, Nicholas Tang, Timothy Dallmann, Nathan Kreisberg, Susanne Hering, Robert Harley, Thomas Kirchstetter, *University of California, Berkeley*  
12:15

**Thursday 1:45 PM - 3:00 PM**

**Session 9: Platform**

**Dave Worton and Lynn Mazzoleni, chairs**

- 9AC.1 Modeling SOA Formation in Mixed Anthropogenic Biogenic Plumes.** MANISHKUMAR SHRIVASTAVA, Jerome Fast, 1:45 Alla Zelenyuk, John Shilling, Chen Song, Richard Easter, Qi Zhang, Rahul Zaveri, Ari Setyan, *Pacific Northwest National Laboratory*
- 9AC.2 In-Situ Chemical Characterization of Sub-micron Organic Aerosols Using Direct Analysis in Real Time Mass Spectrometry (DART-MS): The Effect of Aerosol Size and Volatility.** MAN NIN CHAN, Theodora Nah, Kevin Wilson, 2:00 *Lawrence Berkeley National Laboratory*
- 9AC.3 Chemical Analysis of Organic Aerosols Using Reactive Nanospray Desorption Electrospray Ionization Mass Spectrometry.** ALEXANDER LASKIN, Julia Laskin, Sergey Nizkorodov, *Pacific Northwest National Laboratory* 2:15
- 9AC.4 Investigating Chemical Variation in Particulate Matter during the Polarimetric Cloud Analysis and Seeding Test (POLCAST) 2012 Campaign in Grand Forks, North Dakota.** RICHARD COCHRAN, Haewoo Jeong, David Delene, Alena Kubatova, *University of North Dakota* 2:30
- 9AC.5 A New Inlet for Simultaneous Gas and Particle Phase Measurements Coupled to a Chemical Ionization High-resolution Time-of-Flight Mass Spectrometer.** CLAUDIA MOHR, Felipe Lopez-Hilfiker, Ben H. Lee, David S. Covert, Douglas Worsnop, Joel A. Thornton, *University of Washington* 2:45

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9BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT VI  
B113/114

**Gedi Mainelis and Matthew Berg, chairs**

- 9BA.1 Continuous Measurements of Biological Particles with the Wideband Integrated Bioaerosol Sensor (WIBS-4A).** GAVIN MCMEEKING, Greg Kok, Gary Granger, Darrel Baumgardner, *Droplet Measurement Technologies, Boulder, Colorado, USA* 1:45
- 9BA.2 Using Real-time Multiband Fluorescence Signatures to Discriminate between Bioaerosol Classes.** Darrel Baumgardner, Kevin McCabe, Greg Kok, Gary Granger, MARK T. HERNANDEZ, *University of Colorado Boulder* 2:00
- 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* 2:15
- 9BA.4 Design and Performance of Low-cost Aerosol Micro-Channel Collector.** IGOR NOVOSSELOV, Riley Gorder, John Scott Meschke, *Enertech, Inc* 2:30
- 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* 2:45

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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, 1:45 Arantazu Eiguren-Fernandez, Susanne Hering, *Aerosol Dynamics Inc.*
- 9IM.2 Towards a Miniature, Tippable, Water Condensation Particle Counter.** SUSANNE HERING, Gregory Lewis, Steven 2:00 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 Kangasluoma, Daniela Wimmer, Katrianne Lehtipalo, Jian Wang, Markku 2:15 Kulmala, Tuukka Petäjä, *Brookhaven National Laboratory*

**9IM.4 Method for Calibration of the Detection Efficiency of Condensation Particle Counters at Concentrations as Low as  $1 \text{ cm}^{-3}$  Using a Faraday-cup Aerosol Electrometer.** HIROMU SAKURAI, Kensei Ehara, *AIST*  
2:30

**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 Dhaniyala, Steve Gabbard, *National Center for Atmospheric Research*  
2:45

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9NM NANOPARTICLES AND MATERIALS SYNTHESIS II

A105

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**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*  
1:45

