

# ACCESS XVII

Seventeenth Atmospheric Chemistry Colloquium for Emerging Senior Scientists

July 27-30, 2023

BROOKHAVEN NATIONAL LABORATORY

All Sessions are in Room Berkner B

## Thursday, July 27

**WELCOME RECEPTION** (*Springhill Suites, 2 Sawgrass Drive, Bellport, NY*). **5:00-10:00 pm**  
(*by invitation only; not open to the public*)

## Friday, July 28

*Pick up at Springhill Suites for BNL* ..... 7:30 am

*Registration and check-in at BNL* ..... 8:00-8:30 am

**SESSION I: WELCOME AND INTRODUCTORY REMARKS** ..... 8:30-9:00 am

Ernie R. Lewis, ACCESS Chair, Brookhaven National Laboratory

**SESSION II: REMARKS BY AGENCY REPRESENTATIVES**..... 9:00-9:30 am

**SESSION III: ACCESS PRESENTATIONS** (*field campaigns*) ..... 9:30-10:30 am

*Hosted by Jeff Stehr, U. S. Department of Energy (DOE)*

**Anne E. Barkley** (U.S. Environmental Protection Agency): *African Biomass is a Substantial Source of Phosphorus Deposition to the Amazon, Tropical Atlantic Ocean, and Southern Ocean*

**Olga Garmash** (University of Washington): *Heatwave Reveals Potential for Enhanced Aerosol Formation in Boreal Forest*

**Marina Nieto-Caballero** (Colorado State University): *Characterizing Bioaerosols and INPs in Arctic and Grassland Environments: Insights from the ARCSPIN and BACS Campaigns*

*Break (snack provided)*..... 10:30-10:45 am

**SESSION IV: ACCESS PRESENTATIONS** (*laboratory investigations*) **10:45 am-12:25 pm**

*Hosted by Sylvia Edgerton, National Science Foundation (NSF)*

**Charbel Harb** (Scripps Institution of Oceanography): *Investigation of Sea Spray Aerosol Generation in the Scripps Ocean-Atmosphere Research Simulator*

**Chris Jernigan** (CIRES & NOAA): *Atmospheric Fate of Hydroperoxymethyl Thioformate under Pristine Marine Conditions*

**Alexandra M. Deal** (Lawrence Berkeley National Laboratory): *The Structure of Organic Acids Including  $\alpha$ -hydroxyacids and  $\alpha$ -ketoacids at Air-Water Interfaces*

**Christopher M. Kenseth** (University of Washington): *Particle-Phase Accretion Forms Dimer Esters in Pinene Secondary Organic Aerosol*

**Vaios Moschos** (North Carolina A&T State University, University of North Carolina): *Investigating Brown Carbon Aerosol from Biomass Combustion in*

*Sub-Saharan Africa: Molecular-Level Composition and Light-Absorption Properties*

Lunch (Berkner Room A) ..... 12:25-1:15 pm  
(by invitation only; not open to the public)

Group Photograph..... 1:15-1:25 pm  
(by invitation only; not open to the public)

**TOUR OF BROOKHAVEN NATIONAL LABORATORY** ..... 1:25-2:50 pm  
(by invitation only; not open to the public)

**SESSION V: ACCESS PRESENTATIONS** (modeling studies) ..... 3:00-5:00 pm

*Hosted by Ken Jucks, National Aeronautics and Space Administration (NASA)*

**Yu Wang** (ETH Zürich): *By How Much Can Co-condensation of Semi-volatile Compounds Alter Clouds?*

**Makoto M. Kelp** (Harvard University): *Data-driven Design of PM<sub>2.5</sub> Air Pollution Sensor Networks for the United States*

**Qindan Zhu** (Massachusetts Institute of Technology): *Characterizing Continental-scale OH Trends in the CESM2-WACCM6 Climate Model*

**Minghao Qiu** (Stanford University): *Mitigating Air Pollution and Disparities under a Changing Climate: The Role of the Power Sector*

