HAQAST4
July 16-17, 2018
Monday, July 16 9:00-7:00
Tuesday, July 17 9:00-3:00

Gordon Dining and Event Center, Room 241A, UW-Madison
770 W Dayton St, Madison, WI 53706

HAQAST4 is being hosted by the University of Wisconsin-Madison, and co-sponsorship has generously been provided by NASA, the University of Wisconsin-Madison's Cooperative Institute for Meteorological Satellite Studies (CIMSS), Space Science and Engineering Center (SSEC), Nelson Institute for Environmental Studies, and the Lake Michigan Air Directors Consortium (LADCO). The reception is sponsored by the UW-Madison Center for Sustainability and the Global Environment (SAGE).

Day 1 – July 16th, 2018
Intro

8:30 – 9:00 Pick up nametags and networking outside Room 241A (optional early morning coffee and food available for takeout from the Bean and Creamery on the 1st floor of the Gordon Dining and Event Center)

9:00 5 minutes: Tracey Holloway, UW-Madison, Welcome

9:05 15 minutes: John Haynes, Program Manager, *Perspectives From NASA HQ*

9:20 15 minutes: Tracey Holloway, UW-Madison, *HAQAST Team Overview*

9:35 10 minute Meeting Overview + Q&A

I. Topic 1 – Strategies for Linking NASA Data and User Applications

Chair: Jason West (HAQAST Member)

9:45 15 minutes: Zac Adelman, LADCO, *Intersection of Science and Air Quality Planning*

10:00 5 minutes: Fiona Lo, University of Washington, *Analyzing the Airborne Pollen Season for Health Stakeholders*

10:05 5 minutes: Tom Moore, WESTAR & WRAP, *Applications of Remote Sensing for Western U.S. Air Quality Management*

10:10 5 minutes: Bryan Duncan, NASA, *Update on NASA Air Quality Forecasts, Health Air Quality Index, etc.*

10:15 15 minute Q&A with speakers

10:30-11:00 Coffee Break & Networking

II. Topic 2 – Identifying Health Impacts & New Data Sources

Chair: Yang Liu (HAQAST Member)

11:00 15 minutes: Janice Nolen, American Lung Association, *Can State of the Air Tell More?*

11:15 5 minutes: Jason West, University of North Carolina, *Trends In Air Pollution-Related Deaths In the U.S. Since 1990 Using Multiple Concentration Estimates*

11:20 5 minutes: Minghui Diao, San Jose State University, *Using Satellite-Derived $PM_{2.5}$ for Health and Air Pollution Management*

11:25 5 minutes: Rima Habre, University of Southern California, *Air Pollution Exposure Assessment for Epidemiological Health Studies*

11:30 15 minute Q&A with speakers

11:45-1:30 Break for Lunch and Informal Discussion (Catered)

III. Topic 3 – Meeting the Needs of U.S. Air Quality Management

Chair: Bryan Duncan (HAQAST Member)

1:30 15 minutes: Arlene Fiore, LDEO/Columbia, *Linking Satellite Data with State Implementation Plans*

1:45 5 minutes: Ira Domsky, Maricopa County Air Quality Department, AZ, *Air Quality Issues for Maricopa County*

1:50 5 minutes: Greg Osterman, Jet Propulsion Laboratory/California Institute of Technology, *Background Ozone in the Western U.S.*

1:55 5 minutes: Sang-Mi Lee, South Coast Air Quality Management District, *Air Quality Modeling and Satellite Data to Assist Air Quality Policy Development*

2:00 15 minutes Q&A with speakers

IV. Topic 4 – Quantifying Emissions for Health and Air Management

Chair: Ted Russell (HAQAST Member)

2:15 15 minutes: Daven Henze, University of Colorado Boulder, *Slowing Declines in U.S. NO_x Emissions Reductions Detected With OMI*

2:30 5 minutes: Mark Estes, Texas Commission on Environmental Quality, *Tracking NO_2 Trends with Satellite Data for the Houston-Galveston Area*

