American Association for Aerosol Research - Abstract Submission

AAAR 38th Annual Conference
October 5 - October 9, 2020

Virtual Conference

Monday

Monday 10:00 AM - 11:15 AM
Plenary I

10:00 **Welcoming Remarks** Matti Maricq, Conference Chair, and Andrea Ferro, AAAR President, *Ford Motor Company and Clarkson University*

10:10 **The Role of Aerosols in the Transmission of COVID-19** Linsey Marr, *Virgina Tech*

Moderator Gedi Mainelis, *Rutgers University*

10:35 **Aerosols and Masks: Building Bridges from Aerosols Science to Clinical Infectious Disease Practice** Donald K. Milton, *University of Maryland*

Moderator Paul Dabisch, *National Biodefense Analysis and Countermeasures Center*

11:00 **Discussion** Gedi Mainelis and Paul Dabisch, *Rutgers University and National Biodefense Analysis and Countermeasures Center*

Monday 11:15 AM - 11:30 AM
Break

Monday 11:30 AM - 12:15 PM
Session 1: Platform

1AC AEROSOL CHEMISTRY: PHYSICAL PROPERTIES OF SOA

TRACK 1

Demetrios Pagonis, chair

1AC.1 11:30 **Global Distribution of the Phase State and Mixing Times within Secondary Organic Aerosol Particles in the Troposphere Based on Room-Temperature Viscosity Measurements.** ADRIAN MACLEAN, Ying Li, Natalie R. Smith, Giuseppe Crescenzo, Anusha P.S. Hettiyadura, Kyla Siemens, Celia Faiola, Alexander Laskin, Sergey Nizkorodov,

Manabu Shiraiwa, Allan Bertram, *University of British Columbia*

1AC.2 11:40 **Secondary Organic Aerosol Volatility on Mixed Anthropogenic and Biogenic Precursor Systems.** ARISTEIDIS VOLIOTIS, Yu Wang, Yunqi Shao, Mao Du, Thomas Bannan, Rami Alfarra, Gordon McFiggans, *University of Manchester*

1AC.3 11:50 **Mass Accommodation and Gas-Particle Partitioning of Semivolatile Compounds in Organic Aerosols: Diffusivity, Viscosity, and Penetration Depth Dependence.** MANABU SHIRAIWA, Ulrich Pöschl, *University of California, Irvine*

1AE AEROSOL EXPOSURE: URBAN AEROSOL EXPOSURE

TRACK 2

Marina Vance, chair

1AE.1 11:30 **Green Heart Louisville: Community-Level Assessment of Exposure to Air Pollution.** PRADEEP S. PRATHIBHA, Eben Cross, Richard Strehl, Ray Yeager, Aruni Bhatnagar, Jay R. Turner, *Washington University in St. Louis*

1AE.2 11:40 **First Measurements of PM2.5 in Kinshasa, Democratic Republic of Congo (DRC).** CELESTE MCFARLANE, V. Faye McNeill, Daniel Westervelt, *Columbia University*

1AE.3 11:50 **Source-Resolved Primary Organic Aerosol Exposure Estimates in the United States.** Provat Saha, Ellis Shipley Robinson, Wenwen Zhang, Steven Hankey, Julian Marshall, ALLEN ROBINSON, Albert A. Presto, *Carnegie Mellon University*

1AP AEROSOL PHYSICS: DYNAMICS OF NANOCLUSTER FORMATION

TRACK 3

Hallie Boyer and Carlos Larriba, chairs

1AP.1 11:30 **Particle Size Distribution Dynamics Can Help Constrain the Phase State of Secondary Organic Aerosol.** CHARLES HE, Ali Akherati, Theodora Nah, Jeffrey R. Pierce, Rahul Zaveri, Christopher Cappa, Lauren A. Garofalo, Nga Lee Ng, Delphine K. Farmer, Shantanu Jathar, *Colorado State University*

1AP.2 11:40 **Diurnal and Seasonal Variations of Secondary Organic Aerosol Phase State over the Continent US Simulated in CMAQ.** YING LI, Annmarie Carlton, Kirk Baker, Manabu Shiraiwa, *University of California, Irvine*

1AP.3 11:50 **The Effect of Rotation and Preferred Orientation on Particle Mobility in the Free Molecular Regime.** CARLOS LARRIBA-ANDALUZ, Viraj Gandhi, *IUPUI*

1CA CARBONACEOUS AEROSOLS: LIGHT-ABSORBING BIOMASS BURNING AEROSOLS

TRACK 4

James Allan, chair

1CA.1 11:30 **Changes in Light Absorption Driven by Two Different Oxidation Processes on Atmospheric Tar Balls from Wildfires in Western United States.** BENJAMIN SUMLIN, Nishit Shetty, Andrew Lambe, Edward Fortner, Andrew Lambe, Rajan K. Chakrabarty, *Washington University in St. Louis*

1CA.2 11:40 **Examination of Brown Carbon Absorption from Wildfires in the Western U.S. during the WE-CAN Study.** AMY P. SULLIVAN, Rudra Pokhrel, Yingjie Shen, Shane Murphy, Darin Toohey, Teresa Campos, Jakob Lindaas, Emily Fischer, Jeffrey Collett, *Colorado State University*

1CA.3 11:50 **Light Absorbing Properties of Biomass Burning-influenced Organic Aerosols in Southeast Asia.** NETHMI KASTHURIARACHCHI, Laura-Helena Rivellini, Alex Lee, *National University of Singapore*

1ID ROLE OF AEROSOL SCIENCE IN COVID-19: TOOLS AND FIELD STUDIES INVOLVING SARS-COV-2

TRACK 5

Paul Dabisch and Gedi Mainelis, chairs

1ID.1 11:30 **Measurements of Patient-Generated SARS-CoV-2 Aerosols and Surface Contamination at the University of Nebraska Medical Center.** JOSHUA SANTARPIA, St. Patrick Reid, Danielle Rivera, Vicki Herrera, Shanna Ratnesar-Shumate, Kevin Crown, Nicholas Markin, Steven Lisco, St. Patrick Reid, Jane Morwitzer, Paul Denton, Jacob Martens, Ying Fang, Michael Callahan, Jana Broadhurst, Hanna Creager, Conoan Nicholas, David Brett-Major, Elizabeth Schnaubelt, James Lawler, John Lowe, *University of Nebraska Medical Center*

1ID.2 11:40 **Collection of SARS-CoV-2 Virus from the Air in a University Student Health Care Center and Analyses of its Viral Genomic Sequence.** John Lednicky, SRIPRIYA NANNU SHANKAR, Maha Adel El Badry, Julia C. Gibson, MD Mahbubul Alam, Caroline J Stephenson, Arantzazu Eiguren Fernandez, John Glenn Morris, Carla Nartuhi Mavian, Marco Salemi, James R Clugston, Chang-Yu Wu, *University of Florida*

1ID.3 11:50 **Comparison of the Performance of Personal Biological Aerosol Samplers for SARS-CoV-2.** SHANNA RATNESAR-SHUMATE, Gregory Williams, Brian Holland, Jordan Bohannon, Melissa Krause, Brian Green, Denise Freeburger, Paul Dabisch, *DHS NBACC*

1RA REMOTE AND REGIONAL AEROSOLS: BIOMASS BURNING AND BIG PARTICLES

TRACK 6

Andy May, chair

1RA.1 11:30 **Persistent Influence of Biomass Burning Aerosols during Clean Air Conditions in the Western United States.** RYAN FARLEY, Noah Bernays, Daniel Jaffe, Qi Zhang, *University of California, Davis*

1RA.2 11:40 **Chemical Composition and Morphological Analysis of Internally Mixed Mineral Dust and Biomass Burning Aerosols.** JAY TOMLIN, Johannes Weis, Swarup China, Daniel Veghte, Matthew Fraund, Naama Reicher, Quanfu He, Chunlin Li, Yinon Rudich, Ryan Moffet, Mary Gilles, Alexander Laskin, *Purdue University*

1RA.3 11:50 **Relationships between Supermicrometer Sea Salt Aerosol and Marine Boundary Layer Conditions: Insights from Repeated Identical Flight Patterns.** JOSEPH SCHLOSSER, Hossein Dadashazar, Eva-Lou Edwards, Ali Mardi, Gouri Prabhakar, Connor Stahl, Haflidi Jonsson, Armin Sorooshian, *University of Arizona*

Monday 12:15 PM - 12:30 PM
Break

Monday 12:30 PM - 1:15 PM
Session 2: Platform

2AC AEROSOL CHEMISTRY: AQUEOUS PROCESSING OF SOA

TRACK 1

Annmarie Carlton, chair

2AC.1 **Photodegradation of Secondary Organic Aerosols by Long Term Exposure to Solar Actinic Radiation.** VAHE

12:30 BABOOMIAN, Yiran Gu, Sergey Nizkorodov, *University of California, Irvine*

2AC.2 **Aqueous Photochemistry of Synthesized Pinene-Derived Carboxylic Acids and Dimer Esters.** CHRISTOPHER
12:40 KENSETH, Yuanlong Huang, Nathan Dalleska, John Seinfeld, *California Institute of Technology*

2AC.3 **Synthesis and Hydrolysis of Atmospherically Relevant Monoterpene Organic Nitrates.** YUCHEN WANG,
12:50 Masayuki Takeuchi, Tianchang Xu, Amanda J Schwartz, Ivan Piletic, Stefan France, Nga Lee Ng, *Georgia Institute of Technology*

2AE AEROSOL EXPOSURE: TRAFFIC-RELATED AEROSOL EXPOSURE

TRACK 2

Jeff Siegel, chair

2AE.1 **Trends in Inter- and Intra-Urban Ultrafine Particle Concentrations in North America: Exposure Implications.**
12:30 ALBERT PRESTO, Provat Saha, Allen Robinson, *Carnegie Mellon University*

2AE.2 **In-Car Measurements of Traffic-Related Air Pollutants during Car Commuting.** CHEOL H. JEONG, Taylor
12:40 Edwards, Carson Clark, Alison Traub, Dana Umbrio, Greg J. Evans, *SOCAAR, University of Toronto*

2AE.3 **High-Resolution Cumulative Exposure Assessment of Traffic-Related Air Pollution with Different Google**
12:50 **Navigation Route Options.** MINMENG TANG, Deb Niemeier, *University of California, Davis*

2AP AEROSOL PHYSICS: PARTICLE SIZE EFFECTS ON DRYING & WALL LOSS KINETICS

TRACK 3

Eirini Goudeli, chair

2AP.1 **Primary Ion Diffusion Charging and Particle Wall Loss in Smog Chamber Experiments.** NASER MAHFOUZ, Neil
12:30 Donahue, *Carnegie Mellon University*

2AP.2 **Inter-comparison of Particle Wall Loss Among UCR Chambers and Caltech Chamber.** CHEN LE, Don Collins,
12:40 David R. Cocker III, *University of California, Riverside*

2AP.3 **Influence of Particle Size, Concentration and Drying Conditions on Colloidal Droplet Drying Kinetics and Dry**
12:50 **Microparticle Morphology.** JUSTICE ARCHER, Jim Walker, Jonathan P. Reid, *University of Bristol*

2CA CARBONACEOUS AEROSOLS: OPTICAL AND PHYSICAL PROPERTIES OF ABSORBING AEROSOLS

TRACK 4

Dan Westervelt, chair

2CA.1 **Evolution of Black Carbon Coatings in Biomass Burning Plumes during FIREX-AQ.** BRADEN MEDIAVILLA, Joseph
12:30 Katich, Joshua P. Schwarz, Glenn Diskin, Richard Moore, Elizabeth Wiggins, Donald Blake, Barbara Barletta, Nicola Blake, Simone Meinardi, Anne Perring, *Colgate University*

2CA.2 **Imaginary Refractive Index Comparison of Water- and Methanol-soluble Brown Carbon Aerosol from**
12:40 **western US Wildfires.** Pai Liu, NISHIT SHETTY, Benjamin Sumlin, Yutong Liang, Allen Goldstein, Rajan K. Chakrabarty, *Washington University in St. Louis*

2CA.3 **Submicron Soot Microphysical and Chemical Signatures from Detonations of High Explosive Composites in**
12:50 **Controlled Atmospheres.** ALLISON AIKEN, Rachel Huber, Andrew Schmalzer, Mark Boggs, James D. Lee, Kyle Gorkowski, Manvendra Dubey, *Los Alamos National Lab*

2ID ROLE OF AEROSOL SCIENCE IN COVID-19: VIRUS TRANSMISSION STUDIES

TRACK 5

Victoria Wahl and Paul Dabisch, chairs

2ID.1 12:30 **Quantitative Aerobiologic Analysis of an Influenza Human Challenge-Transmission Trial.** P. JACOB BUENO DE MESQUITA, Noakes Catherine, Donald Milton, *University of Maryland School of Public Health*

2ID.2 12:40 **Evidence of Transmission of SARS-CoV-2 in Exhaled Breath Aerosols of Experimentally-Infected Nonhuman Primates.** CHAD ROY, *Tulane University*

2ID.3 12:50 **Comparison of Different Methods for Respiratory Exposure to COVID-19 and Impact on Subsequent Disease and Virus Shedding in Animal Models.** Katherine O'Malley, Dominique Barbeau, Emily Olsen, Mengying Xia, Jeneveve Lundy, Shamkumar Nambulli, Cynthia McMillen, Natasha Tilston-Lunel, Emily Cottle, Theron Gilliland, Anita McElroy, Amy Hartman, William Klimstra, Paul Duprex, DOUGLAS REED, *University of Pittsburgh*

2RA REMOTE AND REGIONAL AEROSOLS: CHARACTERIZING REGIONAL AEROSOLS

TRACK 6

Chris Hennigan, chair

2RA.1 12:30 **Organic Composition of Aerosol Particles over the Southern Ocean by STXM-NEXAFS.** LYNN RUSSELL, Georges Saliba, Kevin Sanchez, Cynthia Twohy, Greg Roberts, Savannah Lewis, Jeramy Dedrick, Christina McCluskey, Kathryn Moore, Paul DeMott, Cynthia Twohy, *Scripps Institution of Oceanography*

2RA.2 12:40 **Characterization of Rural vs. Urban PM2.5 in the Indo-Gangetic Plain.** SAUMYA SINGH, Mark Campmier, Harsh Raj Mishra, Sreekanth Vakacherla, Adithi Upadhya, Jonathan Gingrich, Meenakshi Kushwaha, Ravi Kant Pathak, Julian Marshall, Sagnik Dey, Joshua Apte, *University of Texas at Austin*

2RA.3 12:50 **Variability in the Composition and Chemical Impacts of Biogenic Volatile Organic Compounds in the Southeastern U.S..** DEBORAH MCGLYNN, Sally Pusede, Gabriel Isaacman-VanWertz, *Virginia Tech*

Monday 1:15 PM - 1:30 PM
Break

Monday 1:30 PM - 2:15 PM
Session 3: Platform

3AC AEROSOL CHEMISTRY: ORGANIC NITROGEN

TRACK 1

Yuchen Wang, chair

3AC.1 1:30 **Volatility Distributions and Solubility of Monoterpene-derived Organic Nitrates.** MASAYUKI TAKEUCHI, Yuchen Wang, Gamze Eris, Nga Lee Ng, *Georgia Institute of Technology*

3AC.2 1:40 **Formation and Chemical Evolution of Organic Nitrates during Oxidation of Volatile Organic Compounds.** QING YE, Abigail Koss, Manjula Canagaratna, Alexander Zaytsev, Jordan Krechmer, Martin Breitenlechner, Kevin Nihill, Christopher Lim, James Rowe, Joseph Roscioli, Frank Keutsch, Jesse Kroll, *MIT*

3AC.3 1:50 **Gas and Particle-phase Highly Oxygenated Organic Molecules and Organic Nitrates from Chlorine-Initiated Photo-Oxidation of α-Pinene.** CATHERINE MASOUD, Lea Hildebrandt Ruiz, *University of Texas at Austin*

3AE AEROSOL EXPOSURE: INDOOR EXPOSURE TO AMBIENT AEROSOLS

TRACK 2

Anita Avery, chair

3AE.1 1:30 **Characterizing Infiltration and Indoor Contribution of PM2.5 Based on Volunteer-generated Monitoring Data at Large Spatial and Temporal Scales.** JIANZHAO BI, Lance Wallace, Jeremy A. Sarnat, Yang Liu, *Emory University*

3AE.2 1:40 **Mongolia PM2.5 Ambient Air Quality and Children's Indoor Exposures at School.** ZHIYAO LI, Munkhbayar Buyan, Rufus Edwards, Alex Heikens, Jay R. Turner, *Washington University in St. Louis*

3AE.3 1:50 **Problems at Home: Comparing Health Risks of Indoor and Outdoor Emissions during the HOMEChem Campaign.** ANNA HODSHIRE, Matson A. Pothier, Erin K. Boedicker, Delphine K. Farmer, *Colorado State University*

3AP AEROSOL PHYSICS: COAGULATION OF AEROSOL NANOPARTICLES

TRACK 3

Ranganathan Gopalakrishnan, chair

3AP.1 1:30 **Tuning Nanoparticle Aggregation with Externally Applied Magnetic Field Strength.** PRITHWISH BISWAS, Pankaj Ghildiyal, George Mulholland, Michael Zachariah, *University of California, Riverside*

3AP.2 1:40 **Heat Transfer in Nanometer Scale Aerosol Particles.** Huan Yang, CHRISTOPHER J. HOGAN, *University of Minnesota*

3AP.3 1:50 **An Experimentally Validated Model of Diffusion Charging of Arbitrary Shaped Aerosol Particles.** LI LI, Ranganathan Gopalakrishnan, *The University of Memphis*

3CA CARBONACEOUS AEROSOLS: INTRINSIC OPTICAL PROPERTIES OF BLACK CARBON

TRACK 4

Ogo Enekwizu, chair

3CA.1 1:30 **Determination of the Refractive Index of Carbon Black Engulfed by Ammonium Sulfate from Effective Medium Approximations.** JAMES RADNEY, Christopher Zangmeister, *National Institute of Standards and Technology*

3CA.2 1:40 **Estimation of the Mass Absorption Cross Section of Atmospheric Black Carbon using Regression and Machine Learning Approaches.** HANYANG LI, Andrew May, *The Ohio State University*

3CA.3 1:50 **Refractive Index of Black Carbon (BC) and Brown Carbon (BrC) Particles with True Monodisperse Selection.** DAWEI HU, Rami Alfarra, Kate Szpek, Justin Langridge, Chenjie Yu, Michael Cotterell, Claire Belcher, Ian Rule, Yunqi Shao, Aristeidis Voliotis, Zixia Liu, Dantong Liu, Jim Haywood, Hugh Coe, James Allan, *University of Manchester*

3ID ROLE OF AEROSOL SCIENCE IN COVID-19: FACTORS AFFECTING SURVIVAL OF VIRUSES

TRACK 5

Josh Santarpia and Gedi Mainelis, chairs

3ID.1 1:30 **Survival of Viruses in Droplets as a Function of Relative Humidity, pH, and Salt, Protein, and Surfactant Concentrations.** Kaisen Lin, Chase Schulte, LINSEY MARR, *Virginia Tech*

3ID.2 1:40 **Survival of SARS-CoV-2 in the Aerosol Phase Across a Broad Range of Temperature (5 to 40 oC), Relative Humidity (<5 to >90%) and Time (<5 seconds to >24 Hours).** ALLEN E. HADDRELL, Henry Oswin, Tristan Cogan, Jamie Mann, Jonathan P. Reid, *University of Bristol*

3ID.3 1:50 **Effects of Environmental Conditions, Suspension Liquid, and Particle Size on SARS-CoV-2 Persistence in Aerosols.** MICHAEL SCHUIT, Shanna Ratnesar-Shumate, Jason Yolitz, Gregory Williams, Wade Weaver, Brian Green, David Miller, Melissa Krause, Katie Beck, Stewart Wood, Brian Holland, Jordan Bohannon, Denise Freeburger, Idris Hooper, Michael Hevey, Paul Dabisch, *DHS NBACC*

3RA REMOTE AND REGIONAL AEROSOLS: MODELING AEROSOLS ACROSS SCALES

TRACK 6

Ben Murphy, chair

3RA.1 1:30 **Dynamical Downscaling of a Global Chemistry-Climate Model to Study the Influence of Climate Change and Variability on Mid-21st Century PM2.5 in the Continental US.** SURENDRA KUNWAR, Jared Bowden, George Milly, Previdi Michael, Arlene Fiore, Jason West, *University of North Carolina at Chapel Hill*

3RA.2 1:40 **Integrating Aerosol Size Distribution Measurements with a 3D Chemical Transport Model.** DANA MCGUFFIN, Erik B. Ydstie, Peter Adams, *Carnegie Mellon University*

3RA.3 1:50 **Effect of a Forest Canopy on the Spatial Distribution of Windborne Dust Concentration during a Dust Storm.** BORIS KRASOVITOV, Andrew Fominykh, Avi Levy, Itzhak Katra, *Ben-Gurion University of the Negev, Israel*

Monday 6:00 PM - 7:30 PM
Session 4: Posters

4AC

4AC.1 **Anthropogenic Influences on Amazonian Organic Aerosol: A Molecular-Level Analysis.** EMILY BARNES, Lindsay Yee, Gabriel Isaacman-VanWertz, Rebecca Wernis, Nathan Kreisberg, Robert Weber, Scot T. Martin, Brett Palm, Weiwei Hu, Pedro Campuzano-Jost, Douglas Day, Jose-Luis Jimenez, Paulo Artaxo, Allen Goldstein, *University of California, Berkeley*

4AC.2 **Solvent-modulated Effects on the Physical Properties of Secondary Organic Aerosol Mimicking Solutions.** Emmaline Longnecker, Rebecca Miller, Lucy Metz, Tracy Rompich, ANDREW BERKE, *Smith College*

4AC.3 **Vibrational Modes of 2-Methyltetrol Sulfates from Raman and Infrared Spectroscopy.** ALISON FANKHAUSER, Ziying Lei, Kimberly Daley, Yao Xiao, Andrew Ault, *University of Michigan*

4AC.4 **Simulating Wall-free Aromatic Secondary Organic Aerosol Formation via Multiphase Reactions in the Presence of Electrolytic Inorganic Aerosol.** SANGHEE HAN, Myoseon Jang, Chufan Zhou, *University of Florida*

4AC.5 **Heterogeneous Oxidation of Benzo[a]pyrene: Kinetics, Products and Toxicity.** AMY HRDINA, James Rowe, Simran Kaushal, Bevin Engelward, Jesse Kroll, *MIT*

4AC.6 **Comparison of Chemical Characteristics of PM2.5 Haze Events in Beijing, China and Gwangju, Korea.** JIHO JANG, Haebum Lee, Minhan Park, Nohhyeon Kwak, Ilhwa Seo, Dahye Oh, Min-Suk Bae, Kyoung-Soon Jang, Yujue Wang, Min Hu, Kihong Park, *Gwangju Institute of Science and Technology*

4AC.7 **The Effects of Ammonium on the Atmospheric Aging of 3-Oxodicarboxylic Acids.** ALEXANDRA KLODT, Jorge Fernandez, Michael Olsen, Sergey Nizkorodov, *University of California, Irvine*

4AC.8 **pH-Dependence of the OH-Reactivity of Organic Acids in the Aqueous Phase.** JESSICA LIMA AMORIM, Keifer Klimchuk, Florence Williams, Ran Zhao, *University of Alberta*

4AC.9 **Formation of Reactive Oxygen Species in Heated Cooking Oil Fumes and Real Cooking Emissions.** LU LU, Vanessa Yan Zi Ng, Zheng Hao Melvyn Tan, Yue Qian Tan, Wei Jie Seow, Alex Lee, *National University of Singapore*