**Hannah S. Kenagy** (Massachusetts Institute of Technology): *Towards Better Understanding of SOA Formation: Perspectives on Model-informed Approaches to Laboratory Studies*

**James Weber** (University of Sheffield): *Chemistry-albedo Feedbacks Offset up to a Third of Forestation's CO<sub>2</sub> Removal Benefits*

Closing remarks, Ernie Lewis ..... 5:00-5:15 pm

Pick up at Berkner for banquet ..... 5:15 pm

**BANQUET** (Jason's Vineyards) ..... 6:00-9:00 pm  
(by invitation only; not open to the public)

Pick up, return to Springhill Suites ..... 9:00 pm

**Saturday, July 29**

Pick up at Springhill Suites Inn for BNL ..... 7:30 am

**SESSION VI: ACCESS PRESENTATIONS** (laboratory investigations) ..... 8:00-10:00 am

*Hosted by Shiv Das, National Oceanic and Atmospheric Administration (NOAA)*

**Mickey M. Rogers** (Pacific Northwest National Laboratory): *Algae From Ocean to Air: Fundamental Surfactant Binding, Thermodynamics, and Monitoring Reveal Surface Activity of Small-Scale Algal Bloom Exudates*

**Mingyi Wang** (California Institute of Technology): *Upper Tropospheric Particle Formation from Anthropogenic Pollution*

**Stephanie R. Schneider** (McMaster University): *The Oxidation of the Sea Surface Microlayer as a Source of Volatile Organic Compounds to the Marine Atmosphere*

**Alison Bain** (University of Bristol): *Determining Aerosol Surface Tension Through Single Droplet Measurements and Modeling Surfactant Partitioning*

**Yiming Qin** (University of California, Irvine): *Toward a Molecular Understanding of the Surface Composition of Atmospherically Relevant Organic Particles*

**Xu-Cheng He** (University of Cambridge): *Toward Understanding Secondary Aerosol Formation in Marine and Polar Atmospheres*

*Break (snack provided)..... 10:00-10:15 am*

**SESSION VII: ACCESS PRESENTATIONS (satellite retrieval).....10:15-11:55 am**

*Hosted by Doug Worsnop, Aerodyne Research, Inc.*

**Taekyu Joo** (Yale University): *Secondary Brown Carbon Formation via Photooxidation of Furanoids from Biomass Burning*

**Joshua D. Shutter** (University of Minnesota): *Trends and Interannual Variability in OH over Biogenic Source Regions using Satellite-derived Measurements of Isoprene and Formaldehyde*

**Therese (Tess) S. Carter** (Congressional Joint Economic Committee): *PM<sub>2.5</sub> Data Inputs Alter Identification of Disadvantaged Communities*

**Mary Angelique G. Demetillo** (NASA Langley Research Center): *Space-based Observations of Nitrogen Dioxide Air Pollution Inequalities in U.S. Cities*

**Tianjia Liu** (University of California, Irvine): *Detection of Cascading Delays in the Monsoon Rice-growing Season and Post-monsoon Agricultural Burning in Punjab, India: Consequences for Regional Air Quality*

**Final comments, Ernie Lewis..... 11:55 am - 12:00 noon**

*Pick up box lunches, take bus to Springhill Suites ..... 12:00 noon*  
*(by invitation only; not open to the public)*

*Pick up at Springhill Suites for NYC ..... 1:00 pm*  
*(by invitation only; not open to the public)*

**New York City ..... 2:00-10:00 pm**

*Pick up at Bryant Park, NYC, return to Springhill Suites ..... 10:00 pm*

**Sunday, July 30** *(by invitation only; not open to the public)*

*Pick up at Springhill Suites for GRC..... 7:00 am*

*Ferry from Orient Point, NY to New London, CT ..... 9:00 am*

**Lunch** (Mystic Diner, Mystic, CT)..... 11:00 am – 12:00 noon

**Arrive at Grand Summit Hotel at Sunday River, Newry, ME..... 5:30 pm**