2:35 5 minutes: Daniel Tong, George Mason University, *Improving Emissions for Air Quality Forecasts*

2:40 5 minutes: Dan Goldberg, Argonne National Laboratory, *Recent Advancements In Deriving NO_x Emission Estimates From Satellite Data*

2:45 15 minute Q&A with speakers

3:00-3:30 Coffee Break & Networking

V. Topic 5 – Air Quality Forecasts and Health

Chair: Minghui Diao (HAQAST Member)

3:30 15 minutes: Sarah Coefield, Missoula City-County Health Department, *Protecting Public Health With Pretty Pictures - The Role of Satellite Data In Wildfire Smoke Public Health Messaging*

3:45 15 minutes: Brad Pierce, NOAA/NESDIS, *Using Tropospheric NO_2 Column Data Assimilation to Constrain NWS Air Quality Forecasts*

4:00 10 minute Q&A with speakers

VI. Topic 6 – Connecting Low Cost Monitors, Space-Based Data, and Traditional Air Monitoring Networks

Chair: Daniel Tong (HAQAST Member)

4:10 15 minutes: Patrick Kinney, Boston University, *Hi Resolution PM Exposure Data for Health Applications*

4:25 5 minutes: Ed Washburn, Citizen Scientist, *Citizen Scientists and Public Health Officials; Partners to Prevent Unhealthy Air In Your Community*

4:30 5 minutes: Jun Wang, University of Iowa, *Using NASA's VIIRS Visible Light Data to Study Surface $PM_{2.5}$ and Fires*

4:35 5 minutes: Magdalene McCarty Sanders, Nisqually Indian Tribe, *Air Priorities/Working with Tribes*

4:40 5 minutes: Priyanka deSouza, Massachusetts Institute of Technology, *Integrating Data From Low-Cost Monitors with MISR AOD: A Nairobi Experiment*

4:45 15 minute Q&A with speakers

5:00 – 7:00 Poster Session, Reception & Networking

Day 2 – July 17th, 2018

VII. Topic 7 – Building Capacity for Satellite Data in Air Quality and Health

Chair: Daven Henze (HAQAST Member)

9:00 15 minutes: Yang Liu, Emory University, *Overcoming Barriers in Applying Satellite-Derived $PM_{2.5}$ to Health*

9:15 5 minutes: Alex de Sherbinin, CIESIN - Columbia University, *Policy-Relevant Indicators of Air Quality: Combining Satellite and Population Data*

9:20 5 minutes: Philip Father, Scepter. Inc., *State-of-the-Art Atmospheric Monitoring via an Integrated Data Analytics Approach*

9:25 5 minutes: Meng Gao, Harvard University, *The Impact of Power Generation Emissions on Ambient $PM_{2.5}$ Air Pollution and Human Health in China and India*

9:30 15 minute Q&A with speakers

VIII. Topic 8 – $PM_{2.5}$ From Local to Global Scales

Chair: Arlene Fiore (HAQAST Member)

9:45 15 minutes: Susan Anenberg, George Washington University, *Using Satellite-Derived $PM_{2.5}$ Exposure Estimates to Assess Neighborhood-Scale Health Impacts*

10:00 5 minutes: Xiaomeng Jin, Columbia University, *Uncertainties of Using A Model-Based Approach to Estimating $PM_{2.5}$ Distribution From Satellite Observations*

10:05 5 minutes: Amanda Jovaag & Marjory Givens, UW-Madison County Health Rankings, *County Health Rankings Air Quality Measures*

10:10 5 minutes: Akula Venkatram, University of California - Riverside, *Using Dispersion Models to Downscale Satellite Based $PM_{2.5}$ Maps*

10:15 15 minute Q&A with speakers

10:30 - 11:00 Coffee Break & Networking

IX. Topic 9 – Quantifying Health and Air Quality in Regions Without Monitors

Chair: Patrick Kinney (HAQAST Investigator)