**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*  
2:00

**9NM.3 TiO<sub>2</sub> Nanoparticle Formation and Growth in ACVD Systems: Discrete Sectional Simulation.** TANDEEP CHADHA, MengMeng Yang, Shuiqing Li, Pratim Biswas, *Tsinghua University*  
2:15

**9NM.4 The Crystallinity and Coalescence or Sintering Mechanism of Aerosol Nanoparticles by Molecular Dynamics.** Beat Buesser, SOTIRIS E. PRATSINIS, *ETH Zurich*  
2:30

**9NM.5 Diffuse Vs. Specular Algorithms to Explain Electrical Mobility in Diatomic Gases.** Carlos Larriba-Andaluz, CHRISTOPHER HOGAN JR., *University of Minnesota*  
2:45

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9SA SOURCE APPORTIONMENT II

A106

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**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*  
1:45

**9SA.2 Source Apportionment of Primary Particulate Matter and its Carbonaceous and Trace Elemental Components in the Eastern US.** HONGLIANG ZHANG, Gang Chen, Jianlin Hu, Shu-Hua Chen, Michael Kleeman, Qi Ying, *Texas A&M University*  
2:00

**9SA.3 Implementation of a High-Resolution Source-Oriented WRF-Chem Model Using Large Eddy Simulation at the Port of Oakland.** David Joe, Steven DeNero, Hongliang Zhang, Hsiang-He Lee, Shu-Hua Chen, MICHAEL KLEEMAN, *UC Davis*  
2:15

**9SA.4 Source Contributions to Primary and Secondary Particulate Matter during a Severe PM<sub>2.5</sub> Pollution Event in Xi'an, China.** HONGLIANG ZHANG, Qi Ying, Dexiang Wang, *Texas A&M University*  
2:30

**9SA.5 Development and Application of a Particle Number Source Tagging Algorithm in an Aerosol Microphysics Model.** DANIEL WESTERVELT, Jeffrey Pierce, Peter Adams, *Carnegie Mellon University*  
2:45

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9UA URBAN AEROSOLS V

B110/111/112

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**Cliff Davidson and Andre Prevot, chairs**

**9UA.1 New Particle Formation in an Urban Atmosphere: Seasonal Dependence and Influence of Air Mass Origin.** ANNA WONASCHUETZ, Julia Burkart, Richard Haindl, Julia Palmethofer, Georg Reischl, Gerhard Steiner, Robert Wagner, Regina Hittenberger, *University of Vienna*  
1:45

- 9UA.2 Wintertime Air Pollution and the Greek Financial Crisis.** KALLIOPI FLOROU, Christos Kaltsonoudis, Dimitrios Papanastasiou, Georgios Gkatzelis, Evangelos Louvaris, Michael Pikridas, Spyros Pandis, *University of Patras, Patra, Greece*  
2:00
- 9UA.3 Sources and Chemical Processing of Organic Aerosol during the Summer in the Eastern Mediterranean.**  
2:15 EVANGELIA KOSTENIDOU, Kalliopi Florou, Christos Kaltsonoudis, Maria Tsiflikiotou, Magdalini Psychoudaki, Spyros Pandis, *Institute of Chemical Engineering Sciences, ICE-HT, Greece*
- 9UA.4 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).** STÉPHANE PERCOT, Véronique Ruban, Philippe Laguionie, Denis Maro, Pierre Roupsard, Dominique Demare, *IRSN*  
2:30
- 9UA.5 Contribution of Atmospheric Aerosols to Urban Stormwater Runoff.** JEREMY TAMARGO, Cliff Davidson, *Syracuse University*  
2:45

**Thursday 3:00 PM - 3:30 PM**  
**Coffee Break**

**Thursday 3:30 PM - 5:00 PM**  
**Session 10: Platform**

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10AC AEROSOL CHEMISTRY X

B115/116

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**Simon Clegg and Scott Epstein, chairs**

