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

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

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

Moderator Cliff Davidson, Syracuse University

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

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

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

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

1AC AEROSOL CHEMISTRY I
B115/116

Kelley Barsanti and Jesse Kroll, chairs

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

1AC.2 Functional Group Distributions in Photolytically Generated Organic Aerosol. Alicia Kalafut-Pettibone, Joseph Kilms, 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
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 Springer, Pacific Northwest National Laboratory


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


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


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

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

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

Primary Biological Aerosols as Cloud Condensation Nuclei. FRANCIS POPE, Paul Griffiths, Markus Kalberer, Michael Herzog, University of Birmingham, UK.
1BA.3 Potential Impact of Microbial Activity on the Oxidant Capacity and the Organic Carbon Budget in Clouds. Mickaël Vaitilingom, Laurent Deguillaume, Virginie Vinatier, Martine Sancelme, Pierre Amato, Nadine Chaumerliac, ANNE-MARIE DELORT, Clermont Université, Institut de Chimie de Clermont-Ferrand


1BA.5 Studies of the Impacts of Biological Particles on Clouds and Precipitation in Aircraft and Sea Spray Studies. 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 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 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

Tiina Reponen and Yevgen Nazarenko, chairs

1IA.1 Ultrafine Particles Emitted from Scented Markers. Cha-Chen Fung, Shi Shu, YIFANG ZHU, UCLA


1IA.3 Emissions of Secondary Organic Aerosol Initiated by Surface Reactions between Ozone and Squalene. Chunyi Wang, MICHAEL WARING, Drexel University

1IA.4 Particulate Reactive Oxygen Species in Retail Stores in Austin, Texas. SHAHANA KHURSHID, Kerry Kinney, Jeffrey Siegel, The University of Texas at Austin

1IA.5 Characterize the Size Distribution of Walking-induced Particle Resuspension. YILIN TIAN, Andrea R. Ferro, Clarkson University

1IA.6 Seasonal and Environmental Factors Associated with Microbes Living in Our Homes. PATRICIA KEADY, Shelly 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, James Farnsworth, Andrea R. Ferro, Clarkson University

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1IM INSTRUMENTATION AND METHODS I

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

1IM.2 Online Characterization of Nanoparticle Growth during Flame Aerosol Synthesis. ARTO GROEHN, Sotiris E. Pratsinis, Karsten Wegner, ETH Zurich

1IM.3 Performance Study of a Miniature, Corona-based Unipolar Aerosol Charger for Compact Particle Sizers. SIQIN HE, Da-Ren Chen, Paul Greenberg, Washington University in St. Louis

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


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

1RA REMOTE AND REGIONAL ATMOSPHERIC AEROSOLS I

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 Cristoferelli, Gian Paolo Gobbi, Amar Hamed, Ari Laaksonen, Hanna Manninen, Tuukka Petäjä, Johannes Groess, Laurent Poulain, Michela Malone, Vanes Poluzzi, CNR-ISAC

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

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

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

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

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

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

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

2AC AEROSOL CHEMISTRY II

EXHIBIT HALL A

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

2AC.2 Measurements of Organic Acids in Eastern U.S. Radiation Fogs. DEREK STRAUB, Susquehanna University
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

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

2AC.5 Trends in PM2.5 Strong Acidity Across Canada between 1990 and 2010. JENNIFER MURPHY, Alex Tevlin, University of Toronto

2AC.6 The Effect of Particle Size on Iron Solubility in Atmospheric Aerosols. AURELIE MARCOTTE, Brian Majestic, Ariel Anbar, Pierre Herckes, Arizona State University

2AC.7 Mineral Dust Produces Visible Laser Induced Incandescence. TINGTING CAO, Lulu Ma, Jonathan E. Thompson, Texas Tech University

2AC.8 TPD Aerosol-CIMS – Investigating the Volatility of Organic Salts. SILJA HÄKKINEN, Joseph Woo, Greg Drozd, V. FAYE MCNEILL, Columbia University

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

2AC.10 Quantification of the Catalytic Effect of Nitric Acid on Dehydration of Particulate Cyclic Hemiacetals. APRIL RANNEY, Paul Ziemann, UC Riverside

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-Josee Poitras, Shao-Meng Li, Environment Canada

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

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

2AC.14 Effects of Acidity on the Chemical Composition of Secondary Aerosol from the Isoprene/NOx Photooxidation: Measurements Using an Aerosol Mass Spectrometer. KEI SATO, Akinori Takami, Takashi Imamura, Hong Li, Xuezhong Wang, National Institute for Environmental Studies

2AC.15 Secondary Organic Aerosol Production from Pinanediol. PENGLIN YE, Neil Donahue, Carnegie Mellon University

2AC.16 SimpleGAMMA: Reduced Mechanism for Aqueous Aerosol SOA Modeling. Joseph Woo, V. FAYE MCNEILL, Columbia University


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

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

2AP.3 Investigation of Poissonian Sampling Behavior for Nanometer-Sized Aerosols. BRIAN DAMIT, Chang-Yu Wu, Meng-Dawn Cheng, University of Florida
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<td>2AP.4</td>
<td>Q-Space Analysis of Scattering by Particles of Arbitrary Shape.</td>
<td>CHRIS SORENSEN, William Heinson, Amit Chakrabarti, Evgenij Zubko, Kansas State University</td>
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<td>2AP.5</td>
<td>A Computationally Efficient Multi-particle Sintering Model.</td>
<td>VIVEK SHAH, Pratim Biswas, Washington University in St. Louis</td>
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<td>2AP.6</td>
<td>Theoretical and Experimental Investigation of Particle Formation from Evaporating Microdroplets.</td>
<td>Mohammed Boraey, Alberto Baldelli, REINHARD VEHRING, University of Alberta, Canada</td>
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<td>2AP.7</td>
<td>Aggregation during the Crossover from Ballistic to Diffusive Motion.</td>
<td>William Heinson, Chris Sorensen, AMIT CHAKRABARTI, Kansas State University</td>
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<td>2AP.8</td>
<td>The Optical Behavior of Soot as a Function of Relative Humidity.</td>
<td>YIYI WEI, Qing Zhang, Jonathan E. Thompson, Texas Tech University</td>
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<td>2AP.9</td>
<td>Numerical Evaluation of Fuch’s Bipolar Charging Theory Using Stochastic Ion Mass and Mobility in a Non-Equilibrium Neutralizer.</td>
<td>JEAN DE LA VERPILLIERE, Jacob Swanson, Adam M Boies, University of Cambridge</td>
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<td>2AP.10</td>
<td>Identification of Airborne Particles by Forward Light Scattering.</td>
<td>PAUL LANE, Matthew Hart, Brian Saar, Jay Eversole, Naval Research Laboratory</td>
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<td>2AP.12</td>
<td>Molecular Dynamics Simulations of the Mass Accommodation ofDicarboxylic Acids and Other Organic Compounds.</td>
<td>Jan Julin, ILONA RIIPINEN, Stockholm University</td>
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**2BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT II**

**EXHIBIT HALL A**

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<td>2BA.1</td>
<td>Evaluation of an Ion Capture Device for Determination of Aerosolized Venezuelan Equine Encephalitis Virus and a Novel Method for Absolute Particle Count Determination.</td>
<td>JULIAN GORDON, Prasanthi Gandhi, Tiffany Sutton, Karen Pongrancce, Jerold Bottiger, Inspirotec LLC, Chicago, IL</td>
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<tr>
<td>2BA.3</td>
<td>Fluorescence of Bioaerosols: Concentrations and Optical Properties of Relevant Molecules Needed for Modeling Emission from Bacteria.</td>
<td>STEVEN HILL, Yong-Le Pan, Chatt Williamson, Joshua Santarpia, Hanna Hill, US Army Research Laboratory</td>
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<td>2BA.4</td>
<td>Performance of Cascade Impactors for Sampling Aerosolized Viruses.</td>
<td>MICHAEL SCHUIT, Jamie Kline, Kristin Bower, Paul Dabisch, NBACC</td>
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<td>2BA.6</td>
<td>Investigation of ATP-based Bioluminescence Effectiveness for Bioaerosol Quantification.</td>
<td>TAEWON HAN, Ting Cai, Kelsey DuBois, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
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<td>2BA.7</td>
<td>Real-Time Characterization of Fungal Aerosol.</td>
<td>Sampo Saari, Jacob Mensah-Attipoe, Anniina Hellsten, Pertti Pasanen, TIINA REPONEN, Jorma Keskinen, Tampere University of Technology</td>
</tr>
<tr>
<td>2BA.8</td>
<td>A New Concept for Single Bioaerosol Particle Material Characterization.</td>
<td>MATTHEW BERG, Mississippi State University</td>
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</table>
## 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

#### 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 PM10, PM2.5, PM1 Organic Aerosol Using Aerosol Mass Spectrometry.