4AC.10 **Humidity Dependence of the Condensational Growth Rate of Secondary Organic Aerosol Particles.** YIMING QIN, Jinghao Zhai, Paul Ohno, Jianhuai Ye, Yuemei Han, Pengfei Liu, Rahul Zaveri, Scot T. Martin, *Harvard University*

4AC.11 **Frequency-Dependent Humidity Response in Ultraviscous and Gel Particles.** CRAIG SHELDON, Chelsea Price, Ryan Davis, James F. Davies, *University of California, Riverside*

4AC.12 **Long-term Aging of Secondary Organic Aerosols Derived from Monoterpenes in the Presence of Water Vapor and Liquid Water.** CYNTHIA WONG, Daniel Vite, Sergey Nizkorodov, *University of California, Irvine*

4AC.13 **Simulation of Monoterpene SOA Formation via Multiphase Reactions of Lumping Species Generated from Explicit Gas Mechanisms.** ZECHEN YU, Myoseon Jang, Tianyu Zhang, Azad Madhu, Sanghee Han, *University of Florida*

4AC.14 **Heterogeneous Hydroxyl Radical Oxidation of Isoprene Epoxydiol (IEPOX)-Derived Secondary Organic Aerosol: Identification of Highly Oxygenated Products by HILIC/ESI-HR-QTOFMS.** N. CAZIMIR ARMSTRONG, Yuzhi Chen, Tianqu Cui, Yue Zhang, Jin Yan, Zhenfa Zhang, Barbara Turpin, Man Nin Chan, Andrew Ault, Avram Gold, Jason Surratt, *UNC Chapel Hill*

4AC.15 **SOA Formation in Mixed Oxidant (OH + Cl) Environments.** NIRVAN BHATTACHARYYA, Mrinali Modi, Lea Hildebrandt Ruiz, *University of Texas at Austin*

4AC.17 **Inorganic Sulfur Species Formation upon Heterogeneous OH Oxidation of Organosulfates: Methyl Sulfate.** Kai Chung Kwong, Yao Ge, Hon Yin Poon, Rongshuang Xu, Jian Zhen Yu, MAN NIN CHAN, *The Chinese University of Hong Kong*

4AC.18 **Heterogeneous Hydroxyl Radical Oxidation of Isoprene Epoxydiol-Derived Methyltetrol Sulfates: Plausible Formation Mechanisms of Previously Unexplained Organosulfates in Ambient Fine Aerosols.** YUZHI CHEN, Yue Zhang, Andrew Lambe, Rongshuang Xu, Ziying Lei, Nicole Olson, Zhenfa Zhang, Tessa Szalkowski, Tianqu Cui, William Vizuete, Avram Gold, Barbara Turpin, Andrew Ault, Man Nin Chan, Jason Surratt, *UNC-Chapel Hill*

4AC.19 **Atmospheric Particle Composition at Different Altitude via Tethered Balloon System.** SWARUP CHINA, Nurun Nahar Lata, Fan Mei, Darielle Dexheimer, Kuo-Pin Tseng, Zihua Zhu, Rhenton Brimberry, Noah Wilson, *Pacific Northwest National Laboratory*

4AC.20 **Aqueous-phase Secondary Organic Aerosol Formation: Laboratory Simulations and Field Observations in China.** XINLEI GE, Zhaolian Ye, *Nanjing University of Information Science & Technology*

4AC.22 **SOA Production from Chlorine Radical Oxidation of Alkanes: Effects of Structural Branching, NOx, and Relative Humidity.** LEIF JAHN, Dongyu S. Wang, Surya Venkatesh Dhulipala, Felipe Cardoso Saldaña, Lea Hildebrandt Ruiz, *University of Texas at Austin*

4AC.24 **Single Particle Analysis to Study Heterogeneous Oxidative Aging of Aerosols.** RAVLEEN KAUR KOHLI, James F. Davies, *University of California, Riverside*

4AC.25 **Investigating the July 1st/2nd 2018, Pollution Event at Whiteface Mountain with Box Modeling and WRF-Chem.** CHRISTOPHER LAWRENCE, Mary Barth, Sara Lance, Paul Casson, Dan Kelting, Elizabeth Yerger, *University at Albany, SUNY*

4AC.26 **Atmospheric Reactivity of Brake Wear Particulate Matter: Implications for Predicting and Improving Air Quality.** LAURA MATCHETT, Kristyna Stix, Maya Abou-Ghanem, Sarah Styler, *University of Alberta*

4AC.27 **Detailed Comparisons of Results From Comprehensive Chamber Studies and Explicit Chemical Mechanisms.** JOSHUA MOSS, Abigail Koss, Alexander Zaytsev, Martin Breitenlechner, Jordan Krechmer, Kevin Nihill, Jonathan Franklin, Christopher Lim, James Rowe, Joshua L. Cox, Joshua Shutter, Manjula Canagaratna, Brian Lerner, Douglas Worsnop, Richard Valorso, Marie Camredon, Bernard Aumont, Frank Keutsch, Jesse Kroll, *MIT*

4AC.28 **Quantification of Organic Aerosol Evaporation Rates in Aircraft Inlets and Instruments.** DEMETRIOS

PAGONIS, Benjamin A. Nault, Pedro Campuzano-Jost, Hongyu Guo, Jason Schroder, Douglas Day, Jose-Luis Jimenez, *University of Colorado-Boulder*

4AC.29 **Investigation of Brown Carbon Formation in Cloud Droplets and Ambient Particles Undergoing Drying.** VIKRAM PRATAP, Michael Battaglia Jr., Amy Christiansen, Annmarie Carlton, Christopher Hennigan, *University of Maryland, Baltimore County*

4AC.30 **Organic Fraction of the <0.15 µm Diameter Aerosol Particles over the Southern Ocean.** GEORGES SALIBA, Kevin Sanchez, Savannah Lewis, Lynn Russell, Cynthia Twohy, Greg Roberts, *Scripps Institution of Oceanography*

4AC.31 **Molecular Characterization of Brown Carbon Produced from the OH/NOx Photo-oxidation of Naphthalene.** KYLA SIEMENS, Ana Morales, Anusha P.S. Hettiyadura, Quanfu He, Chunlin Li, Yinon Rudich, Alexander Laskin, *Purdue University*

4AC.32 **Simulation of the Impact of Particle Phase State on SOA Formation from the Photooxidation of Isoprene and Beta-pinene Cocktail in the Presence of Electrolytic Salts.** ZECHEN YU, Myoseon Jang, *University of Florida*

4AC.33 **Superoxide Formation from Aqueous Reactions of Biogenic Secondary Organic Aerosols.** JINLAI WEI, Ting Fang, Cynthia Wong, Pascale Lakey, Sergey Nizkorodov, Manabu Shiraiwa, *University of California, Irvine*

4AC.34 **Nonrefractory Particulate Matter Detection Using the Dual-Vaporizer Configuration of the Soot Particle Aerosol Mass Spectrometer (SP-AMS).** LEAH WILLIAMS, Anita Avery, Arthur J. Sedlacek, Timothy Onasch, *Aerodyne Research, Inc.*

4AC.35 **Direct Measurement of Ozone Sensitivity to Oxides of Nitrogen and Volatile Organic Compounds during COVID-19 Using a Mobile Smog Chamber System.** SHENGLUN WU, Toshihiro Kuwayama, Michael Kleeman, *University of California, Davis*

4AC.36 **The Effect of Aerosol Acidity on the Volatility of Isoprene and Monoterpene-derived Secondary Organic Aerosol (SOA).** ALLA ZELENYUK, David Bell, Matthieu Riva, Dan Imre, Marianne Glasius, ManishKumar Shrivastava, John Shilling, Jason Surratt, Joel A. Thornton, Emma D'Ambro, Rahul Zaveri, *Pacific Northwest National Laboratory*

4AC.37 **The Interconnection of Aerosol-Phase State and Chemical Composition Impact the Formation and Climate-Altering Properties of Isoprene-Derived Secondary Organic Aerosols.** YUE ZHANG, Yuzhi Chen, Andrew Lambe, Nicole Olson, Ziying Lei, Zhenfa Zhang, Avram Gold, John Jayne, Douglas Worsnop, Timothy Onasch, Andrew Ault, Jason Surratt, *University of North Carolina at Chapel Hill*

4AC.38 **Gas-phase Hydrogen Peroxide from Multiphase Ozonolysis of Unsaturated Lipids.** ZILIN ZHOU, Jonathan Abbatt, *University of Toronto, Canada*

4AC.39 **Photochemical Uptake of Ozone by Organic-Coated TiO2 Particles: Influence of Atmospheric Transport on Mineral Dust Photochemistry.** MAYA ABOU-GHANEM, Sarah Styler, *University of Alberta*

4AC.40 **A Two-city Study of Air Quality in Vietnam 2018-19: Source Apportionment Using PMF Applied to Offline AMS Data.** ZAINAB BIBI, James Allan, Thomas Bannan, Alex Baker, David Oram, Duong Huu Huy, To Thi Hien, Hugh Coe, Saleh Alzahrani, *University of Manchester, UK*

4AC.41 **Deep Learning for Prediction of Multiphase Isoprene Oxidation Products.** MUNKHZAYA BOLDBAATAR, Mohamadamin Tavakoli, Dora Kadish, Karla Rojas Garcia, Pierre Baldi, David van Vranken, Sergey Nizkorodov, Annmarie Carlton, *University of California, Irvine*

4AC.42 **Impact of Meteorological Models on Aerosol Liquid Water Predictions.** ALYSSA BURNS, Virendra Ghate, Amy Christiansen, Annmarie Carlton, *University of California, Irvine*

4AC.43 **Aqueous Phase Reactions of Humic Like Substances (HULIS) Proxies with Photoproduced Reactive Oxygen Species (ROS).** ANTHONY CARRASQUILLO, Wyndom Chase, David Noeckel, Amelia Schaeffer, Allison Wong, *Williams College*

4AC.44 **Coupling Online Conductivity with Offline Ion Chromatography Measurements using the Particle-into-Liquid Sampler.** EWAN CROSBIE, Michael Shook, Luke Ziemba, Taylor Shingler, Bruce Anderson, Claire Robinson, Edward Winstead, Armin Sorooshian, Connor Stahl, Alexander B. MacDonald, Rachel Braun, *SSAI*

4AC.45 **Comparison of Nitrate Radical Initiated Oxidation of Four Monoterpenes in a Laboratory Chamber Study to**

Gain Mechanistic Insight. MICHELIA DAM, Danielle C. Draper, Andrey Marsavin, Juliane L. Fry, James Smith, *University of California, Irvine*

4AC.46 **Simulations of Kinetically-Limited IEPOX-SOA Reactive Uptake with Glass Transition Temperatures Predicted by Volatility and Chemical Composition Implemented in CMAQv5.3.** SARA FARRELL, Quazi Rasool, Havala Pye, Yue Zhang, Ying Li, Yuzhi Chen, Chitsan Wang, Haofei Zhang, Ryan Schmedding, Manabu Shiraiwa, Jason Surratt, William Vizuete, *University of North Carolina at Chapel Hill*

4AC.47 **Photolysis of Aqueous Atmospheric Aerosol Mimics.** Jacqueline Sharp, Daisy Grace, Shiqing Ma, Joseph Woo, MELISSA GALLOWAY, *Lafayette College*

4AC.48 **Ozonolysis of Unsaturated Products from Toluene Photo-oxidation Can Form Highly Oxygenated Organic Molecules (HOM).** OLGA GARMASH, Matthieu Riva, Matti P. Rissanen, Pekka Rantala, Otso Peräkylä, Liine Heikkinen, Yanjun Zhang, Mikael Ehn, *University of Helsinki*

4AC.49 **Impacts of Functional Group Identity on SOA Yields and Kinetics.** ANDREW HALLWARD-DRIEMEIER, Jonathan Hall, Amelia Schaeffer, Spence Katie, LeClerc Paul, Nicholas Whitcomb, Petra Baldwin, Nandini Seetharaman, Chris Avila, Anthony Carrasquillo, *Williams College*

4AC.50 **Growth of Fresh SOA Seed Particles by α-Pinene Ozonolysis.** DEVON HAUGH, Michael S. Taylor, Michael J. Apsokardu, Murray Johnston, *University of Delaware*

4AC.51 **NH3 and PM2.5 Characteristics at an Agricultural Site.** JOONWOO KIM, Haebum Lee, Taewoong Gong, Kihong Park, *Gwangju Institute of Science and Technology*

4AC.52 **Physicochemical Properties of Free Tropospheric Particles Collected at Pico Mountain Observatory and Their Role in Ice Cloud Formation.** NURUN NAHAR LATA, Bo Zhang, Simeon Schum, Lynn Mazzoleni, Claudio Mazzoleni, Swarup China, *Pacific Northwest National Laboratory*

4AC.53 **Effect of Particle Properties to the Atmospheric Visibility.** WEN-BIN LEE, Yeou-Lih Yan, Hsin-Chih Lai, Shao-Hao Lu, Ming-Tung Chuang, Tang-Huang Lin, Chea-Yuan Yang, Ying-I Tsai, Chih-Chieh Chen, Wen-Yinn Lin, *National Taipei University of Technology*

4AC.54 **Formation of Secondary Organic Aerosol from Nitrate Radical Oxidation of Phenolic Vocs: Implications for Nitration Mechanisms and Brown Carbon Formation.** RAPHAEL MAYORGA, Zixu Zhao, Haofei Zhang, *University of California, Riverside*

4AC.57 **Nucleation and Growth of Particulate Matter from the Photooxidation of Aromatic Hydrocarbons.** ISSAK PROAÑO LÓPEZ, Murray Johnston, *University of Delaware*

4AC.58 **Sea Spray Aerosol Assessment of Atmospheric Corrosion in a Marine Environment.** RAYMOND SANTUCCI, Christine Sanders, *US Naval Research Laboratory*

4AC.59 **Multiphase Degradation of Levoglucosan Using 0-D Numerical Simulations: Degradation Time Scales and Effects on SOA and Other Gases.** LOREDANA SUCIU, Robert Griffin, Caroline Masiello, *Rice University*

4AC.60 **Chemical Characterization of Isoprene- and Monoterpene-Derived Secondary Organic Aerosol (SOA) Tracers in Marine Aerosols from the Galápagos Islands.** TESSA SZALKOWSKI, Tianqu Cui, Karsten Baumann, Ryan Schmedding, Zhenfa Zhang, Jason Surratt, Jackson Seymore, William Vizuete, *University of North Carolina at Chapel Hill*

4AC.61 **Modeling and Interpreting the Growth of Deliquesced Ammonium Sulfate Seed Particles by α-Pinene Ozonolysis.** MICHAEL S. TAYLOR, Michael J. Apsokardu, Devon Haugh, Murray Johnston, *University of Delaware*

4AC.62 **Surfactant Effects on Hanging Droplet Aqueous-Phase Aerosol Mimic Direct Photochemistry.** Thomas Beier, JOSEPH WOO, *Lafayette College*

4AC.63 **Atmospheric Nanoparticles: Optical Photothermal Infrared Spectroscopy of Determining Particle Sizes.** Nicole Olson, YAO XIAO, Ziying Lei, Andrew Ault, *University of Michigan*

4AC.64 **Composition of Isoprene and Nitrate Radical Reaction Products Using FIGAERO-CIMS.** TIANCHANG XU, Masayuki Takeuchi, Yuchen Wang, Nga Lee Ng, *Georgia Institute of Technology*

4EJ

4EJ.2 **Advancing Air Quality Monitoring in Environmental Justice Communities of the South Coast Air Basin, CA: II. Design and Development of a Novel Multi-Metal Mobile Platform.** MOHAMMAD SOWLAT, Sina Hasheminassab, Pami Mukherjee, Payam Pakbin, Steven Boddeker, Avi Lavi, Jamie Berg, Andrea Polidori, *South Coast Air Quality Management District, Diamond Bar, CA*

4EJ.3 **Composition and Source Characterization of Aerosols in an Environmental Justice (EJ) Community in California (Wilmington).** HOSSEIN PAZOOKI, Pami Mukherjee, Mohammad Sowlat, Payam Pakbin, Roya Bahreini, *University of California, Riverside*

4SD

4SD.1 **The Relationship between MAIAC Smoke Plume Heights and Surface Particulate Matter.** MICHAEL CHEESEMAN, Bonne Ford, John Volckens, Alexei Lyapustin, Jeffrey R. Pierce, *Colorado State University*

4SD.2 **Infection vs Fatality of COVID-19 in New York State: Effects of Demographics and Poor Air Quality.** VIJAY KUMAR, Bridget Wangler, Chaya Chaipitakporn, Shantanu Sur, Supraja Gurajala, Suresh Dhaniyala, Sumona Mondal, *Clarkson University, Potsdam*

4VC

4VC.1 **A New Framework for Modeling Emissions from Volatile Chemical Products.** KARL SELTZER, Elyse Pennington, Venkatesh Rao, Benjamin Murphy, Madeleine Strum, Kristin Isaacs, Havala Pye, *United States Environmental Protection Agency*

4VC.2 **Model Estimation of Indoor-to-Outdoor Migration of Volatile Chemical Products.** AMIRASHKAN ASKARI, Arthur W. H. Chan, *University of Toronto*

4VC.3 **Characterization of Oxygenated Organic Compounds in SOA from the Photooxidation of n-Heptadecane in the Presence of NOx.** MOHAMMED JAOUI, Michael Hays, Emily Li, Kenneth S. Docherty, Michael Lewandowski, Tadeusz Kleindienst, *U.S. Environmental Protection Agency*

4VC.4 **Modification and Optimization on Environmental Chamber Experiments of Secondary Organic Aerosol Formation from LVP-VOCs and Volatile Consumer Products to Improve Model Prediction.** QI LI, Sophia Charan, Reina Buenconsejo, John Seinfeld, David R. Cocker III, *University of California, Riverside*

4VC.5 **Temporal Evolution of Secondary Organic Aerosol Production from Volatile Chemical Products.** ALBERT PRESTO, Mackenzie Humes, Rebecca Tanzer Gruener, Rishabh Shah, Allen Robinson, Neil Donahue, *Carnegie Mellon University*

4VC.6 **Connecting Composition to Reactivity for Fragrances and Their Emissions.** JAMES HURLEY, Gabriel Isaacman-VanWertz, *Virginia Tech*

Tuesday

Tuesday 10:00 AM - 11:15 AM
Plenary II

10:00 **Nanoparticles from Engines: Then and Now** David B. Kittelson, *University of Minnesota*

Moderator Matti Maricq, *Ford Motor Company*

11:00 **Friedlander Award Presentation** Patrick O'Shaughnessy, Awards Committee Chair, *University of Iowa*

11:08 **AS&T Outstanding Paper and Outstanding Reviewer Awards** Jonathan Reid, *University of Bristol*

Tuesday 11:15 AM - 11:30 AM
Break

Tuesday 11:30 AM - 12:15 PM
Session 5 : Platform

5AC AEROSOL CHEMISTRY: PH ACROSS SCALES

TRACK 1

Faye McNeill, chair

5AC.1 11:30 **Acidity at the Nanoscale: pH Measurement of Individual Ultrafine Aerosol Particles.** ZIYING LEI, Yao Xiao, Samuel Bliesner, Claire Mattson, Madeline Cooke, Nicole Olson, Julie Albert, Andrew Ault, *University of Michigan*

5AC.2 11:40 **Tracking pH Changes in Real-time in Single Levitated Organic or Inorganic Acidic Droplets Undergoing Ammonia Uptake.** HALLIE BOYER CHELMO, Walker Cage, Ryan Sullivan, *University of North Dakota*

5AC.3 11:50 **Models Underestimate the Increase of Acidity with Remoteness Biasing Radiative Impact Calculations.** BENJAMIN A. NAULT, Pedro Campuzano-Jost, Douglas Day, Duseong Jo, Roya Bahreini, Huisheng Bian, Simon Clegg, Jack Dibb, Alma Hodzic, Alma Hodzic, Joseph Katich, Agnieszka Kupc, Eloise Marais, J. Andrew Neuman, John Nowak, Brett Palm, Fabien Paulot, Jeffrey R. Pierce, Gregory Schill, Joel A. Thornton, Kostas Tsigaridis, Paul Wennberg, Christina Williamson, Jose-Luis Jimenez, et al., *CIRES, University of Colorado, Boulder*

5AP AEROSOL PHYSICS: AEROSOL NUCLEATION

TRACK 2

Hallie Boyer, chair

5AP.1 11:30 **Homogeneous Nucleation of Carbon Dioxide from 30-90 K: The Transition from Barrier-Controlled to Barrierless Nucleation.** KAYANE DINGILIAN, Martina Lippe, Ruth Signorell, Barbara Wyslouzil, *The Ohio State University*

5AP.2 **Freezing of Aqueous-Alcohol Nanodroplets.** TONG SUN, Barbara Wyslouzil, *The Ohio State University*
11:40

5AP.3 11:50 **Concentration Depth Profile (CDP)-Based Multi-Sorption Layer Surface Tension Model.** SHIHAO LIU, Cari Dutcher, *University of Minnesota*

5CO COMBUSTION AEROSOLS: POLLUTANT EMISSIONS FROM COMBUSTION SYSTEMS

TRACK 3

Amara Holder, chair

5CO.1 11:30 **A Molecular Dynamics Study of Inception and Growth of Soot during Combustion.** Akaash Sharmaa, Khaled Mosharraf Mukut, Eirini Goudeli, SOMESH ROY, *Marquette University*

5CO.2 **Impact of Dilution Temperature on Size-Resolved Aerosol Emissions from Lignocellulosic Biomass.** LUKE

11:40 MCLAUGHLIN, Erica Belmont, *University of Wyoming*

5CO.3 11:50 **The Effects on Emissions of Modified Operation of Pellet-Fed Gasifier Stoves.** STEPHANIE PARSONS, Ky Tanner, Andrew Grieshop, *North Carolina State University*

5EJ ENVIRONMENTAL JUSTICE: MEASUREMENTS

TRACK 4

Shelly Miller, chair

5EJ.1 11:30 **Advancing Air Quality Monitoring in Environmental Justice Communities of the South Coast Air Basin, Ca: III. Community-Scale Monitoring of Particulate Metals and Other Air Pollutants Using a Recently Developed Mobile Platform.** SINA HASHEMINASSAB, Mohammad Sowlat, Payam Pakbin, Steven Boddeker, Avi Lavi, Faraz Ahangar, Christopher Lim, Julia Montoya-Aguilera, Andrea Polidori, *South Coast Air Quality Management District*

5EJ.2 11:40 **Pandemic-Induced Changes in Traffic Patterns and Localized Air Quality in Inland Southern California.** ARASH KASHFI YEGANEH, Shams Tanvir, Kanok Boriboonsomsin, Khanh Do, Matthew Barth, Cesunica E. Ivey, *University of California, Riverside*

5EJ.3 11:50 **Comparing Local and Regional-Scale Particle and Gas-Phase Pollutant Exposure Disparity in a Long-Term Mobile Monitoring Campaign.** SARAH CHAMBLISS, Carlos Pinon, Kyle Messier, Shahzad Gani, Brian LaFranchi, Melissa M. Lunden, Julian Marshall, Ramon Alvarez, Joshua Apte, *University of Texas at Austin*

5ID ROLE OF AEROSOL SCIENCE IN COVID-19: POTENTIAL EXPOSURE TO VIRUS IN HEALTHCARE SETTINGS

TRACK 5

Claire Marie Filone and Paul Dabisch, chairs

5ID.1 11:30 **Quantifying the Relative Risk of Aerosol Generating Procedures in Clinical Settings.** FLORENCE GREGSON, Jules Brown, Bryan R. Bzdek, Andrew Shrimpton, Tony Pickering, Jonathan P. Reid, *University of Bristol*