- 10AC.1 Photolytic Processing of Organic Atmospheric Particulate Matter.** SCOTT A. EPSTEIN, Mallory Hinks, Sergey Nizkorodov, *University of California, Irvine*  
3:30
- 10AC.2 A Systematic Evaluation of the Extent of Photochemical Processing in Different Types of Secondary Organic Aerosols.** Dian Romonosky, Hyun Ji Lee, Scott A. Epstein, SERGEY NIZKORODOV, Julia Laskin, Alexander Laskin, *University of California, Irvine*  
3:45
- 10AC.3 Reactive Uptake and Aqueous Chemistry of Isoprene Epoxydiols (IEPOX) and Glycolaldehyde in Aerosol Liquid Water.** TRAN NGUYEN, Matthew Coggon, Kelvin Bates, Rebecca Schwantes, Xuan Zhang, Katherine Schilling, Christine Loza, Richard Flagan, Paul Wennberg, John Seinfeld, *California Institute of Technology*  
4:00
- 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*  
4:15
- 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*  
4:30
- 10AC.6 Modelling the Water Uptake and Solubilities of Aminium Sulphate Salts.** SIMON CLEGG, Chong Qiu, Renyi Zhang, *University of California, Davis; University of East Anglia*  
4:45

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10BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT VII

B113/114

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**Tiina Reponen and Alina Handorean, chairs**

- 10BA.1 Investigation of Bioaerosol Contamination in New Jersey Homes Affected by Hurricane Sandy.** Leonardo Calderón, Huajun Zhen, Zuo Cheng Wang, Brian Buckley, Joan W. Bennett, Paul J. Lioy, GEDIMINAS MAINELIS, *Rutgers, The State University of New Jersey*  
3:30



- 10BA.2 An Integrated Modeling Approach to Understand the Interaction between Air Pollution and Pollen Allergy in a Changing World.** RUI ZHANG, Tiffany Duhl, Muhammed T. Salam, James House, Richard Flagan, Ed Avol, Frank Gilliland, Alex Guenther, Serena H. Chung, Brian K. Lamb, Timothy M. VanReken, *Washington State University*  
3:45
- 10BA.4 Automated Pollen Identification and Counting System (APICS).** JAMES HOUSE, Gregory Griffin, Richard Flagan, *Caltech*  
4:15
- 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*  
4:30
- 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*  
4:45

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#### 10CC AEROSOLS, CLOUDS, AND CLIMATE IV

B110/111/112

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##### 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*  
3:30
- 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*  
3:45
- 10CC.3 Combining Field and Laboratory Studies to Understand the Dominant Sources and Mechanisms of Cirrus Cloud Formation.** DANIEL CZICZO, Sarvesh Garimella, Karl D. Froyd, Daniel Murphy, *MIT*  
4:00
- 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*  
4:15
- 10CC.5 Observations of Sharp Oxalate Reductions in Stratocumulus Cloud Water at Variable Altitudes.** Armin Sorooshian, ZHEN WANG, Matthew Coggon, Hafliði Jonsson, Barbara Ervens, *University of Arizona*  
4:30
- 10CC.6 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*  
4:45

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#### 10IM INSTRUMENTATION AND METHODS VII

B117/118/119

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##### Pete DeCarlo and Arthur Chan, chairs

- 10IM.1 Characterization of the Aerodyne Mini-Aerosol Mass Spectrometer.** ANITA JOHNSON, J. Doug Goetz, Edward Fortner, Urs Rohner, Michael Cubison, Marc Gonin, Thorsten Hohaus, John Jayne, Douglas Worsnop, Peter DeCarlo, *Drexel University*  
3:30
- 10IM.2 Aerosol Chemical Speciation Monitor (ACSM) Inter-Comparison Study for Ambient Fine Aerosol Measurements in Downtown Atlanta, Georgia.** SRI HAPSARI BUDISULSTIORINI, 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*  
3:45
- 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, *The University of Tokyo*  
4:00
- 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.*  
4:15

**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*

**10IM.6 Duty Cycle-Based Time of Flight Cross Section Measurement of Large Singly Charged Proteins.** PETER T. A. REILLY, Gregory Brabeck, Vivek Jayaram, Rachit Singh, *Washington State University*

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#### 10NM NANOPARTICLES AND MATERIALS SYNTHESIS III

A105

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##### Wang Wei-Ning and Gröhn Arto Juhani, chairs

