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IGACnews

facilitating atmospheric chemistry research towards a sustainable world

issue 72
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The Science and Policy Issue



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On the Cover

Participants of the 2023 Mango meeting in Dhaka, Bangladesh

Editor: Langley DeWitt
Design: Allison Gray




IGAC was formed in 1990 to address growing international concern over rapid changes observed in Earth's atmosphere. IGAC operates under the umbrella of Future Earth and is jointly sponsored by the international Commission on Atmospheric Chemistry and Global Pollution (iCACGP). The IGAC International Project Office is hosted by the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado and is sponsored by the US National Science Foundation (NSF), National Oceanic and Atmospheric Association (NOAA), and National Aeronautics and Space Administration (NASA). Any opinions, findings, and conclusions or recommendations expressed in this newsletter are those of the individual author(s) and do not necessarily reflect the views of the responsible funding agencies.

Science and Policy

At IGAC, our mission is to ‘advance atmospheric chemistry towards a sustainable world.’ Anthropogenic emissions to the atmosphere can lead to climate change, public health issues, changing weather patterns, and other impacts on humans, animals, and the environment. But the science that we do is only part of the puzzle when it comes to achieving sustainability. Science can determine the many ways human activity is affecting our environment, from field missions and long-term measurements to understand the evolving composition of the atmosphere in different environments to fundamental research in understanding the microprocesses driving these environmental differences and changes. To achieve a sustainable world from science, our science must be translated into actions that can guide data-backed policy. And policy changes involve more complex dialogue than a simple prescriptive statement based on isolated scientific findings. Policy must consider the entire system of a region—things like other environmental impacts of a change, economic impacts, social impacts, cost/benefit analysis. Atmospheric scientists must be involved in policy considerations to make sure the atmosphere is counted for in government and other stakeholder decisions.

In 2019, IGAC added the goal of ‘engaging society’ to its overall mission (which also includes advancing knowledge, building capacity, and fostering community). Part of engaging society is engaging policy makers. Policy and science is a subject of several articles in this IGACNews. IGAC-MANGO steering committee members brought policy makers to the 2023 MANGO meeting in Bangladesh to have open dialogue between atmospheric scientists and policy makers in their country of work, and the summary of this meeting is shared here. An IGAC-ANGA (AfricaN Group on Atmospheric Sciences) member attended the African Ministerial Conference on the Environment (AMCEN), and shares her perspective intervening with government officials on behalf of ANGA. Members of the Tropospheric Ozone Assessment Report (TOAR) activity have written their perspective on science-into-policy processes for tropospheric ozone control. And two IGAC Scientific Steering Committee members share their perspectives on COP28 and the role of atmospheric chemists and scientists in the COP process.

We hope you enjoy learning about recent IGAC activities and IGAC’s work in engaging society. How else are you, the IGAC community, translating your science into sustainable action? We would love to hear stories from the community to feature in future IGACNews! 

IGAC DIRECTOR

Langley Dewitt

facilitates international collaboration on atmospheric chemistry to advance the field towards a sustainable world. She



also coordinates regional working groups in areas with a growing field of atmospheric chemistry to develop intraregional networks and connect scientists in these regions to the global scientific community. Langley has worked as a consultant air monitoring specialist for industry in the Houston area, helped establish a climate observatory and air quality monitoring network in Rwanda, and worked on air quality and tropospheric atmospheric chemistry issues in France and the US. Her PhD is from the University of Colorado, Boulder in Analytical and Atmospheric Chemistry, with a focus on astrobiology, and her B.S. is from Furman University in Chemistry and English.



Please join us in welcoming four new IGAC SSC Members for 2024! We look forward to their contributions in steering IGAC's future directions.



Hugh Coe

PROFESSOR COE gained his BSc in Physics from Newcastle University, and his PhD in Atmospheric Physics from UMIST for his work on the loss of nitrogen oxides and ozone from the atmosphere to natural vegetation. He carried out post-doctoral research at the University of East Anglia, working with Professor John Plane on the atmospheric chemistry of nitrate and halogen radicals. He was appointed to a lectureship in Physics at UMIST in 1997 and became Professor of Atmospheric Composition in 2007 at the University of Manchester. He is currently a visiting Professor at Fudan University. He was a co-Director of the UK National Centre for Atmospheric Science between 2008 and 2014 and is currently the NCAS Site lead at Manchester.

He is an international leader in atmospheric aerosol science. He has made major contributions to the development of advanced mass spectrometric and optical methods to characterise particles in the air and laboratory and has pioneered the use of these techniques to important air pollution and climate processes working collaboratively with scientists globally to address these challenges. He has published over 300 peer reviewed publications and was the recipient of the 2022 Vilhelm Bjerknes Medal awarded by the EGU in 2022.



Mingjin Tang

MINGJIN TANG is currently a research professor Guangzhou Institute for Geochemistry, Chinese Academy of Sciences, China. He received his BSs and MSc in Peking University (China), China and his PhD in Max Planck Institute for Chemistry (Germany). He carried out postdoctoral research at University of Cambridge (UK) and University of Iowa (USA) before he joined Guangzhou Institute for Geochemistry.

His research is focused on atmospheric chemistry of mineral dust aerosols. He is interested in heterogeneous and multiphase reactions of mineral dust aerosols (and tropospheric aerosols in general) and their hygroscopicity and ice nucleation activity. He has recently extended his research to sources, transport, transformation and solubilities of aerosol trace metals (such as Fe, Mn and Al) and their impacts on atmospheric chemistry, human health and marine biogeochemistry.

He has been an associate editor for Atmospheric Measurement Techniques since 2017, and is one of the founding members of Scientific Committee on Oceanic Research (SCOR) Working Group 167 (Reduce the Uncertainty in Soluble aerosol Trace Element Deposition, RUSTED).



Örjan Gustafsson

ÖRJAN GUSTAFSSON is Professor at Stockholm University in the Department of Environmental Science and the Bolin Centre for Climate Research. After pursuing a university degree in chemistry, he specialized in chemical oceanography and obtained a PhD from Massachusetts Institute of Technology (MIT) and Woods Hole Oceanographic Institution (WHOI) in 1997.

He is an elected member of the Royal Swedish Academy of Sciences (body responsible for Nobel Prizes in Chemistry and Physics), the Pontifical Academy of Sciences (focusing on sustainability and resilience) and serves as chair of the board of directors of the Future Earth Global Hub (Stockholm, Sweden). He is the director of the receptor observatory for atmosphere-climate studies of the pollution outflow from South Asia (on the island of Hanimaadhoo, the Maldives) and act as deputy director (to Prof. Abdus Salam) of the Bangladesh Climate Observatory on Bhola Island (intercepting the outflow of the Indo-Gangetic Plain). He leads a 15-pers research group with members from currently eight countries and five continents. He has published over 260 peer-reviewed research articles.

His fundamental interest is to understand how human activities are perturbing the climate and the related biogeochemical cycle in the global land-ocean-atmosphere system. He is also engaging in cross-disciplinary initiatives contributing towards a more sustainable and resilient stewardship of our planet. His research focuses on two challenges in climate change research that both may lead to climate overshoot. Thawing permafrost and collapsing methane hydrates in the Arctic and the links between severe air pollution and climate change in South Asia, East Asia, the Tibetan Plateau and the sub-Saharan Africa.