5ID.2 11:40 **Evaluating the Presence of Airborne Virus in Common Upper Airway Surgical Procedures.** TOFIGH SAYAHI, Chris Neilson, Yuan Yu, Kayden Neurberger, Michael Seipp, Matt Firpo, Albert Park, Kerry Kelly, *University of Utah*

5ID.3 11:50 **SARS-CoV-2 Aerosols in Intermediate Care Units: Efficiency of Ventilation Strategies.** Nathan Dumont-Leblond, Marc Veillette, Lily Yip, Samira Mubareka, Yves Longtin, Philippe Jouvet, CAROLINE DUCHAINE, *Université Laval*

5IM INSTRUMENTATION & METHODS: OPTICAL PROPERTIES

TRACK 6

Chongai Kuang, chair

5IM.1 11:30 **Measuring Humidification Effects on Ammonium Sulfate – Nigrosin Mixtures with a Novel Humidity Controlled Albedometer.** TYLER CAPEK, Christian Carrico, Kyle Gorkowski, Jared Lam, James D. Lee, Allison Aiken, Timothy Onasch, Andrew Freedman, Claudio Mazzoleni, Manvendra Dubey, *Michigan Technological University*

5IM.2 11:40 **Scattered Light Truncation Issues in the CAPS PM Single Scattering Albedo (CAPS PMssa) Monitor: Effects of Particle Size Distribution and Fefractive Index.** FENGSHAN LIU, Joel Corbin, Prem Lobo, Gregory Smallwood, *National Research Council Canada*

5IM.3 11:50 **Dual Cavity Spectrometer for Monitoring Broadband Light Extinction by Atmospheric Aerosols.** AISWARYA SASEENDRAN, Susan Mathai, Shreya Joshi, Anoop Pakkattil, Tyler Capek, Gregory Kinney, Claudio Mazzoleni, Ravi Varma, *Michigan Technological University*

Tuesday 12:15 PM - 12:30 PM
Break

Tuesday 12:30 PM - 1:15 PM
Session 6: Platform

6AC AEROSOL CHEMISTRY: PROPERTIES OF DROPLETS

TRACK 1

Ryan Sullivan, chair

6AC.1 12:30 **The Surface Tension of Surfactant-Containing, Finite Volume Droplets.** BRYAN R. BZDEK, Jonathan P. Reid, Jussi Malila, Nonne Prisle, *University of Bristol*

6AC.2 12:40 **Enhanced Reactivity in Droplets Relative to Bulk Solution Studied by Droplet Assisted Ionization Mass Spectrometry.** YAO ZHANG, Murray Johnston, *University of Delaware*

6AC.3 12:50 **Direct Quantification of the Effect of Ammonium on Aerosol Droplet pH.** QISHEN HUANG, Haoran Wei, Linsey Marr, Peter Vikesland, *Virginia Tech*

6AP AEROSOL PHYSICS: OPTICAL PROPERTIES OF CARBONACEOUS NANOPARTICLES

TRACK 2

G. Kelesidis, chair

6AP.1 12:30 **Light Backscattering from Post-flame, Cooled Soot Particles.** PRAKASH GAUTAM, Justin Maughan, Christopher Sorensen, *Kansas State University*

6AP.2 12:40 **Phase Shift Parameter Controls Light Absorption Enhancement for Coated Fractal Aggregates.** PAYTON BEELER, William Heinson, Rajan K. Chakrabarty, *Washington University in St. Louis*

6AP.3 12:50 **Quantifying Brown Carbon Measured in Real-world Biofuel Combustion Emissions.** MOHAMMAD MAKSIMUL ISLAM, Alyssa Sanderson, Andrew Whitesell, Ashley Bittner, Rawad Saleh, Andrew Grieshop, *North Carolina State University*

6CO COMBUSTION AEROSOLS: ON-ROAD VEHICLES

TRACK 3

David Cocker, chair

6CO.1 12:30 **Investigating the Formation of Primary and Secondary Aerosols from Heavy Duty Vehicles (HDVs) Using Smog Chamber.** SAHAR GHADIMI, Hanwei Zhu, David R. Cocker III, Thomas D. Durbin, Georgios Karavalakis, *University of California, Riverside*

6CO.2 12:40 **Effects of Blended Fuel on Diesel Engine Exhaust Particles: From Bulk to Single Particle Compositions.** LAURA-HELENA RIVELLINI, Mutian Ma, Nethmi Kasthuriarachchi, Wenbin Yu, Yichen Zong, Wenming Yang, Markus Kraft, Alex Lee, *National University of Singapore*

6CO.3 **Determining Fleet-based Vehicle Emission Factors Using Low-cost Sensor Packages: A Case Study across**

12:50 **Three Parking Garages.** Bingqi Liu, NAOMI ZIMMERMAN, *University of British Columbia*

6EJ ENVIRONMENTAL JUSTICE: OVERVIEW OF APPROACHES

TRACK 4

Lupita Montoya, chair

6EJ.1 12:30 **Advancing Air Quality Monitoring in Environmental Justice Communities of the South Coast Air Basin, Ca: I. Overview of Approaches, Technologies, and Community Engagement.** Sina Hasheminassab, PAYAM PAKBIN, Faraz Ahangar, Mohammad Sowlat, Steven Boddeker, Julia Montoya-Aguilera, Avi Lavi, Christopher Lim, Andrea Polidori, Jason Low, *South Coast Air Quality Management District*

6EJ.2 12:40 **Framework for Selecting Data Analytic and Modeling Methods for Environmental Justice Analysis.** RIVKAH GARDNER-FROLICK, Amanda Giang, *University of British Columbia*

6EJ.3 12:50 **Future Air Pollution and Environmental Justice in California: Achieving Equity for all Socio-economic Classes.** YITING LI, Anikender Kumar, Yin Li, Michael Kleeman, *University of California, Davis*

6ID ROLE OF AEROSOL SCIENCE IN COVID-19: PRODUCTION OF RESPIRATORY DROPLETS THROUGH SPEECH AND MUSIC

TRACK 5

Chad Roy and Paul Dabisch, chairs

6ID.1 12:30 **Fluid Mechanics and Droplet Transport from the Production of Unvoiced Fricatives.** TANVIR AHMED, Andrea Ferro, Amir A. Mofakham, Brian T. Helenbrook, Goodarz Ahmadi, Deborah M. Brown, Byron D. Erath, *Clarkson University*

6ID.2 12:40 **Making Music: Aerosols, Droplets and the Risks of SARS-CoV-2 Transmission.** JONATHAN P. REID, Florence Gregson, Bryan R. Bzdek, Declan Costello, Natalie Watson, Christopher Orton, Pallav Shah, James Calder, *University of Bristol*

6ID.3 12:50 **Aerosol Generation and Transmission from Performing Singing and Wind Instruments.** JUN WANG, Tiina Reponen, Sergey A. Grinshpun, John Singletary, Michael Yermakov, *University of Cincinnati*

6IM INSTRUMENTATION & METHODS: ULTRAFINE PARTICLE METHODS

TRACK 6

Amy Sullivan, chair

6IM.1 12:30 **Operation of a Condensation Particle Counter under the Low-pressure Condition.** FAN MEI, Maynard Havlicek, Mikhail Pekour, Andrea Tiwari, Jason Tomlinson, Beat Schmid, Oliver F. Bischof, Patrick Roth, *Pacific Northwest National Laboratory*

6IM.2 12:40 **Modification of a Water-based Condensation Particle Counter to Rapidly Measure Sub 3 Nanometer Atmospheric Clusters through Pulse Height Analysis: Laboratory and Field Measurements.** CHONGAI KUANG, Darielle Dexheimer, *Brookhaven National Laboratory*

6IM.3 12:50 **A Mobility Particle Size Spectrometer to Access the 1nm Particle Size Range: The PSMPS.** GERHARD STEINER, Joonas Vanhanen, Joonas Enroth, Lothar Keck, Minna Väkevä, *Grimm Aerosol Technik Ainring*

Tuesday 1:15 PM - 1:30 PM
Break

Tuesday 1:30 PM - 2:15 PM
Session 7: Platform

7AC AEROSOL CHEMISTRY: ROLE OF SURFACES

TRACK 1

Sergey Nizkorodov, chair

7AC.1 1:30 **The Role of Hydrates, Competing Chemical Constituents, and Surface Composition on ClNO2 Formation.** HALEY ROYER, Dhruv Mitroo, Sarah Hayes, Savannah Haas, Kerri Pratt, Patricia Blackwelder, Thomas Gill, Cassandra Gaston, *University of Miami*

7AC.2 1:40 **Characterization of Particle Charge from Aerosol Generation Process: Investigations of Material Reactivity.** ERIN M. DURKE, Monica McEntee, Meilu He, Suresh Dhaniyala, *US Army CCDC CBC*

7AC.3 1:50 **Chemical and Microphysical Properties of Windblown Dust near an Actively Retreating Glacier in Yukon, Canada.** PATRICK HAYES, James King, Colm Wickham, Marie-Pierre Bastien-Thibault, Malo Bernhard, Jill Bachelder, Kevin Wilkinson, Madjid Hadioui, *Universite de Montreal*

7CA CARBONACEOUS AEROSOLS: FATE AND TRANSPORT OF CARBONACEOUS AEROSOLS

TRACK 2

Shantanu Jathar, chair

7CA.1 1:30 **Efficient Nighttime SOA Formation from Mixed Biogenic and Anthropogenic Emissions.** RAHUL ZAVERI, John Shilling, Jerome Fast, Stephen Springston, *Pacific Northwest National Laboratory*

7CA.2 1:40 **High Time-Resolution Measurement of Carbonaceous Aerosol in Central Los Angeles With New TC-BC Method.** MARTIN RIGLER, Matic Ivančič, Gašper Lavrič, Sina Hasheminassab, Payam Pakbin, Tony Hansen, *Aerosol d.o.o.*

7CA.3 1:50 **Exploring the Regional-scale Atmospheric Fate and Transport of Per- and Polyfluoroalkyl Substances (PFAS).** EMMA D'AMBRO, Havala Pye, Chris Allen, Kevin Talgo, Lara Reynolds, Kathy Brehme, Robert Gilliam, Jesse Bash, Benjamin Murphy, *Environmental Protection Agency*

7CO COMBUSTION AEROSOLS: AVIATION AND SPACE

TRACK 3

Randy Vander Wal, chair

7CO.1 1:30 **Size Dependence of Mass Absorption Cross-Section (MAC) in Aviation-Turbine-Engine Soot.** JOEL CORBIN, Gregory Smallwood, Mark Johnson, Fengshan Liu, Prem Lobo, *National Research Council Canada*

7CO.2 1:40 **Examining Chemical Composition of Gas Turbine-Emitted Organic Aerosol using Positive Matrix Factorization (PMF).** LIAM SMITH, James Allan, Hugh Coe, Ernesto Reyes-Villegas, Mark Johnson, Andrew Crayford, Eliot Durand, Paul Williams, *University of Manchester*

7CO.3 1:50 **An Overview of Smoke Detection and Spacecraft Fire Safety in Low Gravity.** CLAIRE FORTENBERRY, Marit Meyer, David Urban, Daniel Dietrich, Gary Ruff, *Universities Space Research Association*

7DP DUSTY PLASMA

TRACK 4

Girish Sharma, chair

7DP.1 1:30 **Thermodynamic Equations of State for the Dust Grain Using Langevin Dynamics Simulations.** VIKRAM SURESH, Zhibo Liu, Ranganathan Gopalakrishnan, *The University of Memphis*

7DP.2 1:40 **The Addition of a Downstream DC Bias to an Atmospheric-pressure, Flow-through RF Plasma for Enhanced Charging of Aerosol Nanoparticles.** SUKRANT DHAWAN, Abhay Vidwans, Girish Sharma, Nabiel Abuyazid, R. Mohan Sankaran, Pratim Biswas, *Washington University in St Louis*

7DP.3 1:50 **Understanding the Depletion of Electron Density in Dusty Plasmas at Atmospheric Pressure.** NABIEL H ABUYAZID, Xiaoshuang Chen, Davide Mariotti, Paul D Maguire, Christopher J. Hogan, R Mohan Sankaran, *University of Illinois*

7ID ROLE OF AEROSOL SCIENCE IN COVID-19: TRANSMISSION MEASUREMENT AND MODELING

TRACK 5

Shanna Ratnesar-Shumate and Paul Dabisch, chairs

7ID.1 1:30 **Multiscale Models for Aerosol Transmission of Highly Infectious SARS-CoV-2 Novel Coronavirus.** SUKRANT DHAWAN, Huang Zhang, Renhui Ruan, Pratim Biswas, *Washington University in St Louis*

7ID.2 1:40 **SARS-CoV-2 Aerosol Transmission and Infection Risk Estimation of In-Person Lectures in a University Classroom.** BO YANG, Khaled Hashad, K. Max Zhang, *Cornell University*

7ID.3 1:50 **Accurate Representations of the Microphysical Processes of Aerosols and Droplets from Exhalation Events and the Impact on the Sedimentation Distance.** JIM WALKER, Justice Archer, Florence Gregson, Bryan R. Bzdek, Jonathan P. Reid, *University of Bristol*

7IM INSTRUMENTATION & METHODS: LOW-COST SENSORS

TRACK 6

Alison Fankauser, chair

7IM.1 1:30 **Yearlong Performance of Six PM Air Sensor Models across Seven U.S. Sites.** KAROLINE BARKJOHN, Cortina Johnson, Samuel Frederick, Robert Yaga, Brittany Thomas, William Schoppman, Andrea Clements, *ORISE fellow, U.S. EPA Office of Research and Development*

7IM.2 1:40 **Evaluation Methods for Low-Cost Particulate Matter Sensors in Rural Oklahoma.** JEFF BEAN, *Phillips 66*

7IM.3 1:50 **Identification of High-emitting Heavy-duty Diesel Trucks with Low-cost Sensors and the Plume Capture Method.** REBECCA SUGRUE, Chelsea V. Preble, Thomas W. Kirchstetter, *University of California, Berkeley*

Tuesday 6:00 PM - 7:30 PM
Session 8: Posters

8AE

8AE.3 **Correcting Biases in Speciated PM2.5 Simulations Using a Geographically Weighted Regression.** CARLOS

HERNANDEZ, Ksakousti Skyllakou, Pablo Garcia, Brian Dinkelacker, Spyros Pandis, Allen Robinson, Peter Adams, *Carnegie Mellon University*

8AE.4 **Exposure to Marijuana and e-Cigarette Aerosol in a Home.** LANCE WALLACE, *US EPA (retired)*

8AE.5 **Optical Trapping-Raman Spectroscopy for Detection of Chemical and Biological Agents in Air.** CHUJI WANG, Yukai Ai, Haifa Alali, Gorden Videen, Yong-Le Pan, *Mississippi State University*

8AE.6 **Statistical Analysis and Geospatial Exposure Model of Air Pollution Derived from Brake and Tire Wear.** JONATHAN LIU, Irish Del Rosario, Michael Jerrett, Jonah Lipsitt, Farzan Oroumiyeh, Suzanne E. Paulson, Beate Ritz, Yifang Zhu, *University of California, Los Angeles*

8AE.7 **Assessing the Impact of Urban Transformations on Exposure to Air Pollutants in the City of Bogotá: Cable Car implementation and Renewal of the BRT System Fleet.** DANIELA MENDEZ, Ricardo Morales Betancourt, Olga Lucia Sarmiento, Juan Manuel Rincón, Boris Galvis, *Universidad de los Andes*

8AE.8 **Cooking Fuel Transitions in Rwanda and Impacts on Exposure to Particulate Matter (PM2.5).** CHERYL WEYANT, Joseph Pedit, Ashley Bittner, Leena Nylander-French, Sudhanshu Handa, Karin Yeatts, Zoe Frolking, Pamela Jagger, *University of North Carolina*

8AE.9 **Characterization of Airborne Nanoparticulate Matter in Semiconductor Manufacturing Environments.** ZHAOBO ZHANG, Pierre Herckes, Paul Westerhoff, *Arizona State University*

8BA

8BA.3 **Taxonomic Characterization and Quantification of Personal Bioaerosol Exposures using Five Different Personal Samplers.** NIRMALA THOMAS MYERS, Taewon Han, Hyeon-Ju Oh, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

8BA.4 **Investigating Seasonal Effects on the Spread of Antibiotic Resistant Bacteria in Dairy Farms using Computational Fluid Dynamics.** HYOUNGMOOK PAK, Maria King, *Texas A&M University*

8BA.5 **Design of an Electrical Gelation Chamber to Synthesize Alginate Microparticles for Inhalational Delivery of Anti-tubercular Drug.** CHETHANI ATHUKORALA, Hema Ravindran, Shantanu Sur, Suresh Dhaniyala, *Clarkson University*

8BA.6 **Microorganism in Atmospheric Water and How They Drive Formaldehyde Transformation.** THUONG CAO, Pierre Herckes, Ferran Garcia-Pichel, *Arizona State University*

8BA.7 **Compressible Flow-based Virtual Impactor towards Bioaerosol Sampling.** MYEONG-WOO KIM, Jaesung Jang, *Ulsan National Institute of Science and Technology, Korea*

8BA.8 **Environmental Effects Triggering Antibiotic Resistance in Bacteria.** BROOKE SMITH, Maria King, *Texas A&M University*

8BA.9 **Study of Airborne Microbes in University Environment Using a Portable Electrostatic Bioaerosol Collection Device.** KAVINDRA KUMARAGAMA, Hema Ravindran, Nueraili Kuerbanjiang, Shane Rogers, Shantanu Sur, Suresh Dhaniyala, *Clarkson University Potsdam, NY, USA*

8BA.10 **Fabrication of Silver Nanowire Coated Fibrous Air Filter Medium via a Two-Step Process of Electrospinning and Electrospray for Anti-Bioaerosol Treatment.** KYUHYUN PARK, Jungho Hwang, *Yonsei University, Republic of Korea*

8BA.11 **Exposure to Bacterial Aerosols with Antimicrobial Resistance at Septic Systems.** GABRIELA RAMOS, Maria King, *Texas A&M University*

8BA.12 **Assessment of a Bioaerosol Test Platform for the Evaluation of Biothreat Sensor Performance in Identifying Live BSL-3 Threat Agents.** LEAH CAROL, Benjamin Alvarez, Felix Sage, Thomas Pilholski, Elizabeth Corson, Brian Damit, *Johns Hopkins University Applied Physics Laboratory*

8HA

8HA.1 **Fate of Inhaled Biological-agent Containing Aerosol Droplets in the Human Respiratory Tract.** BAHMAN ASGHARIAN, Owen Price, Jennifer Chesnutt, Gene McClellan, Jason Rodriguez, *Applied Research Associates, Inc.*

8HA.2 **Characterization of Water-Insoluble Oxidative Potential of PM2.5 Using the Dithiothreitol Assay.** DONG GAO, James Mulholland, Armistead G. Russell, Rodney J. Weber, *Georgia Institute of Technology*

8HA.3 **Development a New Health Metric for Ambient Fine Particles Based on Differential Toxicities among Different Sources.** MINHAN PARK, Kihong Park, *Gwangju Insitute of Science and Technology*

8HA.4 **Reactive Oxygen Species in Fresh and Aged Biomass Burning Organic Aerosol.** Shunyao Wang, Carolyn Liu-Kang, Jonathan Abbatt, Peter Gallimore, ARTHUR W. H. CHAN, *University of Toronto*

8HA.5 **The Effect of Dust Storm Particles on Human Lung Epithelial Cells.** KARIN ARDON-DRYER, Ayomide Tairu, Zyanya Ramirez-Diaz, Xueting Xia, Xueting Zhang, *Texas Tech University*

8HA.6 **Mutagenicity- and Pollutant-Emission Factors of Pellet-Fueled Gasifier Cookstoves: Comparison with Other Combustion Sources.** WYATT CHAMPION, Sarah Warren, Ingeborg Kooter, William Preston, Todd Krantz, David DeMarini, James Jetter, *ORISE, U.S. EPA*

8HA.9 **Differential Toxicity of PM2.5 Emissions from Residential Wood Burning due to Varying Combustion Conditions.** MARCIA PEDROZA, Greg J. Evans, Arthur W. H. Chan, *SOCAAR, University of Toronto*

8HA.10 **Ambient Particulate Matter Oxidative Potential: Chemical Determinants, Associated Health Effects, and Strategies for Risk Management.** DONG GAO, Susannah Ripley, Scott Weichenthal, Krystal Godri Pollitt, *Yale University*

8HA.11 **3-D Surface Mesh Model to Predict Aerosolized Contaminant Fate and Transport in the Human Respiratory System.** JACKY ROSATI ROWE, Ray Burton, Rob McCauley, Wei Tang, *US EPA, ORD*

8HA.13 **Fate of Transition Metals in Acellular Phosphate -Based Assays for PM Toxicity: Equilibrium Modelling and Macroscopic Experimental Study.** JAYASHREE YALAMANCHILI, Christopher Hennigan, Brian Reed, *University of Maryland, Baltimore County*

8HA.14 **Evaluating the Accuracy of Optical Particle Counters for Estimating Size-Resolved Particulate Matter Mass Concentrations in Occupied Homes.** YICHENG ZENG, Insung Kang, Kari Abromitis, Parham Azimi, Brent Stephens, *Illinois Institute of Technology*

8HA.15 **Changing of Chemical Composition and Potential Exposure Risks of Aerosols from Electronic Nicotine Delivery Systems as a Function of E-Liquid Composition and Heating Power.** YUE ZHANG, Sarah Suda Petters, Jin Yan, Nicolas Aliaga Buchenau, N. Cazimir Armstrong, Michelle McCombs, Timothy Fennell, Elena Mishina, Kamau Peters, Jonathan Thornburg, Jason Surratt, *University of North Carolina at Chapel Hill*

8HA.16 **Germicidal Ultraviolet Light Does Not Damage or Impede Performance of N95 Masks Upon Multiple Uses.** ZHE ZHAO, Zhaobo Zhang, Mariana Lanzarini-Lopes, Shahnawaz Sinha, Hojung Rho, Pierre Herckes, Paul Westerhoff, *Arizona State University*

8HA.18 **Environmentally Persistent Free Radicals and Reactive Oxygen Species Measurements in the Size-Segregated Ambient Particles Collected at the Highway and Urban Site.** BRIAN HWANG, Ting Fang, Randy Pham, Jinlai Wei, Heejung Jung, Manabu Shiraiwa, *University of California, Irvine*

8HA.19 **Determining Real-Time Mass Deposition With a Quartz Crystal Microbalance in a Parallel-Flow, Electrostatic Air Liquid Interface Exposure System.** KAMALJEET KAUR, Dana Overacker, Hamid Ghandehari, Chris Reilly, Robert Paine, Kerry Kelly, *University of Utah*

8HA.20 **In-vitro Cytotoxicity of Lab-generated Tunable Soot: Insight into Military Burn Pit Contribution to Chronic Multisymptom Illnesses (CMI).** DHRUV MITROO, Durgesh Das, Benjamin Kumfer, Nathan Ravi, *Veterans Research and Education Foundation*

8HA.21 **The Influence of the Water Activity Estimation Method on the Accuracy of the Hygroscopic Particle Growth Model.** PATRICK O'SHAUGHNESSY, Alessandra Pratt, *University of Iowa*

8HA.22 **Evaluation of Low-Cost Optical Particle Counters for Agricultural Exposure Measurements.** JUSTINE OLEGARIO, Swastika Regmi, Sinan Sousan, *East Carolina University*

8HA.23 **Cyanobacterial Microcystin Production and Aerosolization Dynamics in the Chowan River-Albemarle Sound Estuarine Continuum, NC.** HALEY E. PLAAS, Nathan S. Hall, Karen Rossignol, Karsten Baumann, Ryan Paerl, Kimberly Popendorf, Malcolm A. Barnard, Jill Paxson, Colleen Karl, Hans W. Paerl, *University of North Carolina at Chapel Hill*