ANDRE PRÉVÔT, Carlo Bozzetti, Imad El Haddad, Robert Wolf, Emily Bruns, Adela Krepełova, 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.


1:00

#### 2CA.4 Black Carbon Emissions from Prescribed Forest Fires in the Southeast United States.


1:00


CHRISTOS FOUNTOKIS, Athanasios Megaritis, Ksakousti Skyllakou, Panagiota Charalampidis, Christodoulos Pilinis, Spyros Pandis, *Foundation for Research & Technology, Hellas*

1:00

#### 2CA.6 Modeling of Carbonaceous Aerosol in a European Megacity.

CHRISTOS FOUNTOKIS, Athanasios Megaritis, Ksakousti Skyllakou, Panagiota Charalampidis, Christodoulos Pilinis, Spyros Pandis, *Foundation for Research & Technology, Hellas*

1:00

#### 2CA.7 Seasonal Variation of Organic Compounds in PM10 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 PM2.5 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


MIN-SUK BAE, *Mokpo National University*

1:00


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


1:00


PROVAT SAHA, Andrey Khlystov, Andrew Grieshop, *North Carolina State University*

1:00

2CH CONTROL TECHNOLOGY AND HOMELAND SECURITY I
EXHIBIT HALL A

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

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

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

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

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

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

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

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

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

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

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

2CO COMBUSTION I
EXHIBIT HALL A

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

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

2CO.3 Characterization of PM Emissions from Aircraft Auxiliary Power Units. PREM LOBO, Donald Hagen, Philip Whitefield, Missouri University of Science and Technology

2CO.4 Validation of the Moment Method for Determining Smoke Aerosol Properties in Space. MARIT MEYER, George Mulholland, David Urban, Gary Ruff, Zeng-guang Yuan, Victoria Bryg, Thomas Cleary, Jiann Yang, NASA Glenn Research Center
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

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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
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<td>Tobacco Smoke Dose at the Air-Liquid Interface In Vitro.</td>
<td>Jason Adamson, JOHN MCAUGHEY, British American Tobacco</td>
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<td>2HA.10</td>
<td>Temporal and Spatial Distributions of PAHs in the Atmosphere of Korea and Their Toxicity.</td>
<td>HYE JUNG SHIN, JiYi Lee, Soon A Rho, Jong Choon Kim, Seok Jo Lee, National Institute of Environmental Research</td>
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<td>2HA.11</td>
<td>Contamination Level of Traffic-related Air Pollutants outside of the Children Day-Care Facilities in Seoul.</td>
<td>SEUNG-BOK LEE, Kyung Hwan Kim, Dae-Kwang Woo, Sungho Woo, Gwi Nam Bae, Korea Institute of Science and Technology</td>
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<td>2HA.15</td>
<td>Collection of House Dust Aerosols Complemented with Common Allergen Proteins: Comparison of Sampler Efficiencies with MARIA™ Allergen Assay.</td>
<td>DAVID ALBURTY, Pamela Murowchick, AlburtyLab, Inc.</td>
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<td>2HA.16</td>
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<td>NING LI, Keisha Williams, Nicholas Gysel, Nachamari Rivera-Rios, Georgios Karavalakis, Michigan State University</td>
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<td>GAURAV SINGH, Gazala Habib, Mukesh Khare, IIT Delhi</td>
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<td>LALEH GOLSHAHI, Worth Longest, Mandana Azimi, Ross Walenga, Michael Hindle, Virginia Commonwealth University</td>
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<td>JINGJIE ZHANG, Virginia Commonwealth University</td>
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2IA INDOOR AEROSOLS II
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<td>Chemical Composition of Hookah Smoke Aerosol Measured with an Aerosol Chemical Speciation Monitor.</td>
<td>PHILIP CROTEAU, John Jayne, Douglas Worsnop, Tim Oh, Cindy DeForest Hauser, Aerodyne Research, Inc.</td>
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<td>Real-time, Size-Resolved Particle Concentrations in a Neonatal Intensive Care Unit.</td>
<td>SEEMA BHANGAR, Brandon Brooks, Fuqun Vasiknanonte, Xiaochen Tang, Jillian Banfield, William Nazaroff</td>
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2IM INSTRUMENTATION AND METHODS II

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<td>Timothy Onasch, Paola Massoli, Paul Kebabian, ANDREW FREEDMAN</td>
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<td>L.-W. ANTONY CHEN, Yongming Han, Jerome Robles, Judith Chow, Junji Cao, John Watson</td>
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<td>TING FANG, Vishal Verma, Rodney Weber</td>
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<td>JAN BENDL, Jan Hovorka, Jan Topinka</td>
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<td>David Y. H. Pui, University of Minnesota</td>
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<td>Aerosol mixing in concentric jets.</td>
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<td>Robles, John Watson, Judith Chow, Desert Research Institute</td>
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<td>2IM.14</td>
<td>Making the particle number concentration standard liquid suspension</td>
<td>KENJIRO Iida, Hiromu Sakurai, Junko Nakanishi, Kensei</td>
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<td>aerosol measured using four complementary techniques.</td>
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<td>David R. Cocker III, Akua Asa-Awuku, University of</td>
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<td>2IM.17</td>
<td>Development and evaluation of a high-volume aerosol-into-liquid collector</td>
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<td>Shafer, James Schauer, Constantinos Sioutas, University</td>
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<td>Kazuhiro, Hirayama Noritomo, Takegawa Nobuyuki, Fuji</td>
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<td>on diesel exhaust particles by PTR-TOFMS.</td>
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<td>2IM.20</td>
<td>Development of aerosol mass spectrometer (AMS) with two switchable ionization methods for characterization of refractory and non-refractory components in particles.</td>
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<td>2IM.22</td>
<td>Chemically specific online removal of submicron aquadag aerosol with the single particle soot photometer.</td>
<td>Allison Aiken, Gavin McMeeking, Manvendra Dubey, Paul</td>
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<td>DeMott, Paul Levin, Los Alamos National Lab</td>
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2SA SOURCE APPORTIONMENT I

