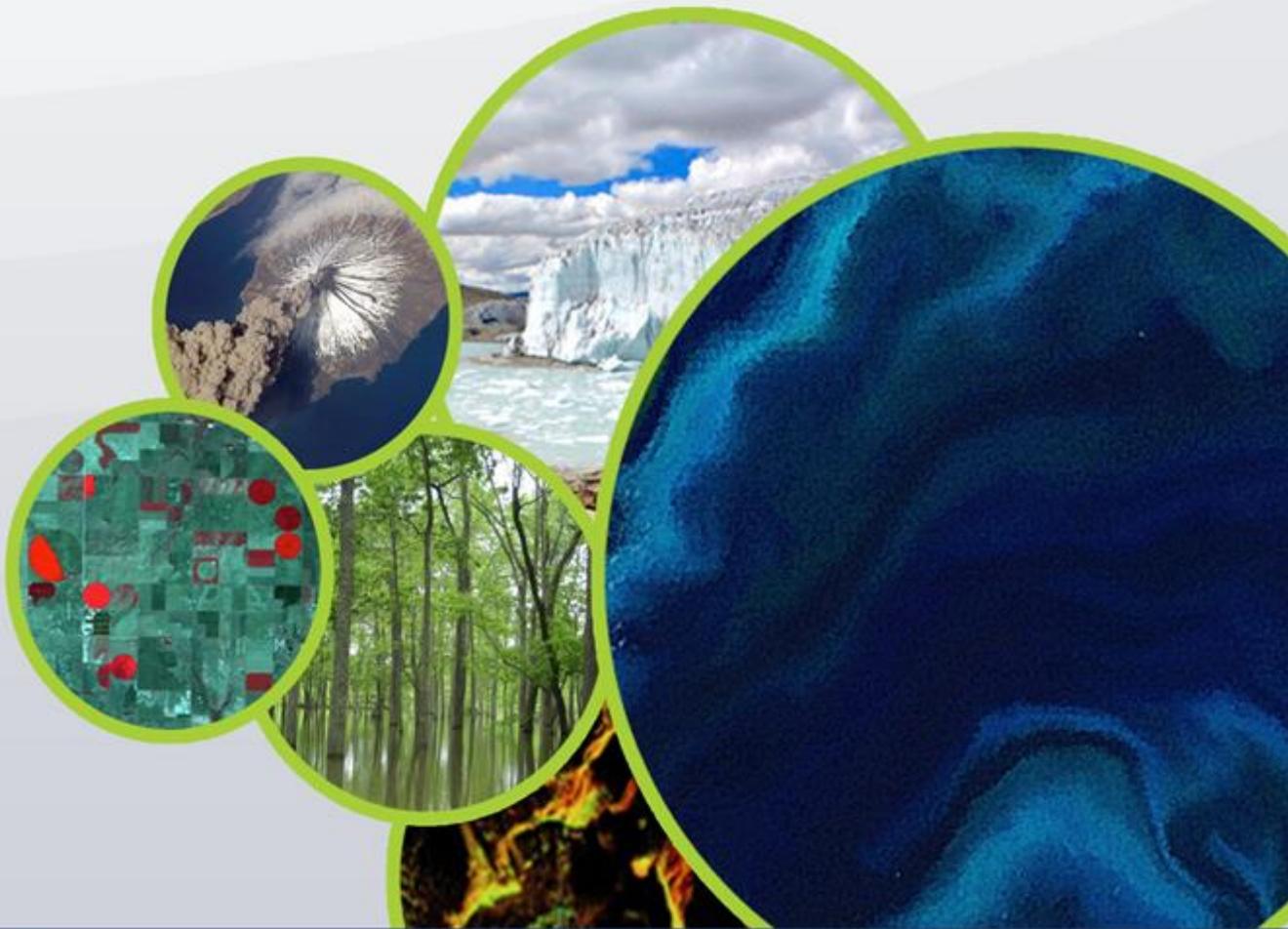




Committee on Earth Observation Satellites



Atmospheric Composition Virtual Constellation (AC-VC)
Working Group on Calibration and Validation / Atmospheric Composition SG (WGCV ACSG)

CEOS AC-VC-19 / ACSG Joint Meeting 2023

Brussels, Belgium / Hybrid
October 24 to 27, 2023

Agenda and technical guidelines

Version 0.2, 6 October 2023

CEOS AC-VC-19 / ACSG Joint Meeting 2023

Brussels, October 24-27, 2023

After three years of virtual events, the CEOS Atmospheric Composition Virtual Constellation (AC-VC) and the Atmospheric Composition Sub Group of the CEOS Working Group on Calibration and Validation (WGCV ACSG) organize a joint meeting on October 24-27, 2023.

