

CONFERENCE PROGRAM

ATMOSPHERIC OPTICS: Aerosols, VISIBILITY, and the Radiative Balance

November 10 –12, 2027 • Lake Junaluska, NC

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CONFERENCE PROGRAM

General Information

ABOUT THE CONFERENCE

This international conference will provide a technical forum on advances in the scientific understanding of the effects of aerosols on urban, regional, continental, and global-scale haze and the radiative balance. The conference will take a multipronged approach by encouraging scientific dialogue (e.g., related to measurements, modeling) as well as including presentations addressing regulatory and policy issues. This year, we will be highlighting planned sessions on the timely topics of dust, nitrogen, and bioaerosols, plus increasing concerns of the effects of atmospheric nitrogen and carbonaceous material on health, air quality, haze, and visibility. Conference learning will be enhanced with a half day excursion and hikes in Mt. Pisgah National Forest and a Night Sky Program.

LOCATION & LODGING

Lake Junaluska Retreat Center

91 North Lakeshore Drive
Lake Junaluska, NC 28745 (828)-452-2881

Book your room online through the link on the website:

www.awma.org/visibilitylocation.

REGISTRATION

Register online at www.awma.org/visibilityregistration before attending the conference. Your registration will not be processed without payment.

REFUND POLICY

If written notice of cancellation is received on or before October 7, 2026 payment will be refunded, less a \$100 cancellation fee. Substitutions may be made at any time; payment for any difference is due at the time of substitution. This refund policy applies to all occurrences, including weather-related events and other natural disasters. In the unlikely occurrence of event cancellation, the Association is not liable for any expenses incurred by the registrant other than the full refund of registration fee(s) paid.

A&WMA MEETINGS POLICY

By registering for this meeting, attendees agree to abide by and accept the terms of the A&WMA Code of Conduct (available at www.awma.org/governance). Additionally, A&WMA conference attendees acknowledge that they may be photographed by A&WMA for promotional purposes while at events.

CONFERENCE COMMITTEE

Co-Chairs: Jenny Hand, Colorado State, University and Bret Schichtel, National Park Service

Karin Ardon-Dryer, Texas Tech University
Kip Carrico, New Mexico State University
Judy Chow, Desert Research Institute
Ann Dillner, University of California, Davis
Bonne Ford, Colorado State University
Brett Gantt, US EPA
David Greene, SCS Engineers
Phil Hopke, Clarkson University
Robert Levy, NASA Goddard Space Flight Center
Bill Malm, Colorado State University
Ralph Morris, Ramboll
Chris Oxford, Washington University in St. Louis
Albert Presto, Carnegie Mellon University
Marco Rodriguez, Ramboll
Jason Surratt, University of North Carolina, Chapel Hill
John Walker, USDA
John Watson, Desert Research Institute

CONTINUING EDUCATION

Conference attendees may be eligible for continuing education credits and can apply to receive a Certificate of Participation for the sessions attended. Please sign the CEU sign in sheet available at the registration desk and order your Certificate through the A&WMA Online Store. Members are eligible for free certificates. For more information, please contact Gloria Henning at glhenning@awma.org.

CONFERENCE PROCEEDINGS

Conference abstracts will be posted on a secure website along with presenter slides and will be available for viewing and download for a limited time following the conference. Attendees will be notified by e-mail when the proceedings are available.

SPECIAL ACCOMMODATIONS

The Air & Waste Management Association supports the Americans with Disabilities Act (ADA). Attendees requiring specific equipment, food, or services should contact Tracy Fedkoe at tfedkoe@awma.org to make those needs known in advance. A&WMA will make every reasonable effort to accommodate them.

CONFERENCE PROGRAM

SPECIAL EVENTS

NIGHT SKY PROGRAM

Tuesday, November 10, 7:00 pm – 9:00 pm

Gaze at the stars in the breathtakingly clear sky of the North Carolina mountains through powerful telescopes. Knowledgeable professionals from the Astronomy Club of Asheville will be on hand to point out major constellations and attractions and provide fascinating details.

Transportation will be provided to the site from the Terrace hotel and rotate to and from the site so you can leave and return at your chosen times. Remember to pack a jacket!



MT. PISGAH NATIONAL FOREST EXCURSION

Wednesday, November 11, 12:30 pm – 6:00 pm

Technical sessions break at noon and all conference attendees are encouraged to spend the afternoon in exploring the mountain trails at the Shining Rock area of Pisgah National Forest, right off of the Blue Ridge Parkway.