For the latter, Gustafsson's group have with colleagues established atmospheric-climate observatories strategically located to intercept the outflow from e.g. India and China. These observatories are continuously operated with decadal perspectives at locations such as in rural S. Bangladesh (w. Prof. Abdus Salam) and on islands in the northern Indian Ocean and in SE Yellow Sea (w. Prof. Sang-Woo Kim). Placed within a comprehensive framework of satellite- and observatory data, we are for instance isotopically fingerprinting climate- and health-affecting aerosols and gases (e.g., CO, CH₄) to provide observational constraints on both their atmospheric reactions and on the relative importance of different sources, to support air quality and climate modelling and to guide society's efforts to mitigate emissions. As a recent example, we used the COVID shutdown in India as a large-scale geophysical perturbation experiment – a preview of what we may face when we go to net zero fossil emissions. While the skies got bluer and the air got cleaner, the climate also got warmer. While atmospherically long-lived CO₂ only dropped by 1%, the loading of short-lived net climate-cooling aerosol pollution dropped drastically resulting in an aerosol demasking that enhances climate warming. This process may contribute to climate overshoot in current and coming decades and shows the complicated intertwining of air pollution, climate change and sustainable developments. IGAC is well positioned on these topics to contribute key scientific underpinning for guiding society towards a sustainable development.

He takes a large interest in cross-disciplinary initiatives both in education and in interactions with society and policy makers to contribute towards finding solutions for us to bend the curve of climate change.



LIN DU is a professor of environmental sciences at Environment Research Institute in Shandong University (SDU). He studied chemistry at Ocean University of China (OUC) and received his bachelor's degree in 2003. He got his PhD of physical chemistry at Institute of Chemistry, Chinese Academy of Sciences (ICCAS) in 2008, and then he worked as postdoctoral fellow at University of Leuven (KUL), Belgium. In 2010, he moved to University of Copenhagen (KU),

Lin Du



Denmark, and worked as postdoctoral researcher until 2013. He then took an assistant professor position at University of Copenhagen. In 2014, he came back to China and became a professor at Shandong University. His research interest includes production and environmental impacts of marine aerosol, reaction mechanism of atmospheric volatile organic compounds, and formation mechanism of secondary organic aerosol. He has published more than 170 internationally refereed papers. He was elected as the Fellow of the Royal Society of Chemistry (FRSC) in 2023.

A FOND FAREWELL to Mei Zheng, who served on our SSC for 6 years. Thanks so much, Mei, for your contributions to IGAC, your connection to MANGO, and your leadership connecting IGAC to atmospheric chemistry in China!



Lin Mei Zheng

Mei Zheng is a professor in the Department of Environmental Sciences and Engineering, and an adjunct professor of Marine Research Institute at Peking University in Beijing, China. She received her Ph.D. from Graduate School of Oceanography, University of Rhode Island in 2000 and worked at School of Earth and Atmospheric Sciences at Georgia Institute of Technology from 2000-2010. She joined Peking University since 2010. Her research interests include sources and formation mechanisms of PM_{2.5} and transport of anthropogenic aerosol to marine environment using chemical tracers and modeling tools.

IGAC

Submit articles to the next IGACnews

IGACnews is always happy to receive relevant journal article summaries, event summaries, perspectives, and other articles from the community. Please email info@igacproject.org with ideas or for more info.

If you have recently published an IGAC-relevant article and wish for it to be highlighted in IGACnews, please submit the citation to info@igacproject.org



IGAC ON SOCIAL MEDIA

IGAC is on LinkedIn, Twitter and Facebook in an effort to further advance international scientific cooperation and serve as a resource to the public, especially you. Please join us to stay apprised of the most current news on conferences, workshops and publications. Let us hear from you on how to improve the international conversation, @IGACProject.

iCACGP-IGAC 2024 Atmospheric Chemistry: From Local Knowledge to Global Sustainability



The next iCACGP-IGAC Conference, Atmospheric Chemistry: From Local Knowledge to Global Sustainability, will be held from 9-13 September 2024 in Kuala Lumpur. More information [here](#).

Abstracts are open and are due 30 April 2024.

*Abstract submission [here](#)
(must sign in to Oxford Abstracts).*

Registration is open and early bird registration ends 30 June 2024. [Register here](#).

The 40-person Early Career Short Course will take place 6-8 September 2024. Applications are open [here](#), travel grants are available. Due 30 April 2024.

Session 1: Air Quality Impacts

*Co-chairs: Nestor Rojas
and Vinayak Sinha*

Ambient Field Studies in Non-Urban Areas

Areas and regions of the world that have not been urbanized provide important insights into natural processes and baseline “unpolluted” conditions of the atmosphere. These could be high-altitude remote sites, the Amazon rainforest, the remote marine atmosphere, the upper troposphere, and uninhabited icy cold regions, to name a few. In this sub-session, we welcome submissions that address air quality impacts on health, vegetation, agriculture and natural ecosystems.

Ambient Studies in Urban Areas and Indoor Air Quality

Urban and industrial areas generate most of the anthropogenic pollutant emissions to the atmosphere. They also concentrate on the highest exposure to air pollutants and the health risks associated with ambient and indoor air. In this sub-session, we welcome submissions of novel air pollution studies covering pollutant emission sources, pollutant chemical and physical characteristics, and the consequential effects on human health and the environment in areas influenced by urban and industrial activities and indoor environments. We also welcome studies on the effectiveness of mitigation strategies, policy frameworks, and technological innovations designed to address these challenges.

Session 2: Atmospheric Chemistry: Climate and Weather Impacts on Air Quality

*Co-Chairs: Abdus Salam
and Owen Cooper*

Poor air quality is primarily the result of air pollutant emissions and chemistry, but day-to-day changes in weather patterns, short-term climate variability (e.g. ENSO), and long-term climate change directly impact

the intensity and longevity of air pollution episodes. This session will focus on new scientific research that identifies and quantifies the impacts of weather and climate on surface air quality. As surface air quality is also affected by long-range transport and background concentrations of air pollutants, this session will also explore the impacts of weather and climate on air pollution levels in the free troposphere or at remote surface locations.

Session 3: Chemistry Processes and Mechanism Fundamentals

Co-Chairs: Clare Murphy and Hugh Coe

Understanding atmospheric physicochemical processes is pivotal for a quantitative description of its past, current and future composition. This is why this session is inviting curiosity oriented and fundamental contributions that will provide a better understanding of key atmospheric processes from aerosol optics, gas-phase, multiphase and heterogeneous kinetics, new aerosol formation and transformations, and emerging contaminants and environmental problems. Contributions highlighting novel analytical theoretical and numerical approaches, process model studies and new chemical mechanism development are all welcome.

Session 4: Atmospheric Chemistry in the Changing Earth System

Co-Chairs: Yugo Kanaya, Evelyne Touré, Maheswar Rupakheti

Atmospheric chemical composition is highly impacted by environmental processes involving changes in the Earth surface system (land, oceans, cryosphere, and ecosystems) but also by human activities. In turn, atmospheric chemistry also affects the Earth system.