This meeting will be hosted by the Royal Belgian Institute for Space Aeronomy (BIRA-IASB) and the Belgian Federal Public Planning Service Science Policy (BELSPO) at the Royal Belgian Institute of Natural Sciences (RBINS) in Brussels, Belgium.

Please visit the event website for further details and for registration: <https://events.spacepole.be/event/126>
Registration deadline for on-site participation is October 12, 2023.

Hybrid Set-up

A hybrid set-up will allow remote participation. Presenters having announced their remote participation are identified in the agenda by an asterisk (*). All presenters are requested to upload their presentation the week before the meeting. File transfer and dial-in guidelines will be provided one week before the meeting. After the meeting presentation material will be archived publicly on the [CEOS website](#). Presenters who DO NOT want their presentation to be shared publicly must inform the session chairs within one week after the event.

Please read the applicable hybrid meeting protocol at the end of this document to ensure smooth progress of the meeting.

Agenda (all times given in CEST / UTC+2)

Tuesday 24 October 2023		
08:30 CEST	Opening and logistics	N. Kalb, J.-C. Lambert
08:30 – 08:40	Tu-01 - Welcome by BELSPO	J.-C. Schyns (BELSPO)
08:40 – 08:50	Tu-02 - Welcome by BIRA-IASB	M. De Mazière (BIRA-IASB)*
GREENHOUSE GASES		
Chair: J. Worden (JPL) and Y. Meijer (ESA). Rapporteur: TBD		
08:50 – 08:55	Tu-03 GHG session welcome and introduction	J. Worden (JPL/Caltech)
08:55 – 09:05	Tu-04 GHG Constellation overview / gaps & concerns / items of interest	Y. Meijer (ESA/ESTEC)
Updates on Current Missions - Chair: Y. Meijer (ESA)		
09:05 – 10:00	Tu-05 - The GOSAT-GW mission: Updates on the GHG and NO ₂ observing capabilities	H. Tanimoto (NIES)
5-6 min. each	Tu-06 - Role of the Orbiting Carbon Observatory missions (OCO-2 and OCO-3) towards an integrated global greenhouse gas monitoring system	A. Chatterjee (JPL/Caltech)

	Tu-07 - Status of CO2M mission	Y. Meijer (ESA/ESTEC)
	Tu-08 - Status and Development of China's greenhouse gas monitoring satellite missions	Y. Liu (IAP/CAS)
	Tu-09 - TROPOMI CH ₄ status	I. Aben (SRON)
	Tu-10 - GEOCARB Status	S. Crowell (NASA/GSFC)
	Tu-11 - GOSAT Science team activities	R. Imasu (NIES)
	Tu-12 - NarSha Project: The First Korean Near Real-time Methane Monitoring Microsatellite Constellation Mission	J.-P. Park (Nara Space)
	Tu-13 - Current Status of the GHGSat Constellation	E. Choi (GHGSat)
09:55 – 10:05	Tu-14 - Q&A on current missions	All
Level-2 Algorithms - Chair: J. Worden (JPL/Caltech)		
10:05 – 10:12	Tu-15 - The TROPOMI CH ₄ Data Product: Current Status, Future Development, and New Mission Perspectives	J. Landgraf (SRON)
10:12 – 10:19	Tu-16 - GOSAT, GOSAT-2, and GOBLUE: 14-year global grid data and targeted mega city observations	A. Kuze (JAXA)
10:19 – 10:30	Tu-17 - Q&A: (suggestions) What are additional improvements needed in L2 algorithms / observing strategies to reduce uncertainties in CO ₂ and CH ₄ observations?	All
<i>Coffee/Tea 10:30 – 10:45</i>		
Cal/Val Status / Needs / Synergies - Chair: H. Tanimoto (NIES)		
10:45 – 11:30 6-7 min. each	Tu-18 - Update on the GHG column/profile ground-based networks	M.K. Sha (BIRA-IASB)
	Tu-19 - OCO 2/3 validation needs	A. Chatterjee (JPL/Caltech)
	Tu-20 - Status of CO2M product processing and product validation developments	R. Lang (EUMETSAT)
	Tu-21 - Vicarious calibration for GHG sensors	S. Kei (JAXA)
	Tu-22 - Ground and ship-based remote sensing observations for GOSAT validation and Japan's urban flux estimates	H. Tanimoto (NIES)
11:30 – 11:45	Tu-23 - Q&A (suggestions): What is needed to support validation of observations in interesting locations (e.g. tropics). What are current rationale for selecting validation sites and techniques?	All
CEOS GHG Activities and Stakeholder Engagement - Chair: K. Bowman (JPL/Caltech)		
11:45 – 12:00	Tu-24 - GHG Task team updates, WGC-Climate	Y. Meijer (ESA/ESTEC)
12:00 – 12:15	Tu-25 - Status of CEOS contribution to stock-take and next steps / Summary of "reporting emissions and uncertainties" workshop	J. Worden (JPL/Caltech)
12:15 – 12:30	Tu-26 - CEOS AFOLU status and evaluating with top-down emissions	B. Poulter (NASA/GSFC)*
12:30 – 12:45	Tu-27 - WMO and CEOS: role of space based observations in GGGW	O. Tarasova (WMO)
12:45 – 13:00	Tu-28 - Q&A (suggestions): How can CEOS support increase stakeholder engagement of satellite products? Is this the right distribution of CEOS priorities?	All
<i>Lunch 13:00 – 14:00 (hosted)</i>		
Operationalizing top-down emissions estimation and reporting from satellite missions - Chair: D. Varon (Harvard)		
14:00 – 14:08	Tu-29 - NOAA observations relevant to quantifying fire emissions.	S. Kondragunta (NOAA)