11:00 15 minutes: Kevin Cromar, New York University, *Daily Health Risks of Air Pollution in Areas without Air Quality Monitors*

11:15 5 minutes: Daniel Sullivan, Resources for the Future, *The Benefits of Uniform Compliance with National Air Quality Standards*

11:20 5 minutes: Owen Cooper, CIRES University of Colorado/NOAA ESRL, *The Tropospheric Ozone Assessment Report: Presenting the World's Largest Database of Ozone Health Metrics from 9000 Monitoring Sites Worldwide*

11:25 5 minutes: Jonathan Patz, University of Wisconsin—Madison, *Barriers and Opportunities for Connecting NASA Data with Public Health Stakeholders*

11:30 15 minute Q&A with speakers

11:45-1:00 Break for Lunch and Informal Discussion (Catered)

X. Topic 10 – Fires, Smoke, and Health Impacts

Chair: Mark Zondlo (HAQAST Member)

1:00 15 minutes: Pete Lahm, USDA Forest Service, *The Wildland Fire Air Quality Response Program*

1:15 5 minutes: Susan O'Neill, USDA Forest Service, *HAQAST Research for Fires and Smoke*

1:20 5 minutes: Michael Geigert, Connecticut Department of Energy & Environmental Protection, *Spring Time Agricultural Burning and the Effect on Air Quality in the Eastern U.S.*

1:25 5 minutes: Ted Russell/Talat Odman, Georgia Tech, *Predicting Prescribed Fire Impacts in the Southeast*

1:30 15 minutes Q&A with speakers

XI. Topic 11 – Next Phase Opportunities for Air Quality, Health & NASA

Chair: Susan O'Neill (HAQAST Member)

1:45 15 minutes: Mark Zondlo, Princeton University, *From Agricultural Ammonia to Volcanic Sulfur – Satellite Measurements to Improve Emissions Inventori*es

2:00 5 minutes: Orion McCotter, CDC - Mycotic Diseases Branch, *Environmental Fungal Diseases—What Can We Learn?*

2:05 5 minutes: Mike Newchurch, University of Alabama in Huntsville, *Air Quality Data From TEMPO and TOLNet*

2:10 5 minutes: Holli Ensz, BOEM, *BOEM's Air Quality Program on the Outer Continental Shelf*

2:15 15 minute Q&A with speakers

Closing Session

2:30 15 minutes: Tracey Holloway, *HAQAST Wrap-up and Look Ahead*

2:45 Q&A and Wrap Up

3:00 Public Session Adjourn

[HAQAST Member Meeting Immediately Follows 3:00-5:00]

HAQAST4 Poster Session
(Monday, July 16 5:00-7:00)

Poster dimensions are 40 inches x 30 inches, either landscape or portrait.

Maryam Abdi-Oskouei, University of Iowa, *Meteorological Air Quality Forecasting Using the WRF-Chem Model During the Lake Michigan Ozone Study (LMOS-2017) Field Campaign*

Mahdi Ahmadi, NESCAUM

Matilyn Bindl, SAGE, *Diurnal Change in NO_2 Columns over U.S. Cities: CMAQ vs. Satellite Data*

Maria Castillo, Boston University, *Field-Testing A Low-Cost Passive Aerosol Sampler for Long-Term Measurements of $PM_{2.5}$*

Juan J. Castillo, Clean Air Institute, *Mainstreaming Health Effects Evaluation into Air Quality Management Planning in Latin America: The Case of Aburrá Valley*

Helena Chapman, NASA HQ, *Using Satellite Data for Applications in Public Health Practice*

Robert Chatfield, NASA - Ames Research Center, *Finding High-Pollution Hot-Spots in Areas of Generally Low $PM_{2.5}$ — The Bay Area Example*

Seohyun Choi, University of Wisconsin-Madison, *Comparative Analysis and Evaluation of Publicly Available $PM_{2.5}$ Datasets*

Alex de Sherbinin, CIESIN - Columbia University, *Policy-Relevant Indicators of Air Quality: Combining Satellite and Population Data*