This session covers recent findings from observational and modeling studies on these interactions and feedbacks. Air pollutants, oxidants, aerosols, precursor gases, and greenhouse gases are all of our interests here. We welcome presentations on 1) emissions from intensified wildfires and their impact, 2) interactions with changing sea/ice/snow/land cover state (deposition, emission, heterogeneous chemistry etc.), including biological gas/aerosol emissions, 3) biogeochemical cycles and feedbacks relevant to climate and environmental change, and 4) coupled human-natural system change relevant to atmospheric chemistry. Interdisciplinary studies relevant to SOLAS (Surface Ocean - Lower Atmosphere Study) and iLEAPS (Integrated Land Ecosystem - Atmosphere Processes Study) projects are also welcomed.


Session 5: Recent Campaigns and New Developments in Observations and Modelling

Co-Chairs: David Tarasick, Nicolas Huneeus

This session aims to facilitate integration of new observations and new analyses in atmospheric chemistry research, which will promote scientific understanding, inspire further investigation and collaboration, identify critical issues and support prediction and decision making for global sustainability. We invite submissions presenting new observations, especially those that challenge current understanding and stimulate further investigation. We welcome contributions discussing the numerical analysis of data from observations and models, model evaluation against observations, data assimilation and application for prediction, and machine learning. All types of observation are in scope, from the surface to the upper atmosphere, across multiple spatial and time scales. We also welcome studies of new methodological development in measurement and theory including physical, chemical, and statistical models.

Session 6: Panel Discussion of Current Challenges and Future directions in Atmospheric Chemistry for sustainable solutions

Co-Chairs: Liya Yu and Rebecca Garland

Panel discussions will provide an opportunity to discuss current and future cross-cutting issues in atmospheric chemistry. Panelists will be invited from all five sessions (listed above), as well as IGAC working groups and activities. 

Submit articles to the next IGACnews

IGACnews is always happy to receive relevant journal article summaries, event summaries, perspectives, and other articles from the community. Please email info@igacproject.org with ideas or for more info.

2026 International Global Atmospheric Chemistry Conference

19TH IGAC SCIENCE CONFERENCE

Bid Solicitation for Host Location and Local Organizing Committee



Bids are solicited to host the 2026 International Global Atmospheric Chemistry Conference. Full bid submissions in pdf format are due by 15 June 2024 to IGAC (info@igacproject.org). Selection of the winning bid is expected to be announced at the September 2024 conference, with the bidders informed beforehand. For information on previous and IGAC Science Conferences, visit <https://igacproject.org/conferences>.

General requirements

- IGAC strives for our conferences to take place across diverse geographical locations. Please refer to [the list of prior symposia/conferences](#) to see where they were hosted in past years.
- IGAC strives to make conferences globally inclusive where possible. Please research the visa application processes for your country and provide a short summary.
- The preferred date of the conference is September 2026, although other neighboring months (e.g., July - November) will be considered.
- Conference duration is one full week (5 days)
- Conference Agenda
 - One plenary session – no simultaneous/parallel sessions.
 - Poster sessions throughout the week with all posters on display throughout the entire week (online and/or in poster hall).
 - A conference banquet one evening mid-week for participants and accompanying persons.
 - One unscheduled afternoon (typically Wednesday afternoon).
- The Local Organizing Committee (LOC) to provide morning and afternoon coffee breaks as well as on-site lunch everyday for all participants.
- Conference should continue the tradition of a strong emphasis on an Early Career Scientists Program.
- Project side meetings, which are to take place outside of the plenary and poster session times, are to be encouraged. This will require additional meeting rooms for use by conference participants.
- IGAC conferences moving forward will need bids that include hybrid conference options. We would like a plan and a cost for streaming services, facilitating online discussions and questions, and online posters.

Bid submission requirements

A complete Conference Business Plan should be submitted and include the following:

- Designation of a professional conference organizing company (if applicable). Should preferably have prior experience organizing scientific conferences.
- Designations of the Local Organizing Committee (LOC) and its chair. An LOC comprised of more than one institution and a good balance of scientific expertise, career stage, and gender representation is strongly encouraged.

2026 International Global Atmospheric Chemistry Conference

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- Venue location and full description to meet the following requirements:
The main conference room must be able to accommodate a sliding scale of people, starting with at least 250 but with options to reasonably expand with evolving global travel situations, with good viewing of speakers and good acoustics, including sound reinforcement as necessary. In the past, IGAC conferences have had over 700 participants, but this may change in a post-COVID and carbon-footprint mindful world.
 - A plan for online posters and an option for in-person posters to remain on display all week.
 - A coffee break area close to the posters area.
 - On site lunch area for daily lunches for all participants.
 - Facilities for small meeting groups (minimum two smaller meeting rooms).
 - Free wireless internet throughout the venue.
 - Ability to stream talks (both from conference venue and to conference venue).
 - Facilities for people to present their posters virtually (i.e., room with adequate space for people to access online presentations in a common area with adequate seating, table space, power plugs, and WiFi).
- Lodging
 - Identify a sufficient number of rooms for all participants and accompanying persons close to the venue, ideally within walking distance.
 - There should be a range of pricing, including suitable low-price lodging for students or participants with small travel budgets (e.g., those from developing countries).
 - Distances and transport options to the conference venue should be specified.
- Meals and Coffee/Tea Breaks
 - Coffee/tea breaks to be provided twice a day.
 - Lunch is to be provided on site for 3-5 days depending on schedule/venue.
- Conference Banquet is to be provided on one evening of the conference.
 - Vegetarian and other commonly requested options (e.g., gluten-free, vegan) must be provided.
- Conference website, abstract submission, and registration
 - A website is to be developed by the LOC and/or its conference organizing company including at minimum:
 - The conference program
 - The early career program
 - Important dates and deadlines

2026 International Global Atmospheric Chemistry Conference

19TH IGAC SCIENCE CONFERENCE

Bid Solicitation for Host Location and Local Organizing Committee



- Travel and lodging information
- Link to IGAC website
- Link to the abstract submission system (see below)
- During conference, links to all online content for those participating virtually.
- Payment of the registration fee should be online using a major credit card as well as have the option for an organization to be invoiced and payment to be received via wire transfer or check. It is the LOC's responsibility to provide a registration system and collect fees in the local currency.
- Currently, IGAC is using Oxford Abstracts to collect abstract submissions to the 2021 16th IGAC Science Conference. The LOC will work with IGAC to determine if we continue to use Oxford Abstracts or try a different abstract submission system.

Travel arrangements are the responsibility of the participants. Information provided by the LOC is informational. Please include the following travel information.

- Closest airport(s).
 - Frequency of flights from around the globe.
 - Distance from airport(s) to conference venue.
 - Transport options to/from airport(s) to venue.
 - Visa requirements and any travel restrictions to and within in the host country.
 - Health and security aspects.
- Budget
- PLEASE NOTE: The costs and financial risks of the 2026 IGAC Conference is the responsibility of the LOC. The conference surplus, if any, will be sent to IGAC to be used for the next joint symposium/conference. The budget for the conference should be undertaken in a transparent manner with regular updates to IGAC. The budget should comprise at least the costs for the following items:
- Professional conference organizing company.
 - Venue.
 - Any transportation that will be provided by the LOC.
 - Coffee/tea breaks and lunches.
 - Conference banquet.
 - Conference materials (printed materials, name badges, USB sticks, etc.)