14:08 – 14:16	Tu-30 - Detecting large methane point sources with the US Geostationary Operational Environmental Satellites (GOES)	D. Varon (Harvard)
14:16 – 14:24	Tu-31 - Integrating methane satellite observations at different scales.	B. Maasackers (Harvard)
14:24 – 14:32	Tu-32 - Improved tracking of recent changes in CO ₂ and CH ₄ from NASA's quasi-operational modeling systems: contributions to the U.S. GHG Center contributions and future observational needs	S. Crowell (NASA/GSFC)
14:32 – 14:40	Tu-33 - Top down estimates for GHG Center	K. Bowman (JPL/Caltech)
14:40 – 14:48	Tu-34 - A framework towards satellite-derived methane emissions product standards	P. Green (NPL)*
14:48 – 14:56	Tu-35 - CAMS	R. Engelen (ECMWF)
14:56 – 15:04	Tu-36 - Prototyping the USA GHG Center	A. Kavvada (NASA HQ)
15:04 – 15:30	Tu-37 - Q&A (suggestions): What is optimal role for CEOS in supporting top-down emissions reporting? What are possible steps to increase engagement with Global Stock-take with satellite GHG products?	All
Coffee/Tea 15:30 – 15:45		
Remote Only Session - Chair: E. Choi (GHGSat)		
15:45 – 16:40 6 min. each	Tu-38 - Future of OCO-2 MIP and CEOS top-down CO ₂ budget	B. Byrne (JPL/Caltech)*
	Tu-39 - Update on MethaneSat	D. Crisp (Crisp Spectra LLC)*
	Tu-40 - Greenhouse Gas and Air Quality Observations from the Arctic Observing Mission (AOM)	R. Nassar (ECCC)*
	Tu-41 - Outstanding issues in satellite-based CO ₂ and CH ₄ retrievals	C. O'Dell*
	Tu-42 - TCCON status	D. Wunch (JPL/Caltech)*
	Tu-43 - Standards for methane point source detection and attribution	D. Cusworth (Carbon Mapper)*
	Tu-44 - Characterizing large methane and CO ₂ emissions from space with EMIT: U.S. Greenhouse Gas Center contributions and future needs	A. Thorpe (JPL/Caltech)*
	Tu-45 - Status and plans for EMIT mission and contributions to measurement of 100s of methane and carbon dioxide point source emitters across six continents for the US GHG Center.	R. Greene (JPL/Caltech)*
	Tu-46 - CEOS support of IMEO objective	C. Randles (UNEP)*
16:40 – 17:00	Tu-47 - Q&A: This session is heavily attended by facility scale / New Space observation talks. Suggestions for Q&A: What is needed for New Space missions to support science and policy with their data, e.g. ATBD, evaluation of reported products? How can CEOS best support L1 through L4 activities of New Space operations? Is there such a thing as “no false positive” or should we move to a graded reporting system for emissions?	All
Wrap-up - Chairs: Y. Meijer (ESA) and J. Worden (JPL/Caltech)		
17:00 – 17:30	Tu-48 - Emerging issues / concerns from meeting. Define agenda for Friday meeting on international collaborations. Wrap-up Monday session	All
17:30 Adjourn for the day		