8HA.24 **Development of a Semi-Automated Instrument to Measure the Cellular Reactive Oxygen Species (Ros) Activity of Ambient Particulate Matter.** SUDHEER SALANA, Vishal Verma, *University of Illinois Urbana-Champaign*

8IA

8IA.1 **Exposure to Long-range-transported Particulate Matter and Evaluation of Health Effects using MPPD model.** HYEON-JU OH, Yoonki Min, *Rutgers, The State University of New Jersey*

8IA.2 **Characterizing Coffee Home Roasting and Grinding Emissions Using Low Cost Sensors.** ANIYA KHALILI1, Carmen Pacheco-Borden, Shelly Miller, *University of Colorado Boulder*

8IA.3 **Indoor Mopping with a Terpene-Based Cleaner in the Presence of Ozone Initiates the Rapid Formation of Peroxy Radicals, Volatile Oxidation Products, and Secondary Organic Aerosols.** COLLEEN MARCIEL ROSALES, Jinglin Jiang, Ahmad Lahib, Vinay Kumar, Emily Reidy, Brandon Bottorff, Alexandre Tomas, Sebastien Dusanter, Antonios Tasoglou, Heinz Huber, Brandon E. Boor, Philip Stevens, *Indiana University*

8IA.4 **New Particle Formation (1-3nm) in Preschools in Nur-Sultan, Kazakhstan.** MEHDI AMOUEI TORKMAHALLEH, Kamila Turganova, Tomiris Madiyarova, Zhuldyz Zhigulina, Enoch Adotey, Milad Malekipirbazari, *Dept Chem & Mat Engr, Sch Engr & Dig Sci, Nazarbayev Univ*

8IA.5 **Measuring Microbial Growth and MVOC Emissions in Carpet and Drywall Under Elevated Relative Humidity.** SARAH R. HAINES, Emma C. Hall, Pawel K. Misztal, Allen Goldstein, Rachel I. Adams, Karen C. Dannemiller, *Ohio State University*

8IA.6 **Assessment of Exposures to Ozone Due to the Use of Ionization-type Car Air Purifiers.** TAEWON HAN, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

8IA.7 **Investigating Aerosol Emissions and Their Volatility from the Use of Different Cooking Oils.** SUMIT SANKHYAN, Kayley Zabinski, Sameer Patel, Marina Vance, *University of Colorado Boulder*

8IA.8 **Particle and Chemical Emissions from Fused Filament Fabrication 3D Printers Using Emerging Filaments Including Metals.** QIAN ZHANG, Marilyn Black, Rodney J. Weber, *Underwriters Laboratories Inc.*

8IA.9 **Measurements of Particle Phase (PM2.5) Per- and Polyfluoroalkyl Substances (PFAS) in Indoor Air.** NAOMI CHANG, Jiaqi Zhou, Karsten Baumann, Zhenfa Zhang, Wanda Bodnar, Glenn Morrison, Barbara Turpin, *UNC-Chapel Hill*

8IA.10 **Quantifying the Effect of Indoor Conditions on Exposure to Gas-Phase Bleach Products.** PASCALE LAKEY, Youngbo Won, Atila Novoselac, Donghyun Rim, Manabu Shiraiwa, *University of California, Irvine*

8IA.11 **Aerosol Emissions from Biogas, LPG, and Wood Cooking in Nepal and the Impact of Fuel Mixes on Overall Pollution Burden.** CHERYL WEYANT, Ryan Thompson, Nicholas Lam, Basudev Upadhyay, Prabin Shrestha, Shovana Maharjan, Kaushila Rai, Chija Adhikari, Amod Pokhrel, *University of Michigan*

8IA.12 **Per- and Polyfluoroalkyl Substances (PFASs) in Fine Aerosols (PM2.5) during Floor Waxing.** JIAQI ZHOU, Karsten Baumann, Naomi Chang, Jason Surratt, Wanda Bodnar, Zhenfa Zhang, Glenn Morrison, Joanna Atkin, Barbara Turpin, *UNC-Chapel Hill*

8ID

8ID.1 **The Underappreciated Role of Indoor Deposition in Determining Person-to-Person Aerosol Transmission.** TAMI BOND, Delphine K. Farmer, Paul Francisco, Shantanu Jathar, Jeffrey R. Pierce, *Colorado State University*

8ID.2 **Using Insights from Aerosol Science to Investigate the Dynamic Interplay Between Social Distancing Duration and Intensity in Reducing COVID-19 US Hospitalizations.** Pai Liu, PAYTON BEELER, Rajan K. Chakrabarty, *Washington University in St. Louis*

8ID.3 **Alternative Facemask Materials for DIY Facemask in the Time of COVID-19.** Jessica Mirrielees, BO CHEN, Michael Moreno, Sarah Brooks, *Texas A&M University*

8ID.4 **New Tools for a New Virus.** TIMOTHY GORDON, Patricia Keady, Dominick Heskett, Braden Stump, Brian Annis, Touzong Xiong, Mark R. Stolzenburg, *Aerosol Devices Inc.*

8ID.5 **Field Measurements Related to Potential Aerosol Transmission of COVID-19.** Andrew Jeremijenko, Wasim Javed, Joel Malek, BING GUO, *Texas A&M University at Qatar*

8ID.6 **Filtration Performances of Non-medical Materials as Candidates for Homemade Face Mask Filters.** WEIXING HAO, Andrew Parasch, Stephen Williams, Jiayu Li, Hongyan Ma, Joel Burken, Yang Wang, *Missouri University of Science and Technology*

8ID.7 **Application of the NanoAerosol Generator in Efficacy Evaluation of Facial Coverings.** SIQIN HE, Derek Oberreit, Steve Kosier, *Kanomax FMT, Inc.*

8ID.8 **Filtration Efficiency of Respirators and Masks – How You Test Matters.** TIM JOHNSON, Justin Koczak, Andrea Tiwari, *TSI Incorporated*

8ID.9 **Numerical Investigation on Transport and Removal of Airborne Virus from a Hospital Room.** SUNIL KUMAR, Maria King, *Texas A&M University*

8ID.10 **Association between Long-Term PM2.5 Exposure and COVID-19 Spread in the United States.** PAI LIU, Payton Beeler, Rajan K. Chakrabarty, *Washington University in St. Louis*

8ID.11 **Estimating Deposition of Viral, Bacterial and Fungal Aerosols in the Human Respiratory Tract: A Two Model Comparison.** LYNN SECONDO, Jessica Sagona, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

8ID.12 **The Significant of Turbulence Stochastic Accuracy in Simulation of Aerosol Transmission.** AMIR A. MOFAKHAM, Goodarz Ahmadi, *Clarkson University*

8ID.13 **Numerical Simulation of Aerosol Transmission and Droplet Expulsion of COVID-19 by Speech.** AMIR A. MOFAKHAM, Brian T. Helenbrook, Tanvir Ahmed, Byron D. Erath, Andrea Ferro, Deborah M. Brown, Goodarz Ahmadi, *Clarkson University*

8ID.14 **Air Quality Sensing-based Surveillance for Detection of Pathogens Causing Healthcare-associated Infections.** HEMA RAVINDRAN, Shantanu Sur, Suresh Dhaniyala, *Clarkson University*

8ID.15 **Investigating Filtration Efficiencies of Non-standard Fabric Filters.** SUMIT SANKHYAN, Hannah Teed, Teresa Barnes, Peter Ciesielski, Karen Heinselman, Sameer Patel, Marina Vance, *University of Colorado Boulder*

8ID.16 **Properties of Materials Considered for Improvised Masks.** STEVEN ROGAK, Timothy Sipkens, Hamed Nikookar, Mark Gunn, Jing Jane Wang, *University of British Columbia*

8ID.17 **A Flexible Particle Filtration Efficiency Measurement System (PFEMS) for N95 Respirators, Surgical Masks, and Novel Filter Media.** GREGORY SMALLWOOD, Joel Corbin, Fengshan Liu, Jalal Norooz Oliaee, Ian Leroux, Prem Lobo, *National Research Council Canada*

8ID.18 **Performance of a No-Sew Origami Mask for Improvised Respiratory Protection.** JAMES SMITH, Jonathan Realmuto, Terence Sanger, Michael Kleinman, Michael J. Lawler, *University of California, Irvine*

8ID.19 **Assessing Potential Airborne Virus Transmission in University Classrooms.** KATHRYN VAN VALKINBURGH, Nigel Kaye, Ehsan Mousavi, Vincent Blouin, Ali Nafchi, Andrew Metcalf, *Clemson University*

8ID.20 **Viable Virus Transport in Ventilation Airflow.** TATIANA BAIG, Maria King, *Texas A&M University*

8ID.21 **Agent Based Simulations of Human Interactions in Mixed Use Academic Buildings.** Sheryl Ehrman, ANUSHA SHETTY, Isaac Espinoza, Jochen Albrecht, Laxmi Ramasubramanian, *San José State University*

8ID.22 **Evaluation of Aerosol Containment of Barrier Devices Used for Airway Management: Methodological Development and Efficacy Studies.** CHRISTOPHER NIEDEK, Richard Fidler, Jan Hirsch, David Robinowitz, Qi Zhang, *University of California, Davis*

8ID.23 **HOME-FIT: HOmemade Masks for Everyone Fit and Improvement Testing.** CANDICE SIRMOLLO, Karl Haro von Mogel, Don Collins, Mikeal Roose, *University of California, Riverside*

8ID.24 **Infection Risk Assessment of COVID-19 through Aerosol Transmission: A Case Study of South China Seafood Market.** Xiaole Zhang, Zheng Ji, Yang Yue, Huan Liu, JING WANG, *ETH Zurich/Empa*

Tuesday 7:30 PM - 8:30 PM
Job Seeker Event

8JS

8JS.1 **Qishen Huang - Seeking for Postdoctoral Research Position.** QISHEN HUANG, *Virginia Tech*

8JS.2 **Kumar Sarang (Marie Curie PH.D. Fellow), Seeking for Postdoc Position in the Field of Atmospheric Chemistry.** KUMAR SARANG, *ICHF PAS, Warsaw, Poland*

8JS.3 **Zhonghua Zheng, Ph.D. Candidate in Environmental Engineering and Science (UIUC), Faculty / Research Scientist / Postdoc.** ZHONGHUA ZHENG, *University of Illinois at Urbana-Champaign*

8JS.4 **Environmental Health Scientist: Exploring a Position to make Earth an Inhalable Place for Future Generations.** FARIA KHAN, *ICHF, PAS, Warsaw, Poland*

8JS.5 **Joseph V. Puthussery, Ph.D. Candidate in Environmental Engineering and Science (UIUC), Looking for Postdoc Position in Instrument Development and Sampling Health-Related Aerosols.** JOSEPH V PUTHUSSERY, *University of Illinois Urbana-Champaign*

8JS.6 **Sahil Bhandari, Final Year PhD in ChemE (UT Austin), Looking for Post-Doc Positions.** SAHIL BHANDARI, *University of Texas at Austin*

8JS.7 **Meet the Job Seekers - Kayane Dingilian.** KAYANE DINGILIAN, *The Ohio State University*

8JS.9 **Li Li Ph.D. (Mechanical Engineering) Desired for a Post-Doctoral Research Position.** LI LI, *The University of Memphis*

8JS.10 **Ying Li, Project Scientist: Seeking Faculty or Research Scientist Position.** YING LI, *University of California, Irvine*

8JS.11 **Jessica L. Amorim, MSc.in Analytical Chemistry, Analytical Chemist / Research Scientist.** JESSICA LIMA AMORIM, *University of Alberta*

8JS.12 **Kanan Patel, PhD candidate at the University of Texas at Austin, Seeking Internship Opportunity at National Lab/Air Quality Consultancy/Regulatory Agency.** KANAN PATEL, *University of Texas at Austin*

8JS.13 **Pradeep Prathibha, PHD Candidate Pursuing Postdoctoral or Governmental Positions in Air Quality and Exposure Assessment with Particular Interest in Work That Informs Science Policy (SU/FA 2021, Any Location).** PRADEEP S. PRATHIBHA, *Washington University in St. Louis*

8JS.14 **Colleen Marciel F. Rosales, PhD Candidate at Indiana University, Seeking Technical Applications Scientist or Indoor Air Quality Consultancy Jobs.** COLLEEN MARCIEL ROSALES, *Indiana University*

8JS.15 **Yixiang Wang, Current Position/PhD Candidate and Desired Position/Postdoc in PM2.5 Toxicology.** YIXIANG WANG, *University of Illinois Urbana-Champaign*

8JS.16 **Haoran Yu, Ph.D. Candidate, Post-doctoral Research Position in Aerosol Toxicology/Public Health.** HAORAN YU, *University of Illinois Urbana-Champaign*

8JS.17 **Job Interest: Industry Research Scientist (instrumentation or instrumentation development), or Aerosol Chemistry Postdoc.** SABRINA CHEE, *University of California, Irvine*

8JS.18 **Sarah Toth, PhD Candidate, Environmental Engineering.** SARAH TOTH, *University of Colorado Boulder*

8JS.19 **Rebecca Tanzer Gruener, PhD Candidate in Mechanical Engineering Seeking Research Positions in Academia, Government, or Industry.** REBECCA TANZER GRUENER, *Carnegie Mellon University*

Wednesday

Wednesday 10:00 AM - 11:15 AM
Plenary III

10:00 **AEESP Lecture: The Clear Sky Bias in Atmospheric Chemistry** Annmarie G. Carlton, *University of California, Irvine*

Moderator Amy Sullivan, *Colorado State University*

11:00 **Whitby Award and Liu Award Presentations** Patrick O'Shaughnessy, Awards Committee Chair, *University of Iowa*

11:08 **Announcement of AAAR & IARA Fellows** Donald Dabdub, *University of California, Irvine*

Wednesday 11:15 AM - 11:30 AM
Break

Wednesday 11:30 AM - 12:15 PM
Session 9 : Platform

9AC AEROSOL CHEMISTRY: ISOPRENE CHEMISTRY

TRACK 1

Lindsay Yee, chair

9AC.1 11:30 **A Near-Explicit Mechanistic Evaluation of Isoprene Photochemical Secondary Organic Aerosol Formation and Evolution.** JOEL A. THORNTON, John Shilling, ManishKumar Shrivastava, Emma D'Ambro, Maria Zawadowicz, Jiumeng Liu, *University of Washington, Seattle, WA*

9AC.2 11:40 **Product Formation and Kinetics of Heterogeneous Hydroxyl Radical (OH) Oxidation of IEPOX-Derived SOA.** JIN YAN, Yue Zhang, Yuzhi Chen, N. Cazimir Armstrong, Marc Webb, Zhenfa Zhang, Avram Gold, Andrew Lambe, Andrew Ault, Jason Surratt, *University of North Carolina at Chapel Hill*

9AC.3 11:50 **Unexpected pH-Dependent Stereochemistry in Organosulfate Formation in Aerosol.** MADELINE COOKE, Yuzhi Chen, Yue Zhang, Ziying Lei, Isabel Ledskey, Jamy Lee, Nicolas Aliaga Buchenau, Andrew Lambe, Jason Surratt, Andrew Ault, *University of Michigan*

9CA CARBONACEOUS AEROSOLS: CONDENSABLE VAPORS AND AEROSOL BEHAVIOR

TRACK 2

R Subramanian, chair

9CA.1 11:30 **Measurements and Modeling of the Temperature and Humidity Dependent Viscosity Between -30 and 30 Degree Celsius.** SABIN KASPAROGLU, Markus Petters, Ying Li, Manabu Shiraiwa, *North Carolina State University*

9CA.2 11:40 **Humidity Dependent Absorption Enhancements for Brown Carbon Surrogates.** KYLE GORKOWSKI, James D. Lee, Christian Carrico, Tyler Capek, Claudio Mazzoleni, Allison Aiken, Manvendra Dubey, *Los Alamos National Lab*

9CA.3 11:50 **Model for Competitive Condensation of Supersaturated Vapor on a Soot Aggregate.** ELLA IVANOVA, Alexei Khalizov, Gennady Gor, *New Jersey Institute of Technology*

9IA INDOOR AEROSOLS: INDOOR AEROSOL CHEMISTRY

TRACK 3

Rachel O'Brien, chair

9IA.1 11:30 **Oxidized Primary Organic Aerosol and Secondary Organic Aerosol Formation Initiated by Chlorine Oxidation of Indoor Pollutants during Bleach Cleaning.** ANITA AVERY, Francesca Majluf, Jordan Krechmer, Nirvan Bhattacharyya, Lea Hildebrandt Ruiz, Maddy Reed, William Brune, Manjula Canagaratna, Andrew Lambe, *Aerodyne Research, Inc.*

9IA.2 11:40 **Deposited Particulate Matter from Cigarette Smoke Is a Major, Dynamic, and Chemically-Diverse Reservoir of Thirdhand Smoke.** ROGER SHEU, Tori Hass-Mitchell, Akima Ringsdorf, Achim Edtbauer, Thomas Klüpfel, Jonathan Williams, Drew Gentner, *Yale University*

9IA.3 11:50 **Emissions from Essential Oil Diffusers.** BOWEN DU, Heather Schwartz-Narbonne, Jeffrey Siegel, *University of Toronto*

9ID ROLE OF AEROSOL SCIENCE IN COVID-19: PERSONAL PROTECTIVE EQUIPMENT I

TRACK 4

Sergey Grinshpun and Gedi Mainelis, chairs

9ID.1 11:30 **Assessing the Effectiveness of Using Face Coverings to Mitigate the Transport of Particles Generated from Coughing.** LIQIAO LI, Muchuan Niu, Yifang Zhu, *University of California, Los Angeles*

9ID.2 11:40 **Evaluation of Particle Filtration Efficiency of Commercially Available Materials for Homemade Face Mask Usage.** TAEKYU JOO, Masayuki Takeuchi, Joy Barr, Emily Blum, Eric Parker, John Tipton, Julia Vernedoe, Nga Lee Ng, *Georgia Institute of Technology*

9ID.3 11:50 **The Use of Common Material to Alternative Masks for General Public: Fractional Filtration Efficiency and Breathability Perspective.** CHENXING PEI, Qisheng Ou, Seong Chan Kim, Sheng-Chieh Chen, David Y. H. Pui, *University of Minnesota*

9IM INSTRUMENTATION & METHODS: VOLATILITY AND PHASE METHODS

TRACK 5

Shantanu Jathar, chair

9IM.1 11:30 **Improvement on Differential Mobility Analyzer Method for Estimation of the Enthalpy of Vaporization Using an Algorithm to Derive Particle Size Changes from Full-Size Distribution.** CHIRANJIVI BHATTARAI, Andrey Khlystov, *Desert Research Institute*

9IM.2 11:40 **Design and Characterization of an Advanced Thermal Denuder.** MARTIN IRWIN, Jacob Swanson, Adam M Boies, *Catalytic Instruments*

9IM.3 11:50 **Performance Characteristics of a Dual Stage Porous Tube Thermodiluter.** AARON AVENIDO, Justin Koczak, Modi Chen, Francisco Romay, Russell Graze, Noah Bock, Darrick Zarling, *TSI Incorporated*

9SD SATELLITE DATA FOR ENVIRONMENTAL APPLICATIONS: I

TRACK 6

Meredith Franklin, chair

9SD.1 11:30 **Improving Estimates of PM2.5 Concentration and Chemical Composition by Application of High Spectral Resolution Lidar.** BETHANY SUTHERLAND, Nicholas Meskhidze, *NC State University*

9SD.2 11:40 **Ensemble-Based Deep Learning for Estimating PM2.5 over California with Multi-Source Big Data Including Wildfire Smoke.** Lianfa Li, Mariam Girguis, Frederick Lurmann, Nathan Pavlovic, Crystal McClure, Meredith Franklin, Jun Wu, Luke Oman, Carrie Breton, Frank Gilliland, RIMA HABRE, *University of Southern California*

9SD.3 11:50 **Examining Neighborhood Scale Variability of Co-incident PM2.5 and AOD Measurements: Results from Citizen Enabled Aerosol Measurements for Satellites (CEAMS).** MICHAEL CHEESEMAN, Bonne Ford, John Volckens, Jeffrey R. Pierce, Eric Wendt, Casey Quinn, Christian L'Orange, John Mehaffy, Shantanu Jathar, Marilee Long, Zoey Rosen, *Colorado State University, Fort Collins, CO*

Wednesday 12:15 PM - 12:30 PM
Break

Wednesday 12:30 PM - 1:15 PM
Session 10: Platform

10AC AEROSOL CHEMISTRY: NEW SULFUR CHEMISTRY

TRACK 1

Gabriel Isaacman-VanWertz, chair

10AC.1 12:30 **Rapid Formation of Sulfate Aerosols through Aqueous Aerosol Oxidation by Isoprene Hydroxy Hydroperoxides (ISOPOOH).** YUE ZHANG, Jin Yan, Yuzhi Chen, N. Cazimir Armstrong, Zhenfa Zhang, Avram Gold, Barbara Turpin, Jason Surratt, *University of North Carolina at Chapel Hill*

10AC.2 12:40 **Enhanced Sulfate Production by Nitrate Photolysis in the Presence of Halide Ions in Atmospheric Particles.** RUIFENG ZHANG, Masao Gen, Dandan Huang, Yongjie Li, Chak K. Chan, *City University of Hong Kong*

10AC.3 12:50 **Contribution of Particulate Nitrate Photolysis to Heterogeneous Sulfate Formation for Winter Haze in China.** HAOTIAN ZHENG, Shaojie Song, Golam Sarwar, Masao Gen, Shuxiao Wang, Dian Ding, Xing Chang, Shuping Zhang, Jia Xing, Yele Sun, Dongsheng Ji, Chak K. Chan, Jian Gao, Michael McElroy, *Tsinghua University*

10CC AEROSOLS, CLOUDS, AND CLIMATE: ABSORBING AEROSOLS, CLOUDS, AND CLIMATE

TRACK 2

Akua Asa-Awuku, chair

10CC.1 12:30 **Characterization of Black Carbon Aerosol and Its Impacts on Aerosol-Cloud Interactions in the Marine Environment.** NILIMA SARWAR, Armin Sorooshian, Haflidi Jonsson, Richard Flagan, John Seinfeld, Andrew Metcalf,

Clemson University

10CC.2 12:40 **Impact of African Dust, Biomass Burning, and Other Air Mass Types on Cloud Condensation Nuclei Concentrations at a Coastal Location in the Southeastern United States.** EVA-LOU EDWARDS, Andrea F Corral, Hossein Dadashazar, Paquita Zuidema, Cassandra Gaston, Anne Barkley, Armin Sorooshian, *University of Arizona*

10CC.3 12:50 **Improved Estimates of Preindustrial Biomass Burning Reduce the Magnitude of Aerosol Climate Forcing in the Southern Hemisphere.** PENGFEI LIU, Jed Kaplan, Loretta Mickley, Yang Li, Nathan Chellman, Monica Arienzo, Jack Kodros, Jeffrey R. Pierce, Michael Sigl, Johannes Freitag, Robert Mulvaney, Mark Curran, Joseph McConnell, *Harvard University*

10IA INDOOR AEROSOLS: LOW-COST SENSORS FOR INDOOR AEROSOLS

TRACK 3

Albert Presto, chair

10IA.1 12:30 **Use of Low-cost Air Quality Sensors to Quantify Human Activity Pattern Based PM2.5 Exposures.** JIAYU LI, Aliaksei Hauryliuk, Krystal Suero, Shifali Kerudi, Megan Henriksen, Albert A. Presto, *Carnegie Mellon University*

10IA.2 12:40 **Using a Particle Sensor Network to Characterize Indoor and Outdoor Air Quality of Buildings in Areas Prone to Wildfires.** HEIDI VREELAND, Amara Holder, Sarah Coefield, Ben Schmidt, Tom Javins, Curtis Noonan, Brian McCaughey, Gayle Hagler, *U.S. EPA*

