



HAQAST St. Louis

Meeting of the NASA Health and Air Quality Applied Sciences Team

Agenda

November 6th and 7th, 2025

Knight Center, Washington University in St. Louis, St. Louis, Missouri

All Session A panels will be in the Knight Center, Room 200 and online in Webinar A

All Session B panels will be in the Knight Center, Room 340 and online in Webinar B

Day 0, Wednesday, November 5th

5:00 – 6:00 pm CT Pre-meeting Networking (Bear Public House, located in the Knight Center)

Day 1, Thursday, November 6th

8:30 – 9:00 CT Coffee and Networking (Knight Center)

9:00 – 9:45 CT Session 1A: Overview of NASA HAQAST (Knight Center, Room 200)

Randall Martin (HAQAST Member, Washington University in St. Louis)

Sandro Galea (Dean, Washington University School of Public Health)

Michael O'Toole (Center for the Environment at Washington University)

Tracey Holloway (HAQAST Team Leader, University of Wisconsin-Madison)

9:45 – 10:15 CT Networking Break

10:15 – 11:30 CT Session 2A and 2B

Session 2A: Improving Surface Fine Particulate Matter (PM_{2.5}) Estimates Using Satellite Data

Moderator: *Xi Chen* (HAQAST Member, University of Iowa)

Randall Martin (HAQAST Member, Washington University in St. Louis)

Chi Li (Washington University in St. Louis)

Sarah Kroening (Children's Health Alliance of Wisconsin)

Eladio Knipping (Electric Power Research Institute)

Travis Toth (HAQAST Member, NASA Langley Research Center)

Session 2B: Heat and Compound Events Health Impacts

Moderator: *Jeff Pierce* (HAQAST Member, Colorado State University)

Chris Uejio (HAQAST Member, Florida State University)

Kilan Bishop (University of Miami Rosenstiel School of Marine, Atmospheric, and Earth Science)

Adam Schlosser (Massachusetts Institute of Technology)

Xingmei Liu (Massachusetts Department of Environmental Protection) [Virtual]

11:30 Meeting Photo (Olin Business School staircase)

11:40 – 1:15 CT Lunch Break

1:15 – 2:30 CT Session 3A and 3B

Session 3A: Forecasting and Near Real Time Monitoring of Smoke and Air Quality Impacts from Wildland Fires

Moderator: *Jingqiu Mao* (HAQAST Member, University of Alaska, Fairbanks)

Xi Chen (HAQAST Member, University of Iowa)

Leif Paulson (Wyoming Department of Environmental Quality)

David Mendez-Jimenez and *Glen Roussin* (Missouri Department of Natural Resources)

Aaron Naeger (HAQAST Member, NASA Marshall Space Flight Center)

Session 3B: Predicting Ozone Formation: Advances with TEMPO

Moderator: *Jen Kaiser* (HAQAST Member, Georgia Institute of Technology)

Arlene Fiore (HAQAST Member, Massachusetts Institute of Technology)

Amanda Fritz (Connecticut Department of Energy and Environmental Protection)

Angela Dickens (Lake Michigan Air Directors Consortium (LADCO))

Dan Anderson (HAQAST Member, University of Maryland, Baltimore County)

2:30 – 3:00 CT Networking Break

3:00 – 4:15 CT Session 4A and 4B

Session 4A: Remote Sensing for Remote Regions: Improving Decision-Making on Dust and More

Moderator: *Carl Malings* (HAQAST Member, Morgan State University)

Jeff Pierce (HAQAST Member, Colorado State University)

Chelsea Langer (New Mexico Department of Health)

Jingqiu Mao (HAQAST Member, University of Alaska, Fairbanks)

Pat Reddy (Independent Consultant / University of Wisconsin – Madison)

Session 4B: Improving Emissions Inventories with Satellite Data

Moderator: *Arlene Fiore* (HAQAST Member, Massachusetts Institute of Technology)

Jen Kaiser (HAQAST Member, Georgia Institute of Technology)

Byeong Kim (Georgia Department of Natural Resources)

Emily Gargulinski (National Institute of Aerospace) / *Amber Soja* (HAQAST Member, NASA Langley Research Center)

Venezia Ramirez (Norwalk Unides)

4:20 CT – Poster Introductions – (Knight Center, Room 200)

5:00 – 7:30 CT Poster Session and Dinner (Whitaker Atrium)

Day 2, Friday, November 7th

8:30 – 9:00 CT Coffee and Networking

9:00 – 10:15 CT Session 5A and 5B

Session 5A: Global Air Quality Monitoring and Forecasting

Moderator: *Randall Martin* (HAQAST Member, Washington University in St. Louis)

Carl Malings (HAQAST Member, Morgan State University)

Junhyeon Seo (Morgan State University)/ *Pawan Gupta* (HAQAST Member, NASA Goddard Space Flight Center)

A. Patrick Behrer (World Bank)

Colleen Rosales (OpenAQ)

Session 5B: Maximizing Value of Satellite Data for Environmental Consulting

Moderator: *Chris Uejio* (HAQAST Member, Florida State University)

Tracey Holloway (HAQAST Team Leader, University of Wisconsin-Madison)

Nathan Pavlovic (Sonoma Technology)

Chris Elvidge (Colorado School of Mines)

Cynthia Randles (Scepter Air Inc)

10:15 – 10:45 CT Break

10:45 – 12:00 CT Session 6A (Knight Center, Room 200)

Session 6A: Charting a Long-Term Path for Broader Satellite Applications

1:00 – 3:00 CT - TEMPO Earthdata Hands-on Workshop (Brauer 3015, In-person only)

This hands-on workshop, led by Dr. Hazem Mahmoud and Elizabeth Joyner, will explore common NASA Earthdata tools for accessing TEMPO Air Quality data, like NASA Earthdata Search, Worldview, RSIG, and more.