Proposed hike options from the Mt. Pisgah parking area include:

- A 1-mile hike on Frying Pan Trail to the IMPROVE site and optional climb of the tower at Frying Pan Mountain with spectacular views
- Mt. Pisgah Trail
- Buck Spring Trail
- Connect to the longer trails on the Mountains-to-sea and Shut-in trails

The shuttle will stop at the Buck Spring Parking Area for those wanting to do the Mt. Pisgah Hike, Buck Spring Trail, etc. then continue on to the Funnel Top Parking Area for those wanting to do the IMPROVE site visit and Frying Pan Tower. The bus will wait for those at Funnel Top and head back to Buck Spring and wait for pickup for everyone at 5:30 pm.

Bring good walking shoes, preferably boots for the rocky paths, and appropriate outerwear. The weather can change quickly.

A box lunch will be available and transportation both ways will be provided to the Mt. Pisgah Parking Area. Hike in groups. Cell service will be spotty in the mountain areas.



CONFERENCE PROGRAM

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SESSION SCHEDULE – Tuesday, November 10

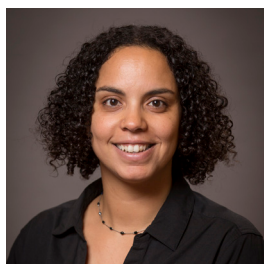
OPENING KEYNOTE SESSION

8:45 am - 9:00 am

Conference Welcome and Introduction

John Kinsman, A&WMA President-Elect

Jenny Hand, Colorado State University, and Bret Schichtel, National Park Service, Conference Co-chairs



9:00 am - 10:00 am

How Dust Events and Storms in the United States Impact Visibility, Air Quality, and Health

Karin Ardon-Dryer, Ph.D., Associate Professor, Atmospheric Science Group, Dept. of Geosciences, Texas Tech University

10:00 am - 10:20 am
Networking Break and
Exhibition Viewing

SESSION 1A: MINERAL DUST AEROSOLS: IMPACTS ON AIR QUALITY AND VISIBILITY

Session Chairs: Karin Ardon-Dryer, Texas Tech University, and Jenny Hand, Colorado State University

10:20 am – 10:40 am

33 **Impacts of Mineral Dust Events on PM_{2.5} and PM₁₀ Concentrations in the Remote and Urban Regions of the U.S.**
Jenny Hand, Colorado State University, Tom Gill, University of Texas at El Paso, Bret Schichtel, National Park Service

10:40 am – 11:00 am

39 **Near Real-Time PM₁₀ Modeling of Windblown Dust from Owens Lake, California**
Lynsey Parker, Jelena Popovic, Ralph Morris, Ramboll

11:00 am - 11:20 am

71 **Assessing Fugitive Dust Contributions to Light Extinction**
Judith Chow, John Watson, Desert Research Institute

11:20 am - 11:40 am

85 **Development of an Event-Triggered Passive Aerosol Sampler**
Gary S. Casuccio, Roger R. West, RJ Lee Group, Inc

12:00 pm – 1:30 pm
Lunch for all sessions

SESSION 1B: AEROSOL OPTICAL PROPERTIES: MEASUREMENTS AND MODELING

Session Chairs: Bonne Ford, Colorado State University, and Phil Hopke, Clarkson University

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10:20 am – 10:40 am

29 **Analysis and Updates to the IMPROVE Equations for Estimating Light Extinction**
Bonne Ford, Jenny Hand, Scott Copeland, William Malm, Colorado State; Bret Schichtel, Anthony Prenni, National Park Service

10:40 am – 11:00 am

15 **Relating the Angstrom Coefficient Derived from Nephelometer Measurements to Mass Scattering Efficiencies**
William Malm, Russel Perkins, Colorado State University; Bret Schichtel, Anthony Prenni, National Park Service; Elisabeth Andrews, NOAA

11:00 am - 11:20 am

53 **Modeled and Observed Relationships Between Mass Absorption Cross Section (MAC) and Absorption Angstrom Exponent (AAE)**
Phil Hopke, Marjan Savadkoobi, Saliou Mbengue, Aki Virkkula, Clarkson University

11:20 am - 11:40 am

48 **Application of the NASA GEOSmie Software Package for Computing Aerosol Optical Property Lookup Tables**
Caterina Mogno, University of Maryland-Baltimore County and NASA Goddard Space Flight Center; Peter Colarco, Patricia Castellanos, NASA Goddard Space Flight Center