Holli Ensz, BOEM, *BOEM's Year 2014 Emissions Inventory for the Gulf of Mexico OCS*

(Gesang) Gesangyangji, University of Wisconsin-Madison, *Characterizing the Aerosols Over the Tibetan Plateau*

Dan Goldberg, Argonne National Laboratory, *Using MODIS AOD and WRF-Chem to Infer Daily $PM_{2.5}$ Concentrations at 1 km Resolution in the Eastern United States*

Xuehui Guo, Princeton University, *Spatiotemporal Variability of NH_3 in China Using Satellite Oversampling Method*

Diana Guzmán Barraza, Civil Society, *Remote Sensing & Climate Action*

Ping Jing, Loyola University Chicago, *The Ozone-Climate Penalty in the Midwestern U.S.*

Allan Just, Icahn School of Medicine at Mount Sinai, *Correcting Measurement Error in Satellite Aerosol Optical Depth with Machine Learning for Modeling $PM_{2.5}$ in the Northeastern USA*

Debra Kollonige, NASA Goddard/ESSIC, *SCOAPE: A Feasibility Study on Using Satellite Data for Offshore AQ Applications*

Cassandra Kubes, American Council for an Energy-Efficient Economy, *Mission Attainment: Incorporating Pollution Reductions from Energy Efficiency in State Implementation Plans*

Jane Lin, University of Illinois at Chicago, *A Deep Learning Framework for Fine Grained Air Quality Prediction*

Yang Liu, Emory University

Jeffery Matsuoka, Bay Area Air Quality Management District, *Air Quality and Health Burden of the 2017 Northern California Wildfires*

Anastasia Montgomery, Center for Sustainability and the Global Environment, *Assessing the Relationship between Satellite-Derived NO_2 and Social Metrics over U.S. and Global Cities*

Margaret Mooney, CIMSS, *Getting the Word Out - Improved NO_x Emission Inventories via OMI and GeoTASO*

Amir Mousavi, University of Southern California

Katie Mulvaney, UNC Chapel Hill, *Air Pollution and Health Co-Benefits of the Paris Agreement on Climate Change*

Omar Nawaz, University of North Carolina at Chapel Hill, *Health Benefits of Decreases in $PM_{2.5}$ and Ozone in the United States*

Talat Odman, Georgia Tech, *Predicting Prescribed Fire Impacts in the Southeastern U.S.*

Greg Osterman, Jet Propulsion Laboratory/California Institute of Technology

Sepehr Roudini, The University of Iowa, *Detection of Nighttime Fire Combustion Phase by Hybrid Application of Visible and Infrared Radiation from Suomi NPP VIIRS*

Ted Russell, Georgia Tech

Magdalene McCarty Sanders, Nisqually Indian Tribe

Mary Spraggs, University of Wisconsin-Madison, *Seasonal Patterns in NO_2 Vertical Column Densities*

Charles Stanier, University of Iowa, *Overview of the Lake Michigan Ozone Study (LMOS) 2017*

Madankui (Tao-ma) Tao, University of Wisconsin-Madison, *Relating Energy Efficiency with Air Quality and Health in the United States*

Anne Thompson, NASA-Goddard Space Flight Center, *SCOAPE Validation Cruise in the Gulf of Mexico in 2019: Goals and Design*

Jun Wang, University of Iowa

Rui Wang, Princeton University, *High Resolution Ammonia Map Based On A New Oversampling Algorithm*

Huanxin (Jessie) Zhang, University of Iowa, *Estimates of Satellite Derived Surface $PM_{2.5}$ in the U.S. Using an Ensemble Approach*

Meng Zhou, The University of Iowa, *The Development of Nighttime Radiative Transfer Model and Application to VIIRS Day/Night Band (DNB) Simulator*

Yufei Zou, University of Washington in Seattle, *Evaluation of a Multi-Modeling Framework for Wildland Fire Smoke Simulation Using High Resolution Satellite and Ground Observations*

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