10IA.3 12:50 **Investigation of Heatwave Effect on PM2.5 Levels Indoors using Consumer-grade Air Quality Sensors.** RUIKANG HE, Ioanna Tsoulou, Sanjeevi Thirumurugesan, Brian Morgan, Stephania Gonzalez, Deborah Plotnik, Jennifer Senick, Gediminas Mainelis, Clinton J. Andrews, *Rutgers, The State University of New Jersey*

10ID ROLE OF AEROSOL SCIENCE IN COVID-19: PERSONAL PROTECTIVE EQUIPMENT II

TRACK 4

CY Wu and Gedi Mainelis, chairs

10ID.1 12:30 **Evaluation of Decontamination Methods for Commercial and Alternative Respirator and Mask Materials -- View from Filtration Aspect.** QISHENG OU, Chenxing Pei, Seong Chan Kim, Elizabeth Abell, David Y. H. Pui, *University of Minnesota*

10ID.2 12:40 **Filtration Efficiencies of Nanoscale Aerosol by Cloth Mask Materials Used to Slow the Spread of SARS CoV-2.** CHRISTOPHER ZANGMEISTER, James Radney, Edward Vicenzi, Jamie Weaver, *National Institute of Standards and Technology*

10ID.3 12:50 **Decontamination and Re-Use of Surgical Masks and N95 Respirators during the COVID-19 Pandemic: Effect of Autoclave Sterilization and Ethanol Treatment on Filter Efficiency and Breathability.** SERGEY A. GRINSHPUN, Michael Yermakov, Marat Khodoun, *University of Cincinnati*

10IM INSTRUMENTATION & METHODS: BLACK CARBON AND PARTICLE MORPHOLOGY

TRACK 5

Markus Petters, chair

10IM.1 12:30 **Comparison of Inversion Schemes for Retrieving Black Carbon Mixing State Distributions using CPMA-SP2 Measurements.** Naseri Arash, Timothy Sipkens, Una Trivanovic, Mohsen Kazemimanesh, Olanrewaju Wasiu Bello, Allan Bertram, Steven Rogak, JASON S. OLFERT, *University of Alberta*

10IM.2 **Online Shape and Density Measurement of Single Black Carbon Aerosol Particles.** Shurong Wang, Kaili Zhou,

12:40 JianMin Chen, Kimberly Prather, Xin Yang, XIAOFEI WANG, *Fudan University*

10IM.3 12:50 **Elemental Analysis of Oxygenated Organic Coatings on Black Carbon Particles using a Soot-Particle Aerosol Mass Spectrometer.** MUTIAN MA, Laura-Helena Rivellini, Yuxi Cui, Megan Willis, Rio Wilkie, Jonathan Abbatt, Manjula Canagaratna, Junfeng Wang, Xinlei Ge, Alex Lee, *National University of Singapore*

10SD SATELLITE DATA FOR ENVIRONMENTAL APPLICATIONS: II

TRACK 6

Shannon Capps, chair

10SD.1 12:30 **Developing a Framework for Refining Ammonia Emissions Estimates with Satellite-based Observations with Air Quality Modeling.** CONGMENG LYU, Mahmoudreza Momeni, Shannon Capps, Matthew Lombardo, Mark Shephard, Amir Hakami, Daven Henze, Steven Thomas, Peter Rayner, *Drexel University*

10SD.2 12:40 **A Novel Single-scattering Property Database of Irregular Aerosol Particles for Satellite-based Aerosol Remote Sensing.** MASANORI SAITO, Ping Yang, Xu Liu, *Department of Atmospheric Sciences, Texas A&M University*

10SD.3 12:50 **Retrieving Low-cost Air Quality Sensor Network by Integrating Fixed and Satellite Monitoring Systems for a Northern China City.** HUANG ZHANG, Chun-Ying Chao, Melanie Hammer, Randall Martin, Pratim Biswas, *Washington University in St Louis*

Wednesday 1:15 PM - 1:30 PM
Break

Wednesday 1:30 PM - 2:15 PM
Session 11: Platform

11AC AEROSOL CHEMISTRY: REDUCED ORGANIC SULFUR

TRACK 1

Andrew Ault, chair

11AC.1 1:30 **Particle- and Gas-phase Chamber Measurements of Dimethyl Sulfide Oxidation.** MATTHEW GOSS, Qing Ye, Gabriel Isaacman-VanWertz, Jesse Kroll, *MIT*

11AC.2 1:40 **Global Modeling of Heterogeneous Hydroxymethanesulfonate Chemistry.** SHAOJIE SONG, *Harvard University*

11AC.3 1:50 **Inorganic PM2.5 Composition in Fairbanks Alaska Winter: Large Contributions from HMS.** MICHAEL BATTAGLIA JR., Rime El Asmar, James Campbell, Meeta Cesler-Maloney, William Simpson, Jingqiu Mao, Athanasios Nenes, Rodney J. Weber, *Georgia Institute of Technology*

11CC AEROSOLS, CLOUDS, AND CLIMATE: PHASE AND HYGROSCOPICITY OF ORGANIC AEROSOLS

TRACK 2

Markus Petters, chair

11CC.1 1:30 **Direct Comparison of the Submicron Aerosol Hygroscopicity of Water-Soluble Sugars and Ammonium Sulfate-Organic Mixtures.** PATRICIA RAZAFINDRAMBININA, Joseph Nelson Dawson, Kotiba A. Malek, Tim Raymond,

Dabrina Dutcher, Akua Asa-Awuku, Miriam Freedman, *University of Maryland*

11CC.2 1:40 **Temperature Dependent Entropy Driven Water Uptake in Phase Separated Aerosol Particles.** MARIA LBADAOUI-DARVAS, Satoshi Takahama, Athanasios Nenes, *LAPI, EPFL (Switzerland)*

11CC.3 1:50 **Using Model Particle Systems to Constrain Atmospheric Particle "Glassiness" and Mixing Limitations.** LUKE HABIB, Neil Donahue, *Carnegie Mellon University*

11HA HEALTH EFFECTS: E-CIGARETTE AND VAPING EMISSIONS

TRACK 3

Yu Feng and Fobang Liu, chairs

11HA.1 1:30 **Chemical and Toxicological Characterization of Vaping Emission Products from Commonly Used Vape Juice Diluents.** HUANHUAN JIANG, C.M. Sabbir Ahmed, Thomas Martin, Alexa Canchola, Iain Oswald, Jose Garcia, Jin Chen, Kevin Koby, Anthony Buchanan, Zixu Zhao, Haofei Zhang, Kunpeng Chen, Ying-Hsuan Lin, *University of California, Riverside*

11HA.2 1:40 **Accretion Reactions Characterized in Unflavored Electronic Nicotine Delivery System (ENDS) Aerosols by Hydrophilic Interaction Liquid Chromatography Coupled to High-Resolution Quadrupole Time-of-Flight Mass Spectrometry (HILIC/QTOF-MS).** SARAH SUDA PETTERS, Yue Zhang, Jin Yan, Caz Nichols, Timothy Fennell, Michelle McCombs, Kamau Peters, Jonathan Thornburg, Jason Surratt, *University of North Carolina at Chapel Hill*

11HA.3 1:50 **Assessing E-cigarette Aerosol Physical and Chemical Changes Post-emission Using an Idealized Physical Throat Model.** KAITLYN SUSKI, Zarina Munshi, Raj Rao, Brad Ingebrethsen, Bryan Toth, Won Choi, Hosna Mogaddedi, *JUUL Labs*

11IA INDOOR AEROSOLS: RESIDENTIAL AEROSOLS

TRACK 4

Brent Williams, chair

11IA.1 1:30 **Long-Term Measurements of Particulate Matter in Residential Households: Case Studies with Cooking Methods, Cleaning, and Other Everyday Activities.** SIERRA LALTRELLO, Azita Amiri, Shanhu Lee, *The University of Alabama in Huntsville*

11IA.2 1:40 **Assessment of PM2.5 Concentration and Transport in Indoor Environments Using Low-cost Sensors.** SUMIT SANKHYAN, Julia Witteman, Sameer Patel, Marina Vance, *University of Colorado Boulder*

11IA.3 1:50 **Does Residential HVAC Filtration Work?** TIANYUAN LI, Masih Alavy, Zhang Yizhi, Jeffrey Siegel, *University of Toronto*

11ID ROLE OF AEROSOL SCIENCE IN COVID-19: VIRUS CONTROL AND MITIGATION

TRACK 5

Doug Reed and Paul Dabisch, chairs

11ID.1 1:30 **Environmental Effects on Betacoronavirus Resuspension and Transport at High Risk Facilities.** Sunil Kumar, Tatiana Baig, MARIA KING, *Texas A&M University*

11ID.2 1:40 **Influence of Wind and Relative Humidity on the Social Distancing Effectiveness to Prevent COVID-19 Airborne Transmission: A CFD Study.** YU FENG, Thierry Marchal, Ted Sperry, Hang Yi, *Oklahoma State University*

11ID.3 **A Simple Effective Enclosure with Added Plastic Wrappings for Inexpensive Containment of Aerosolized**

1:50 **COVID Viruses and Other Pathogens during Tracheal Operations.** LUKE MONROE, Jack Johnson, Howard Gutstein, John Lawrence, Keith Lejenue, Ryan Sullivan, Coty Jen, *Carnegie Mellon University*

11IM INSTRUMENTATION & METHODS: AEROSOL CHEMICAL CHARACTERIZATION I

TRACK 6

Bryan Bzdek, chair

11IM.1 1:30 **Isomer-resolved Quantification of Particle-phase Organic Compounds Using a Coupled GC-CIMS/FID.** CHENYANG BI, Jordan Krechmer, Graham Frazier, Wen Xu, Andrew Lambe, Megan Claflin, Brian Lerner, John Jayne, Douglas Worsnop, Manjula Canagaratna, Gabriel Isaacman-VanWertz, *Virginia Tech*

11IM.2 1:40 **Molecular Analysis of Freshly Nucleated α-pinene SOA Using Droplet Assisted Ionization.** DEVAN E. KERECMAN, Murray Johnston, *University of Delaware*

11IM.3 1:50 **Airborne Extractive Electrospray Mass Spectrometry (EESI) Measurements of the Chemical Composition of Biomass Burning Organic Aerosol.** DEMETRIOS PAGONIS, Pedro Campuzano-Jost, Hongyu Guo, Douglas Day, Melinda Schueneman, Wyatt Brown, Benjamin A. Nault, Kyla Siemens, Alexander Laskin, Felix Piel, Laura Tomsche, Tomas Mikoviny, Armin Wisthaler, Jose-Luis Jimenez, *University of Colorado-Boulder*

Wednesday 6:00 PM - 7:30 PM
Session 12: Posters

12AP

12AP.2 **Multi-Spectral Digital Holography for Microparticles.** RAMESH GIRI, Gorden Videen, Matthew Berg, *Kansas State University*

12AP.3 **Comparison of Characteristics of New Particle Formation (NPF) in the Arctic (Ny-Alesund, Norway) and Urban (Gwangju, Korea) Environments.** HAEBUM LEE, Kihong Park, *Gwangju Institute of Science and Technology*

12AP.4 **Effect of Brownian Rotation on the Drift Velocity of a Nanorod.** GEORGE MULHOLLAND, Charles Hagwood, *National Institute of Standards and Technology, Gaithersburg*

12AP.5 **The Prediction of Size and Charge of Particles Generated in an Electrospray System.** HAO ZHOU, Pratim Biswas, *Washington University in St Louis*

12AP.6 **Comparison of Particle Concentration and Distribution during Different Dust Storm Types as Measured by AEROS in West Texas.** KARIN ARDON-DRYER, Mary Kelley, Moira Plantier, Xueting Xia, *Texas Tech University*

12AP.7 **Comparison of Bystander Asbestos Exposure Data to Fiber Migration Assumptions.** STEVEN COMPTON, *MVA Scientific Consultants*

12AP.8 **Numerical Investigation of Ion-condensation.** Jacob Svensmark, MARTIN BØDKER ENGHOFF, Nir Joseph Shaviv, Henrik Svensmark, *Technical University of Denmark*

12AP.9 **Comparison of the Predictions of Langevin Dynamics-based Diffusion Charging Collision Kernel Models with Canonical Experiments.** Li Li, Harjindar Singh Chahl, RANGANATHAN GOPALAKRISHNAN, *The University of Memphis*

12AP.10 **The Effect of Potential Interaction and Atomic Mass on the Nature of the Scattering and Accommodation of Gas Molecules from the Surface of Charged Particles. Transitioning from Specular to Diffuse Reemission.** VIRAJ GANDHI, Jayden Pothoof, Carlos Larriba-Andaluz, *IUPUI*

12AP.11 **A Universal Parameter to Describe the Reduction of Refraction Effects in the Scattering of Absorbing Spheres.** JUSTIN MAUGHAN, Christopher Sorensen, *Kansas State University*

12AP.12 **Radial Basis Neural Network Method for Solving Population Balance Equations for Particle Coagulation.** KAIYUAN WANG, Pei Wang, Suyuan Yu, Wei Peng, *Institute of Applied Physics and Computational Mathematics*

12AP.13 **Experimental Verification of the Kinetic Theory of Gelation.** Christopher Sorensen, RAIYA EBINI, *Kansas State University*

12AP.14 **Investigating Homogeneous Nucleation of Propane and n-Butane in Supersonic Nozzle Expansions.** JIAQI LUO, Barbara Wyslouzil, *The Ohio State University*

12AP.15 **Optical and Microphysical Properties of Aerosols Emitted from a Marine Engine.** NILOFAR RAEOFY, Justin Dingle, Roya Bahreini, Andrew Metcalf, Gavin McMeeking, Tony Hansen, Yu Jiang, Jiacheng Yang, Kevin Thomson, Stephanie Gagne, Tak Chan, Jacob Swanson, Heejung Jung, Georgios Karavalakis, David R. Cocker III, Thomas D. Durbin, Wayne Miller, Kent Johnson, *University of California, Riverside*

12AP.16 **Effect of Volume Fraction and Hydrodynamic Interactions on Aerosol Particle Coagulation Using Langevin Dynamics Simulations.** ZHIBO LIU, Vikram Suresh, Ranganathan Gopalakrishnan, *The University of Memphis*

12CM

12CM.1 **Estimating Criteria Pollutant Emissions from Six Future Greenhouse Gas Mitigation Energy Scenarios in California.** YIN LI, Christopher Yang, Michael Kleeman, *University of California, Davis*

12CO

12CO.2 **Physical and Chemical Characteristics and Oxidative Potential of Rice Straw and Pine Stem Burning Particles.** ILHWA SEO, Kwangyul Lee, Min-Suk Bae, Minhan Park, Shila Maskey, Arom Seo, Lucille Joanna Borlaza, Enrique Cosep, Kihong Park, *Gwangju Institute of Science and Technology*

12CO.3 **Development of Volatility Distributions of Biomass Burning Organic Emissions.** ADITYA SINHA, Ingrid George, Amara Holder, Michael Hays, Andrew Grieshop, *North Carolina State University*

12CO.4 **Cookstove Emissions and Performance Evaluation Using a Novel ISO Protocol and Comparison of Results With Previous Test Protocols.** WYATT CHAMPION, Craig Williams, Larry Virtaranta, Mark Barnes, William Preston, Michael Hays, James Jetter, *ORISE, U.S. EPA*

12CO.5 **Towards a Standardized Measurement System for Black Carbon Emissions from Ships.** Stephanie Gagne, JALAL NOROOZ OLIAEE, Fengshan Liu, Joel Corbin, Prem Lobo, Gregory Smallwood, *National Research Council Canada*

12CO.6 **Aerosol Formation and Ejection via Pyrocumulonimbus Clouds in the British Columbia Fires of Late Summer 2017.** ALEXANDER JOSEPHSON, Eunmo Koo, Daniel K Thompson, Jon Reisner, *Los Alamos National Laboratory*

12CO.7 **Effect of Deionized-water and Steam Addition on Soot and NOx Emissions in a Lab-scale Flare.** OLANREWAJU WASIU BELLO, Milad Zamani, Larry W. Kostiuk, Jason S. Olfert, *University of Alberta*

12CO.8 **nvPM Across Decadal Length Scales: Dependence on Biofuel Content.** John Kinsey, Bob Giannelli, Jeffrey Stevens, Robert Howard, Mary Forde, Cullen Leggett, Alla Zelenyuk, Kaitlyn J. Suski, Greg Payne, Julien Manin, Richard W. Frazee, Timothy Onasch, Andrew Freedman, Richard Miake-Lye, David Kittelson, Jacob Swanson, RANDY VANDER WAL, Jiawei Liu, Raju Kumal, *Penn State University*

12CO.9 **Laboratory-Generated Aerosols as Transfer Standards to Characterize Smoke Detector Performance.** XIAOLIANG WANG, Judith Chow, John Watson, Marit Meyer, Gary Ruff, David Urban, John Easton, Gordon Berger, Paul Mudgett, *Desert Research Institute*

12CO.10 **Remotely-Sensed Aerosol Optical Properties Retrieved from a High Spectral Resolution Lidar (HSRL) Instrument during the FIREX-AQ Field Campaign.** TAYLOR SHINGLER, Marta Fenn, Johnathan Hair, Amin Nehrir, Anthony Notari, *NASA*

12CO.11 **Biomass Burning Particle Emission Factors and Size Distributions Measured during FIREX-AQ.** ELIZABETH WIGGINS, Richard Moore, Claire Robinson, Edward Winstead, Amber Soja, Emily Gargulinski, *NASA*

12DP

12DP.1 **Grain Charging Rate in High Ion Concentrated Dusty Plasma Using Langevin-Dynamic Simulations.** RANGANATHAN GOPALAKRISHNAN, Vikram Suresh, Zhibo Liu, *The University of Memphis*

12DP.2 **Cold Atmospheric Pressure Plasma for the Microbial Inactivation of Contaminated Bioaerosols to Control Indoor Transmission of COVID-19 and Other Infection Diseases.** Alina Bisag, Cristiana Bucci, Filippo Capelli, VITTORIO COLOMBO, Giorgio Dirani, Matteo Gherardi, Pasquale Isabelli, Giulia Laghi, Romolo Laurita, Nikta Oveisi, Vittorio Sambri, *Industrial Engineering Department; University of Bologna*

12IM

12IM.1 **Impacts of Data Completeness on Hourly Averaged PurpleAir PM2.5 Concentrations and AQI Category Estimation during Smoke Events.** SAMUEL FREDERICK, Karoline Barkjohn, Amara Holder, Andrea Clements, *U.S. EPA Office of Research and Development*

12IM.2 **Performance Characterization of Low-Cost Sensor Observations in a Near-Source Environment in Rural Malawi.** ASHLEY BITTNER, Eben Cross, David Hagan, Carl Malings, Eric Lipsky, Andrew Grieshop, *North Carolina State University*

12IM.3 **Thermal-induced Alternation in Size Distribution of Gold Nanoparticles Characterized by Differential Mobility Analyzer.** ALICE CHINGHSUAN CHANG, Fang-Hsin Lin, *Industrial Technology Research Institute*

12IM.5 **Development and Evaluation of a Low-Cost Black and Brown Carbon Filter Analyzer.** EMILY FLOESS, Andrew Grieshop, *North Carolina State University*

12IM.6 **Laboratory and Modeling Evaluation of Particle-Dependent Inaccuracies in Low-Cost Optical Sensors.** AMANDA GAO, David Hagan, Eben Cross, Jesse Kroll, *MIT*

12IM.7 **Recommended Calibrations for Aerodyne Aerosol Mass Spectrometers to Reduce Uncertainty and to Improve Quantificaiton.** BENJAMIN A. NAULT, Pedro Campuzano-Jost, Douglas Day, Hongyu Guo, Melinda Schueneman, Weiwei Hu, Brett Palm, Jason Schroder, Jose-Luis Jimenez, *CIRES, University of Colorado, Boulder*

12IM.8 **Increased Temporal Resolution of Environmentally Persistent Free Radicals (EPFR) in Atmospheric Particulate Matter and Combustion Particles via Electron Paramagnetic Resonance (EPR) Spectroscopy.** HEATHER RUNBERG, Deborah Mitchell, Sandra Eaton, Gareth Eaton, Brian Majestic, *University of Denver*

12IM.9 **Aerosol pH Indicator and Organosulfate Detectability from Aerosol Mass Spectrometry Measurements.** MELINDA SCHUENEMAN, Benjamin A. Nault, Pedro Campuzano-Jost, Douglas Day, Duseong Jo, Jason Schroder, Brett Palm, Alma Hodzic, Jack Dibb, Paul Wennberg, Karl D. Froyd, Glenn Diskin, Jose-Luis Jimenez, *University of Colorado Boulder*

12IM.10 **Aerosolization of Fine Lunar Simulant Particles for Size and Charge Characterization and Low-Cost Sensor Calibration.** ABHAY VIDWANS, Shruti Choudhary, Brad Jolliff, Pratim Biswas, *Washington University in St Louis*

12IM.11 **Design and Characterization of a New OFR: The Particle Formation Accelerator (PFA).** NINGJIN XU, Don Collins, *University of California, Riverside*

12IM.12 **Characterization of Organic Matter in PM2.5 sampled on different filters by FITR and Electrospray ATR-FTIR.** ANDREA MARIO ARANGIO, Matteo Reggente, Amir Yazdani, Claudia Zwellweger-fasi, Athanasios Nenes, Christoph Huğlin, Satoshi Takahama, *EPFL*

12IM.13 **Accurate Aerosol Absorption Measurements at Reduced Sample Pressures.** MICHAEL COTTERELL, Kate Szpek, David Tiddeman, Jim Haywood, Justin Langridge, *University of Bristol*

12IM.14 **Volatility Measurement of Organic Aerosol by Mass Fraction Remaining: Challenges and Advances.** KAROLINA CYSNEIROS DE CARVALHO, Sohyeon Jeon, Christopher Oxford, Michael Walker, Brent Williams, *Washington University in St. Louis*

12IM.15 **Effects of Inlet Temperature and Particle Transmission on Automated Mercury Analysis.** Adriana Mustata, ELISABETH GALARNEAU, Geoff Stupple, Alexandra Steffen, *Environment and Climate Change Canada*

12IM.16 **Performance Validation of Bio-Particle Counter by Using Inkjet Aerosol Generator.** KENJIRO IIDA, Hiromu Sakurai, *AIST*

12IM.17 **Determining the Cut-Off Diameter and Counting Efficiency of Optical Particle Counters With an Aerodynamic Aerosol Classifier and an Inkjet Aerosol Generator.** Steven Tran, KENJIRO IIDA, Yoshiko Murashima, Hiromu Sakurai, Jason S. Olfert, *University of Alberta*

12IM.18 **Design and Characterization of an Ag Generator.** MARTIN IRWIN, Jacob Swanson, Adam M Boies, *Catalytic Instruments*

12IM.19 **An Automated Approach to Identify and Quantify Compounds in Large GC-MS Datasets using Positive Matrix Factorization.** SOHYEON JEON, Michael Walker, Claire Fortenberry, Brent Williams, *Washington University in St. Louis*

12IM.20 **A New Moderate-cost Method for the Characterization of Organic Aerosol by Volatility and Elemental Ratios.** PURUSHOTTAM KUMAR, James Hurley, Nathan Kreisberg, Braden Stump, Susanne Hering, Patricia Keady, Gabriel Isaacman-VanWertz, *Virginia Tech*

12IM.21 **Influence of the Peaks Method Assumption on Variation in Volatility Tandem Differential Mobility Analyzer Measurements.** CHRISTOPHER OXFORD, Brent Williams, *Washington University in St. Louis*

12IM.22 **Application and In-Field Assessment of a High Flow Rate Electrostatic Precipitator (ESP) in Collecting Fine Particulate Matter (PM2.5) for Toxicological Studies.** MILAD PIRHADI, Amirhosein Mousavi, Constantinos Sioutas, *University of Southern California*