**10NM.1 Barium Hexaferrite and Yttrium Iron Garnet Thick Films Formed by the Aerosol Deposition Method.** 3:30 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 Pikhitsa, 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, Tandeep 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.** 4:30 ANNE MAISSER, Konstantinos Barmponis, 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*

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#### 10SA SOURCE APPORTIONMENT III

A106

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##### Phil Hopke and Jeff Collett, chairs

**10SA.1 Sensitivity of the Chemical Mass Balance Model to Different Molecular Marker Traffic Profiles.** PALLAVI PANT, 3:30 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.5 14C-based Source Apportionment of Carbonaceous Aerosols in Switzerland for 2008 – 2012.** PETER ZOTTER, 4:30 Gabriela Ciobanu, Yanlin Zhang, Imad El Haddad, Soenke Szidat, Lukas Wacker, Urs Baltensperger, Andre Prévôt, *Paul Scherrer Institute*

**10SA.6 Long-Term Trend Analysis of Factors Contributing to PM<sub>2.5</sub> 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 8:00 AM - 9:15 AM Plenary IV

8:00 **Secondary Organic Aerosols: Are Laboratory Chambers Mimicking the Atmosphere?** Lynn Russell, *Scripps Institution of Oceanography*

**Moderator** Faye McNeill, *Columbia University*

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

9:10 **Concluding Remarks and Preview for 2013** Murray Johnston and Athanasios Nenes, 2013 and 2014 Conference Chairs, *University of Delaware and Georgia Institute of Technology*

## 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*

**11CA.3 Characterization of Secondary Organic Aerosols from Isoprene, Monoterpenes,  $\beta$ -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*

**11CA.4 Observational Constraints on High- and Low-NO<sub>x</sub> 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 Crouse, 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*

**11CA.5 Secondary Organic Aerosol Formation from the Emissions of Soil and Leaf Litter Collected in a Temperate Coniferous Forest.** CELIA FAIOLA, Graham VanderSchelden, Miao Wen, Doug Cobos, B. Thomas Jobson, Timothy M. VanReken, *Washington State University*

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**

9:45 **Formation.** V. FAYE MCNEILL, *Columbia University*

**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, Akua Asa-Awuku, *University of California, Riverside*  
10:45

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## 11CO COMBUSTION III

A105

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### David Cocker and Eben Cross, chairs

**11CO.1 Detailed Characterization of Particulates Emitted by Pre-commercial High-Efficiency Gasoline Engines.** 9:45 ALLA ZELENYUK, Paul Reitz, Dan Imre, Mark Stewart, Paul Loeper, Cory Adams, Mitchell Hageman, Axel Maier, Stephen Sakai, David Foster, David Rothamer, Michael Andrie, Roger Krieger, Kushal Narayanaswamy, Paul Najt, Arun Solomon, *Pacific Northwest National Laboratory*

**11CO.2 Chemistry and Partitioning Behavior of Inorganic and Organic Particulate Matter Measured in Real-time from Light-duty Vehicles under Varying Conditions.** 10:00 SONYA COLLIER, Toshihiro Kuwayama, Sara Forestieri, Michael Kleeman, Christopher Cappa, Qi Zhang, *University of California, Davis*

**11CO.3 Real-time Characterization of Intermediate Volatility and Semi-Volatile Organic Compound Emissions from a Diesel Engine.** 10:15 EBEN CROSS, Alexander Sappok, James Hunter, Victor Wong, Jesse Kroll, *MIT*

**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.** 10:30 DANIEL SHORT, Diep Vu, Georgios Karavalakis, Thomas D. Durbin, Akua Asa-Awuku, *University of California, Riverside*

**11CO.5 Understanding the Affect of Biodiesel Fuels and Engine Mode on Primary Organic and Sulfate Aerosol Emissions from a Light Duty Diesel Engine.** 10:45 JOHN LIGGIO, Shao-Meng Li, Katherine Hayden, Jeremy Wentzell, Tak Chan, Gang Lu, Jeff Brook, *Air Quality Research Division, Environment Canada*