CONFERENCE PROGRAM

SESSION SCHEDULE - Tuesday, November 10

SESSION 2A: BIOAEROSOLS

Session Chair: Jenny Hand, Colorado State University

1:30 pm - 1:50 pm

79 Using Tryptophan as an Indicator of pH in Bioaerosol Particle Fluorescence for Temporal Resolution of Aerosol Chemistry

Hunter Richards, Zhenyu Ma, Allen Haddrell, Herek L. Clack, University of Michigan Ann Arbor

1:50 pm - 2:10 pm

61 Supramicron and Bioaerosol Trends during the SAIL Campaign in the Upper Colorado River Basin

Katie Benedict, Abu Sayeed Md Shawon, Allison C. Aiken, Los Alamos National Laboratory

SESSION 2B: SATELLITE AND REMOTE SENSING

Session Chair: Robert Levy, NASA Goddard Space Flight Center

1:30 pm - 1:50 pm

3 GEO-LEO Satellite Synergy Product for Monitoring Rapid Aerosol Changes on a Global Scale

Robert Levy, NASA Goddard Space Flight Center

1:50 pm - 2:10 pm

61 Capabilities and Applications of NASA PACE Mission for Atmospheric Monitoring

Morgaine McKibben, NASA Goddard Space Flight Center

2:10 pm - 2:30 pm

65 Evaluation of New Capabilities for Global Aerosol Characterization From Space with NASA's PACE Mission

Andrew Sayer, Kirk Knobelspiesse, Meng Gao, Brian Cairns, Lorraine Remer, Vanderlei Martins, Otto Hasekamp, Guangliang Fu, Johnathan Hair, UMBC and NASA Goddard Space Flight Center

2:30 pm - 2:45 pm

Networking Break and Exhibition Viewing

Session 3: NASA Panel

From Satellite to Application: NASA's Advanced Aerosol and Air Quality Monitoring Capabilities (TEMPO, PACE) and Real-World User Implementation

2:45 pm - 4:30 pm

This panel brings together NASA mission scientists, data scientists, and operational satellite data users to discuss cutting-edge Earth observation capabilities for aerosol and air quality monitoring. Panelists will showcase how geostationary and polar-orbiting satellite missions including TEMPO's high resolution hourly air quality data and PACE's advanced multi-spectral aerosol observations are transforming our understanding of atmospheric processes and supporting decision-making across diverse applications. Panelists include:

- **Hazem Mahmoud**, Ph.D., ASDC Project Scientist, Atmospheric Science Data Center, NASA Langley Research Center
- **Morgaine McKibben**, Ph.D., PACE Mission Applications Lead, NASA Goddard Space Flight Center
- **Robert Levy**, Ph.D., Research Physical Scientist, Climate and Radiation Laboratory, NASA Goddard Space Flight Center
- **Andrew Sayer**, Ph.D., Senior Scientist, Earth Sciences, NASA Goddard Space Flight Center

Panel content and discussion includes:

- TEMPO Mission Capabilities: Real-time air quality monitoring, wildfire detection, and applications for emergency response
- PACE Mission Contributions: Advanced aerosol characterization, spectral imaging capabilities, and complementary observations for visibility and air quality assessment
- User Perspective: Practical insights on implementing satellite data in operational settings, challenges in data access and processing, and opportunities for enhanced user engagement

Discussion will address how these missions work synergistically to provide comprehensive atmospheric monitoring, with emphasis on bridging the gap between satellite science and end-user applications across visibility research, air quality forecasting, and environmental decision-making.

CONFERENCE PROGRAM

SESSION SCHEDULE - Tuesday, November 10 con't.

Poster Session and Networking Reception

Dedicated poster viewing: 4:30 pm - 5:00 pm
5:00 pm - 6:00 pm: Reception and continued poster viewing

Join sponsors, speakers, and conference attendees for a networking reception in the main theater and back patio overlooking the lake.