2026 International Global Atmospheric Chemistry Conference

19TH IGAC SCIENCE CONFERENCE

Bid Solicitation for Host Location and Local Organizing Committee



Revenue is expected to be generated from the following:

- Registration fees, which include attendance to the conference, coffee/tea breaks, lunches, and the conference banquet. Only a weeklong registration fee should be available for the entire conference in order to encourage people to attend the full week
 - Early bird registration fees have recently been in the range of ~\$500-650 USD for regular scientists and ~\$400-500 USD for early career scientists. We understand that inflation might mean these numbers will increase.
 - Normal registration fees should be \$50-100 USD more than the early bird registration fees.
 - Note that this will change with hybrid options, and two registration fees (virtual and in-person) should be calculated and provided. Virtual should be significantly lower than in-person fees.
 - Scientific organizations/funding agencies.
 - Other sources (e.g. cities, countries, tourist bureaus, donations from individuals, industry, foundations, etc.)
 - Note: There has been some difficulty in securing external support in the past. Bidders are urged to be conservative in this area and successful bidders are counseled to pursue external funding early.
 - Other issue and options, which the LOC should address are:
 - Initiative to make the conference “green.”
 - Excursion options for free afternoon of conference.
 - An accompanying persons program.
 - What to do and see in the vicinity of the conference.
 - Initiative to make the conference “green.”
 - Childcare options for participants’ children and inclusion of a breastfeeding room.
 - Initiative to make the conference “green.”
 - Accessibility for handicapped persons.
 - A prayer/meditation room should be available if at all possible.
-

7-9 AND 14 NOV 2023

HELD VIRTUALLY

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HOST INSTITUTIONS



FUNDING



PARTICIPANTS

Australia, Canada, Cote d'Ivoire, France, Germany, Greece, Indonesia, Japan, Norway, The Netherlands, Peru, Poland, Spain, Sweden, Switzerland, UK, USA.

60% of participants indicated that they are emissions developers. Several participants are also modellers and observationalists. 88% of participants indicated that they use the pollutant emissions from the fire emissions datasets. 63% of participants were interested in fires globally, though many had regional interests. Several participants from the workshop are now helping to write the BBURNED report, the HTAP Fire white paper, or both - both to be published in the first half of 2024.

BACKGROUND

Biomass Burning Uncertainty: ReactionS, Emissions and Dynamics (BBURNED) is a new IGAC activity that aims to better quantify the current understanding of the uncertainty and variability in biomass burning emission estimation, and determine how to more accurately represent atmospheric chemistry resulting from fire.

BBURNED Fire Emission Workshop, 2023 - State of the Science

The joint BBURNED/HTAP Fire Emission Workshop was a successfully interactive virtual meeting that summarised the current state of fire-emission science for atmospheric chemistry. The meeting identified some key challenges moving forward, including the loss of fire detection sensor, MODIS, and the change to VIIRS, as well as discussed our goals as a community.

BBURNED Fire Emission Workshop (FEW2023) brought together major global fire emissions datasets to learn about methods and recent updates, discuss intercomparisons and inventory differences, and inform the upcoming multi-model multi-species HTAP study focused on fires. Over 100 attendees logged into the virtual conference, from locations all around the globe, on November 7 to 9 and 14, 2023. The cohort included emission inventory creators, modelling experts and observationalists, ensuring a well-rounded discussion.

The first two and a half days covered invited presentations on global fire emissions datasets, as well as global and regional intercomparison studies. The third day included a discussion of three questions, summarised below:

Where are you joining from today?



FIGURE 1: Online participants indicated where they were joining the workshop from.

(i) Do we understand why the fire emissions datasets are different from one another? We know that fire emissions differences come down to methodological differences in emission creation. Burned area versus Fire Radiative Power (FRP) methods require different considerations and scaling. Methodologies use different combinations of MODIS, VIIRS, Sentinel and other satellite-based sensors for fire detection; different fire aggregation methods; different biomes/land cover/fuel type categories; different assumptions for cloud and canopy obscuration; different diurnal cycles, aerosol optical depth scaling, and emission factors. Fuel consumption is intuitively known as one of the biggest sources of uncertainty, although perhaps not for all NMVOC, followed by combustion phase (flaming versus smouldering). While we understand why emissions

datasets are different, quantifying how each methodological difference impacts the results is limited. Overall, region specific comparisons are still necessary to evaluate inventories. We recommend a systematic summary of strengths and weaknesses of each dataset by region and biome. The FIRECAM tool was identified as a good starting point for this evaluation. It would also be valuable to perform a study where all emissions datasets use the same emission factors (e.g., from NEIVA). Finally, additional ground-truth (field campaign) measurements are needed, for example to evaluate small fire contributions.

(ii) Recommendation for the HTAP multi-model, multi species fire study. There was no single fire emissions dataset that stood out as the best for all regions/species/ etc. We discussed the potential of creating an emissions mosaic,

which was deemed a large project requiring knowledge about which inventory to choose in each region and for each species. This depends on systematic evaluation identified as a requirement in Question (i), and is not achievable in the timeframe of HTAP simulations, slated to start in summer 2024. A second option is to use an emission ensemble median, which may introduce inconsistencies, but could be the closest to the truth. Ideally, high-latitude and tropical peat fires and a realistic diurnal cycle will be included in the fire emissions for HTAP. Two emissions datasets could also be chosen to represent bottom up and top down, or high-end and low-end emissions estimates. The 4th day discussions at the workshop resulted in tentatively choosing GFASv1.2 as the base emissions for the HTAP fire study, for a number of reasons, including its representation of high-latitude peat

Differences in Global Fire Emissions Inventories

Inventory	Bottom-up		Top-down		
	GFEDv4s	FINNv1.5	GFASv1.2	QFEDv2.5r1	FEERv1.0-G1.2
Native resolution	0.25°	1 km	0.1°	0.1°	0.1°
Near-real time availability	x	✓	✓	✓	✓
Input satellite fire product	Burned area + active fire geolocations	Active fire geolocations	FRP	FRP	FRP
Peatlands	✓	x	✓	x	x
Cloud-gap adjustment	x	x	✓	✓	✓
Scaling aerosol emissions using AOD	x	x	Recommend 3.4 scaling	✓	✓

GFED: van der Werf et al (2017, ESSD); FINN: Wiedinmyer et al (2011, GMD); GFAS: Kaiser et al (2012, Biogeosci.); QFED: Darmenov & da Silva (2013); FEER: Ichoku & Ellison (2014, ACP)


FIGURE 2: Tina Liu showed an overview of some major fire emissions datasets, and developed FIRECAM, a tool that can easily intercompare fire emissions and delve into regional differences.

fires. However, we also recommend that sensitivity simulations on fire emissions input be included in the list of HTAP fire modelling experiments.

(iii) Is there a consensus on MODIS to VIIRS transition for the future of fire emissions datasets?