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<td>Radiocarbon-based source apportionment of EC and OC in fine particulate matter at a regional background</td>
<td>Yanlin Zhang, Jun Li, Gan Zhang, Jianhui Tang, Peter Zotter, Lukas Wacker, Andre Prévôt, Soenke Szidat, University of Bern</td>
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<td>Source apportionment and organic compound characterization of ambient ultrafine particulate matter (PM) in the Los Angeles Basin</td>
<td>Sina Hasheminassab, Nancy Daher, James Schauer, Constantinos Sioutas, University of Southern California</td>
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<td>2SA.3</td>
<td>Receptor modeling of ambient PM2.5 collected at the national air pollution surveillance (NAPS) speciation sites in Ontario for the years 2005-2010.</td>
<td>Uwayemi Sofowote, Yushan Su, Ewa Dabez-Zlotorzynska, Ankit Rastogi, Jeff Brook, AQARU, EMRB, Ontario Ministry of the Environment</td>
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<td>2SA.4</td>
<td>Indication of aerosol aging by optical absorption properties.</td>
<td>Luka 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</td>
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<td>Retrospective source attribution for source-oriented sampling and toxicity.</td>
<td>Keith Bein, Yongjing Zhao, Anthony Wexler, UC Davis</td>
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<td>Anthropogenic and biogenic contributions to secondary organic aerosols at two industrial cities in the Upper Midwest.</td>
<td>Andrew Rutter, David Snyder, Elizabeth Stone, Brandon Shelton, Jeff Deminter, James Schauer, University of Wisconsin-Madison</td>
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2SA.7  Sources of Ultrafine Particles in the Atmosphere over the Eastern United States. LAURA POSNER, Spyros Pandis, Carnegie Mellon University

2UA URBAN AEROSOLS I
EXHIBIT HALL A

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

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


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

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

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


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

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


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

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

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

3AC AEROSOL CHEMISTRY III
B115/116

Gabriel Isaacman and Annmarie Carlton, chairs

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

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

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


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

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

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 Voigtlander, Laura Tomsche, Heike Wex, Frank Stratmann, Vienna University of Technology. INVITED.

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

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

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

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

Effect of Aggregation and Mixing on Optical Properties of Black Carbon. BARBARA SCARNATO, NASA Ames


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

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

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

3IM INSTRUMENTATION AND METHODS III

B117/118/119

Lara Gundel and Antonio Miguel, chairs

3IM.1 Design and Characterization of a New Coarse Particle Collector Based on Microtrap Impactor Technology. 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

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

3IM.4 DMA Size-Selection and Electrostatic Deposition of Particle Size Standards down to 10nm. BENJAMIN HUNT, William Dick, Zeeshan Syedain, MSP Corporation

3IM.5 Coupling Electrostatic Precipitation with Attenuated Total Reflectance FTIR for Spectral Signature Studies. 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. LIN SHOU, Danielle Hall, Yu-Mei Hsu, Alex Theodore, Chang-Yu Wu, Brian Birky, University of Florida

3RA REMOTE AND REGIONAL ATMOSPHERIC AEROSOLS II

B110/111/112

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

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

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

3RA.4 Precipitation Scavenging of Aerosols in the Niigata Plain, Japan, during the Winter Season. SHIN OHARA, Shin-ichi Fujita, Naoto Kihara, Soichiro Sugimoto, Akira Takahashi, Central Research Institute of Electric Power Industry


3RA.6 The Color of Aerosol Deposition and the Browning of the Taj Mahal. J. JAI DEVI, Michael Bergin, S.N. Tripathi, Tarun Gupta, Michael McKenzie, Martin Shafer, James Schauer, K.S. Rana, Georgia Institute of Technology
3SA SOURCE APPORTIONMENT I
A106

Mei Zheng and Sonia Kreidenweis, chairs

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

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

3SA.3  Source Apportionment of Fine Atmospheric Particles in Marseille: A One Year Study. DALIA SALAMEH, 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


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

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

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

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

Wednesday

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

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

Moderator Sotiris Pratsinis, ETH, Zurich

9:00  Friedlander Award Presentation, AAAR Fellows, IARA Fellows Sheryl Ehrman, Awards Committee Chair, University of Maryland

Wednesday 9:00 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
4AC AEROSOL CHEMISTRY IV
B115/116

Brent Williams and Sally Ng, chairs

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

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

4AC.3 Characterization of Organic Aerosol from Mixed Biogenic / Anthropogenic Emissions. DHRAV 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

11:15

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

J. Alex Huffman and John Sodeau, chairs

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

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

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

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

4BA.5 Wildfire Impact on Indicators of Primary Biological Load and Genotoxic Potential of Airborne Particulate Matter in Pristine Sub-Alpine Forests. ALINA M. HANDBOREAN, 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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<th>Title</th>
<th>Speaker(s)</th>
<th>Institution(s)</th>
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<tr>
<td>4CA.1</td>
<td>Single Particle Characterization Using a Soot Particle Aerosol Mass Spectrometer (SP-AMS) with a Light Scattering Module in Downtown Toronto.</td>
<td>Alex Y. Lee, Megan D. Willis, Robert Healy, Jonathan Abbatt</td>
<td>University of Toronto</td>
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<tr>
<td>4CA.2</td>
<td>The SP-AMS Inter-Comparison Campaign.</td>
<td>AMEWU A. Mensah, Joel Corbin, Sanna Saarikoski, Axel Eriksson, Martin Gysel, Raphäel Färber, Berko Sierau, Manuel Abegglen, Veronika Hladnik, André Welti, Ulrike Lohmann</td>
<td>ETH Zurich, Institute for Atmospheric &amp; Climate Science</td>
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<tr>
<td>4CA.4</td>
<td>Identify Major Oxalate Salts in PM2.5.</td>
<td>Shiguoguo Jia, Liming Yang, Liya Yu</td>
<td>National University of Singapore</td>
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<td>4CA.5</td>
<td>Hourly Measurement of the Concentration and Gas-Particle Partitioning of Oxygenated Organic Tracers in Ambient Aerosol: First Results from Berkeley, CA and Rural Alabama.</td>
<td>Gabriel Isaacman, Nathan Kreisberg, Lindsay Yee, Arthur Chan, David Worton, Susanne Hering, Allen H. Goldstein</td>
<td>University of California, Berkeley</td>
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<tr>
<td>4CA.6</td>
<td>A Sensitivity Analysis of Organic Aerosol Retrieved Volatility Distributions to Kinetic Parameters.</td>
<td>James Hite, Kate Cerully, Athanasios Nenes</td>
<td>Georgia Institute of Technology</td>
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<td>4CC.1</td>
<td>The Influence of Molecular Structure and Photochemical Aging on Organic Films Coating Microscopic Aqueous Droplets.</td>
<td>Chris Ruehl, Kevin Wilson</td>
<td>Lawrence Berkeley National Laboratory</td>
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<tr>
<td>4CC.2</td>
<td>Hygroscopic Growth of Super-micron Particles in the Coastal Marine Atmosphere.</td>
<td>Xiaolu Zhang, Christopher Cappa, Paola Massoli, Patricia Quinn, Timothy Bates</td>
<td>University of California, Davis</td>
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<tr>
<td>4CC.3</td>
<td>Aerosol Optical Hygroscopicity Measurements during the 2010 CARES Campaign.</td>
<td>Dean Atkinson, James Radney, Janelle LUM, Christopher Cappa, Katheryn Kolesar, Daniel Czcico, Mikhail Pekour, Qi Zhang, Ari Setyan, Chen Song</td>
<td>Portland State University</td>
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<tr>
<td>4CC.4</td>
<td>Contribution of Biomass Burning to CCN Number and Hygroscopicity during Summertime in the Eastern Mediterranean.</td>
<td>Aikaterini Bougiatioti, Spyros Bezentakos, Iasonas Stavroulas, George Biskos, Nikolaos Mihalopoulos, Athanasios Nenes</td>
<td>Georgia Institute of Technology</td>
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<tr>
<td>4CC.5</td>
<td>Quantifying Water Diffusion in High-viscosity Atmospheric Aerosol Proxies.</td>
<td>Hannah Price, Benjamin Murray, Johan Mattsson, Daniel O'Sullivan, Theodore Wilson, Kelly Baustian</td>
<td>University of Leeds</td>
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<td>4CC.7</td>
<td>Sub-grid Aging: When is the Internal Mixture Assumption Good Enough?</td>
<td>Laura Fierce, Nicole Riemer, Tami Bond</td>
<td>University of Illinois at Urbana-Champaign</td>
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</table>
4CH CONTROL TECHNOLOGY AND HOMELAND SECURITY II