* Remote participation

Wednesday 25 October 2023

TRACE GASES AND AEROSOLS AIR QUALITY

Chairs: S. Kondragunta (NOAA) and B. Veihelmann (ESA). Rapporteur: M. Cheeseman (NOAA)

09:00 CEST	Introduction / Goals	S. Kondragunta (NOAA), B. Veihelmann (ESA)
Updates on Current Missions		
09:05 – 09:15	We-01 - TEMPO (General Updates)	B. Lefer (NASA)
09:15 – 09:40	We-02 - TEMPO (Science Updates)	X. Liu (SAO)*
09:40 – 09:55	We-03 - GEMS	J. Kim (Yonsei University)*
09:55 – 10:10	We-04 - S5P TROPOMI	C. Zehner (ESA), P. Veeffkind/H. Eskes (KNMI) [TBC]
10:10 – 10:25	We-05 - MetOp/JPSS IR Sensor	C. Clerbaux (LATMOS/IPSL)
<i>Coffee/Tea 10:25 – 10:40</i>		
Updates on Future Missions		
10:40 - 10:50	We-06 - GeoXO	S. Kondragunta (NOAA)
10:50 - 11:00	We-07 - Sentinel -4 and Sentinel-5 update from ESA	B. Veihelmann (ESA)
11:00 - 11:10	We-08 - Sentinel-4 and Sentinel-5 update from EUMETSAT	R. Lindstrot (EUMETSAT)
11:10 - 11:20	We-09 - CSA SCISAT	M. Demerick (CSA) [TBC]
11:20 - 11:30	We-10 - AOS	P. Castellanos (NASA/GSFC)
11:30 - 11:40	We-11 - MAIA	D. Diner (JPL/Caltech)*
11:40 - 11:50	We-12 - PACE	A. Lyapustin (NASA/GSFC)
Cal/Val Synergies		
11:50 - 12:00	We-13 - Sentinel-5P TROPOMI	A. Dehn (ESA)
12:00 - 12:10	We-14 - GEMS	M. Kang (EWha University)
12:10 - 12:20	We-15 - TEMPO	J. Szykman (EPA)/L. Valin (EPA)/L. Judd (NASA)*
12:20 - 12:30	We-16 - Pandora PGN	A. Cede (LuftBlick)
12:30 - 12:40	We-17 - ASIA-AQ	J. Crawford (NASA)*
12:40 - 12:50	We-18 - AEROMMA TEMPO validation update	O. Cooper/B. McDonald (NOAA)
12:50 - 13:00	We-19 - PEGASOS project	R. Lutz (DLR)
<i>Lunch 13:00 – 14:00 (hosted)</i>		
Aerosols		
14:00 - 14:20	We-20 - PM2.5 WP Recommendations and Roadmap	B. Veihelmann (ESA) and S. Kondragunta (NOAA)
14:20 - 14:40	We-21 - Use case 1: EPA AirNow	B. Henderson and P. Dickerson (EPA)*
14:40 - 15:00	We-22 - Use case 2: CAMS	J. Fleming (ECMWF)

15:00 - 15:30	We-23 - Roadmap discussion	All (<i>hybrid</i>)
Coffee/Tea 15:30 – 15:45		
TEMPO Aerosol Products		
15:45 - 16:00	We-24 - NOAA Plans - Near Real Time AOD	H. Zhang (NOAA)
16:00 - 16:15	We-25 - NOAA Plans - Near Real Time Aerosol Index/Aerosol Detection	P. Ciren (NOAA)
16:15 - 16:45	We-26 - Panel discussion on Aerosol Layer Height	O. Torres (NASA), V. Natraj (JPL), J. Wang (U Iowa), S. Kondragunta (NOAA), J. Kim (Yonsei)*, M. de Graaf (KNMI)
16:45 - 17:00	Wrap-up Wednesday session	All (<i>hybrid</i>)
17:00	Logistics for the evening and beyond	N. Kalb
17:00 Adjourn for the day		
17:15 Guided tour of the museum of the Royal Belgian Institute of Natural Sciences (in groups)		
18:30 Walking diner hosted by BELSPO and BIRA-IASB in the museum		