The community is currently moving from MODIS to VIIRS products for satellite-based fire detection. This is due to the upcoming decommissioning of MODIS instruments, without replacement. More evaluation of VIIRS-based emissions datasets are required, as well as determining a scaling/harmonization factor in order to retain continuity with the MODIS-derived datasets. Geostationary satellites are also useful in both improving and continuing fire emission records. Finally, we advocate for a team to produce the VIIRS burned area product, as fire emissions estimations, modelling, and evaluations depend on these observations.

Workshop discussions highlighted other challenges, such as fire plume injection height, secondary pollutant production, long-range transport, and temporal and spatial variability in emission factors. Those topics were beyond the scope of the FEW2023 agenda, but BBURNED is planning a workshop for 14-15 September, 2024, to include those topics.

The BBURNED FEW2023 webpage: <https://www2.acom.ucar.edu/bburned/fire-emission-workshop-virtual-2023>. Please stay tuned for the FEW2023 report, and the next workshop. 

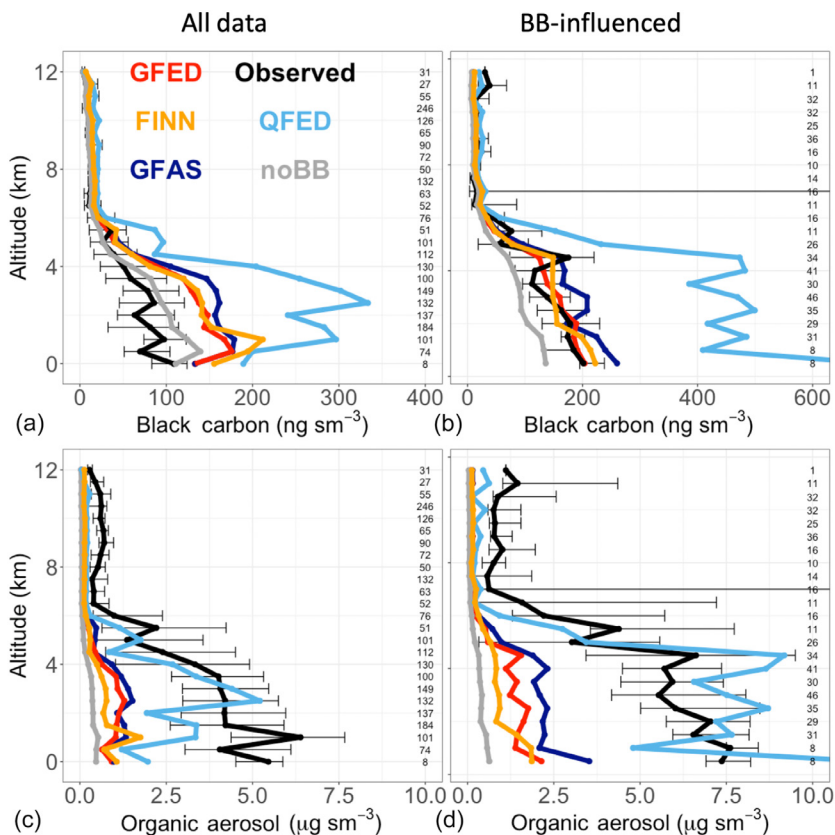


FIGURE 3: Tess Carter showed how different fire emissions perform against aircraft campaign results in North America, depending on atmospheric species and air mass selection.



6 – 7 JUNE, 2023
DHAKA, BANGLADESH

IGAC Sponsored

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HOST INSTITUTIONS



FUNDING



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Japan, India, Bangladesh, Singapore, Myanmar, Malaysia, Indonesia, Vietnam, Pakistan, Philippines, Taiwan, Sri Lanka, Thailand, Fiji, USA

BACKGROUND

IGAC sponsored this workshop to foster the development of an atmospheric science community in Asia as part of its effort to create National/Regional Working Groups. IGAC-MANGO was established with the ultimate goal to form a cohesive network of atmospheric scientists in the Asian monsoon region, facilitate collaboration between Asian and international scientists, and foster the next generation of scientists in this region.

IGAC-MANGO Committee Meeting 2023



IGAC-MANGO Committee Meeting 2023 Participants

Twelve current MANGO committee members, along with ten policymakers, gathered in Dhaka, a capital city in Bangladesh, for the IGAC-MANGO Committee Meeting 2023. Two groups, Asian Development Bank (ADB) and Asia Center for Air Pollution Research (ACAP) participated online and shared their ongoing projects in the Asian region. The meeting was hosted by Dhaka University with a majority of financial support provided by the Asia-Pacific Network for Global Change Research (APN) research project for its accepted project “Impacts of COVID-19 pandemic on air quality of Monsoon Asia region: Cross-country assessment and facilitating policy decision” led by Talib Latif. The main objective of IGAC-MANGO is to form a cohesive network of atmospheric scientists in the Asian monsoon region, facilitate collaboration between Asian and international scientists, and foster the next generation of scientists in this region. This year, we welcome a new member, Francis Mani, representing Fiji.

What is unique about this year’s meeting is to share local scientific knowledge and policy actions of the COVID-19 pandemic impacts on air quality between scientists and policymakers in the broader MANGO community. The two-day meeting started with two plenary talks by a scientist and a policymaker - Dr. Vinayak Sinha (Indian Institute of Science Education and Research Mohali, India) on “Air quality


in an environment impacted by extremes: New perspectives from recent research over South Asia” and Dr. Mohammad Abdul Motalib (Department of Environment, Bangladesh) on “Air Quality Perspectives and Initiatives in Bangladesh”. Then, presentations on how air quality changed due to COVID-19 in each country were given by the MANGO scientists, and presentations to share national approach for air quality management and relevance of COVID-19 were given by the policymakers. These sessions served as a key step to spur our discussions to publish community papers entitled “The effect of COVID-19 lockdown on air quality in major cities in the Asian monsoon region: A Review” and “The effect of COVID-19 lockdown on air quality in major cities in the Asian monsoon region: Satellite and ground-level measurement”.

A session devoted to discussing a regional collaboration on air quality research and policy inputs followed. Based on a paper entitled “Recurring South Asian smog episodes: Call for regional cooperation and improved monitoring” published in *Atmos. Environ.* in 2023, Muhammad Fahim Khokhar highlighted three points: South Asia stands out globally for fine particle pollution; precise nature, sources, and potential transboundary impacts of air pollutants have been understudied in South Asia; and imbalanced AQ monitoring capacity is an impediment to regional cooperation that is critical in addressing air pollution. Then, breakout group discussions were held. Policymakers were asked three questions on possible advice to scientists - what should be done to enhance discussions/interactions between scientists and policymakers?, what are the major challenges for policymakers to discuss with scientists in each country?, and what types of inputs-information from scientists can be helpful to ease policymakers’ work? Scientists were asked four questions - what are major challenges to discuss with policymakers in each country?, What are questions that scientists would like to raise and learn from (or clarify with) policy makers?, what types of inputs-information from policy makers can help scientists to understand better?, and prioritized scientific (short-term and long-term) questions to policymakers on regional air quality issues?