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

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

4HA HEALTH RELATED AEROSOLS II

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

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
**5AC.1** Alkane SOA Formation: Effect of Alkane Structure, NOx Conditions, Relative Humidity and Acidity. 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

**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

**5AC.4** Secondary Organic Aerosol Formation from Aromatic Compounds: Describe SOA Yield Using [OH]/[HO2] Ratio. Ping Tang, Shunsuke Nakao, Chia-Li Chen, DAVID R. COCKER III, University of California, Riverside

**5AC.5** Secondary Organic Aerosol Formation from Naphthalene and Methylnaphthalene Photooxidation. CHIA-LI CHEN, Mary Kacarab, Ping Tang, David R. Cocker III, University of California, Riverside

**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

**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

**5CA.3** Average Chemical Properties and Potential Formation Pathways of Highly Oxidized Organic Aerosol. KELLY DAUMIT, Sean Kessler, Jesse Kroll, MIT

**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

**5CA.5** Wintertime Organic Aerosols in Fresno, California: Characteristics, Sources and Aqueous-phase Processing. XINLEI GE, Ari Setyan, Yele Sun, Qi Zhang, University of California, Davis

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

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

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

The Limitations of Electrical Mobility Diameter for Biomass Burning CCN Activation. MICHAEL GIORDANO, Carlos Espinoza, Akua Asa-Awuku, University of California, Riverside

A New Experimental Approach toward Determining Cloud Nucleating Activities of Haze Particles. SHUNSUKE NAKAO, Sonia Kreidenweis, Colorado State University

Weak Global Sensitivity of Cloud Condensation Nuclei and the Aerosol Indirect Effect to Criegee+SO2 Chemistry. JEFFREY PIERCE, Mat Evans, Catherine Scott, Stephen D’Andrea, Delphine Farmer, Erik Swietlicki, Dominick Spracklen, Colorado State University

The Contribution of Sub-Grid, Plume-Scale Nucleation to Global and Regional Aerosol and CCN Concentrations. ROBIN STEVENS, Jeffrey Pierce, Dalhousie University

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

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

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

Origin, Cure and Control of Nanosilver Toxicity. Georgios Sotiriou, Kakeru Fujiwara, SOTIRIS E. PRATSINIS, ETH Zurich

Single Particle Characterization of Nanoparticle Metal-Oxides by ICP-MS. BRIAN MAJESTIC, Manuel Montano, James Ranville, University of Denver

Performance of a Personal Thermal Precipitator to Assess Nanoparticle Exposures. David Leith, John Volckens, Dan MILLER-LIONBERG, Traci Lersch, Gary Casuccio, Colorado State University

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

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
5EN.6 Research Progress on Environmental, Health, and Safety Aspects of Engineered Nanomaterials. PHILIP K.
2:15 HOPKE, Clarkson University

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
2:45 Pyrgiotakis, Bingtao Zhao, Philip Demokritou, Harvard University

5HA HEALTH RELATED AEROSOLS III
A106

Gediminas Mainelis and Owen Price, chairs

5HA.1 Association of Respiratory and Circulatory Hospitalizations with PM$_{(2.5)}$ Elemental Carbon (EC), Organic Carbon (OC), and Gaseous Co-Pollutants in Pittsburgh, Pennsylvania, during 2001-2002. RICHARD BILONICK, Daniel Connell, Evelyn Talbott, Judith Rager, University of Pittsburgh
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

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

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

5ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING I
B117/118/119

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 Sabaliauska, 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, Xiangyun, Kun Li, Qinfang, 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 PILLARISSETTI, 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, University of Cambridge
2:15
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*

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**

6AC AEROSOL CHEMISTRY VI
B115/116

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*
3:30

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

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

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

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

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*
4:45

6AP AEROSOL PHYSICS III
A105

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.** HUI OUYANG, Carlos Larriba-Andaluz, Derek Oberreit, Christopher Hogan Jr., *University of Minnesota*
3:30

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

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

6AP.4   **A Collision-Based Model for the Kinetics of Bacteriochlorophyll c Self-Assembly in Methanol-Water Solution.** GERARD LAKIN, Vivek Shah, Gregory Orf, Robert Blankenship, Pratim Biswas, *Washington University in St. Louis*
4:15
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<td>3:30</td>
<td>Modeling of Nanoparticles Synthesis in Inverted Flames.</td>
<td>IGOR NOVOSSELOV, Christopher Stipe, Rajan K. Enertechnix Inc</td>
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<td>4:45</td>
<td>Evaluating the Mobility of Nanorods in Electric Fields.</td>
<td>MINGDONG LI, Rian You, George Mulholland, Michael Zachariah, University of Maryland</td>
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<td>3:30</td>
<td>Chemical and Optical Properties of Biomass Burning Aerosol.</td>
<td>ROYA BAHREINI, Joshua P. Schwarz, Anne Perring, Daniel Lack, Justin Langridge,</td>
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<td>Francesco Canonaco, Andre Prévôt, John Holloway, Carsten Warneke, Jessica Gilman,</td>
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<td>Brian Lerner, Joost de Gouw, Ann Middlebrook, University of California, Riverside</td>
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<td>3:45</td>
<td>Secondary Organic Aerosol Formation from Gasoline and Diesel Vehicle Emissions</td>
<td>JAY SLOWIK, Ru-Jin Huang, Stephen Platt, Simone Pieber, Imad El Haddad, Alessandro</td>
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<td>Using a New Reactor.</td>
<td>Zardini, Ricardo Suarez-Bertoa, Stig Hellesbeut, Brice Temime-Roussel, Nicolas</td>
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<td>Marchand, Urs Baltensperger, Covadonga Astorga, Andre Prévôt, Paul Scherrer Institute</td>
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<td>4:00</td>
<td>New Particle Formation Increases CCN Yield in Veldt Fire Plumes in Southern</td>
<td>VILLE VAKKARI, Johan Beukes, Petri Titta, Andrew D. Venter, Keneels Jaars, Miroslaw</td>
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<td>Africa.</td>
<td>Josipovic, Pieter G. van Zyl, Veli-Matti Kerminen, Markku Kulmala, Lauri Laakso,</td>
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<td>University of Helsinki, Helsinki, Finland</td>
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<td>4:15</td>
<td>Sources and Light Absorption Properties of Water-Soluble Organic Carbon in</td>
<td>ZHENYU DU, Kebin He, Fengkui Duan, Yuan Cheng, Jiumeng Liu, Rodney Weber, Tsinghua</td>
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<td>Beijing.</td>
<td>University</td>
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<td>3:30</td>
<td>Biomass Burning Contribution to Beijing Aerosol.</td>
<td>YUAN CHENG, Kebin He, Fengkui Duan, Guenter Engling, Rodney Weber, Tsinghua University</td>
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<td>4:00</td>
<td>Mass-mobility Measurements of Cigarette Smoke Using a CPMA-DMS System.</td>
<td>TYLER JOHNSON, Ross Cabot, Conor Treacy, Caner Yurteri, Colin Dickens, John McGaughey,</td>
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<td>Jonathan Symonds, Jason S. Olbert, University of Alberta</td>
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<td>4:15</td>
<td>Comparison of Culturability and Membrane Integrity Loss of Escherichia Coli</td>
<td>HUAJUN ZHEN, Taewon Han, Donna Fennell, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
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<td>during Aerosolization by Four Aerosol Generators.</td>
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<tr>
<td>4:30</td>
<td>Effect of Aerosolization, Air Sampling and Relative Humidity on Influenza</td>
<td>Nathalie Turgeon, Méliissa Marcoux-Voiselle, Marie-Josée Toulouse, Caroline Duchaine,</td>
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<tr>
<td></td>
<td>Virus.</td>
<td>MARTYNE AUDET, Université Laval, Canada</td>
</tr>
<tr>
<td>4:45</td>
<td>Preferential Aerosolisation of Respiratory Pathogens.</td>
<td>PHILLIPA PERROTT, Nathalie Turgeon, Marc Veillette, Caroline Duchaine, Université Laval, Canada</td>
</tr>
</tbody>
</table>
### 6ST.1 Evaluation of Low-Cost PM Sensors, Intended for Use in a Dense Monitoring Grid.
**Presenter:** David M. Broday, Barak Fishbain, YAEL ETZION, Ilan Levy, Technion - Israel Institute of Technology