12IM.24 **Integrated Aerosol Mass and Number Measurements with the Mass and Mobility Aerosol Spectrometer (M2AS).** KINGSLEY REAVELL, David Walker, *Cambustion Ltd*

12IM.25 **Machine Learning Approaches to Characterizing Soot in TEM Images.** TIMOTHY SIPKENS, Hamed Nikookar, Steven Rogak, *University of British Columbia*

12IM.27 **Effect of Relative Humidity on the Performance of Five PM Sensors.** PENG WANG, Feng Xu, Huanqin Wang, Da-Ren Chen, *Virginia Commonwealth University*

12IM.28 **Performance Evaluations of Multiple Commercial PM Sensors in Research Triangle Park, NC.** SAMUEL FREDERICK, Karoline Barkjohn, Cortina Johnson, Ian VonWald, Andrea Clements, *U.S. EPA Office of Research and Development*

12IM.29 **Experimental Characterization of Light Backscattering.** BLAINE FRY, Christopher Sorensen, *Kansas State University*

12IM.30 **Detailed Comparisons of Organic Aerosol Composition Measurements Using Advanced Mass Spectrometric Techniques.** ERIK HELSTROM, Abigail Koss, Jordan Krechmer, Manjula Canagaratna, Frank Keutsch, Alexander Zaytsev, Jesse Kroll, *MIT*

12IM.31 **The Impact of Structure on the Estimation of Atmospherically Relevant Physicochemical Parameters.** GABRIEL ISAACMAN-VANWERTZ, Bernard Aumont, *Virginia Tech*

12IM.32 **Validating Wildfire Smoke Transport within a High-density, Low-cost Sensor Network.** KERRY KELLY, Derek Mallia, Adam Kochanski, Wei Xing, Tofigh Sayahi, Tom Becnel, Pierre-Emmanuel Gaillardon, Ross Whitaker, *University of Utah*

12IM.33 **Comprehensive Detection of All Analytes in Large Chromatographic Atmospheric Dataset.** SUNGWOO KIM, Gabriel Isaacman-VanWertz, *Virginia Tech*

12IM.34 **Development of a Personal Sampler Combined with Adenosine Triphosphate Bioluminescence Assay for**

the Rapid Measurement of Bioaerosols. LI LIAO, Jeong Hoon Byeon, Jae Hong Park, *Purdue University*

12IM.35 **Low Cost Detection Method for in Situ Detection of Aerosol Acidity Using Colorimetry Integrated With Camera.** AZAD MADHU, Myoseon Jang, Zechen Yu, *University of Florida*

12IM.36 **New Inlet for Increasing Concentrations of Reactive Organic Gases in SCCM-Level Sample Flows.** NAMRATA SHANMUKH PANJI, Gabriel Isaacman-VanWertz, *Virginia Tech*

12IM.37 **Positive and Negative Emissions from Cooling Towers.** CHRISTOPHER WALLIS, Mason Leandro, Patrick Chuang, Anthony S. Wexler, *University of California, Davis*

12IM.38 **Online Measurement of Semi-volatile Tracer Molecules in Workplace Room Air using Thermal Desorption Aerosol Gas Chromatography-Mass Spectrometry.** WEN XU, Philip Croteau, Nathan Kreisberg, Allen Goldstein, John Jayne, Douglas Worsnop, *Aerodyne Research, Inc.*

12IM.39 **Comparison of Size-resolved PM Elements Measured Using Aluminum Foil and Teflon Impaction Substrates: Implication for Ultrafine Particle Source Apportionment and Future Sampling Networks.** WEI XUE, Jian Xue, Farimah Shirmohammadi, Constantinos Sioutas, Annabelle Lolinco, Alam Hasson, Michael Kleeman, *University of California, Davis*

12NM

12NM.1 **On-the-fly Directed Assembly of Metal Nanoparticles from Electromagnetically Levitated Metal Droplets.** PANKAJ GHILDIYAL, Prithwish Biswas, Steven Herrera, Reza Abbaschian, Michael Zachariah, *University of California, Riverside*

12NM.2 **Structure and Dynamics of Fractal-like Particles Made by Agglomeration and Sintering.** EIRINI GOUDELI, Maximilian L. Eggersdorfer, *University of Melbourne*

12NM.3 **Synthesis of Multicomponent Metal-containing Nanomaterials in a Flame-driven High Temperature Reducing Jet Reactor.** MOHAMMAD MOEIN MOHAMMADI, Shuo Liu, Chintan Shah, Sandeep Kumar Dhandapani, Shema Rachel Abraham, William Sullivan, Raymond Buchner, Mark Swihart, *University at Buffalo - SUNY*

12NM.4 **Synthesis of Sodium Yttrium Fluoride-based Phosphors by Ultrasonic Spray Laser Pyrolysis.** MOHAMMAD MALEKZADEH, Vishvajeet Mane, Khirabdhi Mohanty, Mark Swihart, *University at Buffalo - SUNY*

12NM.5 **Fabrication of Hollow Carbon Nanofiber Containing Metal Oxide Catalyst via Electrospinning and Thermal Treatment for Atmospheric VOCs Removal and Water Treatment.** SANGMO KANG, Jungho Hwang, *Yonsei university*

12NM.6 **Characterization of Nanoparticles Emitted from Metallic Heaters in Electronic Cigarettes.** KAUSHAL PRASAD, Mark D. Wilson, Jae Hong Park, *Purdue University*

12NM.7 **Controlled Explosion of Fine Dusts.** SHUSIL SIGDEL, Justin Wright, Stephen Corkill, Christopher Sorensen, *Kansas State University*

12NM.8 **Effects of UV Intensity and Gas Composition on Photocatalytic Nitrogen Fixation on Titanium Dioxide Nanoparticles.** SABRINA WESTGATE, Nga Lee Ng, *Georgia Institute of Technology*

12NM.9 **Precursor Effects on the Properties of Detonation Graphene Aerosol Gel.** JUSTIN WRIGHT, Shusil Sigdel, Stephen Corkill, Jose Covarrubias, Levon LeBan, Jun Li, Stefan Bossmann, Christopher Sorensen, *Kansas State University*

Wednesday 7:30 PM - 8:30 PM
Early Career Development

Thursday

Thursday 10:00 AM - 11:15 AM
Plenary IV

10:00 **Air Quality in Spacecraft: What We Know About Aerosols in the International Space Station and What We Need to Know About Aerosols in Future Space Missions** Marit E. Meyer, *NASA Glenn Research Center*

Moderator Andrea Ferro, *Clarkson University*

11:00 **Sinclair Award Presentation, Mercer Award Announcement** Patrick O'Shaughnessy, Awards Committee Chair, *University of Iowa*

Thursday 11:15 AM - 11:30 AM
Break

Thursday 11:30 AM - 12:15 PM
Session 13 : Platform

13ACa AEROSOL CHEMISTRY: BIOSPHERE-ATMOSPHERE COUPLING

TRACK 1

Raphael Mayorga, chair

13ACa.1 11:30 **Highly Viscous Secondary Organic Aerosol from Healthy and Stressed Pine Trees.** NATALIE R. SMITH, Giuseppe Crescenzo, Yuanzhou Huang, Anusha P.S. Hettiyadura, Kyla Siemens, Ying Li, Celia Faiola, Alexander Laskin, Allan Bertram, Manabu Shiraiwa, Sergey Nizkorodov, *University of California, Irvine*

13ACa.2 11:40 **Atmo-ecometabolomics of Healthy and Stressed Riparian Shrubs: From the Plant Metabolome to Aerosol Production.** FARZANEH KHALAJ, Alber Rivas-Ubach, Christopher Anderton, Swarup China, Kailen Mooney, Celia Faiola, *University of California, Irvine*

13ACa.3 11:50 **Atmospheric Significance of the Aqueous-Phase Reactions of Green Leaf Volatiles: 1-Penten-3-ol, (Z)-2-Hexen-1-ol, and (E)-2-Hexen-1-al With Atmospheric Radicals.** KUMAR SARANG, Tobias Otto, Krzysztof Rudzinski, Irena Grgić, Nestorowicz Klara, Hartmut Herrmann, Rafal Szmigielski, *ICHF PAS, Warsaw, Poland*

13ACb AEROSOL CHEMISTRY: NEW PARTICLE FORMATION

TRACK 2

Jordan Krechmer, chair

13ACb.1 11:30 **Oxidized Amines Enhance Particle Formation More Than Amines.** NANNA MYLLYS, Tuomo Ponkkonen, Sabrina Chee, James Smith, *University of California, Irvine*

13ACb.2 11:40 **A Generalized Semi-Empirical Model for Sulfuric Acid Nucleation in the Atmosphere.** JACK JOHNSON, Sandra Fomete, Coty Jen, *Carnegie Mellon University*

13ACb.3 11:50 **Stochastic Effects in H2SO4-H2O Cluster Growth.** CHRISTOPH KÖHN, Martin Bødker Enghoff, Henrik Svensmark, *Technical University of Denmark*

13CC AEROSOLS, CLOUDS, AND CLIMATE: AEROSOLS AND SOLAR RADIATION

TRACK 3

Amy Sullivan, chair

13CC.1 11:30 **Quantifying the Effects of Mixing State on Aerosol Optical Properties.** YU YAO, Jeffrey H. Curtis, Nicole Riemer, *University of Illinois at Urbana-Champaign*

13CC.2 11:40 **General Circulation Model Estimates of Aerosol Radiative Effects and Its Implication to Hydrology over the Hindu Kush-Himalayan (HKH) Region.** SAUVIK SANTRA, Amit Kumar, Shubha Verma, *Indian Institute of Technology Kharagpur*

13CC.3 11:50 **Investigating the Clear Sky Bias: Cloud-Relevant Aerosol Chemistry.** MADISON FLESCH, Amy Christiansen, Virendra Ghate, Annmarie Carlton, *University of California, Irvine*

13HA HEALTH EFFECTS: OXIDATIVE POTENTIAL OF AMBIENT PM, PART 1

TRACK 4

Ting Fang and Vishal Verma, chairs

13HA.1 11:30 **Ascorbate Oxidation Chemistry in the Presence of Transition Metals: Review, Model Development, and Derivation of Key Rate Constants.** JIAQI SHEN, Paul T. Griffiths, Steven J. Campbell, Battist Uttinger, Markus Kalberer, Suzanne E. Paulson, *UCLA*

13HA.2 11:40 **Characterization and Comparison of PM2.5 Oxidative Potential Assessed by Two Acellular Assays.** DONG GAO, Krystal Godri Pollitt, James Mulholland, Armistead G. Russell, Rodney J. Weber, *Georgia Institute of Technology*

13HA.3 11:50 **Oxidative Potential of Fine Particulate Matter - Implications of Emission Source Sectors, Particle Chemical Composition and Acidity, and Metal Dissolution.** POURYA SHAHPOURY, Zheng Wei Zhang, Andrea Mario Arangio, Valbona Celo, Ewa Dabek-Zlotorzynska, Tom Harner, Athanasios Nenes, *Environment and Climate Change Canada*

13IA INDOOR AEROSOLS: INDOOR AEROSOL MODELING

TRACK 5

Kerry Kelly, chair

13IA.1 11:30 **Evaluating an Indoor Air Quality Model Using Simultaneous Measurements of Cookstove PM2.5 Emissions and Indoor Concentrations.** MOHAMMAD MAKSIMUL ISLAM, Roshan Wathore, Hisham Zerriffi, Julian Marshall, Rob Bailis, Andrew Grieshop, *North Carolina State University*

13IA.2 11:40 **Modeling Indoor Aerosol Dynamics during HOMEChem.** SAMEER PATEL, Sumit Sankhyan, Donghyun Rim, Atila Novoselac, Delphine K. Farmer, Marina Vance, *University of Colorado Boulder*

13IA.3 11:50 **Modeling Indoor Aerosol Inorganic Thermodynamics with ISORROPIA.** BRYAN BERMAN, Bryan Cummings, Anita Avery, Shannon Capps, Peter F. DeCarlo, Michael Waring, *Drexel University*

13VC MISSING CONTRIBUTORS TO SOA: THE ROLE OF VCPS - ENVIRONMENTAL CHAMBER STUDIES

TRACK 6

David Cocker, chair

13VC.1 **Secondary Organic Aerosol Yields from the Oxidation of Benzyl Alcohol.** SOPHIA CHARAN, Reina Buenconsejo,

11:30 John Seinfeld, *California Institute of Technology*

13VC.2 11:40 **Formation of Highly Oxygenated Molecules and Nitro Aromatic Compounds from the Oxidation of Benzyl Alcohol.** MOHAMMED JAOUI, Havala Pye, Karl Seltzer, Kenneth S. Docherty, Michael Lewandowski, David R. Cocker III, Sophia Charan, Reina Buenconsejo, John Seinfeld, Tadeusz Kleindienst, *U.S. Environmental Protection Agency*

13VC.3 11:50 **Low Secondary Organic Aerosol Production from Oxygenated Volatile Chemical Products.** MACKENZIE HUMES, Mingyi Wang, Sunhye Kim, Jo Machesky, Drew Gentner, Neil Donahue, Albert Presto, *Carnegie Mellon University*

Thursday 12:15 PM - 12:30 PM
Break

Thursday 12:30 PM - 1:15 PM
Session 14: Platform

14AC AEROSOL CHEMISTRY: CHEMISTRY OF LESS-STUDIED PRECURSORS

TRACK 1

Qing Ye, chair

14AC.1 12:30 **Secondary Organic Aerosol Formation from the Oxidation of Camphene.** QI LI, Jia Jiang, Isaac Afreh, Kelley Barsanti, David R. Cocker III, *University of California, Riverside*

14AC.2 12:40 **Chemical Mechanism of Atmospheric Oxidation of Benzyl Alcohol.** REINA BUENCONSEJO, Sophia Charan, Paul Wennberg, John Seinfeld, *California Institute of Technology*

14AC.3 12:50 **Bimodal Size Distribution in Secondary Organic Aerosol Formed via Sequential Ozone and Nitrate Oxidation of Catechol.** LAUREN A. GAROFALO, Matson A. Pothier, Carley D. Fredrickson, Brett Palm, Joel A. Thornton, John Orlando, Xuan Zhang, Delphine K. Farmer, *Colorado State University*

14CC AEROSOLS, CLOUDS, AND CLIMATE: AEROSOLS FROM FIELD CAMPAIGNS

TRACK 2

Rich Moore, chair

14CC.1 12:30 **In-situ Physical and Chemical Characterization of Cloud Droplet Residuals, Interstitial, and Background Aerosol Particles During the HI-SCALE Field Campaign.** GEORGES SALIBA, Alla Zelenyuk, David Bell, Kaitlyn J. Suski, John Shilling, Fan Mei, Gourihar Kulkarni, Jian Wang, Jason Tomlinson, Jerome Fast, *Pacific Northwest National Laboratory*

14CC.2 12:40 **Linking Upwind Marine Biological and Meteorological Processes to Local Marine Particle Concentrations With Flexpart.** KEVIN SANCHEZ, Bo Zhang, Hongyu Liu, Michael Shook, Ewan Crosbie, Luke Ziemba, Matthew Brown, Claire Robinson, Taylor Shingler, Kenneth Thornhill, Edward Winstead, Bruce Anderson, Chris Hostetler, Georges Saliba, Chia-Li Chen, Savannah Lewis, Lynn Russell, Michael Behrenfeld, Richard Moore, *NASA*

14CC.3 12:50 **Analysis of CCN Number, Hygroscopicity, and Droplet Activation in the Western Pacific Measured during CAMP2Ex.** MICHAEL BATTAGLIA JR., Athanasios Nenes, Rodney J. Weber, *Georgia Institute of Technology*

14HA HEALTH EFFECTS: OXIDATIVE POTENTIAL OF AMBIENT PM, PART 2

TRACK 3

Dong Gao and Pourya Shahpoury, chairs

14HA.1 12:30 **Comparing the Toxicity and Composition of Particulate in Multiple Canadian Air Zones.** DANA UMBRIO, Alison Traub, Cheol H. Jeong, Scott Weichenthal, Hongyu You, Ryan Kulka, Greg J. Evans, *SOCAAR, University of Toronto*

14HA.2 12:40 **Effect of Biomass Burning, Firework Emissions, and Haze Events on the Oxidative Potential of Ambient Particulate Matter in Delhi, India.** JOSEPH V PUTHUSSERY, Ashutosh Shukla, Jay Dave, Sreenivas Gaddamidi, Atinder Singh, Dilip Ganguly, Neeraj Rastogi, Sachchida N. Tripathi, Vishal Verma, *University of Illinois Urbana-Champaign*

14HA.3 12:50 **Spatiotemporal Variability and Source Apportionment of Oxidative Potential Associated with Water-soluble PM2.5 in the Midwest United States.** HAORAN YU, Joseph V Puthussery, Yixiang Wang, Yicen Liu, Vishal Verma, *University of Illinois Urbana-Champaign*

14SA SOURCE APPORTIONMENT: SOURCE APPORTIONMENT I

TRACK 4

Sahil Bhandari, chair

14SA.1 12:30 **Investigations of the Spatial and Temporal Variations in Organic Aerosol Sources within Europe Using 24 Long-term ACSM Datasets.** GANG CHEN, MariCruz Minguillon, André S.H. Prévôt, Team COLOSSAL, *Paul Scherrer Institute*

14SA.2 12:40 **Tailpipe and Non-tailpipe PM10 Emission Factors Across Major Freeways in the Los Angeles Basin: A Positive Matrix Factorization Approach.** Vahid Jalali Farahani, EHSAN SOLEIMANIAN, Sina Taghvaee, Constantinos Sioutas, *University of Southern California*

14SA.3 12:50 **Dispersion Normalized PMF Provides Insights into the Significant Changes in Source Contributions to Atmospheric Particulate Matter after the COVID-19 Outbreak.** Qili Dai, Yinchang Feng, PHILIP K. HOPKE, *Nankai University*

14UA URBAN AEROSOLS: EFFECTS OF COVID-19 ON URBAN AEROSOLS

TRACK 5

Lea Hildebrandt Ruiz, chair

14UA.1 12:30 **Reduced Traffic Volumes and Air Quality during the COVID-19 Shutdown.** CHEOL H. JEONG, Nathan Hilker, Taylor Edwards, Jon M. Wang, Jerzy Debosz, Yushan Su, Anthony Munoz, Dennis Herod, Greg J. Evans, *SOCAAR, University of Toronto*

14UA.2 12:40 **Influence of the COVID-19 Lockdown on Delhi's Air Quality.** KANAN PATEL, Mark Campmier, Sahil Bhandari, Nisar Ali Baig, Gazala Habib, Joshua Apte, Lea Hildebrandt Ruiz, *University of Texas at Austin*

14UA.3 12:50 **On the Impacts of COVID-19 Pandemic on Air Quality in Florida.** MARWA EL-SAYED, Yasin Elshorbany, Kirsten Koehler, *Embry-Riddle Aeronautical University*

14VC MISSING CONTRIBUTORS TO SOA: THE ROLE OF VCPS - VCP MODELING STUDIES

TRACK 6

Brian McDonald, chair

14VC.1 12:30 **Asphalt-related Emissions are a Large Urban Source of Secondary Organic Aerosol Precursors.** DREW GENTNER, Peeyush Khare, Jo Machesky, Megan He, Ricardo Soto, Albert Presto, Andrew Lambe, Jordan Krechmer, Manjula Canagaratna, *Yale University*

14VC.2 12:40 **Improving the Representation of Secondary Organic Aerosol from VCP Sources in Air Quality Models.** SREEJITH SASIDHARAN, Qi Li, David R. Cocker III, Mackenzie Humes, Albert Presto, Neil Donahue, Jo Machesky, Drew Gentner, Jeffrey R. Pierce, Shantanu Jathar, *Colorado State University*

14VC.3 12:50 **A Comprehensive Understanding of Predicted SOA Formation from Volatile Chemical Products.** ELYSE PENNINGTON, Karl Seltzer, Havala Pye, Melissa Venecek, John Seinfeld, *California Institute of Technology*

Thursday 1:15 PM - 1:30 PM
Break

Thursday 1:30 PM - 2:15 PM
Session 15: Platform

15AC AEROSOL CHEMISTRY: EXPLICIT MECHANISMS

TRACK 1

Jenna Ditto, chair

15AC.1 1:30 **Automating the Search for New Pathways in Atmospheric Oxidation Chemistry.** VICTORIA BARBER, Jesse Kroll, *MIT*

15AC.2 1:40 **Application of Machine Learning to Development of Atmospheric Chemical Mechanisms.** YUANLONG HUANG, Weimeng Kong, John Seinfeld, *California Institute of Technology*

15AC.3 1:50 **First-Generation Alkyl and Alkoxy Radical Fates Foreshadow SOA Yields from Cyclic Monoterpenes.** DANIELLE C. DRAPER, Thomas Almeida, Michelia Dam, Nanna Myllys, Theo Kurten, James Smith, *University of California, Irvine*

15CC AEROSOLS, CLOUDS, AND CLIMATE: COMPOSITION, CHEMISTRY, AND CLIMATE

TRACK 2

Kevin Sanchez, chair

15CC.1 1:30 **Characterization of Coarse-Mode, Iron-Containing Aerosols Transported to South America: Implications for Biogeochemical Cycles and Radiative Balance.** ANNE BARKLEY, Nicole Olson, Joseph M. Prospero, Alexandre Gatineau, Kathy Panechou, Nancy Maynard, Patricia Blackwelder, Swarup China, Andrew Ault, Cassandra Gaston, *University of Miami*

15CC.2 1:40 **Size-dependent Impacts of Atmospheric Oxidation on Ice Nucleating Particles from Sea Spray Emissions.** PAUL DEMOTT, Thomas Hill, Kathryn Moore, Russell Perkins, Josephine Rudd, Liora Mael, Chathuri Kaluarachchi, Hansol Lee, Kathryn Mayer, Alexei Tivanski, Vicki Grassian, Kimberly Prather, *Colorado State University*

15CC.3 1:50 **Size-Dependent Aerosol Climate Forcing and Chemistry in the Lower Stratosphere.** DANIEL MURPHY, Karl D. Froyd, Gregory Schill, Charles Brock, Agnieszka Kupc, Christina Williamson, *NOAA ESRL*

15HA HEALTH EFFECTS: TOXICITY OF ORGANIC AEROSOLS

TRACK 3

Ying-Hsuan Lin and Krystal Pollitt, chairs

15HA.1 1:30 **Chemical and Cellular Superoxide Generation by Secondary Organic Aerosols in Epithelial Lining Fluid.** TING FANG, Jinlai Wei, Jessica Monterrosa Mena, Michael Kleinman, Manabu Shiraiwa, *University of California, Irvine*

15HA.2 1:40 **Strong Association between More-Oxidized Oxygenated Organic Aerosols (MO-OOA) with Cellular Reactive Oxygen Species Production upon Particulate Matter Exposure.** FOBANG LIU, Taekyu Joo, Gabriela Saavedra, Dong Gao, Jenna Ditto, Jean Rivera-Rios, Drew Gentner, Rodney J. Weber, Nga Lee Ng, *Georgia Institute of Technology*

15HA.3 1:50 **Role of Organic Aerosol in Cardiovascular and Respiratory Disease Deaths.** HAVALA PYE, Cavin Ward-Caviness, Karl Seltzer, Benjamin Murphy, K. Wyat Appel, *United States Environmental Protection Agency*

15IM INSTRUMENTATION & METHODS: AEROSOL PRODUCTION AND MEASUREMENT

TRACK 4

Chris Cappa, chair

15IM.1 1:30 **Ultrasonic Aerosolization of Powder Phase Materials to Generate High Concentration Aerosol.** Rayhan Ahmed, Vikram Suresh, Li Li, RANGANATHAN GOPALAKRISHNAN, *The University of Memphis*