Technical Posters

66 African Smoke Incursions and Their Influence on Black Carbon and Visibility in the Eastern Caribbean During the Dry Seasons of 2024 and 2025

Rebecca Chewitt-Lucas, Caribbean Institute for Meteorology and Hydrology, Husbands, St. James, Barbados

36 Assessing Anthropogenic Fugitive Dust Emissions and Contribution to Air-quality and Visibility in the United States

Chang Shu, George Mason University

81 Collection of Fine Particulate Sea Salt and Implication of Changing Ambient RH for Reconstructing bext

Bret A. Schichtel, National Park Service

83 Decadal Changes in Aerosols and other Air Quality Parameters over India: A Multi-scale Study

R. H. Chaudhari, IIT Bombay

82 Operational Milestones & New Perspectives at the DOE ARM Mobile Facility 3 at Bankhead National Forest

Mark Spychala, Argonne National Laboratory; US DOE-ARM User Facility

63 A User Facility for Measuring Soot Aerosol

Andrew R. Metcalf, Environmental Engineering and Earth Sciences, Clemson University

72 In Situ Characterization of Secondary Organic Aerosol Physicochemical Properties via Fluorescence Probe Spectroscopy

Michael Boadu, Auburn University, Department of Chemistry and Biochemistry

55 ASDC's Advanced Tools for Wildfire Monitoring Using TEMPO

Hazem Mahmoud, ADNET, NASA LaRC

6:30 pm - 9:00 pm Night Sky Program at Lake Logan

A shuttle will be provided to the site from the Terrace Hotel and rotate to and from the site so you can leave and return at your chosen times.

CONFERENCE PROGRAM

SESSION SCHEDULE - Wednesday, November 11

PLENARY SESSION

8:00 am – 9:00 am



Observational Constraints on the Evolving Sensitivity of Inorganic Aerosols to Reduced and Oxidized Nitrogen in the United States

Da Pan, Ph.D., Carlton S. Wilder Early-Career Professor, School of Civil and Environmental Engineering, Georgia Institute of Technology

9:00 am - 9:10 am

Networking Break and Exhibition Viewing

SESSION 4A: ORGANIC AND LIGHT-ABSORBING CARBON

Session Chairs: Phil Hopke, Clarkson University, and Albert Presto, Carnegie Mellon University

9:10 am - 9:30 am

20 Temporal Variability of Black Carbon in Jakarta and Bandung, Indonesia

Phil Hopke, Institute for a Sustainable Environment, Clarkson University; Muhayatun Santoso, National Research and Innovation Agency of Indonesia (BRIN), Bandung, Indonesia; Asta Gregorič, Aerosol d.o.o., Ljubljana, Slovenia; Martin Rigler, Aerosol d.o.o., Ljubljana, Slovenia

9:30 am - 9:50 am

11 Black Carbon Sources and Trends in the Global South

Albert Presto, Rafael Braga Gomes, Prithviraj Vijayaraj, Andrew Song, Carnegie Mellon University

9:50 am - 10:10 am

4 TC-BC Method for Advanced Source Apportionment of Carbonaceous Aerosols Using High-Time-Resolution Measurements

Varun Yadav, Aerosol USA Corporation; A. Gregorič, Ivančič, G. Lavrič, B. Alföldy, Ježek Brecelj, M. Rigler, Aerosol d.o.o., Research & Development Department, Ljubljana, Slovenia, EU

10:10 am - 10:30 am

21 Urban Railroad Yards: An Underappreciated Source of Urban Black Carbon Particles

Phil K. Hopke, University of Rochester School of Medicine and Dentistry; Marjan Savadkoobi, Institute of Environmental Assessment and Water Research (IDAEA-CSIC), Barcelona, Spain

10:30 am - 10:50 am

73 Aging of Light-absorbing Carbonaceous Aerosols and Source Apportionment in a Coastal Urban Environment

Harish C. Phuleria, Malhar Ozarde, Mansi Pathak, Environmental Science & Engineering Department, IIT Bombay

SESSION 4B: MONITORING NETWORKS AND FIELD STUDIES

Session Chairs: Jason Surratt, University of North Carolina, and Jenny Hand, Colorado State University

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9:10 am - 9:30 am

69 Real-Time Aerosol Chemical Measurements by the ASCENT Network at Look Rock in Great Smoky Mountains

Jason Surratt, Nicolas A. Buchenau, Cade M. Christensen, University of North Carolina at Chapel Hill; James R. Renfro, National Park Service; Bill Hicks, National Park Service; Roya Bahreini, University of California, Riverside; Ann M. Dillner, University of California, Davis; Armistead G. Russell, Georgia Institute of Technology (GA Tech); Nga L. Ng, California Institute of Technology (Caltech)



9:30 am - 9:50 am

49 Assessing Measurement Consistency of the IMPROVE PM2.5 Element Concentrations

Nicole Hyslop, Jiayuan Wang, Xiaolu Zhang, Warren White, University of California, Davis