Then, scientists-group and policymakers group summarized discussions and shared in plenary. Challenges and needs for policymakers were highly suggestive. Practically, policymakers have so many agenda, and no time to address wide range of scientific issues, making it difficult to judge priority among them. They also struggle with limited budget, conflicts among different ministries/agencies, and limited capacity/background to digest scientific findings and convert into policy context. These facts result in a general tendency that policymakers need simple, clear, and attractive messages relevant for their policy agenda,

in convincing themselves, their higher decisionmakers and politicians, as well as the general public. Specifically, if scientists can generate clear messages with scientific evidence, it is of great help for policymakers to prepare policy options for themselves or politicians, in making decision on laws and the budget plan. Even better is to give them examples when indicating clear, measurable, attractive benefits in making a recommendation for policymakers. Making a unified voice among scientists in an inter-disciplinary way is also important to avoid confusions at the policymaker side. Involving public and social media to interpret/translate scientific findings into simple and meaningful language helps, since fact-based short story can be well understood by politicians so that they can repeat or cite in their speech. On this, the efforts by MANGO to gather scientists and policymakers and the fundings by APN are really commendable, since one of the big difficulties for policymakers is to secure their time and efforts among others. It is requested for scientists to indicate mid-term and long-term plans of their scientific research for policymakers, with clear outputs and expected outcome, relevance to the policy agenda. The message concluded with the word “Don’t expect too much from policymakers, but keep it achievable one. Be honest and keep talking with hope.”

Finally, recent updates and future directions of MANGO including membership/renewal, new and future activities, and funding opportunities from APN and other regional/bilateral calls were discussed. In particular, discussions on how to involve early-career scientists (green MANGOs) as well as mid-career scientists as the next leaders. As part of new research for MANGO, satellite observations and low-cost sensors were discussed. Candice Lung (Academia Sinica, Taiwan) runs the Health Investigation and Air Sensing for Asian Pollution (Hi-ASAP) project, as a regional interdisciplinary research initiative developed under the umbrella of IGAC-MANGO and endorsed by Future Earth, providing new knowledge on air pollution and health by applying low-cost sensor techniques.

The MANGO Co-Chairs would like to thank all participants, but in particular policymakers, for joining us this time around. The idea of MANGO was first brought up at the IGAC SSC meeting in Beijing in 2012, and officially started in 2015. We strongly feel that the MANGO has been growing well, and perhaps it is a good timing to think about how MANGO can develop further. Further details of the event can be found at <https://igac-mango.org>. 

Science-into-policy process for tropospheric ozone

ELEVATED TROPOSPHERIC OZONE concentrations driven by anthropogenic emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs), lead to human health effects, contribute to the global burden of disease, cause damage to crops and vegetation and contribute to human-induced global warming and climate change. This is the tropospheric ozone problem.

Urban and regional ozone episodes have been tackled over several decades and these policy actions have been largely successful over North America and Europe and are starting to make progress over other continents. However, exceedances of air quality standards and guidelines set to protect human health still occur and will continue to do so for the foreseeable future. This is because urban and regional ozone episodes sit on top of a tropospheric ozone baseline that is hemispheric or even global in scale and is non-stationary because the 'natural' sources from the stratosphere and precursor emissions from lightning, soils and wildfires are all changing under the sway of a warming climate system. The importance of this baseline will dominate policy considerations of future compliance with air quality standards and guidelines throughout the northern hemisphere.

The global environmental problems involved with global climate change and the depletion of the stratospheric ozone layer have been identified, fully researched and moved into their policy arenas over the last quarter to half a century. Policy actions to address these issues have not yet resulted in any significant focus and attention being directed to the tropospheric ozone problem and policy progress on the global stage has yet to be established. Hence our call to action here.

A science-into-policy process is required through which best understanding of the science underpinning tropospheric ozone could lead to robust international policy action with the aim of reducing the climate impacts of tropospheric ozone, reaching air quality standards and guidelines, and reducing the global burden of disease. Further details of the proposed science-into-policy process for tropospheric ozone are given elsewhere (Derwent, Parrish and Faloona, 2023). Opinion: Establishing a science-into-policy process for tropospheric

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Newbury, United Kingdom


David D. Parrish
LLC
Boulder, Colorado, USA

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ozone assessment. Atmospheric Chemistry and Physics, 23, 13613-13623). Our aim is to build up a sustained, coordinated and international commitment that can lead to the formulation of a science-into-policy process for tropospheric ozone.

If you feel that some further policy progress is needed on the tropospheric ozone problem, then consider how your own research may have some impact in the future on understanding how ozone and its impacts interact on the urban, regional and global scales. You may consider contributing to the discussions and collaborative studies within IGAC, specifically within the Tropospheric Ozone

Atmospheric Research (TOAR) program, for example, or within the UN ECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) program.

We have every confidence that if a robust and cogent, peer-reviewed policy-oriented scientific review of the tropospheric ozone issue could be assembled by the atmospheric science community, then policy progress could be made. Such a review could be built on the current IGAC-TOAR and UN ECE CLRTAP activities, with inclusion of participation by policy-associated scientists. Coordinated global action on tropospheric ozone holds the promise of delivering acceptable ozone air quality in all major population and industrial centres globally, thereby reducing the global burden of disease; a prospect that is unlikely to be achievable without such collective planning. Furthermore, future actions to reduce urban and regional ozone precursor emissions may be wasteful of resources if realistic account of the hemispheric and global baseline is not taken. In such a situation, the exceedance of air quality standards and guidelines will continue unchecked and the hands of local policy makers will be tied. 



COP28 Perspectives from IGAC SSC Members

Yugo Kanaya

I participated in COP28 of UNFCCC to co-host a Japan Pavilion seminar promoting upcoming Japanese satellite observations (TANSO-3/GOSAT-GW). The objective of the mission is to quantify CO₂ and CH₄ emissions on a global scale, down to large-emission source levels, with the aid of simultaneous NO₂ observations.

The primary audience for the scientific information delivery comprised registered COP28 delegates, mainly negotiators from participating countries, supporting scientists, industry leaders, accredited observer organizations, and members of the press and media. This was a departure from our typical conferences, which focus on in-depth scientific discussions.

IPCC assessments play a crucial role in providing governments with scientific information to develop climate policies. The atmospheric chemistry of short-lived climate forcers (SLCFs, including methane) is a vital aspect of the IPCC AR6 WG1 report (specifically Chapter 6, where I served as a Review Editor). These components determine our future warming pathways alongside CO₂. However, the roles of SLCFs are less familiar to stakeholders. Here is the potential area that IGAC could play a role. During our seminar, we also highlighted the co-benefits of reducing tropospheric ozone in terms of both climate and health.


The seminar facilitated new connections with industry delegates showcasing innovative technologies, such as high-efficiency batteries. Additionally, I had the opportunity to experience the Pollution Pods—connected domes containing carefully and safely designed air pollution from three cities: Beijing, London, and New Delhi. These showcased the co-benefits of cleaner air for public health and climate action. Ocean pavilion seminars provided insights into the costs associated with potential climate interventions, while WMO/IPCC seminars offered information about the AR7 pathways. This exposure allowed us to recognize a wide variety of climate-relevant mitigation efforts within society.

Overall, I sensed a high level of enthusiasm from participants worldwide. The promotion of more scientific input from the IGAC community as side events at COP29 and subsequent conferences is encouraged.