* Remote participation

Thursday 26 October 2023		
CAL/VAL FOR THE CONSTELLATIONS		
Chair: J.-C. Lambert (BIRA-IASB). Rapporteur: Ben Veihelmann (ESA)		
General Cal/Val		
09:00 CEST	Th-01 - Introduction / Goals	J.-C. Lambert (BIRA-IASB)
09:05 - 09:25	Th-02 - CEOS Working Group on Calibration and Validation	A. Kuze (JAXA)*
09:25 - 09:40	Th-03 - CEOS-FRM Maturity Assessment Framework	N. Fox (NPL)*
09:40 - 10:00	Th-04 - Cal/Val for Atmospheric Composition	J.-C. Lambert (BIRA-IASB)
10:00 - 10:15	Th-05 - Validation protocol for cloud and aerosol profiles	R. Koopman (ESA/ESTEC)*
10:15 - 10:30	Th-06 - GHG Cal/Val with outlook to Copernicus Contributing Missions	A. Dehn (ESA/ESRIN)
Coffee/Tea 10:30 – 11:00		
Level-1b Calibration Needs for Aerosol Retrievals - Chair S. Kondragunta (NOAA)		
11:00 - 11:15	Th-07 - Imagers	C. Cao (NOAA)
11:15 - 11:30	Th-08 - Spectrometers	D. Flittner (NASA)*
11:30 - 11:45	Th-09 - GSICS perspective	L. Flynn (NOAA)*
Cal/Val Needs for the Constellations		
11:45 - 12:00	Th-10 – SI-Traceable Satellites (SITSats)	M. Thankappan (Geoscience Australia)*

12:00 – 13:00	Th-11 - Panel review of Cal/Val needs for the AER, GEO-AQ and GHG constellations. Discussion on the way forward (suggestions): need for framework documents, Cal/Val protocols, task teams, field activities...? General Q&A Wrap-up	S. Kondragunta (NOAA), J.-C. Lambert (BIRA-IASB), B. Lefer (NASA), B. Veihelmann (ESA), J. Worden (JPL)
<i>Lunch 13:00 – 14:00 (hosted)</i>		
OZONE		
Chair: D. Loyola (DLR) and J.-C. Lambert (BIRA-IASB). Rapporteur: D. Hubert (BIRA-IASB)		
Tropospheric Ozone Validation		
14:00 CEST	Introduction / Goals	D. Loyola (DLR), J.-C. Lambert (BIRA-IASB)
14:05 - 14:25	Th-12 - Harmonization of tropospheric ozone data records from satellites	A. Keppens (BIRA-IASB)
14:25 - 14:40	Th-13 - Homogenized ground-based column and profile ozone datasets from TOAR-II/HEGIFTOM: methods and station trends	R. Van Malderen (RMIB)
14:40 - 14:55	Th-14 - Intercomparison and geophysical analysis of harmonised satellite tropospheric ozone CDRs	D. Hubert (BIRA-IASB)
14:55 - 15:10	Th-15 - Southern Hemisphere Additional Ozonesondes (SHADOZ) Network, Data Quality Assurance, and Trends Updates	R. Stauffer (NASA/GSFC)*
Tropospheric Ozone Products		
15:10 - 15:30	Th-16 - GOME-Type tropical tropospheric ozone and S5P-BASCOE tropospheric ozone	K.-P. Heue (TUM/DLR)
<i>Coffee/Tea 15:30 – 15:45</i>		
15:45 - 16:05	Th-17 - NASA tropospheric ozone from EPIC, OMI, and OMPS satellite measurements: Current status and science results	J. Ziemke (NASA/GSFC)*
Tropospheric Ozone Trends		
16:05 - 16:25	Th-18 - An update on global tropospheric ozone trends and the impact of COVID-19	O. Cooper (NOAA CSL/CIRES)
16:25 - 16:45	Th-19 - Challenges of detecting free tropospheric ozone trends in a sparsely sampled environment	K.-L. Chang (NOAA CSL/CIRES), presented by O. Cooper
Updates on Limb Missions		
16:45 - 17:00	Th-20 - OMPS-LP	N. Kramarova (NASA)
17:00 - 17:15	Th-21 - OMS-L	Y. Li (NSMC/CMA)
17:15 - 17:30	Th-22 - ALTIUS	E. Dekemper (BIRA-IASB)
17:30 Adjourn for the day		