### 6ST.2 Strategies for Reducing the Size and Power of Particulate Exposure Monitors.
**Presenter:** JOHN MUTH, Sushmit Mallik, North Carolina State University

**Presenter:** NARESH KUMAR, Ian Longley, Sung Kim, University of Miami

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

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

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

### 6UA URBAN AEROSOLS II

#### B110/111/112

### 6UA.1 The Spatial Characterization of Ultrafine Particles in Toronto (SCULPT) Study: The Winter Campaign.
**Presenter:** 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

### 6UA.2 Particle Evolution near Major Roadways Based on Observed Ultrafine Particle Concentration Profiles under Stable Conditions.
**Presenter:** Wonsik Choi, SUZANNE PAULSON, UCLA

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

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

### 6UA.5 Particulate Matter Exposure and Risk Assessment in Urban and Rural Areas of the San Joaquin Valley.
**Presenter:** SURESH RAJA, Srikar Middala, Scott Nester, Neelesh Sule, Gary Casuccio, Traci Lersch, Roger R. West, Providence Engineering and Environmental Group

### 6UA.6 Exploring the Composition of Urban and Rural Organic Matter Found in Coarse Particles (PM$_{10-2.5}$) in Northeastern Colorado.
**Presenter:** NICHOLAS CLEMENTS, Tiffany Duhl, Eunkyung Lee, Bounkheana Chhun, Fernando Rosario-Ortiz, Jana Milford, Shelly Miller, Michael Hannigan, University of Colorado at Boulder

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

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

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**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,  *Caretton 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

**Nicole Riemer and Lea Hildebrandt Ruiz**, chairs

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

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

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


7AC.5  **Model Evaluations of Heterogeneous Nitril Chloride Production Sources during CalNex 2010.**  WAYNE CHANG, Nicole Riemer,  *University of Illinois at Urbana-Champaign*

7AC.6  **Hydrogen Peroxide Enhances the Heterogeneous Oxidation of Oxygenated Volatile Organic Compounds on Mineral Dust.**  Yue Zhao, ZHONGMING CHEN, Dao Huang,  *Peking University*

7AC.7  **Organic Aerosol Mixing Observed By Single Particle Mass Spectrometry.**  ELLIS SHIPLEY ROBINSON, Rawad Saleh, Neil Donahue,  *Carnegie Mellon University*

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7AE AEROSOL EXPOSURE I  
A106

**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*
7AE.2 Characterization of the Exposure of Underground Miners to Mixed Aerosols. EMANUELE CAUDA, Luca Stabile, Giorgio Buonanno, Art Miller, NIOSH

7AE.3 Measuring Commuter Exposure to Black Carbon in the Context of a Multi-Pollutant Study. NICHOLAS GOOD, Taylor Carpenter, Maggie Clark, Phil Clark, Ashleigh Kayne, Kirsten Koehler, Brianna Moore, Christian L’Orange, Amy L. Stuart, Jennifer Peel, John Volckens, Colorado State University

7AE.4 The Effect of Horse Bedding Type on Air Quality in an Equine Farm. YEVGEN NAZARENKO, Michael L. Westendorf, 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. 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

7BA BIOAEROSOLS: CHARACTERIZATION AND ENVIRONMENTAL IMPACT V

Joshua Santarpia and Robert Bowers, chairs

7BA.1 Inactivation of Bioaerosols by Nanoparticles from Consumer Products. JENNIFER THERKORN, Leonardo Calderón, Gediminas Mainelis, Rutgers, The State University of New Jersey

7BA.2 Differential Proteomic Analysis of Sphingomonas Aerolata Bioaerosols. Valdis Krumins, Sjef Boeren, Peter 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

7BA.4 Characterization of Aerosols Using an Electrodynamic Linear Quadrupole Trap. MATTHEW HART, Erin Davis, Jason Edmonds, Jay Eversole, Naval Research Laboratory

7BA.5 Fluorescence Characterization of Individual Bio-Aerosols and Ambient Air Measurements. VASANTHI 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, 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 College Cork

7CO COMBUSTION II

Prem Lobo and Georgios Karavalakis, chairs

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

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

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

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

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

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

7IM INSTRUMENTATION AND METHODS IV
B117/118/119

Andy Freedman and Jim Smith, chairs

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

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

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

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

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

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

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

7UA URBAN AEROSOLS III
B110/111/112

Chelsea Preble and Kristina Wagstrom, chairs


7UA.2  Ambient Primary PM2.5 from Petroleum Refinery Operations. LI DU, Jay Turner, Washington University in St. Louis
Air quality during Landfill Fire in Iowa City, Summer 2012: Ambient Measurement and Plume Characterization. ASHISH SINGH, Robert Bullard, Andrew Hesselink, Allaa Hassanein, Doug Beardsley, Michael D Wichman, Thomas Peters, Scott N. Spak, Elizabeth Stone, Charles Stanier, University of Iowa

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

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

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

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

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

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

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

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

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

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

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

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 Domen, Andre Prévôt, Urs Baltensperger, Rainer Volkmer, University of Colorado

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
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

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

8AC.14 Instantaneous Secondary Organic Aerosol Formation from M-xylene Photooxidation: Quantification of NOx and NO3 Radical Effects on SOA Yield. LIJIE LI, Ping Tang, Chia-Li Chen, Mary Kacarab, David R. Cocker III, University of California, Riverside

8AC.15 OH Initiated Heterogeneous Degradation of Organophosphorus Compounds. LIU YONGCHUN, Ligio John, Harner Tom, Jantunen Lisa, Shoeib Mahiba, Shao-Meng Li, Environment Canada

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, Davis

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

8AC.18 Infrared Spectra of Individual Wavelength-Scale Particles: Spectral Challenges and Novel Techniques. ARUNA RAVI, Antriksh Luthra, James Coe, Ohio State University

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

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

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

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

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

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

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

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

8AE.6 Characteristics of Personal Exposure to PM2.5 in Public Transportations in Beijing, China. CAIQING YAN, Mei Zheng, Qiaoyun Yang, Qunfang Zhang, Xinghua Qiu, Tong Zhu, Yifang Zhu, Peking University