15IM.2 1:40 **Interferences on Aerosol Acidity Quantification due to Gas-phase Ammonia Uptake onto Acidic Sulfate Filter Samples.** BENJAMIN A. NAULT, Pedro Campuzano-Jost, Douglas Day, Hongyu Guo, Duseong Jo, Anne Handschy, Demetrios Pagonis, Jason Schroder, Melinda Schueneman, Bruce Anderson, Charles Brock, Michael Cubison, Jack Dibb, Glenn Diskin, Karl D. Froyd, Weiwei Hu, Agnieszka Kupc, J. Andrew Neuman, Brett Palm, Eric Scheuer, Gregory Schill, Christina Williamson, Jose-Luis Jimenez, *CIRES, University of Colorado, Boulder*

15IM.3 1:50 **Temperature Dependent Phase Separation and Ice Nucleation Studies of Model Aerosols Using Droplet Microfluidics.** PRIYATANU ROY, Cari Dutcher, *University of Minnesota*

15SA SOURCE APPORTIONMENT: SOURCE APPORTIONMENT II

TRACK 5

Rob Griffin, chair

15SA.1 1:30 **Elucidating the Sources of Fine Particulate Matter (PM2.5) in the City of Calgary, Canada.** MD. AYNUL BARI, Sharif Nawyaz, Warren Kinderzierski, *University at Albany, SUNY*

15SA.2 1:40 **Long-Term Trends of Urban Activity Sources Contributing to Organic Carbon (OC) in Different Urban Areas: A Focus on the PM Emission Regulations.** ABDULMALIK ALTUWAYJIRI, Milad Pirhadi, Amirhosein Mousavi, Constantinos Sioutas, *University of Southern California*

15SA.3 1:50 **Laser Derivatized Black Carbon Nanostructure: Characterization and Tests for Identifying Emission Sources.** Madhu Singh, RANDY VANDER WAL, *Penn State University*

15UA URBAN AEROSOLS: ULTRAFINE URBAN AEROSOLS

TRACK 6

Coty Jen, chair

15UA.1 **Exploring Sources of Ultrafine and Nucleation Mode Particles.** Alyssa Zimmerman, Markus Petters, NICHOLAS

1:30 MESKHIDZE, *North Carolina State University*

15UA.2 **Long-term Analysis to Elucidate the Origins of Ultrafine Particles in a Major City.** HOSNA MOVAHHEDINIA, 1:40 Nathan Hilker, Cheol H. Jeong, Greg J. Evans, *SOCAAR, University of Toronto*

15UA.3 **Rapid Growth of New Atmospheric Particles by Nitric Acid and Ammonia Condensation.** MINGYI WANG, 1:50 Weimeng Kong, Ruby Marten, Xucheng He, Dexian Chen, Joschka Pfeifer, Arto Heitto, Jenni Kontkanen, Lubna Dada, Andreas Kürten, Taina Yli-Juuti, Hanna Manninen, The CLOUD collaboration, Rainer Volkamer, Ilona Riipinen, Josef Dommen, Joachim Curtius, Urs Baltensperger, Markku Kulmala, Douglas Worsnop, Jasper Kirkby, John Seinfeld, Imad El Haddad, Richard Flagan, Neil Donahue, *Carnegie Mellon University; The CLOUD Collaboration*

Thursday 6:00 PM - 7:30 PM
Session 16: Posters

16CA

16CA.1 **Long-Term Trends of PM2.5 and Its Carbon Content in the South Coast Air Basin: A Focus on the impact of Wildfires.** FARAZ ENAYATI AHANGAR, Sina Hasheminassab, Payam Pakbin, Scott A. Epstein, Andrea Polidori, Jason Low, *South Coast Air Quality Management District*

16CA.2 **An Algorithm for Soot Aggregate Restructuring.** Ogochukwu Enekwizu, DIVJYOT SINGH, Alexei Khalizov, *New Jersey Institute of Technology*

16CA.3 **Organic Tracers of Low and High Molecular Weight in Particulate Matter with Thermal Desorption -- Pyrolysis -- Gas Chromatography / Mass Spectrometry.** ALENA KUBATOVA, Brett Nespor, Richard Cochran, Haewoo Jeong, Frank Bowman, David Delene, Evguenii I. Kozliak, Bin Yao, *University of North Dakota*

16CA.4 **Assessing Polarimetric Measurement Sensitivities to Light-Absorbing Aerosol.** CHENCHONG ZHANG, William Heinson, Benjamin Sumlin, Michael Garay, Olga Kalashnikova, Rajan K. Chakrabarty, *Washington University in St. Louis*

16CA.6 **Enhanced Formation of Brown Carbon from Photooxidation of 1-Methylnaphthalene in the Presence of Nitrogen Oxides, Ammonia, and Water Vapor.** YUMENG CUI, Alexander Frie, Justin Dingle, Stephen Zimmerman, Isis Frausto-Vicencio, Francesca Hopkins, Roya Bahreini, *University of California, Riverside*

16CA.7 **Tracking the Evolution in Soot Aggregate Optical Properties Concurrently with its Morphology.** OGOCHUKWU ENEKWIZU, Divjyot Singh, Alexei Khalizov, *New Jersey Institute of Technology*

16CA.9 **Molecular-Specific Optical Properties of Atmospheric Brown Carbon Proxies.** ANUSHA P.S. HETTIYADURA, Valeria Garcia, Christopher West, Jay Tomlin, Chunlin Li, Quanfu He, Yinon Rudich, Alexander Laskin, *Purdue University*

16CA.10 **Black Carbon Source Apportionment and Fluxes in Delhi Measured Using a Single Particle Soot Photometer (SP2).** Rutambhara Joshi, JAMES ALLAN, Ernesto Reyes Villegas, Dantong Liu, Eiko Nemitz, Ben Langford, James Cash, Neil Mullinger, Drysdale Will, James Lee, Chiara Di Marco, Shivani Shivani, Ranu Gadi, Hugh Coe, *University of Manchester*

16CA.11 **Impact of Organic Carbon on Soot Light Absorption.** GEORGIOS A. KELESIDIS, Alexander Bruun, Sotiris Pratsinis, *ETH Zurich*

16CA.12 **Health Impacts of Regional Open and Agricultural Fires in Northern South America.** KAREN BALLESTEROS, Amy P. Sullivan, Ricardo Morales Betancourt, *Universidad de los Andes*

16CA.13 **Predicting the Influence of Particle Size on the Glass Transition Temperature and Viscosity of Secondary Organic Material.** MARKUS PETTERS, Sabin Kasparoglu, *North Carolina State University*

16CA.14 **Determination of the Volume Fraction of Soot Accounting for Its Composition and Morphology.** GEORGIOS A. KELESIDIS, Sotiris Pratsinis, *ETH Zurich, Switzerland*

16CA.15 **Temporal Variation in Light Absorption Characteristics and Sources of Brown Carbon (BrC) Aerosols in Central Los Angeles: Contribution of Primary and Secondary Sources.** EHSAN SOLEIMANIAN, Amirhosein Mousavi, Sina Taghvaee, Martin Shafer, Constantinos Sioutas, *University of Southern California*

16CA.16 **Using Aerosol Instruments to Characterize Soot Particles Generated by Spark Discharge.** ROBERT VANGUNDY, Vaithiyalingam Shutthanandan, David Bell, Dan Imre, Alla Zelenyuk, *Pacific Northwest National Laboratory*

16CA.17 **Observations of Aerosol Absorption and Attribution to Black Carbon, Brown Carbon, and Coating Enhancement in Wildfire Smoke during the FIREX-AQ Mission.** NICK WAGNER, Adam Ahern, Charles Brock, Daniel Murphy, Ming Lyu, Joshua P. Schwarz, Joseph Katich, Anne Perring, Braden Mediavilla, Richard Moore, Elizabeth Wiggins, Rodney J. Weber, Linghan Zeng, Jack Dibb, Eric Scheuer, Edward Winstead, Claire Robinson, *CU CIRES - NOAA ESRL*

16CA.18 **Molecular Composition and the Optical Properties of Brown Carbon Generated by the Ethane Flame.** CHRISTOPHER WEST, Anusha P.S. Hettiyadura, Andrew Darmody, Gaurav Mahamuni, Justin Davis, Igor Novosselov, Alexander Laskin, *Purdue University*

16CA.19 **Brown Carbon Global Direct Radiative Effects.** LINGHAN ZENG, Aoxing Zhang, Yuhang Wang, Nick Wagner, Joseph Katich, Joshua P. Schwarz, Gregory Schill, Charles Brock, Karl D. Froyd, Daniel Murphy, Christina Williamson, Agnieszka Kupc, Eric Scheuer, Jack Dibb, Rodney J. Weber, *Georgia Institute of Technology*

16CA.20 **Garbage Burning Contribution to Ambient Particulate Pollution.** MD. ROBIUL ISLAM, Tianyi Li, Nita Khanal, Khadak Mahata, Siva Praveen Puppala, Narayan Babu Dhital, Michael Giordano, Benjamin Werden, Anobha Gurung, Arnico Panday, Robert J. Yokelson, Peter F. DeCarlo, Elizabeth Stone, *University of Iowa*

16CA.21 **An Overview of NASA Langley Aerosol Research Group (LARGE) Airborne Measurements during the 2019 FIREX-AQ Field Campaign.** RICHARD MOORE, Elizabeth Wiggins, Claire Robinson, Kenneth Thornhill, Edward Winstead, Kevin Sanchez, Luke Ziemba, Bruce Anderson, John Barrick, Matthew Brown, Gao Chen, Ewan Crosbie, Carolyn Jordan, Taylor Shingler, Michael Shook, *NASA*

16CA.22 **Chemical Imaging of Atmospheric Biomass Burning Particles from North American Wildfires.** FELIPE RIVERA-ADORNO, Jay Tomlin, Kevin Jankowski, Rebecca Washenfelder, Ann M. Middlebrook, Swarup China, Daniel Knopf, Ryan Moffet, Lisa Azzarello, Alessandro Franchin, Alexander Laskin, *Purdue University*

16CA.23 **Characterization of Benzene Polycarboxylic Acids and Nitroaromatics in Atmospheric Aerosols and Vehicular Emitted Particulate Matter using UPLC-ESI-QqQ-MS.** MAHMOUD YASSINE, Michal Suski, Ewa Dabek-Zlotorzynska, *AAQS, AQRD, Environment Canada*

16CC

16CC.1 **Determination of the Water-polymer Interaction Parameter and Hygroscopicity of Particles.** Chun-Ning Mao, AKUA ASA-AWUKU, *University of Maryland*

16CC.2 **Effects of Dry Intrusion Events across the North Atlantic on Composition of Atmospheric Particles around the Azores Islands.** Jay Tomlin, KEVIN JANKOWSKI, Daniel Veghte, Matthew Fraund, Swarup China, Benny Wong, Peiwen Wang, Josephine Aller, Guangjie Zheng, Jian Wang, Daniel Knopf, Shira Raveh-Rubin, Ryan Moffet, Alexander Laskin, *Purdue University*

16CC.3 **Effects of Cloud Conditions on Particle Size Distributions in the Southeast US.** STEPHEN NOBLE, *Savannah River National Laboratory*

16CC.4 **Rethinking of Black-Carbon Associated Organic Particles: Insights into Aged Biomass Burning Organic Aerosol.** JUNFENG WANG, Jianhuai Ye, Dantong Liu, Yangzhou Wu, Jian Zhao, Weiqi Xu, Conghui Xie, Fuzhen Shen, Jie Zhang, Paul Ohno, Yiming Qin, Scot T. Martin, Alex Lee, Pingqing Fu, Daniel Jacob, Qi Zhang, Yele Sun, Mindong Chen, Xinlei Ge, Xiuyong Zhao, *Harvard University*

16CC.5 **Airborne Observations of Aerosol Properties in Southeast Asia: Overview of Emissions, Cloud Processing, and Long Range Transport during NASA CAMP2Ex.** LUKE ZIEMBA, Ewan Crosbie, Claire Robinson, Michael Shook, Edward Winstead, Jian Wang, Josh DiGangi, Glenn Diskin, Allison Collow, Arlindo Da Silva, Richard Ferrare, Chris Hostetler, *NASA Langley Research Center*

16CC.6 **Differences in Fine Particle Chemical Composition, Hygroscopicity, and Aerosol Liquid Water on Clear and Cloudy Days.** AMY CHRISTIANSEN, Annmarie Carlton, Barron Henderson, *University of California, Irvine*

16CC.7 **Relationship between Aerosol and Precipitation Composition at a Coastal Site in the Southeast United States.** ANDREA F CORRAL, Hossein Dadashazar, Connor Stahl, Eva-Lou Edwards, Paquita Zuidema, Armin Sorooshian, *University of Arizona*

16CC.8 **Impact of Climate Uncertainty on Projections of PM2.5 Pollution over the US.** JAMES EAST, Erwan Monier, Fernando Garcia-Menendez, *North Carolina State University*

16CC.9 **Cloud Chemical Speciation Measurements Conducted On-Line with a mini-AMS during the CAIPEEX Seeding Study.** SUBHARTHI CHOWDHURI, Edward Fortner, Benjamin Werden, Mahen Konwar, Sachin Patil, Mercy Varghese, Sudarsan Bera, P Murugavel, Philip Croteau, John Jayne, Manjula Canagaratna, Kurt Hibert, Neelam Malap, Sandeep J, Duncan Axisa, Peter F. DeCarlo, Douglas Worsnop, Thara Prabhakaran, *Aerodyne Research, Inc.*

16CC.10 **Emissions and Radiative Impacts of Sub-10 nm Particles from Biofuel and Fossil Fuel Cookstoves.** SHANTANU JATHAR, Naman Sharma, Kelsey Bilsback, Jeffrey R. Pierce, Joonas Vanhanen, Timothy Gordon, John Volckens, *Colorado State University*

16CC.11 **Predicting Effect of Organic-Inorganic Internally Mixed Particles on Water Uptake and Optical Properties of Atmospheric Aerosols.** LUCY NANDY, Yu Yao, Nicole Riemer, *University of Illinois at Urbana-Champaign*

16CC.12 **Laboratory Exploration of the Effect of Mean and Fluctuations in Saturation Ratio on Activation in a Turbulent Cloud.** ABU SAYEED MD SHAWON, Prasanth Prabhakaran, Gregory Kinney, Jesse C. Anderson, Raymond Shaw, Will Cantrell, *Michigan Technological University*

16CC.13 **Influence of Various Surfactants of Hygroscopic Growth of Course Mode Aqueous Aerosol Particles.** BENJAMIN SWANSON, Amanda Frossard, Rachel Bramblett, *University of Georgia*

16CC.14 **Constraints on the Importance of Mineral Dust and Proteinaceous Ice Nucleating Particles in the Canadian High Artic during the Fall of 2018 Based on Heat and Ammonium Sulfate Treatments.** JINGWEI YUN, Erin Evoy, Soleil Worthy, Melody Fraser, Daniel Veber, Andrew Platt, Allan Bertram, *University of British Columbia*

16CC.15 **Error in Aerosol Mixing State Induced by Aerosol Representation Assumptions.** ZHONGHUA ZHENG, Matthew West, Nicole Riemer, *University of Illinois at Urbana-Champaign*

16CC.16 **Role of Organic Acid-Amine Reactions in Atmospheric New Particle Formation.** SANDRA FOMETE, Coty Jen, *Carnegie Mellon University*

16CC.17 **Analysis of Cloud Condensation Nuclei Number, Hygroscopicity and Cloud Formation Over the Swiss Alps.** PARASKEVI GEORGAKAKI, Aikaterini Bougiatioti, Jörg Wieder, Zamin A. Kanji, Fabiola Ramelli, Jan Henneberger, Claudia Mignani, Maxime Hervo, Alexis Berne, Ulrike Lohmann, Athanasios Nenes, *LAPI, EPFL (Switzerland) / ICE-HT, FORTH (Greece)*

16CC.18 **The North Atlantic Aerosols and Marine Ecosystems Study – A Multi-Year Data Set of Aerosol-Cloud Observations.** RICHARD MOORE, NAAMES Science Team, *NASA*

16CC.19 **Assessing the Role of Surface Tension Depression in Sesquiterpene Organic Aerosol CCN Activity.** BENJAMIN SCHULZE, Ryan Ward, Yuanlong Huang, Andreas Zuend, John Seinfeld, *California Institute of Technology*

16RA

16RA.1 **The Optical and Molecular Characteristics of Water-soluble Organic Carbon in Seasonal Snow across Northern Xinjiang, Northwestern China.** YUE ZHOU, Christopher West, Anusha P.S. Hettiyadura, Xiaoying Niu, Tenglong Shi, Wei Pu, Xin Wang, Alexander Laskin, *Purdue University*

16RA.2 **Influence of Small-scale Agricultural Activity on Local Particle- and Gas-phase Organic Composition.** GRAHAM FRAZIER, Chenyang Bi, Namrata Shanmukh Panji, Gabriel Isaacman-VanWertz, *Virginia Tech*

16RA.4 **Per- and Polyfluoroalkyl Substances (PFASs) in Ambient Fine Aerosol (PM2.5) in North Carolina.** JIAQI ZHOU, Karsten Baumann, Jason Surratt, Ralph Mead, Stephen Skrabal, Robert Kieber, Gene Avery, Megumi Shimizu, Wanda Bodnar, Zhenfa Zhang, Jamie DeWitt, Mei Sun, Leonard Collins, Barbara Turpin, *UNC-Chapel Hill*

16RA.5 **Evaluation of MODIS MAIAC AOD Retrievals against AERONET AOD over Different Land Cover Types.** SOMAYA FALAH, Alaa Mhawish, Meytar Sorek-Hamer, David Borday, *Technion*

16RA.6 **Shipborne Measurements of Fine Particles over the Yellow Sea during Spring (2015-2018).** NOHHYEON KWAK, Hyunok Maeng, Seojong Kim, Kwangyul Lee, Arom Seo, Jihyo Chong, Jo Wan Cha, Sang-bum Ryoo, Kihong Park, *Gwangju Institute of Science and Technology*

16RA.7 **Identifying the Influence of Wildland Fires on Air Quality Monitoring Data.** R BYRON RICE, Stephen McDow, Katie Boaggio, Mckayla Lein, *U.S. EPA*

16RA.8 **Mixing State of Secondary Species in Alaskan Arctic Aerosol Using Single-Particle Mass Spectrometry.** JUDY WU, Jun Liu, Jamy Lee, Lucia Upchurch, Patricia Quinn, Kerri Pratt, *University of Michigan*

16SA

16SA.1 **Elucidating Ambient and Indoor Sources of VOCs in Dhaka, Bangladesh.** Md. Aynul Bari, SANCHITA PAUL, Nisha Ahamed, Christophe Walgraeve, Herman Van Langenhove, *University at Albany, SUNY*

16SA.2 **Ozone Source Apportionment in the Year 2050 under Different Energy Scenarios.** YUSHENG ZHAO, Michael Kleeman, *University of California, Davis*

16SA.3 **Relative Impact of Schiphol Airport Activities in Comparison to Local Freeways on the Increased Particle Number Concentrations (PNCs) in the Nearby Communities.** MILAD PIRHADI, Amirhosein Mousavi, Mohammad Sowlat, Nicole Janssen, Flemming Cassee, Constantinos Sioutas, *University of Southern California*

16SA.4 **Effect of Gas-Particle Partitioning on Source Apportionment of Ambient Mass Spectrometry Data.** SAHIL BHANDARI, Andrew Dinh, Gazala Habib, Joshua Apte, Lea Hildebrandt Ruiz, *University of Texas at Austin*

16SA.5 **Aerosol Concentration in Northern South America: Attribution to Economic Sectors Using Chemical Transport Modeling.** SEBASTIAN ESPITIA, Alejandra Montejo-Barato, Ricardo Morales Betancourt, Jorge A. Bonilla, Claudia Aravena, *Universidad de los Andes*

16UA

16UA.1 **Estimation of Effective Particle Mass Emission Indices from In-use Commercial Aircraft based on Field Observations.** KENTARO MISAWA, Yuji Fujitani, Akihiro Fushimi, Yoshiko Murashima, Hiromu Sakurai, Nobuyuki Takegawa, *Tokyo Metropolitan University*

16UA.2 **Apportionment of Metals and Particulate Matter at an Environmental Justice School in Maywood, California.** STEVEN G. BROWN, Olivia Ryder, Jennifer DeWinter, Hilary Hafner, Jenny Lentz, Joe Lyou, Felipe Aguirre, *Sonoma Technology, Inc*

16UA.3 **Application of Machine Learning for Future Air Quality Predictions in Southern California.** KHANH DO, Arash Kashfi Yeganeh, Cesunica E. Ivey, *University of California, Riverside*

16UA.4 **Estimating Dry Deposition of Atmospheric Aerosols by Rain Washoff from Urban Surfaces.** ALEXANDER JOHNSON, Cliff Davidson, *Syracuse University*

16UA.5 **Characterization and Variability of Urban Cooking Emissions Sources.** SUNHYE KIM, Jo Machesky, Drew Gentner, Albert A. Presto, *Carnegie Mellon University*

16UA.6 **MAIA: A Satellite Investigation of PM Health Effects in Selected Global Cities.** YANG LIU, David Diner, Howard Chang, Feng Xu, Jun Wang, Randall Martin, Christian L'Orange, Kristal Verhulst-Whitten, Sina Hasheminassab, *Emory University, Atlanta, GA*

16UA.7 **Firework Impacts on Air Quality in Metro Manila, Philippines during the 2019 New Year.** GENEVIEVE ROSE LORENZO, Rachel Braun, Lin Ma, Eva-Lou Edwards, Connor Stahl, Mojtaba Azadi Aghdam, Andrea F Corral, Hossein Dadashazar, Paola Angela Banaga, Grace Betito, Gabrielle Leung, Shane Marie Visaga, Avelino Arellano, Maria Obiminda Cambaliza, Melliza Templonuevo Cruz, Alexander B. MacDonald, Ilya Razencov, Ed Eloranta, Robert Holz, James Bernard Simpas, Armin Sorooshian, *University of Arizona*

16UA.8 **Performance and In-field Calibration for Low-Cost Sensors Measuring Ambient Particulate Matter in Kolkata, India.** V. FAYE MCNEILL, *Columbia University*

16UA.9 **Discovery of Atmospheric Microplastics in Urban Emissions.** ANA MORALES, Jay Tomlin, Yoorae Noh, Andrew Whelton, Alexander Laskin, *Purdue University*

16UA.10 **Improved Prediction of Near Roadside Vehicle Emissions from PEMS and Laboratory Measurements.** AYLA MORETTI, David R. Cocker III, Matthew Barth, *University of California, Riverside*

16UA.11 **Aerosol Acidity as a Driver of Aerosol Formation and Nutrient Deposition to Ecosystems.** ATHANASIOS NENES, Spyros Pandis, Maria Kanakidou, Armistead G. Russell, Shaojie Song, Petros Vasilakos, Rodney J. Weber, *LAPI/EPFL, Switzerland; ICE-HT/FORTH, Greece*

16UA.12 **How Spatially Correlated Are Ultrafine Particle Number and Fine Particle Mass at Urban Scales?** PROVAT SAHA, Shayak Sengupta, Peter Adams, Allen Robinson, Albert A. Presto, *Carnegie Mellon University*

16UA.13 **Impact of Abundant Biomass Burning Particles on PM2.5 Oxidative Potential in a Background Site in Lombardy Region, Italy.** Maryam Hakimzadeh, EHSAN SOLEIMANIAN, Amirhosein Mousavi, Alessandro Borgini, Cinzia De Marco, Ario Ruprecht, Constantinos Sioutas, *University of Southern California*