* Remote participation

Friday 27 October 2023

SPECIAL TOPICS

Chairs: B. Lefer (NASA) and E. Knowland (NASA). Rapporteur: M. Cheeseman (NOAA)

Data Assimilation

09:00 CEST	Introduction / Goals	B. Lefer (NASA)
09:05 - 09:25	Fr-01 - NASA GMAO DA activities	S. Pawson (NASA)
09:25 - 09:45	Fr-02 - NASA Aerosol DA activities	P. Castellanos (NASA/GSFC)
09:45 - 10:05	Fr-03 - NASA Composition Forecast System	E. Knowland (NASA/GSFC)
10:05 - 10:25	Fr-04 - TEMPO DA activities	J. Barre (JCSDA)*
10:25 - 10:45	Fr-05 - CAMS DA	A. Innes/R. Engelen (ECMWF)*

Coffee/Tea 10:45 – 11:00

Link with Policy

11:00 - 11:15	Fr-06 - Can satellite data drive public policy for fine particulate pollution?	S. Kondragunta and M. Cheeseman (NOAA)
11:15 - 11:30	Fr-07 - Reducing climate forcing uncertainty	R. Kahn (NASA)*
11:30 - 11:45	Fr-08 - PACE NO ₂ retrievals	J. Joiner (NASA)*
11:45 - 12:00	Fr-09 - MEASMA - Middle East and Africa contribution to the GEO-RING	O. Emam (INTOSPASS)

CONCLUSION

Chairs: B. Lefer (NASA), H. Tanimoto (NIES), B. Veihelmann (ESA). Rapporteur: M. Cheeseman (NOAA)

12:00 – 12:40	Emerging AC-VC topics	All (<i>hybrid</i>)
12:40 – 13:00	Wrap-up and reflections on AC-VC activities Next AC-VC meeting Concluding remarks	All (<i>hybrid</i>)

13:00 Adjourn of AC-VC-19 / ACSG Joint Meeting 2023

* Remote participation

Hybrid Meeting Protocol

Dialling In

The hybrid meeting set-up will use the *Zoom* communication platform. The meeting connection will be started 15 minutes before the scheduled start time each day. If you are not familiar with *Zoom*, please connect early to resolve potential technical issues. In particular, all speakers are encouraged to connect early.

The local host and CEOS leadership team will do their best to help you resolve any issues, but please bear in mind that diagnosing technical issues that may be at your end, or that may involve third party software or network providers, may simply not be possible and the meeting will need to proceed.

Name Yourself

For efficient use of time during questions and discussions, please name yourself accurately when joining the meeting, using the convention:

Given_name Family_name (organization_acronym)

For example:

Barry Lefer (NASA)

Ben Veihelmann (ESA)

Hiroshi Tanimoto (NIES)

If you have previously used *Zoom*, it may not prompt for your name but instead may automatically fill your name using your existing profile. In this case, simply find yourself in the ‘participants’ window, right click on yourself, and you will see an option to change your screen name.

If you connect by phone, please join the meeting first, receive your unique audio PIN code, and then enter this unique audio PIN code so that your name is associated with your phone number. Otherwise we will not be able to identify you during discussion and question times.

Video and Cameras

To keep bandwidth requirements low, video will be used very sparingly. In general, please do not share your camera. Session chairs will share their cameras during session introductions. Speakers are encouraged to share their cameras during their presentations if they are comfortable doing so. If you are a speaker and wish to share, please also test your camera setup during the 15-min pre-meeting time on the day of your presentation.

Audio Controls and Quality

Zoom allows you to connect either by computer or by phone. All participants, excluding the session chairs, will be muted by default. All participants are asked to mute their lines unless they are asked to speak. If the line is noisy during the call, all callers will again be muted.

All participants should stay muted unless invited to speak, in accordance with the below protocols.