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

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
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<tr>
<th>Session</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>8BA.1</td>
<td>Living Microorganisms in Clouds.</td>
<td>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</td>
</tr>
<tr>
<td>8BA.2</td>
<td>Survival of Microorganisms to the Main Stress Factors Encountered in Clouds.</td>
<td>Muriel Joly, Pierre Amato, Martine Sancelme, Mickaël Vaitilingom, Virginie Vinatier, Laurent Deguillaume, ANNE-MARIE DELORT, Clermont Université, Institut de Chimie de Clermont-Ferrand</td>
</tr>
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<td>8BA.3</td>
<td>The On-line Detection of Biological Particle Emissions from Selected Agricultural Materials Using the WIBS-4 (Waveband Integrated Bioaerosol Sensor) Technique.</td>
<td>DAVID O’CONNOR, David Healy, John Sodeau, University College Cork</td>
</tr>
<tr>
<td>8BA.4</td>
<td>Ubiquity and Persistence of Streptococcus Suis Bioaerosols in Swine Confinement Buildings.</td>
<td>LAETITIA BONIFAIT, Marc Veillette, Daniel Grenier, Caroline Duchaine, Université Laval, Canada</td>
</tr>
<tr>
<td>8BA.5</td>
<td>A Field-deployable Electrostatic Collector for Bioaerosols with High Concentration Rate.</td>
<td>TAEWON HAN, Donna Fennell, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
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<tr>
<td>8BA.6</td>
<td>Quantifying the Effect of Relative Humidity and Ozone on the Viability of Aged Bacillus Thuringiensis Al Hakam and MS-2 Bacteriophage Biological Aerosols.</td>
<td>SEAN KINAHAN, Elizabeth Corson, Shanna Ratnesar-Shumate, Yong-Le Pan, Jonathan Eshbaugh, Christopher Bare, Joshua Santarpia, Johns Hopkins University Applied Physics Laboratory</td>
</tr>
<tr>
<td>8BA.7</td>
<td>Understanding Aerosolized Viral Particles Behaviour in a Mechanically Ventilated Agricultural Building</td>
<td>MARTYNE AUDET, Matthieu Girard, Martin Belzile, Stéphane Godbout, Caroline Duchaine, Centre de recherche de l’IUCPQ, Université Laval</td>
</tr>
<tr>
<td>8BA.8</td>
<td>Measurement of Ribosomal RNA in Airborne Escherichia Coli: Sample Collection Methods Produce Bias in 16S rRNA-based Analysis Methods.</td>
<td>HUAJUN ZHEN, Valdis Krumins, Taewon Han, Donna Fennell, Gediminas Mainelis, Rutgers, The State University of New Jersey</td>
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<tr>
<td>8BA.9</td>
<td>Comparison of Airborne Bacterial Compositions in Bioaerosols Collected at 3,000m, 1,000m, 10m over Japan.</td>
<td>TERUYA MAKI, Fumihisa Kobayashi, Kakikawa Makiko, Maromu Yamada, Atsushi Matsuki, Yasunobu Iwasaka, Kanazawa University</td>
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<td>8BA.10</td>
<td>Seasonal Cycles of Fluorescent Biological Particles in Finland and Colorado Forests.</td>
<td>Carolyn J. Schumacher, Christopher Pöhiker, Pasi Aalto, Markku Kulmala, Ulrich Pöschl, J. ALEX HUFFMAN, University of Denver</td>
</tr>
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<td>8BA.11</td>
<td>Hidden Biological Aerosol Exposure Risks from Vehicle Air Conditioner Filter.</td>
<td>Jing Li, MINGZHEN LI, Fangxia Shen, Zhuanglei Zou, Maosheng Yao, Chang-Yu Wu, Peking University</td>
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<td>8BA.12</td>
<td>Temporal Distribution of Gram-negative (G-) and Gram-positive (G+) Bacterial Aerosols with Different Charge Polarity and Level.</td>
<td>KAI WEI, Maosheng Yao, Peking University</td>
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<td>8BA.13</td>
<td>Real-time Measurements Of Airborne Fungal Spores Biomarkers Using PILS-LC-MS/MS.</td>
<td>ROLAND SARDA-ESTEVE, Nicolas Bonnaire, Marie-Helene Nadal, Lorna Foliot, Jean Sciare, LSCE</td>
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8CA CARBONACEOUS AEROSOLS IN THE ATMOSPHERE VI

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<tr>
<th>Session</th>
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<tr>
<td>8CA.1</td>
<td>Wavelength-dependent Complex Refractive Indices of Different Types of Secondary Organic Materials.</td>
<td>PENGFEI LIU, Yue Zhang, Scot Martin, Harvard University</td>
</tr>
<tr>
<td>8CA.2</td>
<td>Characterizing the Efficiency of the SP-AMS for Measuring Black Carbon in Organic Coated Particles.</td>
<td>MEGAN D. WILLIS, Alex K. Y. Lee, Jonathan Abbatt, University of Toronto</td>
</tr>
</tbody>
</table>
8CA.3 The Role of Organic Condensation on Ultrafine Particle Growth during Nucleation Events. DAVID PATOULIAS, Iliana Riipinen, Spyros Pandis, University of Patras, Greece
12:15

12:15

8CA.5 Evaporation Kinetics of Engine Lubricating Oil Aerosols at Near Ambient Conditions. Sara Jaber, Rawad Saleh, ALAN SHIHADEH, American University of Beirut
12:15

8CA.6 Validation of Long-Term Observations Using Sample-air Dilution with Particle Soot Absorption Photometer. 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
12:15

8CA.7 Examining Evolution of Biogenic Organic Aerosols Using a Theoretical Carbon Number Functionality Grid. JUDITH PERLINGER, Tanvir Khan, Bo Zhang, Hans P. Arp, Michigan Technological University
12:15

8CA.8 Direct Determination of Soot Mass Absorption and Mass Extinction Coefficients at Multiple Wavelengths. JAMES RADNEY, Christopher Zhangmeister, Michael Zachariah, National Institute of Standards and Technology
12:15

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
12:15

12:15

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
12:15

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
12:15

8CA.13 Impact of Hygroscopicity and Refractive Index of Black Carbon Coatings on Absorption Enhancement. LAURA FIERCE, Francisco Mena, Tami Bond, Nicole Riemer, University of Illinois at Urbana-Champaign
12:15

8CA.14 Carbonaceous Nanoparticle Toxicity as a Function of Ferrous Iron Content. DAN HINZ, Hsiang Teng, Hoi Ting, Anne Johansen, Central Washington University
12:15

8CC AEROSOLS, CLOUDS, AND CLIMATE III
EXHIBIT HALL A

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
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8CC.2 Contact Freezing Efficiency of Mineral Dust Particles Determined via Optical Tweezers. RYAN SULLIVAN, Hassan Beydoun, Kyle Gorkowski, Benjamin Dennis-Smithers, Toni Carruthers, Jonathan P. Reid, Carnegie Mellon University
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8CC.4 Complex Refractive Index of Hematite in the Visible and Near Visible: A Review. HANS MOOSMULLER, Johann Engelbrecht, Desert Research Institute
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8CC.5 Aerosol-Vertical Velocity Coupling Effects on Stratus Cloud Microphys. STEPHEN NOBLE, James Hudson, Desert Research Institute
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8CC.6 Development of a Source Oriented Version of the WRF/Chem Model and Its Application to the California Regional PM10/PM2.5 Air Quality Study. HONGLIANG ZHANG, Steven DeNero, David Joe, Hsiang-He Lee, Shu-Hua Chen, Michael Kleeman, UC Davis
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8CC.7 Mixing State of Size-selected Submicrometer Particles in the Arctic (Ny-Ålesund, Svalbard) in the Spring and Fall of 2012. Kihong Park, GIBAEK KIM, Jae-Seok Kim, Young Jun Yoon, Hee-joo Cho, **Gwangju Institute of Science and Technology**

8CC.8 Properties of Carbonaceous Aerosols during CARDEX 2012: An Instrument Intercomparison. NICHOLAS BERES, Ian Arnold, Rajan K. Chakrabarty, Hans Moosmüller, P.S. Praveen, Ramanathan Veerabhadran, W. Patrick Arnott, James Schauer, Orjan Gustafsson, **Desert Research Institute**


8CC.10 Photooxidation of Polycyclic Aromatic Hydrocarbons in Clouds and Fog – Laboratory and Model Studies. JERSHON EAGAR, Pierre Herckes, Barbara Ervens, **Arizona State University**

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**

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**

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**

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. Dukkiewicz, Jussi Paatero, Yro Viisinen, **Clarkson University**