16UA.14 **Air Quality Impact During and After the COVID-19 Lockdown in Global Cities.** Shaojun Zhang, Jiajun Gu, K. Max Zhang, BO YANG, Yuejie Wang, Yifan Wen, Ye Wu, Jiming Hao, *Cornell University*

16UA.15 **Long-term Observations of Submicron Atmospheric Aerosol Concentrations - Effect of Legislative Regulations and Economic Transformations.** NADEŽDA ZÍKOVÁ, Petra Pokorná, Zdenek Wagner, Jakub Ondráček, Philip K. Hopke, *Institute of Chemical Process Fundamentals CAS*

16UA.16 **An Evaluation of Air Quality Impacts from Different Urban Greening Strategies in Los Angeles County.** SHAN GU, Celia Faiola, *University of California, Irvine*

16UA.17 **Spatial Pattern of Trace Metal Concentrations in Southern California Associated With Brake and Tire Wear Emissions.** FARZAN OROUMIYEH, Irish Del Rosario, Michael Jerrett, Jonah Lipsitt, Jonathan Liu, Suzanne E. Paulson, Beate Ritz, Jiaqi Shen, Yifang Zhu, *University of California Los Angeles*

16UA.18 **How Have Air Quality and Perceptions of Air Quality Changed in Medellin Due to the 2020 Covid-19 Pandemic?** PABLO GARCIA, Polina Glovátina-Mora, Joshua D. Vande Hey, *University of Leicester*

16UA.19 **Air Quality in Atlanta during the COVID-19 Pandemic.** JEAN RIVERA-RIOS, Taekyu Joo, Chris Peng, Jennifer Kaiser, Nga Lee Ng, *Georgia Institute of Technology*

16UA.20 **Ambient Criteria Pollutant Concentration Trends and Changes in PM2.5 Composition and Oxidative Potential during COVID-19 Pandemic: Comparative Approach between Los Angeles County and Lombardy Region Epicenters.** EHSAN SOLEIMANIAN, Amirhosein Mousavi, Sina Taghvaee, Constantinos Sioutas, *University of Southern California*

Thursday 7:30 PM - 8:30 PM
Diversity & Inclusion

Friday

Friday 10:00 AM - 11:15 AM
Plenary V

10:00 **Friedlander Lecture: Atmospheric Aerosol Chemistry: Climate and Air Quality** Douglas Worsnop, *Aerodyne Research Inc., INAR (Physics), University of Helsinki*

Moderator Sergey Nizkorodov, *University of California, Irvine*

11:00 **Student Poster Competition Award Presentation** Marwa El-Sayed, *Colorado State University*

11:08 **Fine Particle Art Prizes** Marit Meyer, *NASA Glenn Research Center*

11:08 **Concluding Remarks and Preview for 2021** Matti Maricq and Chris Hogan, *Ford Motor Co. and University of Minnesota*

Friday 11:15 AM - 11:30 AM
Break

Friday 11:30 AM - 12:15 PM
Session 17 : Platform

17AC AEROSOL CHEMISTRY: OBSERVATIONS OF BBOA

TRACK 1

Abby Koss, chair

17AC.1 11:30 **Organic Aerosol and Brown Carbon Evolution in Fresh Wildfire Plumes: Roles of Dilution-Driven Evaporation and Phenolic Chemistry.** BRETT PALM, Qiaoyun Peng, Carley D. Fredrickson, Ben H. Lee, Lauren A. Garofalo, Matson A. Pothier, Sonia Kreidenweis, Delphine K. Farmer, Rudra Pokhrel, Yingjie Shen, Shane Murphy, Wade Permar, Lu Hu, Teresa Campos, Sam Hall, Kirk Ullmann, Xuan Zhang, Frank Flocke, Emily Fischer, Joel A. Thornton, *University of Washington*

17AC.2 11:40 **Atmospheric Evolution of Emissions from a Boreal Forest Fire: The Formation of Highly- Functionalized Oxygen-, Nitrogen-, and Sulfur-Containing Compounds.** JENNA DITTO, Megan He, Tori Hass-Mitchell, Samar Moussa, Katherine Hayden, Shao-Meng Li, John Liggio, Amy Leithead, Patrick Lee, Michael Wheeler, Jeremy Wentzell, Drew Gentner, *Yale University*

17AC.3 11:50 **FIREX 2018/2019 Particle- and Gas-Phase Measurements: Emissions, Factor Analysis and Aging From Mobile Mass Spectrometers.** FRANCESCA MAJLUF, Jordan Krechmer, Edward Fortner, Conner Daube, Christoph Dyroff, Joseph Roscioli, Tara Yacovitch, Benjamin Sumlin, Andrew Lambe, Scott Herndon, Manjula Canagaratna, Rajan K. Chakrabarty, John Jayne, Douglas Worsnop, *Aerodyne Research, Inc.*

17BA BIOAEROSOLS: ATMOSPHERIC BIOAEROSOL

TRACK 2

Anne Perring, chair

17BA.1 11:30 **Characterization of Pollen Fragments in Atmospheric Aerosol Using Chemical Tracers.** CHAMARI MAMPAGE, Dagen Hughes, Lillian Jones, Nervana Metwali, Peter Thorne, Elizabeth Stone, *University of Iowa*

17BA.2 11:40 **Characterization of Fluorescent Bioaerosols Under Extreme Weather Conditions.** DAGEN HUGHES, Chamari Mampage, Lillian Jones, Zehui Liu, Elizabeth Stone, *University of Iowa*

17BA.3 11:50 **Bioaerosols and Dust Are the Dominant Sources of Organic P in Atmospheric Particles.** KALLIOPI VIOLAKI, Athanasios Nenes, Maria Tsagaraki, Marco Paglione, Stéphanie Jacquet, Richard Sempéré, Christos Panagiotopoulos,

EPFL, LAPI, Lausanne

17HA HEALTH EFFECTS: TOXICITY OF BIOMASS COMBUSTION

TRACK 3

Kerry Kelly and Ralf Zimmermann, chairs

17HA.1 11:30 **In Vitro Toxicity of Complex Aerosols from Woody Biomass Combustion.** WILLIAM VIZUETE, Karsten Baumann, Jose Zavala, Prakash Doraiswamy, Jean Kim, Solomon Bililign, Marc Fiddler, Damon Smith, Robert Newman, Ryan Chartier, Hadley Hartwell, Laquaundra Hampton, Ese Ekhator, Jade Scales, Nalyn Siripanichgon, Erin Dowell, Rudra Pokhrel, Vikram Rao, Ninell Mortensen, Jackson Seymore, *University of North Carolina at Chapel Hill*

17HA.2 11:40 **Spatiotemporal Distribution and Source Apportionment of Macrophage Reactive Oxygen Species Activity of Ambient Fine Particulate Matter (PM2.5) in the Midwestern United States.** YIXIANG WANG, Haoran Yu, Joseph V Puthussery, Sudheer Salana, Vishal Verma, *University of Illinois Urbana-Champaign*

17HA.3 11:50 **Biomass Burning Aerosol Components Impair Mitochondrial Functioning to Induce Toxicological Response in Lung Cell Lines.** FARIA KHAN, Karina Kwapiszewska, Alicia M. Romero, Nasir Jalal, Krzysztof Rudzinski, Jason Surratt, Rafal Szmigielski, *ICHF, PAS, Warsaw, Poland*

17IM INSTRUMENTATION & METHODS: AEROSOL CHEMICAL CHARACTERIZATION II

TRACK 4

Devan Kerecman, chair

17IM.1 11:30 **Simultaneous Optical Photothermal Infrared (O-PTIR) and Raman Spectroscopy of Submicrometer Atmospheric Particles.** ANDREW AULT, Nicole Olson, Yao Xiao, Ziying Lei, *University of Michigan*

17IM.2 11:40 **Evaluation and Applications of Methods for Quantification of Bulk Particle-phase Organic Nitrates Using Real-time Aerosol Mass Spectrometry.** DOUGLAS DAY, Pedro Campuzano-Jost, Benjamin A. Nault, Brett Palm, Weiwei Hu, Paul Wooldridge, Ronald Cohen, Kenneth S. Docherty, J. Alex Huffman, Suzane de Sá, Scot T. Martin, Jose-Luis Jimenez, *CIRES, University of Colorado, Boulder*

17IM.3 11:50 **Gas-phase Ion Structures of Molecules in Secondary Organic Aerosol: Infrared Photodissociation of Ions Across the Fingerprint Region.** Corey Thrasher, Lemai Vo, Giel Berden, Jonathan Martens, Jos Oomens, RACHEL O'BRIEN, *William & Mary*

17NM NANOPARTICLES & MATL. SYNTH. GAS PHASE NANOPARTICLE SYNTHESIS

TRACK 5

Francesco Carbone, chair

17NM.1 11:30 **Aerosol-assisted Production of Sodium Tungsten Bronze Particles for NIR Shielding.** HAO TU, Wei-Ning Wang, Da-Ren Chen, *Virginia Commonwealth University*

17NM.2 11:40 **Microwave Plasma Technology for Conversion of Natural Gas to Value-Added Carbon Materials.** RANDY VANDER WAL, Raju Kumal, Akshay Gharpure, Aayush Mantri, Kurt Zeller, Vignesh Viswanathan, George Skoptsov, *Penn State University*

17NM.3 11:50 **Rapid and Selective Ammonia Sensing by Porous CuBr at Room Temperature Made by Flame-deposited and In-situ Annealed, Reduced and Brominated CuO Nanoparticles.** ANDREAS GUENTNER, Nicolay Pineau, Markus Wied, Sotiris Pratsinis, *ETH Zurich, Switzerland*

17UA URBAN AEROSOLS: URBAN AEROSOLS AND LOW-COST SENSORS

TRACK 6

Albert Presto, chair

17UA.1 11:30 **From Low-Cost Sensors to High-Quality Data: the Importance of Collocated Calibration Model Development for the AfriqAir Network.** MICHAEL R. GIORDANO, Julien Bahino, Matthias Beekmann, Thomas Bigala, Paola Formenti, Mathieu Cazaunau, Corinne Galy-Lacaux, Jimmy Gasore, Theobald Habineza, Aliaksei Hauryliuk, Vincent Madadi, Carl Malings, Beatrice Marticorena, Stuart Piketh, Albert A. Presto, R. Subramanian, Daniel Westervelt, Veronique Yoboue, *OSU-EFLUVE, LISA/CNRS, UPEC, ENPC, UP*

17UA.2 11:40 **Impacts of Modifiable Factors on Ambient Air Pollution: A Case Study of COVID-19 Shutdowns.** REBECCA TANZER GRUENER, Jiayu Li, Rose Eilenberg, Allen Robinson, Albert A. Presto, *Carnegie Mellon University*

17UA.3 11:50 **Leveraging a PurpleAir Sensor Network to Inform Air Quality Action in Phoenix, Arizona.** IAN VONWALD, Karoline Barkjohn, Samuel Frederick, Sue Kimbrough, Ben Davis, Nikki Peterson, Ira Domsky, Ron Pope, Andrea Clements, *U.S. EPA Office of Research and Development*

Friday 12:15 PM - 12:30 PM
Break

Friday 12:30 PM - 1:15 PM
Session 18: Platform

18AC AEROSOL CHEMISTRY: BBOA AT THE GLOBAL SCALE

TRACK 1

Brett Palm, chair

18AC.1 12:30 **Chemical Transformation of Biomass Burning Organic Aerosol Due to Photolytic Aging.** HONGMIN YU, Christopher Lim, Christopher Cappa, Jesse Kroll, Rachel O'Brien, *William & Mary*

18AC.2 12:40 **Rethinking the Lifetime of Aged Biomass Burning Aerosol over the Southeast Atlantic Ocean.** AMIE DOBRACKI, Steven Howell, Pablo Saide, Steffen Freitag, Allison Aiken, James Podolske, Arthur J. Sedlacek, Kenneth Thornhill, Jonathan Taylor, HuiHui Wu, Hugh Coe, Paquita Zuidema, *University of Miami*

18AC.3 12:50 **Modeling of Furan Oxidation (via OH and NO3) within Biomass-Burning Regimes Based on New Results from Chamber Experiments.** BENJAMIN BROWN-STEINER, Matthew Alvarado, Taekyu Joo, Nga Lee Ng, *AER*

18BA BIOAEROSOLS: TOOLS AND MICROBIAL ACTIVITY

TRACK 2

Mark Hernandez, chair

18BA.1 12:30 **Biodegradation of Phenol and Catechol in Cloud Water: Comparison to Chemical Oxidation in the Atmospheric Multiphase System.** Saly Jaber, Audrey Lallement, Martine Sancelme, Martin Leremboure, Gilles Mailhot, Brabara Ervens, ANNE-MARIE DELORT, *ICCF, CNRS, Université Clermont Auvergne*

18BA.2 12:40 **Application of DNA-Stable Isotope Probing to Study Airborne Methanotrophs.** KEVIN DILLON, Valdis Krumins, Aishwarya Deshpande, Lee Kerkhof, Gediminas Mainelis, Donna Fennell, *Rutgers, The State University of New Jersey*

18BA.3 12:50 **Assessment of a Low-Power Active Bioaerosol Sampler Performance.** SYDONIA MANIBUSAN, Gediminas Mainelis, *Rutgers, The State University of New Jersey*

18HA HEALTH EFFECTS: RESIDENTIAL AIR POLLUTION AND HEALTH

TRACK 3

Cesuni (Suni) Ivey and Steven Chillrud, chairs

18HA.1 12:30 **Ordinal Logistic Regression Analysis between Household Energy (Agricultural Residues, Wood and Dung) Consumption and Women's Health in Rural Punjab.** NABEELA FARAH, *University of Agriculture, Faisalabad, Pakistan*

18HA.2 12:40 **Assessing the Impacts of Residential Mechanical Ventilation Systems on Indoor/Outdoor Particulate Matter and Adult Asthma Outcomes in Chicago, IL.** INSUNG KANG, Kari Abromitis, Yicheng Zeng, Parham Azimi, Anne Evens, Anna McCreery, Rachel Scheu, Amanda Gramigna, Timothy Crowder, Griselda Baca, Brent Stephens, *Illinois Institute of Technology*

18HA.3 12:50 **Estimating the Evolving Public Health Impacts of Wildfires in California over the Past Two Decades.** ANIKENDER KUMAR, Melissa Venecek, Xin Yu, Yiting Li, Michael Kleeman, *University of California, Davis*

18IM INSTRUMENTATION & METHODS: DROPLET-BASED METHODS

TRACK 4

Kathryn Moore, chair

18IM.1 12:30 **A Dual-Droplet Approach to Characterizing Hygroscopic Growth using a Linear Quadrupole Electrodynamic Balance.** JACK CHOCZYNSKI, James F. Davies, *University of California, Riverside*

18IM.2 12:40 **Measurements of Aerosol Hygroscopic Growth as a Function of RH Using a Humidity-controlled Fast Integrated Mobility Spectrometer.** JIAOSHI ZHANG, Steven Spielman, Yang Wang, Susanne Hering, Jian Wang, *Washington University in St. Louis*

18IM.3 12:50 **Exploring the Physicochemical Properties of Aerosol Using a Linear Quadrupole Electrodynamic Balance.** JAMES F. DAVIES, Jack Choczynski, Chelsea Price, Brandon Wallace, Thomas Preston, Ryan Davis, *University of California, Riverside*

18NM NANOPARTICLES & MATL. SYNTH. NANOPARTICLE FORMATION AND DIAGNOSTICS

TRACK 5

Reza Kholgy, chair

18NM.1 12:30 **Controlled Synthesis of Alumina in a Spray Flame Aerosol Reactor.** ONOCHIE OKONKWO, Sukrant Dhawan, Sanmathi Chavalmane, Pratim Biswas, *Washington University in St. Louis*

18NM.2 12:40 **Atomic Cluster Generation using Spark Ablation and Mass Spectrometer Analysis.** ANNE MAISSER, Konstantinos Barmpounis, Sebastian Holm, Juha Kangasluoma, Michel Attoui, Andreas Schmidt-Ott, George Biskos, *The Cyprus Institute*

18NM.3 12:50 **Implementing On-line Laser Diagnostics to Monitor the Reactive Spray Deposition Technology (RSDT) for Catalyst Manufacturing.** EVANGELOS K. STEFANIDIS, Thomas A Ebaugh, Stoyan Bliznakov, Leonard Bonville, Francesco Carbone, Radenka Maric, *University of Connecticut*

18UA URBAN AEROSOLS: URBAN BIOMASS BURNING AEROSOLS

TRACK 6

Jean Rivera-Rios, chair

18UA.1 12:30 **Contributions of Cooking and Biomass Burning to Primary Organic Aerosol in Delhi.** SAHIL BHANDARI, Gazala Habib, Joshua Apte, Lea Hildebrandt Ruiz, *University of Texas at Austin*

18UA.2 12:40 **Characterization of the Complex Mixture of Urban and Biomass Burning Aerosols Under the Influence of Transboundary Smoke Haze in Southeast Asia.** LAURA-HELENA RIVELLINI, Nethmi Kasthuriarachchi, Mutian Ma, Alex Lee, *National University of Singapore*

18UA.3 12:50 **Nighttime Chemistry of Biomass Burning Plumes in Urban Areas: A Dual Mobile Chamber Study.** SPIRO JORGA, Kalliopi Florou, Christos Kaltsonoudis, Jack Kodros, Christina Vasilakopoulou, Spyros Pandis, *Carnegie Mellon University, University of Patras*

Friday 1:15 PM - 1:30 PM
Break

Friday 1:30 PM - 2:15 PM
Session 19: Platform

19AC AEROSOL CHEMISTRY: BROWN CARBON

TRACK 1

Rodney Weber, chair

19AC.1 1:30 **Exploring the Properties of Brown Carbon Aerosol in Levitated Droplets.** CHELSEA PRICE, Alison Bain, Thomas Preston, James F. Davies, *University of California, Riverside*

19AC.2 1:40 **Quantifying the Contributions of Functional Groups to Light Absorptivity of Brown Carbon by a Two-layer Mapping Algorithm.** KUNPENG CHEN, Jin Chen, King-Fai Li, Manuel Valdivia, Roya Bahreini, Ying-Hsuan Lin, *University of California, Riverside*

19AC.3 1:50 **Molecular Characterization of Atmospheric Brown Carbon Chromophores Formed in Irradiated Proxies of Aqueous Secondary Organic Aerosol.** MARIA MISOVICH, Anusha P.S. Hettiyadura, Wenqing Jiang, Qi Zhang, Alexander Laskin, *Purdue University*

19BA BIOAEROSOLS: EXPOSURE

TRACK 2

Sergey Grinshpun, chair

19BA.1 1:30 **Correlations of Fluorescent Aerosol Cytometry with Genomics and Mycometry Distinguish Significant Reductions in Airborne Fungal Loads Following Large School Renovations.** MARINA NIETO-CABALLERO, Odessa M. Gomez, Richard Shaughnessy, Mark T. Hernandez, *University of Colorado Boulder*

19BA.2 1:40 **Effect of Dust and Ammonia Reduction Strategies on Air Quality and Bioaerosols in Alternative Housing for Laying Hens.** MAGALI-WEN ST-GERMAIN, Valérie Létourneau, Araceli Dalila Larios Martínez, Stéphane Godbout, Caroline Duchaine, *IUCPQ-U.Laval, Canada*

19BA.3 1:50 **The Effects of Relative Humidity on Fungal Growth in Dust Collected from the International Space Station.** NICHOLAS NASTASI, Ashleigh Bope, Marit Meyer, John Horack, Karen C. Dannemiller, *The Ohio State University*

19CM CONTROL TECHNOLOGY AND MITIGATION: CONTROL OF UNDESIRABLE AEROSOLS

TRACK 3

Marit Meyer, chair

19CM.1 1:30 **Aerosol Emissions Control from Water-lean Solvents for Post-combustion CO2 Capture.** Vijay Gupta, Paul Mobley, JONATHAN THORNBURG, Lucas Cody, David Barbee, Jacob Lee, Roger Pope, Ryan Chartier, Marty Lail, Jak Tanthana, *RTI International*

19CM.2 1:40 **Quantifying the Air Quality Benefit of a Novel Dust Suppression Technique.** JASON MIECH, Matthew Fraser, Pierre Herckes, *Arizona State University*

19CM.3 1:50 **High-temperature Resistant Nanofiber and Its Filtration Application.** QISHENG OU, David Y. H. Pui, *University of Minnesota*

19HA HEALTH EFFECTS: GLOBAL AIR QUALITY AND HEALTH

TRACK 4

Karin Ardon-Dryer, chair

19HA.1 1:30 **Air Quality and Human Health Effects of Global Gasoline and Diesel Sectors.** YAOXIAN HUANG, Nadine Unger, Kandice Harper, Chris Heyes, *Wayne State University*

19HA.2 1:40 **Interpretation of Satellite Remote Sensing Data for Application to Air Quality and Health.** RANDALL MARTIN, Melanie Hammer, Aaron van Donkelaar, Erin McDuffie, Crystal Weagle, Brenna Walsh, Matthew Cooper, *Washington University, St, Louis, MO*

19HA.3 1:50 **Sensitivity of Inorganic PM2.5 to Present and Future Emission Changes and Implications for Reduced Complexity Models.** CARLOS HERNANDEZ, Sonal Nayak, Spyros Pandis, Peter Adams, *Carnegie Mellon University*

19IM INSTRUMENTATION & METHODS: COMPLEX DATA ANALYSIS

TRACK 5

Michael walker, chair

19IM.1 1:30 **Analysis of the Unresolved Complex Mixture of Intermediate Volatile Organic Compounds in Gas Chromatograph-Mass Spectrum Data using Positive Matrix Factorization.** Quanyang Lu, Christopher Hennigan, Albert Presto, Yunliang Zhao, Neil Donahue, ALLEN ROBINSON, *Carnegie Mellon University*

19IM.2 1:40 **Consideration of Dynamic Gas-Particle Partitioning in National-Scale Emission Inventories.** BENJAMIN MURPHY, Aditya Sinha, Quanyang Lu, Claudia Toro, Amara Holder, Ying Hsu, Madeleine Strum, Hugo Denier van der Gon, Justine Geidosch, Ingrid George, Andrew Grieshop, Michael Hays, Darrell Sonntag, George Pouliot, Havala Pye, David Simpson, Allen Robinson, *United States Environmental Protection Agency*

19IM.3 1:50 **Multidimensional Chromatogram Binning – Positive Matrix Factorization Analysis for Gas Chromatography – High Resolution Mass Spectrometry Datasets.** MICHAEL WALKER, Raul Martinez, David Hagan, Haofei Zhang, Lindsay Yee, Allen Goldstein, Brent Williams, *Washington University in St. Louis*

19UA URBAN AEROSOLS: CHEMISTRY OF URBAN AEROSOLS

TRACK 6

Gabriel Isaacman-VanWertz, chair

19UA.1 1:30 **Aerosol Composition in Pasadena, CA during the COVID-19 Pandemic.** BENJAMIN SCHULZE, Christopher Kenseth, Yuanlong Huang, Harrison Parker, John Crounse, Paul Wennberg, John Seinfeld, *California Institute of Technology*

19UA.2 1:40 **Identifying the Transport and Evolution of Oxidized Organic Aerosol across the Urban Core of San Antonio.** FANGZHOU GUO, Alexander Bui, Edward Fortner, Sujan Shrestha, Subin Yoon, Rebecca J. Sheesley, Sascha Usenko, Tara Yacovitch, Scott Herndon, James Flynn, Robert Griffin, *Rice University*

19UA.3 1:50 **Secondary Organic Aerosol Formation and Product Distributions of α-pinene Oxidation in Ambient Perturbation Experiments.** JEAN RIVERA-RIOS, Adam Wright, Zijing Zhang, Jennifer Kaiser, Nga Lee Ng, *Georgia Institute of Technology*