MAC-MAQ
Meteorology And Climate - Modeling for Air Quality
Conference
September 13-15, 2023

Poster Competition

New for Student Researchers

Are you a student or an early career Post-Doc looking for an opportunity to showcase your research?

The Technical Program Committee is excited to announce the inaugural MAC-MAQ Poster Competition.

Posters submitted by students and early career Post-Docs will be evaluated during the conference by a select panel of judges. The winner(s) will receive a monetary prize, so don't miss this chance to show off your work!

To enter the competition, submit an abstract through the portal on our website before April 26th. We welcome submissions from students in their early career, including undergraduate, graduate, masters, and PhD students (maximum 4 years after highest degree earned.)

Please note that all poster presenters must attend the conference in-person to participate in the competition and the research must be based on must be based on MAC-MAQ program themes and conference topics.

Please Note: Only one poster abstract per person can be entered into the competition.

STUDENT POSTER COMPETITION

SEEKING ABSTRACTS FROM
- UNDERGRADUATE STUDENTS
- GRADUATE STUDENTS
- MASTERS STUDENTS
- EARLY CAREER POST-DOCS

*Opportunity to practice and enhance your presentation skills.*

We encourage all students to participate in this special poster competition. It's a great opportunity to share your work *and* learn from world renowned scientists and researchers who have been working in the field for many years.

As a Poster Competitor, you will receive valuable feedback on your research and presentation skills to help you advance your career.

Submit a Poster Abstract

Reminder: Abstracts Due Next Week

Don't miss your chance to showcase your work at the upcoming MAC-MAQ conference. The abstract submission deadline is fast
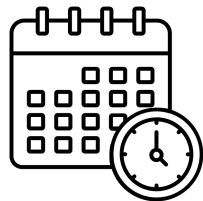
approaching.

Remember to submit your abstract by next Wednesday, April 26th.

As a MAC-MAQ Speaker, you'll have the opportunity to share your knowledge with a diverse audience of conference attendees. This is a chance to connect with peers, establish new connections, and gain valuable insights on meteorology for air quality applications research.

Submit an abstract for consideration for up to three sessions to review. Session descriptions are available on the website here.

Submit Your Work

Please be advised that speakers will need to reserve all three conference dates until the programming schedule is finalized. Additionally, we kindly request that speakers plan to attend the conference in-person. If you have any questions, please contact the Conference Manager, Olivia Schlanger at oschlanger@ucdavis.edu.

2023 Program

Review the session descriptions and take a look at our esteemed lineup of invited speakers below!

Breakthrough Innovations in Atmospheric and Air Quality Modeling
Session Chairs: Siyuan Wang and Sebastian Eastham

As new challenges emerge in air quality modeling and forecasting, innovative techniques offer exciting opportunities to advance our understanding of the complex interactions between air quality, meteorology, and the climate system. Meanwhile we are facing a growing need to provide tools which can rapidly and reliably inform both the public and policy makers of the ways in which air quality might change, responding to questions of environmental justice and compounding environmental stressors. This session focuses on innovative techniques in atmospheric and air quality modeling, such as trustworthy artificial intelligence/machine learning, physics-infused machine learning, new approaches to model-data fusion, GPU-accelerated computing, and cloud computing.

Current Session Speakers:

Domingo Muñoz-Esparza, *NCAR*	**Makoto Kelp,** *Harvard University*

Composition and Operational Forecasting from Daily to Seasonal Scales
Session Chairs: Yang Zhang & Daniel Tong

This session invites submissions on producing atmospheric composition forecasting from daily to sub-seasonal to seasonal scales. This includes development and implementation of both research and operational deterministic air quality forecasting systems, ensemble approaches for probabilistic air quality forecasting, chemical data assimilation, bias correction, machine-learning and other techniques to improve initialization, emission, physical and chemical processes, and post-processing of air quality forecasting systems to improve forecasting skill and

decision-making support.

Current Session Speakers:

Craig Stroud, *Environment and Climate Change Canada (ECCC)*	Ivanka Stajner, *NOAA CEP EMC*

M3: Merging Measurements & Models
Session Chairs: [Brad Pierce](#) and [Carl Malings](#)

Measurements provide real-world data to validate and constrain models, while models offer a framework for situating often sparse or intermittent measurements within a broader context. This session highlights work integrating measurements and models for physical and chemical processes in the atmosphere as they relate to air quality. A range of measurement types are considered, including in-situ and remote sensing measurements from surface, airborne, and satellite platforms. A variety of methods for measurement integration are also considered, including data assimilation, data fusion (including machine learning approaches), and use of measurements for model evaluation and validation.

Current Session Speakers:

Beiming Tang, *University of Iowa*	David Fillmore, *NCAR*

Kazuyuki Miyazaki, *NASA JPL*

Meteorology-Chemistry Coupling, Feedbacks, and Interactions
Session Chairs: [Heather Holmes](#) and [Maryam Abdi-Oskouei](#)

In this session, we invite submissions from the latest observational and modeling studies with the focus on advancing our understanding of meteorology and atmospheric chemistry as a coupled system. Relevant topics include but are not limited to: (1) Coupled meteorology and chemistry feedbacks across scales (e.g., land-atmosphere coupling, PBL mixing, cloud microphysics, dynamics, etc.), (2) Studies designed to investigate meteorology and air quality interactions across multiple pollutant species (e.g., aerosols and reactive gases), (3) Biogenic emissions and their impacts on regional and global air quality, (4) Combined effects of meteorology and chemistry and their associated broader societal impact (e.g., health burden, environmental justice, etc.).