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## 11IA INDOOR AEROSOLS III

A106

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### Sergey Grinshpun and Lance Wallace, chairs

**11IA.1 Indoor PM<sub>2.5</sub> at Santiago, Chile, 2012.** 9:45 HECTOR JORQUERA, Francisco Barraza, *Pontificia Universidad Catolica de Chile*

**11IA.2 Particle Concentrations in Retail Environments.** 10:00 Marwa Zaatari, JEFFREY SIEGEL, *The University of Toronto*

**11IA.3 Ultrafine Particle Emissions from Desktop Three-Dimensional Printers.** 10:15 Parham Azimi, Zeineb El Orch, Tiffanie Ramos, Robert Zylstra, Julie Steele, BRENT STEPHENS, *Illinois Institute of Technology*

**11IA.4 Elevated Levels of Respirable Antimony (Sb) and Other Trace Elements inside an Elementary School.** 10:30 BRIAN MAJESTIC, Joseph Turner, Aurelie Marcotte, *University of Denver*

**11IA.5 The Impact of Energy Efficiency Retrofits on Indoor PM Levels.** 10:45 SARAH FREY, Pierre Herckes, Matthew Fraser, *Arizona State University*

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## 11IM INSTRUMENTATION AND METHODS VIII

**Suresh Dhaniyala and Quentin Malloy, chairs**

- 11IM.1 Investigation of Flowrate-dependent Performance of Bipolar Diffusion Chargers.** Meilu He, Matthew Brown, 9:45 SURESH DHANIYALA, *Clarkson University*
- 11IM.2 The Radial Opposed Migration Ion/Aerosol Classifier (ROMIAC).** WILTON MUI, Andrew Downard, Daniel 10:00 Thomas, Jesse Beauchamp, John Seinfeld, Richard Flagan, *Caltech*
- 11IM.3 Development and Performance Evaluation of New Type Differential Mobility Analyzer (Hy-DMA).** KANG-HO 10:15 AHN, Gun-Ho Lee, Hong-Ku Lee, Hee-Ram Eun, *Hanyang University, R. of Korea*
- 11IM.4 A Water-based Fast Integrated Mobility Spectrometer with Enhanced Dynamic Size Range.** MICHAEL 10:30 PIKRIDAS, Steven Spielman, Chongai Kuang, Thomas Tsang, Scott Smith, Andrew McMahon, Susanne Hering, Jian Wang, *Brookhaven National Laboratory*
- 11IM.5 Development of a Pulsed-Voltage Differential Mobility Analyzer for Measuring Shape Parameters for Non- 10:45 Spherical Particles.** MINGDONG LI, Rian You, George Mulholland, Michael Zachariah, *University of Maryland*
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11UA URBAN AEROSOLS VI

B110/111/112

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**Greg Evans and Peter DeCarlo, chairs**

- 11UA.1 Variation of Particle Number Concentration in a Street Canyon and an Urban Background Site.** KAARLE 9:45 HAMERI, Vanessa Dos Santos-Juusela, Tuukka Petäjä, Anu Kousa, *University of Helsinki, Department of Physics*
- 11UA.2 Primary Emissions Measurements and Secondary Organic Aerosol Formation Experiments Provide Insight 10:00 to the Atmospheric Burden of Particulate Matter from Mobile Sources.** ANDREW MAY, Timothy Gordon, Shantanu Jathar, Albert A. Presto, Allen Robinson, *Carnegie Mellon University*
- 11UA.3 On-Road Gasoline and Diesel Vehicle Contributions to Fine Particulate Black Carbon and Primary Organic 10:15 Aerosol Emissions.** TIMOTHY DALLMANN, Thomas Kirchstetter, Robert Harley, *University of California, Berkeley*
- 11UA.4 Development and Implementation of Low Level Biodiesel Blend Formulations to Help the Air Quality 10:30 Standards in California Related to Diesel Fuel.** MARYAM HAJBABAIEI, Georgios Karavalakis, Kent C. Johnson, Alexander Mitchell, Jim Guthrie, David R. Cocker III, Thomas D. Durbin, *University of California, Riverside*
- 11UA.5 Analyses of Emission Measurements for a Heavy-duty Diesel Bus through Experiments and Simulations: 10:45 The Comparison between On-road and In-lab Methods.** ZHEMING TONG, Yan Wang, Bo Yang, Topi Ronkko, Jorma Keskinen, Liisa Pirjola, K. Max Zhang, *Cornell University*