9:50 am - 10:10 am

32 Regional PM2.5 Budgets in Urban and Rural Sites Across the United States

Jenny Hand, Bill Malm, CIRA, Colorado State University; Anthony Prenni, Bret Schichtel, Air Resources Division, National Park Service; Sean Raffuse, Nicole Hyslop, Air Quality Research Center, UC Davis

10:10 am - 10:30 am

83 Unraveling the Origins of Summertime PM2.5 Pollution in the Great Lakes Region

Angela Dickens, Tsengel Nergui, Zachariah Adelman, Lake Michigan Air Directors Consortium (LADCO)

10:30 am - 10:50 am

27 First Results from Desert-Urban SysTem IntegratEd Atmospheric Monsoon (DUSTIEAIM)

Katie Benedict, Allison C. Aiken, Earth and Environmental Science Division, Los Alamos National Laboratory

CONFERENCE PROGRAM

SESSION SCHEDULE - Wednesday, November 11

10:50 am - 11:00 am

Networking Break and Exhibition Viewing

SESSION 5: AEROSOL HYGROSCOPICITY

Session Chairs: Ann M. Dillner, UC Davis, and Bret Schichtel, National Park Service

11:00 am - 11:20 am

64 Parameterization of $f(RH)$ for Organic Matter: A Case Study of Wildfire Smoke Aerosol

Ann M. Dillner, Nagendra Raparathi, Anthony S. Wexler, Air Quality Research Center, University of California, Davis; Jenny L. Hand, Bonne Ford, Colorado State University

11:20 am - 11:40 am

30 Water Content of Filter Sampled Fine Particulate Matter at Low Relative Humidity: Insight from the Surface Particulate Matter Network

Christopher Oxford, Yuxuan Ren, Randall V. Martin, Washington University in St Louis; Haihui Zhu, Colorado State University, Xuan Liu, Scripps Institute of Oceanography; Paterne Gahungu, Universite du Burundi; Narendra Reddy Nelli, Khalifa University; Olga L. Mayol-Bracero, University of Puerto Rico, San Juan; Qiang Zhang, Tsinghua University, Beijing, China

11:40 am - 12:00 pm

80 Hygroscopic Enhancement Functions Derived from Continuous Ambient Optical or Particulate Mass Measurements

Bret A. Schichtel, Anthony J. Prenni, National Park Service; William C. Malm, Jenny Hand, Bonne Ford, Colorado State University

12:30 pm - 6:00 pm

Mt. Pisgah National Forest Excursion

About the Air & Waste Management Association



Founded in 1907, the Air & Waste Management Association is a nonprofit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for the exchange of information, technology, and environmental solutions, professional development, networking, and public education to thousands of members and an even greater audience of environmental professionals worldwide. A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society. For more information, please visit www.awma.org.

CONFERENCE PROGRAM

SESSION SCHEDULE - Thursday, November 12

SESSION 6: RECENT ADVANCES IN THE REGIONAL HAZE RULE

Session Chairs: Ralph Morris and Marco Rodriguez, Ramboll

8:00 am - 8:20 am

5 Visibility Improvement Under the SO₂ Milestone Program in the Western United States

Jay Baker, Western States Air Resources Council; Roslyn Higgin, New Mexico Environment Department; Glade Sowards, Utah Department of Environmental Quality

8:20 am - 8:40 am

26 Alternatives for Estimating Natural Visibility Conditions

John G. Watson, Judith Chow, Desert Research Institute; Xiaoliang Wang, Patrick Hurbain, Azimeh Zare Harofteh, Naresh Kumar

8:40 am - 9:00 am

13 Regional Haze Modeling of the Utah Intermountain Power Plant

Ralph Morris, Marco Rodriguez, Tejas Shah, Jung Chien, Pradeepa Vennam, Ramboll

9:00 am - 9:20 am

57 Changing Regional Haze Characteristics at MANEVU Class I Sites

Sharon Davis, David Healy, New Hampshire Department of Environmental Services; Alexandra Karambelas, Mid-Atlantic/Northeast Visibility Union (MANEVU)

9:20 am - 9:40 am

27 Evaluation of Regional Haze Using the EPA 2022v1 CAMx Modeling Platform

Marco A. Rodriguez, Ralph Morris, Tejas Shah, Jung Chien, Pradeepa Vennam, Trang Tran, Ramboll; Gregory Stella, Alpine Geophysics

9:40 am - 10:00 am

12 Development of Fire Emissions Inventory for PGM Modeling and Use to Refine a NRT Wildfire Ozone Assessment Tool

Ralph Morris, Marco Rodriguez, Tejas Shah, Jung Chien, Pradeepa Vennam, Jeremiah Johnson, Ramboll