End of Public Meeting

1:00 – 3:30 CT HAQAST Business Meeting (Knight Center, Room 340)

HAQAST team members and investigators

About HAQAST

HAQAST is a collaborative team that works in partnership with public health and air quality organizations across the globe to use NASA data and tools for the public benefit. We have 14 primary investigators and scores of co-investigators from across the U.S., along with short-term, high-impact collaborative efforts.

HAQAST St. Louis Poster Presenters

- ◇ *Ahmed Khan Salman* (GESTAR II/NASA GSFC)
Transfer Learning for Satellite-Based PM_{2.5} Estimation: From ABI over CONUS to FCI over Africa with Cross-Sensor Calibration
- ◇ *Amit U. Raysoni* (The University of Texas Rio Grande Valley)
Impact of Sugarcane Stubble Burning Activities on Local Air Quality in the Rio Grande Valley Region of South Texas
- ◇ *Cara Scalpone* (University of Wisconsin-Madison)
Understanding Wintertime Air Pollution: The Roles of Building Heating Emissions and Temperature
- ◇ *Chandler Wells* (University of Wisconsin-Madison)
Is Your County's PM_{2.5} Monitor Capturing Peak Concentration?
- ◇ *Chi Li* (Washington University in St. Louis)
Estimates of submicron particulate matter (PM₁) concentrations for 1998-2022 across the contiguous United States
- ◇ *Daniel Friedland* (University of Wisconsin-Madison)
Growing Satellite Data Applications for the Energy Sector
- ◇ *Gabriel Mojica* (NASA Langley)
Atmospheric Science Data Center (ASDC) Suborbital Data Ingest and Curation
- ◇ *Haihui Zhu* (Colorado State University)
The contribution of agricultural and other anthropogenic dust emissions to coarse particulate matter concentrations in the U.S.
- ◇ *Hazem Mahmoud* (NASA LaRC ADNET)
TEMPO Data in Action: ASDC's Advanced Tools for Wildfire Monitoring and Impact Analysis
- ◇ *Jennifer McGinnis* (Colorado State University)
Evaluating Satellite-Identified Dust Storms over the US
- ◇ *Junhyeon Seo* (NASA GSFC/GESTARII MSU)
Adaptive Expert-guided Deep Imbalanced Regression for Global PM_{2.5} Forecasting with Temporal Convolutional Networks and GEOS-FP Inputs
- ◇ *Mena Whalen* (Loyola University Chicago)
Community and Local Engaged Air Research (CLEAR): Purple Air Network Expansion Through Community and Academic Partnerships
- ◇ *Kazuyuki Miyazaki* (NASA JPL)
Satellite-derived emission and air quality data to Support NASA's Earth Science to Action (ES2A) for Air Quality
- ◇ *Ping Jing* (Loyola University Chicago)
Assessing the Impact of 2023 Wildfire Smoke on Ozone in Chicago
- ◇ *Shubham Sunil Sharma* (Washington University in St. Louis)
Design of a coupled flame and cell exposure system for study of combustion particle toxicity
- ◇ *Siyuan Shen* (Washington University in St. Louis)
Enhancing Estimation of Fine Particulate Matter Chemical Composition Across North America by Including Geophysical A Priori Information in Deep Learning
- ◇ *Tyler J Ranieri* (Lewis University)
Analysis of Air Quality in the Joliet Illinois Area Using Ground-based and Space-based Measurements
- ◇ *Xinran Wu* (University of Wisconsin-Madison)
Early Results on TEMPO Satellite Observations to Evaluate AERMOD Modeling
- ◇ *Yanshun Li* (Washington University in St. Louis)
Simulating diurnal variation of fine particulate matter composition over Southeastern US using GEOS-Chem
- ◇ *Yi Ji* (University of California, Berkeley)
Assessing the Impact of Wildfire Smoke Transport through Chemical Transport Modeling, Satellite Retrievals, and Ground-based Observations of Ozone in Rural Nevada
- ◇ *Yuanjian Zhang* (Washington University in St. Louis)
Diverging Chemical Evolution of Global PM_{2.5} in Clean and Polluted Atmosphere from 2003 to 2023
- ◇ *Yuxuan Ren* (Washington University in St. Louis)
Black carbon emissions generally underestimated in the global south as revealed by globally distributed measurements
- ◇ *Zhiwei Dong* (University of Alaska Fairbanks)
Discrepancies between Satellite-based and Ground-based Fire Detection: Implication for Wildfire Emissions in Alaska