R Subramanian

I attended COP28 to launch our new policy brief ([link](#)) on the dual threat posed by black carbon as a short-lived climate forcer (SLCF) and as a significant air pollutant especially in the Global South. The policy brief was developed by CSTEP (where I lead the Air Quality Sector) in collaboration with Berkeley Air and Orbis Air, and we were supported by the Clean Air Fund. The policy brief highlighted the impacts of black carbon on climate tipping points in the cryosphere and in the monsoon systems of India and West Africa, as well as case studies of successful efforts to reduce black carbon emissions. While COP28 saw the successful launch of the Global Methane Pledge, action on black carbon emissions has been sidelined partly due to uncertainties surrounding its global average net radiative forcing, driven by atmospheric chemistry.

As Yugo mentioned, other conferences focus on in-depth scientific discussions, which was missing at COP28 because the audience is largely composed of non-scientists (though many academics also attend). However, the governments, industry, development banks, and NGOs attending COP28 are the stakeholders most likely to take or support action to reduce climate and air pollution. For example, I was encouraged by the significant focus on clean cooking interventions in the Global South funded by foreign carbon dioxide credits under Article 6 of the Paris Agreement. By reducing the uncertainty on black carbon radiative forcing or by focusing on the more certain effects of black carbon on climate tipping points, we can encourage action to reduce the climate-warming air pollution of combustion soot emissions.

On a practical note, getting platform space at COP can be expensive; we did not have our own pavilion. We organized or participated in multiple events on platforms funded by non-profit environmental organizations (e.g. International Cryosphere Climate Initiative, Clean Air Task Force), as well as institutions like the World Bank and UNFCCC, and country delegations (e.g. Uganda). To participate in COP29 (Baku, Azerbaijan), we need to start reaching out to potential hosts (e.g. USA, Rwanda) very soon. 

13 - 18 AUGUST 2023
ADDIS ABABA, ETHIOPIA

IGAC Sponsored

AUTHOR

Madina Doumbia, PhD

ANGA, Report of the Nineteenth Session of the African Ministerial Conference on the Environment (AMCEN)



From August 13th to 18th, 2023, I was in Addis Ababa to represent the African Group on Atmospheric Sciences (ANGA), a regional working group under the International Global Atmospheric Chemistry (IGAC) program, at the 19th session of the African Ministerial Conference on the Environment (AMCEN). The conference convened by the AMCEN secretariat hosted by the UN Environment Programme (UNEP) brought together African Ministers, expert groups on the environment, environment ministers, private sector, civil society, researchers, NGOs, Regional Economic Communities (RECs) such as Economic Community of West African States (ECOWAS), SADC and intergovernmental organizations, World Health Organization (WHO) African Region (AFRO), AFDB and others.

The first day (Monday August 13th) was devoted to review of status of implementation of the decisions and declarations adopted at the eighteenth session and was Chaired by Senegal's Director General of the Environment, on behalf of M. Alioune Ndoye, the AMCEN President, outgoing, Minister for the Environment Senegal. The session featured presentations on themes such as the strategic approach and management of chemicals and waste, which holds great potential for intensifying collective action from key sectoral ministries other than those responsible for the environment.

The convening was to agree on Africa's common position. Also, there was an



Report delivery to Côte d'Ivoire delegations



Report delivery to SEI and WHO AFRO teams




Overview of the AMCEN conference

overview of the preparations for the Twenty-Eighth Session of the Conference of the Parties (COP-28) to the United Nations Framework Convention on Climate Change, important task of negotiating on behalf of the continent. A priority for the African common position was Africa's call for the adoption of an ambitious decision under the work program on "just energy transition in Africa" pathways. This is strengthening the global climate response in the context of sustainable development and operationalize equity in the pathways for mitigation, adaptation and finance under the Paris Agreement. The conference was a platform to agree on the decision for the African negotiators to double adaptation climate finance and advance negotiations on a new quantified finance goal. Following the plenary session, three group sessions were formed to deepen discussions over the next two days, focusing on amending and validating decisions and declarations. These were: group (1) Biodiversity and all other issues on the agenda; group (2) Plastic pollution, chemicals and waste management; and group (3) Climate change. The decisions resulting from these 2 days were submitted to the African Environment Ministers on Thursday August 17th for final validation. The final day saw the re-election of the 4 Vice Presidents, one from each African region: Northern, Western, Central and Southern. One of the highlights was the nomination of Dr Fistum Assefa, the new AMCEN President, Ethiopia's Minister of the Environment from Eastern Africa, and the designation of Mauritania as the host country for the next AMCEN meeting.

I found attending some of the Side events on current projects, such as "the waste pollution", "the great green wall initiative", and others, were associated with the AMCEN group sessions particularly insightful as the science underpinning these projects may be of interest to ANGA/IGAC community and converge towards ANGA's objectives.

I was given the opportunity to present on ANGA to the delegates on Tuesday afternoon, as part of the 3rd working group on Climate Change. The discussions that followed demonstrated the interest of members of organizations such as Practical ACTION, the International Institute for Sustainable Development and the Global Environment

Facility, to whom I gave further details of ANGA's missions. I also held discussions with the delegates to inform them what ANGA does during the conference breaks. I accompanied Dr Andriannah Mbandi to present the report "Integrated Assessment of Air Pollution and Climate Change for Sustainable Development in Africa" to the delegates and explained the important role that ANGA played in the production of this assessment. ANGA was involved in the preparation of the assessment with a strong engagement of the community throughout the process including the recruitment of contributing authors, lead authors and reviewers. ANGA played an important role to pull together the existing expertise in Africa (modelling, atmospheric science, energy, engineering, etc.) to support assessment, which led the roadmap to the development of Africa considering climate change and air pollution. ANGA as a Pan-African community aims to be a partner and interlocuter for decision-makers and individual countries who wish to use and integrate the assessment results implementing in the different African countries. I wish to thank SEI Africa and UNEP for facilitating and giving me the opportunity to contribute as an author. A copy of the assessment report was symbolically shared with the delegates from Kenya, Côte d'Ivoire, ECOWAS and WHO Afro, the report is now available online ([link here](#)). It is important for policy makers in African countries and through the African Union to ramp up support for atmospheric science research across the continent.

The conference was a new experience for me as it helped me to understand how negotiations work when decisions have to be made. As well as being ANGA's representative, I also interacted with the Côte d'Ivoire delegation to understand the issues at stake in the decisions taken, to remind them of all the actions carried out by ANGA and on what ANGA could bring by collaborating with policy-makers. I'm delighted to have brought ANGA's voice to this conference. It was a great opportunity to promote ANGA's actions to a wider audience that included government ministers, expert groups and researchers. I would like to thank IGAC for funding my travel. 



NCAR Summer Colloquium

Integrating atmospheric and social approaches to improve urban air quality (AEROPOLIS)

NSF NCAR is inviting graduate students to apply to this summer's colloquium on Integrating atmospheric and social approaches to improve urban air quality (AEROPOLIS), which is co-organized with the AMIGO, GEIA and MAP-AQ IGAC projects.

The colloquium will take place on July 15-26 2024 at the NSF NCAR Mesa Laboratory, Boulder Colorado, USA

The NSF NCAR/ASP colloquium will include lectures covering a broad view on air pollution questions in relation with urban development. The program will integrate physical, chemical, social and policy aspects. It will also offer hands-on work for a detailed understanding of these issues in an interdisciplinary perspective.