10:00 am - 10:15 am Networking Break and Exhibition Viewing

Session 7: Regional Haze Rule Panel

The Evolving Regional Haze Program: Policy, Planning, and the Road Ahead

10:15 am - 11:45 am

Moderated by Rhonda Payne, WESTAR and Bret Schichtel, National Park Service

In this panel, planners and analysts from state air quality program will share their experience with implementation of the RHR and development of SIPs. States will discuss how shifting policy interpretations and EPA guidance have affected their second round of SIPs, including how they have responded to the range of EPA decisions on those SIPs. Lastly, panelists will discuss how states are navigating uncertainty in the RHR program as EPA considers further modifications and what these developments could mean for the future of visibility protection in the third round of SIPs and beyond.

Panelists include:

- **Sharon Davis**, Chief of Bureau of Evaluation & Planning Air Quality Regulation, Planning and Release Prevention, New Jersey Division of Air Quality & Radiation Protection
- **Tammy Manning**, Attainment Planning Branch Supervisor, Division of Air Quality, Planning Section, North Carolina Department of Environmental Quality
- **Michael Madsen**, HI, Program Development/Technical Support Staff Supervisor, Clean Air Branch, Hawaii State Department of Health
- **Devin Mulrooney**, Regional Haze Coordinator, Division of Air Quality, Utah Department of Environmental Quality

CONFERENCE PROGRAM

SESSION SCHEDULE - Thursday, November 12

11:45 am – 1:15 pm

Lunch and Presentation on Air Resources in Great Smoky
Mountains National Park
Jim Renfro, Air Quality Program Manager, National Park Service

SESSION 8A: LOW COST SENSORS

Session Chair: Bonne Ford, Colorado State University

1:20 pm - 1:40 pm

14 Plantower Reported PM_{2.5} Concentration Dependence on Relative Humidity and Particle Size Distribution

William Malm, Anthony Prenni, Russel Perkins, Amy Sullivan, Colorado State University; Mark Tigges, Air Resource Specialists

1:40 pm - 2:00 pm

68 Linking Aerosols, Air Quality, and Night Sky Brightness along the Blue Ridge Parkway

Benjamin Ernest Zeidell, Ava Tomkins, Britt Lundgren, Christopher Godfrey, University of North Carolina, Asheville; Jeff Bary, Colgate University; Todd Creamer, Geosyntec Consultants

2:00 pm - 2:20 pm

62 Quantifying Gaps in Rural Air Quality Monitoring: A Comparison of Imputed and On-the-Ground PM_{2.5} Data

Andrew Metcalf, Jianing Bao, Pierce Greenberg, Clemson University

2:20 pm - 2:40 pm

23 Estimating the Submicron Aerosol Scattering Coefficient with the PurpleAir

James R. Ouimette, Independent Researcher

SESSION 8B: MONITORING NETWORKS AND FIELD STUDIES II

Session Chairs: Jason Surratt, University of North Carolina, and Jenny Hand, Colorado State University

1:20 pm - 1:40 pm

56 The National Atmospheric Deposition Program (NADP): Lessons from a Continental-Scale Monitoring Network on Nitrogen Deposition, Wildfires, and Ecosystem Risk

Sarah Benish, National Atmospheric Deposition Program, Wisconsin State Laboratory of Hygiene

1:40 pm - 2:00 pm

78 Winter Nitrate Formation at Mammoth Cave and Great Smoky Mountains National Parks – NH₃ vs. NO_x sensitivity

Jeffrey L. Collett, Jr., Amy Sullivan, Taehyun Park, Andrey Marsavin, Colorado State University; Bret A. Schichtel, Anthony J. Prenni, Johnathon Jernigan, Jim Renfro, National Park Service

2:00 pm - 2:20 pm

84 Spatiotemporal variability of water-soluble organic nitrogen in particulate matter across the Clean Air Status and Trends Network

John T. Walker, Southern Research Station, USDA Forest Service; Nathaniel Topie, Christopher Rogers, Marcus Stewart, Kevin Mishoe, Jayde Alderman, WSP USA; Melissa Puchalski, Office of Air and Radiation, US EPA; Ryan Fulgham, Office of Applied Science and Environmental Solutions, US EPA

2:20 pm - 2:40 pm

77 Multi-Fraction PM Source Apportionment and High-Temporal Analysis Using the OPX 1025: Pinpointing Local and Regional Drivers for Targeted Air Quality Management

Jon Silberstein, Acoem