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. Dukkiewicz, Jussi Paatero, Yro Viisinen, **Clarkson University**

8CC.16 Effect of Pressures and Temperatures on Ion-induced Nucleation Rate Measurement in SO2/H2O/N2 Gas Mixture by Soft X-ray Ionization. TAKASHI OGI, Asep Suhendi, Kikuo Okuyama, Muhammad Miftahul Munir, Ferry Iskandar, **Hiroshima University**

8CC.17 Can Meteorology Obfuscate Aerosol Indirect Effects in Stratocumulus? Jonathan Petters, HONGLI JIANG, Graham Feingold, Dione Rossiter, Djamal Khelif, Lisa Sloan, PATRICK CHUANG, **University of California, Santa Cruz**

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**

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, **Bucknell University**

8EN ENGINEERED NANOPARTICLES: EMISSIONS, TRANSFORMATION AND EXPOSURE II

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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. Egggersdorfer, David Y. H. Pui, **University of Minnesota**

8EN.4 The Application of the Universal Nanoparticle Analyzer for the Real-time Measurement of Engineered Nanoparticles in the Workplace. DREW THOMPSON, Jing Wang, **University of Minnesota**

8EN.5 Formation of Nanoparticles as an Undesired Byproduct of an Industrial Accident. SHERYL EHRMAN, Yoon Shin, **University of Maryland**

8IM INSTRUMENTATION AND METHODS V

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8IM.1 Performance Testing of MSP Model 1120 Water-based Condensation Particle Counter. LIN LI, Francisco Romay, William Dick, **MSP Corporation**
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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
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<td>Dimethyl Sulfide Control of the Clean Summertime Arctic Aerosol and Cloud.</td>
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<td>Cristina Gonzalez-Maddux, AURELIE MARCOTTE, Nabin Upadhyay, Pierre Herckes, Yolanda Williams, Gordon Haxel, Marin Robinson, Arizona State University</td>
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<td>A Long Term Variation of Chemical Species in PM$<em>{2.5}$ and PM$</em>{10}$ in the Ambient Atmosphere at Background Site in Jeju, Korea during 2008–2012.</td>
<td>KWANGYUL LEE, Tsatsral Batmunkh, Young Joon Kim, Kihong Park, Gwangju Institute of Science and Technology (GIST), Korea</td>
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<td>Chemical Characterization of Particles Sampled in Revin, France, during the EMEP 2012 Summer Campaign.</td>
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<td>KATE CERULLY, Aikaterini Bougiatioti, Lu Xu, Hongyu Guo, Rodney Weber, Nga Lee Ng, Athanasios Nenes, Georgia Institute of Technology</td>
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<td>Ferrous Iron and Hydrogen Peroxide Produced by Marine Aerosols Deposited in Ocean Water of the Equatorial Pacific Ocean.</td>
<td>HSIANG TENG, Hoi Ting, Dan Hinz, Anne Johansen, Central Washington University</td>
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<td>8RA.19</td>
<td>Measurement of Gas and Aerosol Agricultural Emissions.</td>
<td>PHILIP SILVA, USDA - Agricultural Research Service</td>
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8ST PORTABLE AND INEXPENSIVE SENSOR TECHNOLOGY FOR AIR QUALITY MONITORING III

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<td>Calibration and Assessment of Low-cost, Portable Particle Counters for Accurate In-field Monitoring of Cookstove Emissions.</td>
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<td>A Low-Cost Real-Time Detector for Airborne Asbestos Fibers.</td>
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<td>Simple Low–Cost Aerosol Field Sampler for Deployment by Volunteers.</td>
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<td>Next-Generation Air Monitoring - A Review of Portable Air Pollution Sensors.</td>
<td>PAUL A. SOLOMON, Margaret MacDonell, Ron Williams, Eben Thoma, Dena Vallano, Michelle Raymond, Olson David, US EPA</td>
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<td>Measuring In-field Emissions of Biomass Combustion.</td>
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<td>Inexpensive Microfluidic Devices for Multiplexed Metal Measurement in Particulate Matter.</td>
<td>David Cate, Poomrat Rattanarat, Killeen O’Conaill, John Volckens, CHARLES HENRY, Colorado State University</td>
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<td>Quantification Methods for Metal-Oxide Semiconductor Gas Sensors.</td>
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<td>Low Cost Air Quality Monitors for Citizen Science.</td>
<td>JOANNA GORDON, Ashley Collier, Ricardo Piedrahita, Nicholas Masson, Michael Russel, Michael Hannigan, University of Colorado at Boulder</td>
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<td>Evaluation of Fine Particulate Matter (PM2.5) and Ultrafine Particulate Matter (PM0.1) in the Airshed of Tijuana, BC - San Ysidro, CA Border.</td>
<td>Javier Emmanuel Castillo Quiñones, Guillermo Rodriguez, Penelope Quintana, Nina Bogdanchikova, Universidad Autónoma de Baja California, Tijuana, México</td>
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**Session 9: Platform**

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**9AC AEROSOL CHEMISTRY IX**

*B115/116*
9AC.1  Modeling SOA Formation in Mixed Anthropogenic Biogenic Plumes. MANISHKUMAR SHRIVASTAVA, Jerome Fast, 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, 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

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

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

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

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

9BA.3  Measurements of Changes in the Fluorescence and Viability of Biological Particles Exposed to Outdoor Conditions in the Washington D.C. Metro Area. JOSHUA SANTARPIA, Don Collins, Yong-Le Pan, Shanna Ratnesar-Shumate, Crystal Glen, Andres Sanchez, Steven Hill, Carlos Antonietti, Jill Matus, Nathan Taylor, Christopher Bare, Sean Kinahan, Elizabeth Corson, Danielle Rivera, Mark Coleman, Chatt Williamson, Sandia National Laboratories

9BA.4  Design and Performance of Low-cost Aerosol Micro-Channel Collector. IGOR NOVOSSELOV, Riley Gorder, John Scott Meschke, Enertechnix, Inc

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

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

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

9IM.3  Laboratory Characterization of a Size-Resolved CPC Battery to Infer the Composition of Freshly Formed Atmospheric Nuclei. CHONGAI KUANG, Juha Kangasluoma, Daniela Wimmer, Katrianne Lehtipalo, Jian Wang, Markku Kulumala, Tuukka Petäjä, Brookhaven National Laboratory
Method for Calibration of the Detection Efficiency of Condensation Particle Counters at Concentrations as Low as 1 cm$^{-3}$ Using a Faraday-cup Aerosol Electrometer. HIROMU SAKURAI, Kensei Ehara, AIST

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

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

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

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

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

Diffuse Vs. Specular Algorithms to Explain Electrical Mobility in Diatomic Gases. Carlos Larriba-Andaluz, Christopher Hogan Jr., University of Minnesota

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

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

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

Source Contributions to Primary and Secondary Particulate Matter during a Severe PM2.5 Pollution Event in Xi’an, China. HONGLIANG ZHANG, Qi Ying, Dexiang Wang, Texas A&M University

Development and Application of a Particle Number Source Tagging Algorithm in an Aerosol Microphysics Model. DANIEL WESTERVELT, Jeffrey Pierce, Peter Adams, Carnegie Mellon University

New Particle Formation in an Urban Atmosphere: Seasonal Dependence and Influence of Air Mass Origin. ANNA WONASCHUETZ, Julia Burkart, Richard Haindl, Julia Palmethofer, Georg Reischi, Gerhard Steiner, Robert Wagner, Regina Hitzenberger, University of Vienna
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

Sources and Chemical Processing of Organic Aerosol during the Summer in the Eastern Mediterranean. EVANGELIA KOSTENIDOU, Kalliopi Florou, Christos Kaltsonoudis, Maria Tsiflikiotou, Magdalini Psychoudaki, Spyros Pandis, Institute of Chemical Engineering Sciences, ICE-HT, Greece