The ASP colloquium is intended for graduate students from various disciplines such as atmospheric sciences, environmental sciences, physics, chemistry, mathematics, geography, environmental justice, political sciences, social sciences, environmental management, etc. Travel to/from Boulder, housing and meals are covered for students selected for this program.

To apply and to learn more about this colloquium please click the link below.

<https://edec.ucar.edu/advanced-study-program/asp-colloquia>

The deadline for applications is March 31st, 2024



New Seminar Series sponsored by the Americas Working Group!

The IGAC Americas Working Group invites the Latin America Atmospheric Science community to the Seminar Series for the Academic year 2023-2024. In this seminar series we will explore relevant topics such as aerosol chemistry and modeling and atmospheric sampling networks from the experience of our distinguished guests. This seminar series is aiming to foster scientific collaborations.

For more information on upcoming seminars see [here](#).



CATCH Seminar Series

Monthly virtual seminars on CATCH-science related topics

For more information, see [here](#).



Early Career Researchers

Stay informed on early career specific resources, activities and opportunities! Led by newly-formed iCACGP-IGAC Early Career Scientific Steering Committee

Website located [here](#).

Stay Informed on IGAC Activity and Working Group Events and Opportunities!

Many IGAC working groups and activities have their own mailing lists. Please see these links to sign up for working group and activity mailing lists of interest:

Information on all IGAC Activities [here](#)

Information on all IGAC Working Groups [here](#)

Allin Wayra (small sensors): Sign up [here](#)

CATCH (the Cryosphere and ATmospheric Chemistry): Sign up [here](#)

ANGA (AfricaN Group on Atmospheric Sciences): Sign up [here](#)

GEIA (Global Emissions InitiAtive): Sign up [here](#)

AMIGO (Analysis of eMIssions usinG Observations): Sign up [here](#)

BBURNED (Biomass Burning Uncertainty: ReactionS, Emissions and Dynamics): Sign up [here](#)

TOAR-II (Tropospheric Ozone Assessment Report, Phase II): Sign up [here](#)

Southern Hemisphere: To join the emailing list, please send a message (contents not important) to

igac-southern-hemisphere-working-group+subscribe@googlegroups.com



Future Earth New Member Portal is Now Available!

We are excited to announce that the redesigned member portal has been launched! The member portal has been revitalized in consultation with our community to better engage and empower the dynamic international networks of Future Earth.

In the portal, you can share news about your activities, join groups of your interest, connect with sustainability professionals worldwide through the member directory, and access various resources such as the job/funding opportunities board, the events calendar, and the media center. **Explore the member portal** to better connect with our vibrant community!

Join the ALACEA Network!

We are excited to invite you to join the recently established Latin American and Caribbean Association for Aerosol Studies (ALACEA). Our mission is to unite and amplify the regional aerosol community's voice, enhancing collaboration across the community. ALACEA aims to create a vibrant network of scientists, engineers, students, and people dedicated to the various physical and chemical aspects of aerosol particles, including their emission sources, interactions with gases, clouds, precipitation, and their significant impact on health and the planet's radiative balance and climate.

With over 150 members from across the Latin American and Caribbean (LAC) region and beyond, ALACEA is rapidly growing in most LAC countries region and diaspora globally.

We are eager to collaborate with other national, regional, and global associations, building upon existing relationships and forming new ones to collectively benefit our communities.

For more information, do not hesitate to reach out to Dr. Luis A. Ladino, current President of ALACEA, luis.ladino@atmosfera.unam.mx. Discover more **about us** and become part of ALACEA by registering **here**.

IGAC Sponsored/Endorsed Events

Americas Working Group Seminar Series

Virtually Everywhere
Second Thursday of each
month,
11 am PST
For more information, see
[here](#)

Aeropolis Summer Colloquium

For Graduate Students
NSF NCAR/ASP Sponsored
July 15-26 2024
Boulder Colorado, USA
More information [here](#)
*Applications due 31 March
2024*

The iCACGP-IGAC 2024 Conference

Kuala Lumpur, Malaysia and
virtually everywhere
9-13 September 2024
More information [here](#)
Abstracts open [here](#)
(requires sign-in to Oxford
Abstracts)
Abstracts due 30 April
2024

IGAC 2024 Early Career Short Course

Kuala Lumpur, Malaysia
6-8 September 2024
Applications open [here](#),
due
30 April 2024
Travel grants included
More information [here](#)



IGAC Related Events and Opportunities

To have your IGAC-related event included on an IGAC bulletin or on the IGAC website, please email info@igacproject.org or fill in the form [here](#).

ESWN

Earth Science Women's Network
Events Calendar [here](#)

Spring EGU 2024 Meeting

14-10 April 2024
Vienna, Austria and online
everywhere
Abstract submission open now!
For more information, see [here](#)

Health Effects Institute Annual Conference

28-30 April 2024
Philadelphia, PA USA
More information [here](#)

Air Sensor International Conference

30 April - 3 May 2024
Riverside, CA USA
More information [here](#)

TRENDS2024

12th International Workshop on Long-Term Changes and Trends in the Atmosphere
6-10 May 2024
Ourense, Spain
Abstracts due 1 March 2024
More information [here](#)

ACTRIS Science Conference 2024

13-16 May 2024
Rennes, France
More information [here](#)

20th International Workshop on Greenhouse Gas Measurements from Space

29-31 May 2024
Boulder, CO
More information [here](#)

Air Pollution Conference Brazil

Modeling Training
1-4 June 2024
Conference
5-7 June 2024
São Paulo, Brazil
Abstract submissions due 15 January
2024!
For more information, see [here](#)

NASA HAQAST Public Meeting

4-5 June 2024
Boston, MA USA
For more information, see [here](#)

Sustainability Research + Innovation Congress

10-14 June 2024
Helsinki, Finland and online
everywhere
Session proposal submissions
due 30 November 2023
For more information, see [here](#)

ESA Atmos Conference 2024

1-5 July 2024
Bologna, Italy
More information [here](#)

45th COSPAR Scientific Assembly

13-21 July 2024
Busan, South Korea
More information [here](#)

2024 Quadrennial Ozone Symposium

15-19 July 2024
Boulder, CO and online everywhere
For more information, see [here](#)

International Society of Exposure Science

20-24 October 2024
Montreal, Canada
For more information, see [here](#)

American Association for Aerosol Research Annual Conference

21-25 October 2024
Albuquerque, NM
More information to come

Fall AGU 2024 Meeting

9-13 December 2024
Washington, DC
More information to come

JOB Announcements

The below list contains options on where to look for job announcements and where to post vacant jobs. IGAC does not post individual job announcements in its eBulletins and encourages the community to use already existing platforms.

- Jobs in Atmospheric Chemistry and Aerosols [@AtmChemAeroJobs](#) and [#AtmChemAeroJobs](#).
- Earth Sciences Job **Email List**.
- International academic jobs at jobs.ac.uk.
- Future Earth Job **Announcements**.
- Earth Works Jobs List
- AGU Atmospheric Sciences **Resources page**.



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Events
*monthly in
IGAC eBulletins
and on
igacproject.org*

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IGAC mailing list sign up form

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