

DECEMBER 6 - 8, 2017

UC Davis Conference Center

**International Aerosol
Modeling Algorithms
Conference**

Presented by:

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CONFERENCE PROGRAM

WEDNESDAY, DECEMBER 6, 2017

7:00 **REGISTRATION AND BREAKFAST** *in Conference Center Lobby*

8:00 **OPENING REMARKS**

8:10 **PLENARY TALK**

Evolving Understanding of Air Quality in Central California-From Project Lo-Jet to CAL-NEX and DISCOVER-AQ

John Watson, *Desert Research Institute*

8:55 **EMISSIONS AND THE NEAR-SOURCE ENVIRONMENT**

Hosted by Allen Robinson, *Carnegie Mellon University*, Max Zhang, *Cornell University*, Christine Wiedinmyer, *National Center for Atmospheric Research*

Cooking emissions in the urban environment

Albert Presto, *Carnegie Mellon University*

Constraining carbonaceous aerosol emissions from biomass cookstoves in India

Apoorva Pandey, *Washington University, St. Louis*

Volatile Chemical Products Emerging as Largest Petrochemical Source of Urban Organic Emissions

Brian McDonald, *NOAA/UC-Boulder*

Nepal Ambient Monitoring and Source Testing Experiment (NAMaSTE)

Elizabeth Stone, *University of Iowa*

10:15 **BREAK**

Coffee and Refreshments in Lobby

10:35 **EMISSIONS AND THE NEAR-SOURCE ENVIRONMENT continued...**

Emissions from residential energy use dominate exposure to ambient fine particulate matter in India

Lunke Conibear, *University of Leeds*

Integrating Biomass Burning Emissions Measurements and Predictive Models of Secondary Organic Aerosol Formation

Kelley Barsanti, *University of California, Riverside*

Does vehicle-induced turbulence matter if you care about near-road air quality?

Max Zhang, *Cornell University*

11:40 **PLENARY TALK**

Modeling aqueous atmospheric chemistry: From the molecular to the regional and global scales

V. Faye McNeill, *Columbia University*

12:20 **LUNCH**

Provided by Magpie Caterers

1:20 **THE DYNAMIC EVOLUTION OF THE AEROSOL SIZE DISTRIBUTION**

Hosted by Mike Kleeman, *University of California, Davis*, Hannele Korhonen, *Finnish Meteorological Institute*

Importance of the aerosol size distribution when diagnosing radiative effects of land use change

Cat Scott, *University of Leeds*

Sectional modelling of clouds and particle size distributions in a large-eddy model

Juha Tonttila, *Finnish Meteorological Institute*

Modeling the dynamics of particles in the nanometer size range: What do we need to consider?

Tinja Olenius, *Stockholm University*

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2:25 **CONNECTING GAS AND THE AEROSOL CHEMISTRY**

Hosted by Tzung-May Fu, *Peking University*; Paul Wennberg, *California Institute of Technology*

Implications of some recent measurement-based advances in SOA using new gas and aerosol chemistry model parameterizations

Manish Shrivastava, *Pacific Northwest National Laboratory*

Gas-phase Autoxidation Mechanisms

Henrick Kjaergaard, *University of Copenhagen*

Chemistry of Highly Oxidized Peroxyradicals and SOA Formation

Thomas Mentel, *Forschungszentrum Jülich GmbH*

3:25 **BREAK**

Coffee and Refreshments in Lobby

3:45 **CONNECTING GAS AND THE AEROSOL CHEMISTRY continued...**

Molecular corridors and particle phase state in atmospheric secondary organic aerosols

Manabu Shiraiwa, *University of California, Irvine*

Modelling the multiphase aerosol chemistry of isoprene derived organic hydroxy hydroperoxides with MCM/CAPRAM

Andreas Tilgener, *Leibniz Institute for Tropospheric Research*

Modelling the impact of multiphase chemistry on processing of oxygenated aromatic compounds

Erik Hans Hoffmann, *Leibniz Institute for Tropospheric Research*

Criegee chemistry on realistic aqueous organic surfaces: the ozonolysis of wet oleic acid aerosol

Lijie Li, *California Institute of Technology*

5:10 **WELCOME RECEPTION & POSTER DISCUSSIONS**

Join us in the Lobby of the Conference Center for some light appetizers, drinks and great discussions on the poster displays and session topics.