We recommend using individual headsets to participate in the meeting. This will provide you, and other participants, with the clearest voice quality and the least noise.

Note: if a presenter experiences major degradation of sound quality, they will be muted by the leadership team, and the meeting will move on. Time permitting, the speaker will be invited to complete their presentation afterward if sound quality has been recovered.

Session Management

The chat window will be used by remote participants to ask questions and to request permission to speak during discussion periods. A member of the leadership team will continuously monitor the chat window. You may type questions in the chat, or simply raise your hand by typing “I would like to ask a question” or “I would like to comment.” As time permits, at the end of each talk or during the session discussion periods, the chat monitor will invite participants who have raised their hands to unmute themselves and speak one at a time. If you have named yourself accurately when connecting, there will be no need to spend time identifying or introducing yourself, since everyone will already know who is speaking.

Only those remote participants invited to speak should unmute and speak. A smooth process will ensure the maximum number of people get the chance to intervene, with less ‘talking across’ and ‘interrupting’ as people attempt to intervene.

Commenting

It is also perfectly appropriate to submit a comment in the chat window, without requesting to speak. Such comments will be visible to other attendees and may inform their thinking.

The leadership team may also wish to highlight some of these comments by reading them out to the participants. They may also wish to call on the commenter to intervene; all participants should be ready to ‘unmute’ in this scenario.

Presenting

Presentations must be provided in advance of the meeting, in accordance with the instructions provided individually by e-mail and below.

For time efficiency, all presentations will be shown from the session chair’s computer. Speakers will simply say “next slide” to cue the session chair to advance the slide. With this in mind, please avoid slides with additional click-through elements or animations as much as possible.

Timekeeping

Due to the global time constraints of the meeting, the leadership team will ensure sessions keep to time.

The session chair will audibly announce “one minute” when there is 1 minute of allocated time remaining. Presenters should then begin wrapping up immediately.

At the end of the allocated time, and subject to the session chair’s discretion, the speaker may be given a few additional seconds to conclude their remarks, after which the speaker will be muted by the session chair and the meeting will proceed to the next agenda item. Thank you for your understanding.

Call Recording

The meeting will not be recorded. The chat logs will be saved and used to prepare meeting minutes.

Upload Presentations and Material

All presenters are asked to upload presentation (and background material that may be linked to speed talks for off-line viewing) by Sunday 22 October 2023 CEST. A link to the conference shared drive will be provided the week before the meeting. Please upload your presentations and material to the shared drive in the folder corresponding to your session.

In case you cannot access this drive, please email your material to the session chairs.

Please name the presentations using the convention:

Talk-ID_Last-Name_keyword_version-number.pptx (or *.pdf* as appropriate)

taking the Talk-ID from the attached meeting agenda.

For example:

We-01_Lefer_TEMPO_v1.pptx for the first talk of Wednesday.

For background material please apply the same naming convention and append 'background' (such that presented material and background material are unambiguously linked).

For example:

We-01_Lefer_TEMPO_background_v1.pptx for background material associated with the first talk of Wednesday.

Please note that Speed Talks of 5-6 min are limited to 3-4 single slides. You are encouraged to refer to background material for off-line viewing.

Access Documents and Presentations

You can access the latest agenda on the event website <https://events.spacepole.be/event/126/>

After the meeting, presentations and documents will be archived publicly on <https://ceos.org/meetings/ac-vc-19-acsg-joint-meeting-2023/>

Presenters who DO NOT wish their presentation to be available publicly should mention it to the leadership not later than one week after the event.

Questions

Should you have any questions, please contact the meeting hosts and leadership team by email:

- [Nathalie Kalb](#) (BIRA-IASB), Meeting host
- [Jean-Christopher Lambert](#) (BIRA-IASB), ACSG Chair, Meeting host
- [Michel Van Roozendaal](#) (BIRA-IASB), Meeting host

- [Barry Lefer](#) (NASA), AC-VC Co-chair
- [Hiroshi Tanimoto](#) (NIES), AC-VC Co-chair
- [Ben Veihelmann](#) (ESA), AC-VC Co-chair

- [Shobha Kondragunta](#) (NOAA), AC-VC Aerosol Air Quality Lead
- [Diego Loyola](#) (DLR), AC-VC Ozone Lead
- [John R. Worden](#) (CalTech/NASA-JPL), AC-VC Greenhouse Gas Lead