Current Session Speakers:

Allison Steiner, *University of Michigan*	Meiyun Lin, *NOAA*

Modeling of Processes Across Multiple Scales
Session Chairs: [Louisa Emmons](#) and [Petra Klein](#)

The linkages between the atmosphere's constituents and meteorology are dependent on the level of knowledge and methodology used to represent chemical and physical processes within the models. These processes are sometimes scale-dependent, with different scales necessitating different approaches. They may also be scale independent, applicable to all resolutions and modeling domains. In this session, we focus on new modeling systems and process representations that span all

scales of atmospheric modeling. A particular focus is on fundamental processes - those which have a key influence on the predicted state of the atmosphere, yet may be addressed through novel process representation.

Current Session Speakers:

Jordi Vilà-Guerau de Arellano, *Wageningen University*	**Yang Li,** *Baylor University*

Unique/Extreme Events and their Impacts on Meteorology and Air Quality
Session Chairs: Susan O'Neill and Karin Ardon-Dryer

Unique or extreme events such as wildfires, stratospheric ozone intrusions, dust storms, cold air pools, and pandemics can have notable and sometimes dramatic impacts on meteorology and air quality. Further, while typically episodic and unique in nature, climatological projections have them occurring more frequently and the enormity of their impact, spatially, temporally, and in terms of creating hazardous conditions, affect millions of lives. In this session we invite abstracts that probe the underlying physics and chemistry of extreme events with the goal of understanding their impact on air quality and meteorology. Possible topics include, but are not limited to, recent high-impact wildfires, pandemics, and other notable events such as dust storms, stratospheric ozone intrusions, and cold air pools.

Current Session Speakers:

Dave Peterson, *Naval Research Laboratory*	**Jenny Hands,** *Colorado State University*

Keynote Speakers

In addition to our comprehensive general sessions, we are pleased to welcome two keynote talks during this year's program.

Keynote Topic: *Air Quality Modeling and Links to Societal Benefits and Policy*

Keynote Topic: *Pathways to Advance Wildfire Smoke Predictions*

Join these speakers as a podium or poster presenter.

[Submit your abstract here!](#)

Share the Call for Abstracts

Don't let your colleagues miss out on this chance to connect with like-minded professionals and gain exposure for their work!

Help us get the word out by sharing the Call for Abstracts with your social networks using one of our Conference Graphics.

Share the Conference

Plan Ahead: Book Your Hotel

We've partnered with two local hotels to offer group rates for conference attendees. State and Federal rates are available while supplies last.
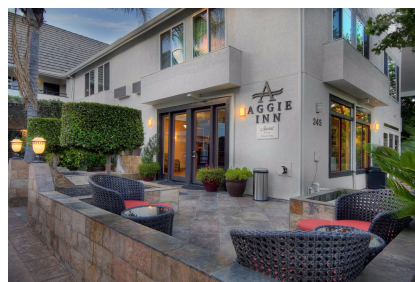
University Park Inn & Suites

1111 Richards Blvd, Davis, CA 95616

State Rate Rooms:
$90/night

General Rate Rooms:
$129/night

Rates Expire on August 11th

Aggie Inn

245 1st St, Davis, CA 95616

Federal Rate Rooms:
$133/night

General Rate Rooms:
$152/night

Rates Expire on August 11th

View Hotel Room Block Information

Conference Location: Davis

Davis is in the heart of Northern California. Being within 2.5 hours of any type of climate and landscape you want, it's an incredible place to visit. Visit the area early or stay for the weekend to experience some of the great activities Northern California has to offer!

Things to do in Northern California

GEOHealth Webinar Series

Sharing on behalf of Carl Malings, NASA Goddard Space Flight Center/Morgan State University and MAC-MAQ 2023 TPC Member

The [GEOHealth Community of Practice's Air Quality, Wildfires, and Respiratory Health Work Group](#) brings together scientists and practitioners from around the world to advance modeling satellite and sensor measurement data for monitoring, forecasting, and assessing air quality, wildfire-related pollutants, and aeroallergens to quantify the levels of exposure associated with health risk for various population groups and the public at large.

In this webinar series, we will be hosting presenters who will summarize the state of science and of practice in the use of Earth observation data to understand air quality and to support respiratory public health decision-making around the world.

Attendees of MAC-MAQ may be interested in attending to learn more about and to help strengthen the connections between modeling of air quality and public health decision making.

Upcoming Topic: Geostationary Satellite Data for Air Quality
Date: Wednesday, May 10th
Time: 1 p.m. UTC // 6 a.m. PST

Contact the Workgroup leads, [Carl Malings](#) and [Nathan Pavlovic](#) for additional information.

Did someone forward you this email? Stay Connected!
Sign up for our mailing list to stay up to date on Conference announcements and developments!

Questions? Contact the Conference Manager, Olivia Schlanger at oschlanger@ucdavis.edu.