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 Rousard, Dominique Demare, IRSN

Contribution of Atmospheric Aerosols to Urban Stormwater Runoff. JEREMY TAMARGO, Cliff Davidson, Syracuse University

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

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

Photolytic Processing of Organic Atmospheric Particulate Matter. SCOTT A. EPSTEIN, Mallory Hinks, Sergey Nizkorodov, University of California, Irvine


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

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

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

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

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

Automated Pollen Identification and Counting System (APICS). JAMES HOUSE, Gregory Griffin, Richard Flagman, Caltech

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

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

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

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

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

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

Observations of Sharp Oxalate Reductions in Stratocumulus Cloud Water at Variable Altitudes. Armin Sorooshian, ZHEN WANG, Matthew Coggon, Haflidi Jonsson, Barbara Ervens, University of Arizona

Parameterization of In-Plume Aerosol Processing Effects on the Efficacy of Marine Cloud Albedo Enhancement from Controlled Sea-Spray Injections. Geoff Stuart, ROBIN STEVENS, Dominick Spracklen, Hannele Korhonen, Jeffrey Pierce, Dalhousie University

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

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

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

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


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

Plasmonic Multipetal Flower Assemblies for Hot-spots Engineered SERS(Surface-Enhanced Raman Spectroscopy) Nanosensor. KINAM JUNG, Jungskuk Hahn, Sungjun In, Heechul Lee, Peter Pikhitsa, Kwangjun Ahn, Kyungyun Ha, Junhoo Kim, Jongkwn Lee, Sunghoon Kwon, Namkyoo Park, Mansoo Choi, Seoul National University

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

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

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

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

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

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

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

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


Long-Term Trend Analysis of Factors Contributing to PM2.5 in Toronto: What is this Elemental Carbon-Rich Factor? CHEOL-HEON JEONG, Greg J. Evans, Dennis Herod, Ewa Dabek-Zlotorzynska, SOCAAR, University of Toronto
Friday 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, β-Caryophyllene, Toluene, and Naphthalene at Three Sites in the Pearl River Delta, China. JIAN ZHEN YU, Wing Yi Wong, X. H. Hilda Huang, Hong Kong University of Science and Technology


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

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

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

11CO COMBUSTION III

A105

David Cocker and Eben Cross, chairs


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


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

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

11IA INDOOR AEROSOLS III

A106

Sergey Grinshpun and Lance Wallace, chairs

11IA.1 Indoor PM2.5 at Santiago, Chile, 2012. HECTOR JORQUERA, Francisco Barraza, Pontificia Universidad Catolica de Chile

9:45 Particle Concentrations in Retail Environments. Marwa Zaatari, JEFFREY SIEGEL, The University of Toronto

10:00 Ultrafine Particle Emissions from Desktop Three-Dimensional Printers. Parham Azimi, Zeineb El Orch, Tiffanie Ramos, Robert Zylstra, Julie Steele, BRENT STEPHENS, Illinois Institute of Technology

10:15 Elevated Levels of Respirable Antimony (Sb) and Other Trace Elements inside an Elementary School. BRIAN MAJESTIC, Joseph Turner, Aurelie Marcotte, University of Denver

10:30 The Impact of Energy Efficiency Retrofits on Indoor PM Levels. SARAH FREY, Pierre Herckes, Matthew Fraser, Arizona State University

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, SURESH DHANIYALA, Clarkson University
9:45

11IM.2 The Radial Opposed Migration Ion/Aerosol Classifier (ROMIAC). WILTON MUI, Andrew Downard, Daniel Thomas, Jesse Beauchamp, John Seinfeld, Richard Flagan, Caltech
10:00

11IM.3 Development and Performance Evaluation of New Type Differential Mobility Analyzer (Hy-DMA). KANG-HO AHN, Gun-Ho Lee, Hong-Ku Lee, Hee-Ram Eun, Hanyang University, R. of Korea
10:15

11IM.4 A Water-based Fast Integrated Mobility Spectrometer with Enhanced Dynamic Size Range. MICHAEL PIKRIDAS, Steven Spielman, Chongai Kuang, Thomas Tsang, Scott Smith, Andrew McMahon, Susanne Hering, Jian Wang, Brookhaven National Laboratory
10:30

11IM.5 Development of a Pulsed-Voltage Differential Mobility Analyzer for Measuring Shape Parameters for Non-Spherical Particles. MINGDONG LI, Rian You, George Mulholland, Michael Zachariah, University of Maryland
10:45

11UA URBAN AEROSOLS VI
B110/111/112

Greg Evans and Peter DeCarlo, chairs

11UA.1 Variation of Particle Number Concentration in a Street Canyon and an Urban Background Site. KAARLE HAMERI, Vanessa Dos Santos-Juusela, Tuukka Petäjä, Anu Kousa, University of Helsinki, Department of Physics
9:45

10:00

11UA.3 On-Road Gasoline and Diesel Vehicle Contributions to Fine Particulate Black Carbon and Primary Organic Aerosol Emissions. TIMOTHY DALLMANN, Thomas Kirchstetter, Robert Harley, University of California, Berkeley
10:15

11UA.4 Development and Implementation of Low Level Biodiesel Blend Formulations to Help the Air Quality Standards in California Related to Diesel Fuel. MARYAM HAJBABAEI, Georgios Karavalakis, Kent C. Johnson, Alexander Mitchell, Jim Guthrie, David R. Cocker III, Thomas D. Durbin, University of California, Riverside
10:30

11UA.5 Analyses of Emission Measurements for a Heavy-duty Diesel Bus through Experiments and Simulations: The Comparison between On-road and In-lab Methods. ZHEMING TONG, Yan Wang, Bo Yang, Topi Ronkko, Jorma Keskinen, Lisa Pirjola, K. Max Zhang, Cornell University
10:45

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

12AC AEROSOL CHEMISTRY XI
B115/116

Faye McNeill and Qi Zhang, chairs

12AC.1 Chemistry of New Particle Growth Events in Mixed Biogenic and Urban Emissions - Results from the CARES 2010 Campaign. QI ZHANG, Ari Setyan, Maik Merkel, Berk Knighton, Cody Floerchinger, Scott Herndon, Timothy Onasch, Douglas Worsnop, Chen Song, John Shilling, University of California, Davis
11:15

12AC.2 Nanoparticle Growth and Salt Formation - a Modeling Study. TAINA YLI-JUUTI, Kelley C. Barsanti, Lea Hildebrandt Ruiz, Antti-Jussi Kieloaho, Ulla Makkonen, Tuukka Petäjä, Taina Ruuskanen, Markku Kulmala, Ilona Ripinen, University of Helsinki
11:30
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

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

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

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

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

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

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

Effects of Multiple Scattering on the Radiative Properties of Fractal Soot Aggregates. FENGSHAN LIU, Gregory Smallwood, National Research Council Canada

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

Secondary Organic Aerosol Precursors in Biomass Burning Smoke. LINDSAY HATCH, Wentai Luo, James F. Pankow, Robert J. Yokelson, Kelley C. Barsanti, Portland State University

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

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

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.
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


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

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

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

12IM INSTRUMENTATION AND METHODS IX
B117/118/119

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

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

12IM.3 Towards Accurate Calculation of Particle Size Distributions from Fast-SMPS Measurements. ISHARA JAYASURIYA, Mei Lu He, Suresh Dhaniyala, Clarkson University

12IM.4 Aerodynamic Aerosol Classifier. Farzan Tavakoli, Jonathan Symonds, JASON S. OLFERT, University of Alberta


12UA URBAN AEROSOLS VII
B110/111/112

Suzanne Paulson and John Liggio, chairs

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

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

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

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

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