Poster Presentation Displays listed on last page.

CONFERENCE PROGRAM

THURSDAY, DECEMBER 7, 2017

7:00 **REGISTRATION AND BREAKFAST** *in Conference Center Lobby*

8:00 **CONNECTING GAS AND THE AEROSOL CHEMISTRY**

Hosted by Tzung-May Fu, *Peking University*, Paul Wennberg, *California Institute of Technology*

An MCM-based method for evaluating chamber isoprene SOA yields

Emma D'Ambro, *University of Washington, Seattle*

An Examination of the Effect of Chemistry on Nitrate Aerosol Formation

William Stockwell, *University of Texas at El Paso*

8:45 **CLOUDS AS SOURCES AND SINKS OF PARTICLES**

Hosted by Rahul Zaveri, *Pacific Northwest National Laboratory*, Ilona Riipinen, *Stockholm University*

Predicting equilibrium phase partitioning in aerosols and its impact on CCN properties

Andi Zuend, *McGill University*

Heterogeneous Sulfate Aerosol Formation Mechanisms in Chinese Haze Events

Becky Alexander, *University of Washington*

Amazon Boundary-layer Aerosol Concentration Sustained by Vertical Transport during Rainfall

Jian Wang, *Brookhaven National Laboratory*

Characterization of the surface of ice at atmospheric conditions

Davide Donadio, *University of California, Davis*

10:05 **BREAK**

Coffee and Refreshments in Lobby

10:25 **CLOUDS AS SOURCES AND SINKS OF PARTICLES continued...**

Hosted by Stéphane Bélair, *Environment and Climate Change Canada*

Modeling Urban and Land Surface Processes and its impacts on Air Quality Prediction

Michael Barlage, *National Center for Atmospheric Research*

Street-level climate and dispersion in mesoscale models

Scott Krayenhoff, *Arizona State University*

11:10 **PARTICLE PROPERTIES**

Hosted by Gordon McFiggans, *University of Manchester*, Andreas Zuend, *McGill University*

Evaluating monoterpene oxidation product properties using COSMOTerm

Theo Kurtén, *University of Helsinki*

Interpreting properties of α -pinene derived SOA from evaporation of particles under varying conditions

Taina Yli-Juuti, *University of Eastern Finland*

How to efficiently capture the volatility distribution of α -pinene derived SOA from evaporation experiments

Olli-Pekka Tikkanen, *University of Eastern Finland*

Modeling Water Transport in Single Aerosol Particles

Thomas Preston, *McGill University*

12:25 **LUNCH**

Provided by Magpie Caterers

1:20 **PARTICLE PROPERTIES continued...**

Organic aerosol composition in monitoring networks - 1: Bottom-up Approach

Ann Dillner, *University of California, Davis*

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THURSDAY, DECEMBER 7, 2017

Organic aerosol composition in monitoring networks - 2: Top-down Approach

Satoshi Takahama, *Swiss Federal Institute of Technology*

Characterization of black-carbon containing particles under very clean and highly polluted environments

Xinlei Ge, *Nanjing University of Information Science and Technology*

What can the 'machine' learn?

David Topping, *University of Manchester*

2:40 **BREAK**

Coffee and Refreshments in Lobby

3:00 **CARBONACEOUS AEROSOL FORMATION**

Hosted by Serena Chung, *US Environmental Protection Agency*; Shantanu Jathar, *Colorado State University*

Comprehensive organic emission profiles for gasoline, gas-turbine and diesel engines using the volatility basis set

Allen Robinson, *Carnegie Mellon University*

Insights into the complicated influence of NO_x on the growth of new particles from monoterpene ozonolysis

Mikael Ehn, *University of Helsinki*

Formation, evaporation, and hydrolysis of organic nitrates from nitrate radical oxidation of monoterpenes

Nga Lee Ng, *Georgia Institute of Technology*

Photooxidants in Particle Water

Richie Kaur, *University of California, Davis*

Chemical Processing of Organics within Clouds

Sara Lance, *ASRC, SUNY-Albany*

Wintertime Reactivity of Biomass Burning Markers and its Implications

Vikram Pratap, *Clarkson University*

CONFERENCE PROGRAM

FRIDAY, DECEMBER 8, 2017

7:00 **REGISTRATION AND BREAKFAST** *in Conference Center Lobby*

8:00 **CHALLENGING PM MODELING SYSTEMS FOR POLICY RELATED ASSESSMENTS**

Hosted by Kirk Baker, *US Environmental Protection Agency*, Ajith Kaduwela, *California Air Resources Board*