**Friday 11:15 AM - 12:30 PM  
Session 12: Platform**

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12AC AEROSOL CHEMISTRY XI

B115/116

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**Faye McNeill and Qi Zhang, chairs**

- 12AC.1 Chemistry of New Particle Growth Events in Mixed Biogenic and Urban Emissions - Results from the CARES 11:15 2010 Campaign.** QI ZHANG, Ari Setyan, Maik Merkel, Berk Knighton, Cody Floerchinger, Scott Herndon, Timothy Onasch, Douglas Worsnop, Chen Song, John Shilling, *Univeristy of California, Davis*
- 12AC.2 Nanoparticle Growth and Salt Formation - a Modeling Study.** TAINA YLI-JUUTI, Kelley C. Barsanti, Lea 11:30 Hildebrandt Ruiz, Antti-Jussi Kieloaho, Ulla Makkonen, Tuukka Petäjä, 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*  
11:45
- 12AC.4 Stabilization of Sulfuric Acid Dimer Clusters by Various Basic Gases.** COTY JEN, Peter McMurry, David Hanson, *University of Minnesota*  
12:00
- 12AC.5 The Role of Hydration in Formation and Reactivity of Sulfuric Acid Clusters Containing Ammonia and Amines.** JOSEPH DEPALMA, Douglas Doren, Murray Johnston, *University of Delaware*  
12:15

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12AP AEROSOL PHYSICS IV

A105

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**Chris Sorensen and Igor Novosselov, chairs**

- 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*  
11:15
- 12AP.2 Influence of Back Electrostatic Field on the Collection Efficiency of an Electrostatic Lunar Dust Collector.** NIMA AFSHAR-MOHAJER, Chang-Yu Wu, Nicoleta Sorloacia-Hickman, *University of Florida*  
11:30
- 12AP.3 Modeling of Corona-Quenching in Tube-Wire Type Electrostatic Precipitators.** CHRISTIAN LUEBBERT, Ulrich Riebel, *FAU Erlangen-Nuremberg, Germany*  
11:45
- 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*  
12:00
- 12AP.5 Effects of Multiple Scattering on the Radiative Properties of Fractal Soot Aggregates.** FENGSHAN LIU, Gregory Smallwood, *National Research Council Canada*  
12:15

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12CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE VIII

B113/114

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**Leah Williams and Sherri Hunt, chairs**

- 12CA.1 Novel Smog Chamber Studies of Wood Burning Emissions at Low Temperatures.** EMILY BRUNS, Imad El Haddad, Stephen Platt, Brice Temime-Roussel, Dogushan Kilic, Jay Slowik, Anaïs Detournay, Luka Drinovec, Grisa Mocnik, Nicolas Marchand, Urs Baltensperger, Andre Prévôt, *Paul Scherrer Institute*  
11:15
- 12CA.2 Secondary Organic Aerosol Precursors in Biomass Burning Smoke.** LINDSAY HATCH, Wentai Luo, James F. Pankow, Robert J. Yokelson, Kelley C. Barsanti, *Portland State University*  
11:30
- 12CA.3 Secondary Organic Aerosol Formation Projection from Single-Ring Aromatic Tail Pipe and Evaporative Emissions from California Gasoline Vehicles.** ANTONIO MIGUEL, *University of California, Los Angeles*  
11:45
- 12CA.4 Fuel-based Fine Particulate and Black Carbon Emission Factors from a Railyard Area in Atlanta.** Boris Galvis, Armistead Russell, MICHAEL BERGIN, *Georgia Institute of Technology*  
12:00
- 12CA.5 Brick Kiln Emissions Quantified with the Aerodyne Mobile Laboratory during the Short Lived Climate Forcing (SLCF) 2013 Campaign in Guanajuato Mexico.** EDWARD FORTNER, Berk Knighton, Scott Herndon, Joseph Roscioli, Miguel Zavala, Timothy Onasch, John Jayne, Douglas Worsnop, Charles Kolb, Luisa Molina, *Aerodyne Research, Inc.*  
12:15

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12IA INDOOR AEROSOLS IV

A106

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**Karen Pongrance and Lupita Montoya, chairs**

- 12IA.1 Rapid Size and Chemical Characterization of Outdoor and Indoor Particulate Matter, Implications for Transport and Environmental Influence.** PETER DECARLO, Michael Waring, *Drexel University*  
11:15
- 12IA.2 Direct Measurements of Particle Decay Rates for Fine and Ultrafine Particles in 74 Residences in Edmonton, Canada.** LANCE WALLACE, Jill Kearney, Morgan MacNeill, Warren Kindzierski, Marie-Eve Heroux, Amanda Wheeler, *US EPA (retired)*  
11:30
- 12IA.3 Dynamic Modeling Study for In-cabin Ultrafine Particle Transport: Evaluation of Infiltration and Passive Ventilation in a Wide Range of Driving Speed.** EON LEE, Michael Stenstrom, Yifang Zhu, *University of California, Los Angeles*  
11:45
- 12IA.4 Outdoor and Indoor Exposure to Traffic Aerosols at Schools: Effect of Anti-idling Campaign.** SERGEY A. GRINSHPUN, Jin Yong Kim, Michael Yermakov, Tiina Reponen, Chris Schaffer, Patrick Ryan, *University of Cincinnati*  
12:00
- 12IA.5 Application of High Efficiency Cabin Air Filter for Simultaneous Control of Ultrafine Particles and Carbon Dioxide in Passenger Vehicles.** EON LEE, Cha-Chen Fung, Yifang Zhu, *University of California, Los Angeles*  
12:15

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12IM INSTRUMENTATION AND METHODS IX

B117/118/119

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**Steve Spielman and Jian Wang, chairs**

- 12IM.1 Validation of New Fast Scanning Mobility Particle Sizing System.** JAMES FARNSWORTH, Brandon Detmer, Nathan Birkeland, Fred Quant, Hans-Georg Horn, Brian Osmondson, *TSI Incorporated*  
11:15
- 12IM.2 Highly Size- and Time-Resolved Particulate Matter Characterized by Novel Optical Analysis.** NICHOLAS SPADA, David Barnes, Shankar Chellam, Thomas A. Cahill, *University of California, Davis*  
11:30
- 12IM.3 Towards Accurate Calculation of Particle Size Distributions from Fast-SMPS Measurements.** ISHARA JAYASURIYA, Meilu He, Suresh Dhaniyala, *Clarkson University*  
11:45
- 12IM.4 Aerodynamic Aerosol Classifier.** Farzan Tavakoli, Jonathan Symonds, JASON S. OLFERT, *University of Alberta*  
12:00
- 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*  
12:15

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12UA URBAN AEROSOLS VII

B110/111/112

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**Suzanne Paulson and John Liggio, chairs**

- 12UA.1 Scooter Emissions Dominate Urban Organic Aerosol.** Imad El Haddad, Stephen Platt, Alessandro Zardini, Jay Slowik, Michael Clairotte, Covadonga Astorga, Peter Barmet, Josef Dommen, Urs Baltensperger, ANDRE PRÉVÔT, *Paul Scherrer Institute*  
11:15
- 12UA.2 Spatial Variation of Pollutants in the Near-Road Environment.** NICHOLE BALDWIN, Philip K. Hopke, Stuart Batterman, Suresh Raja, *Clarkson University*  
11:30
- 12UA.3 Characterizing Urban Roadside Environments through Long-Term Monitoring: Particle Mass, NO<sub>x</sub>, Traffic and Signal Phasing.** CHRISTINE M. KENDRICK, Linda A. George, *Portland State University*  
11:45
- 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*  
12:00
- 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*  
12:15