Better Air Through Understanding Aerosol Liquid Water Chemistry

Annmarie Carlton, *University of California, Irvine*

Quantifying the contribution to uncertainty in mortality attributed to household, ambient, and joint exposure to PM_{2.5} from residential solid-fuel use

Jack Kodros, *Colorado State University*

NH₄NO₃ modeling for the San Joaquin Valley of California by U.S. EPA and CARB during the 2013 DISCOVER-AQ Field Campaign

James Kelly, *US Environmental Protection Agency*

Understanding sources and effects of precursors on fine particles over China: A modeling study with response surface modeling technique

Jia Xing, *Tsinghua University*

Challenges in reconstructing trends in PM_{2.5} and precursors in the United States

Marguerite Colasurdo Marks, *Carnegie Mellon University*

9:40 **BREAK**

Coffee and Refreshments in Lobby

10:00 **CHALLENGING PM MODELING SYSTEMS FOR POLICY RELATED ASSESSMENTS continued...**

Implementation, Evaluation, and Impact of the US surface particulate matter concentration forecast by NOAA

Pius Lee, *NOAA Air Resources Laboratory*

Global Fine Particulate Matter: Insight from Satellite Remote Sensing, Chemical Transport Modeling, and Ground-based Measurements

Randall Martin, *Dalhousie University*

Testing Extensions of Our Quantitative Daily of San Joaquin Wintertime Aerosols Using MAIAC and Meteorology without Transport/Transformation Assumptions

Robert Chatfield, *NASA Ames Research Center*

Air Quality Modeling of the Relationship Between Projected Ozone and Particulate Matter in the South Coast Air Basin in Response to Varying Reductions of Precursor Emissions

Devoun Stewart, *University of Texas at El Paso*

Investigation of spatial and temporal variations in aerosol mixing state using a particle-resolved regional aerosol model

Jeffrey Curtis, *University of Illinois at Urbana-Champaign*

Thank you for attending!

CONFERENCE PROGRAM

POSTER PRESENTATION DISPLAYS

Qualitative analysis of atmospheric chemical reaction networks

Adele Kuzmiakova, *Swiss Federal Institute of Technology Lausanne (EPFL)*

Liquid and Gas Phase Controls over Particulate Organic Nitrate

Azimeh Zare, *University of California, Berkeley*

Point Sources

Craig Stroud, *Environment and Climate Change Canada*

A molecular representation of alpha-pinene SOA

Haval Pye, *US Environmental Protection Agency*

Impacts of solvent polarity on extraction of ambient fine particles

Minmeng Tang, *Department of Environmental Toxicology, University of California, Davis*

Can surfactant synergism explain low surface tensions in cloud condensation nuclei?

Satoshi Takahama, *Swiss Federal Institute of Technology Lausanne (EPFL)*

The Role of Day- and Night-time Aging on the Evolution and Composition of Organic Aerosol from Wildfire Emissions

Shantanu Jathar, *Colorado State University*

Future Polycyclic aromatic hydrocarbons and their impacts on lung cancer risk owing to future changes in emissions under the Representative Concentration Pathways (RCPs)

Sijia Lou, *Pacific Northwest National Laboratory*

Secondary Organic Aerosol Formation via Photosensitized Reactions of Guaiacyl Acetone in the Aqueous Phase

Wenqing Jiang, *Department of Environmental Toxicology, University of California, Davis*

Predicting volatility and viscosity of secondary organic aerosols and the equilibration timescale of partitioning

Ying Li, *University of California, Irvine*

Evaluating the pulmonary bioaccessibility of heavy metals in China PM_{2.5} by a stepwise in vitro method

Xiaosan Luo, *Nanjing University of Information Science & Technology*

Utilizing Satellite-Based Observations to Improve PM_{2.5} Simulations for Air Quality Management and Health Impact Assessment in the San Francisco Bay Area

Meytar Sorek-Hamer, *NASA AMES Research Center*

Thank you to our generous conference sponsor, the California Air Resources Board



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COMMITTEE

Thank you to our Technical Program Committee for putting in the extra time and effort to recruit specialty presenters and evaluate proposals.

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