

## Agenda

### CEOS Atmospheric Composition Virtual Constellation AC-VC-18 March 14 - 18 (Monday-Friday), 2022

The sessions are planned to start at 13:00 UTC daily.

The sessions will take about 2 hours 30 minutes. The absolute times in the current draft agenda are indicative only and may still change.

time (UTC)	ID	Title	Chair/speaker	Duration (min)
		<b>Monday, March 14</b>		
13:00		Welcome, opening, meeting goals, meeting setup		15
		<b>Greenhouse Gas Session</b>	<b>Chair: John Worden (JPL)</b>	
13:15	1.01	Introduction / goals	John Worden	3
13:18		Use of CEOS data to inform emissions inventories and policy		
13:18	1.02	COCO2	Richard Engelen (ECMWF)	8
13:26	1.03	Interagency efforts to quantify emissions	Arlyn Andrews (NOAA) and Ben Poulter (GSFC)	8
13:34	1.04	Use of space based observations to inform inventories	Mellisa Weitz (EPA)	8
13:42	1.05	Overview of IMEO	Steve Hamburg (IMEO / EDF)	8
13:50	1.06	Update on CEOS contribution to stock take	Brendan Byrne and John Worden (JPL)	8
13:58	1.07	Discussion (some ideas): 1) Approaches for engaging policy and inventory community, 2) next steps for use in CEOS data for quantifying emissions and going beyond demonstration/science studies, 3) challenges in using CEOS data for emissions (e.g. heterogeneity of sensitivity, top-down uncertainties, different spatial scales, mismatch between priors and observed enhancements)	All	10
14:08		Mission Updates		
14:08	1.08	OCO-2/3	Abhishek Chaterjee (JPL)	3
14:11	1.09	GEOCARB	Berrien Moore (U. Oklahoma)	3
14:14	1.11	TROPOMI	Claus Zehner (ESA)	3
14:17	1.12	GOSAT-GW	Hiroshi Tanimoto (NIES)	3
14:20	1.13	MERLIN	Sabrina Arnold (DLR)	3
14:23	1.14	MERLIN / Microcarb / IASI	Carole Deniel (CNES)	3
14:26	1.15	CO2M	Yasjka Meijer (ESA)	3
14:29	1.16	Carbon Mapper	Dan Cusworth / Riley Duren (U. Arizona)	3

14:32	1.17	MethaneSat	Jonathan Franklin (Harvard)	3
14:35	1.18	Localized CO2 emissions with DLR CO2image	Anke Roiger (DLR) / André Butz (U. Heidelberg)	3
14:38	1.19	GHG SAT	Eric Choi (GHGSAT)	3
14:41	1.20	Future Chinese GHGs satellite missions	Yi Liu (CAS)	3
14:44		Approaches for increasing information content of GHG data and emissions estimates		
14:44	1.21	Tip and Q with TROPOMI and high spatial resolution CH4 satellites	Ilse Aben (SRON)	3
14:47	1.22	Information content of CO2 fluxes from OCO-2 and CO2M	Junjie Liu (JPL)	3
14:50	1.23	Fossil CO2 from AQ Emissions	Kazu Miyazaki (JPL)	3
14:53	1.24	GOSAT Lower Tropospheric CO2	Kei Shiomi (JAXA)	3
14:56	1.25	Improvements to CO2 retrievals	Chris O'Dell / Lesslie Ott (Colorado State + GSFC)	3
14:59	1.26	TROPOMI retrievals	Alba Lorente (SRON)	3
15:02	1.27	Discussion		
15:02	1.28	Topics (some ideas): 1) Tip / Q for improved emissions estimation and attribution: Continue grass roots organization? CEOS support? 2) Cal Val needs for upcoming missions, 3) Combining area inversions from wide-field with localized estimates from imaging spectrometers, 4) Have we reached accuracy goals in CO2 and CH4? If not what is needed? 5) Is model /transport error still a limiting factor in quantifying emissions? What can be done to reduce error or mitigate its impact? 6)What is role of emissions "mis-placement" in quantifying localized and area emissions?	All	30
15:32		End of Session		

time (UTC)	ID	Title	Chair/speaker	Duration (min)
		<b>Tuesday, March 15</b>		
		<b>Air Quality Aerosol Session</b>	<b>Chairs: Shobha Kondragunta (NOAA), Ben Veihelmann (ESA)</b>	
13:00	2.01	Introduction / goals	Co-chairs	5
13:05		PM2.5 presentations		
13:05	2.02	GOES AOD based surface PM2.5 for AirNow	Barron Henderson and Phil Dickerson (EPA)	15
13:20	2.03	GOES AOD based hourly PM2.5 monitoring during extreme fire events	Yang Liu (Emory University)	15
13:35	2.04	Hybrid approaches using AOD data assimilation for PM2.5	Sebastien Garrigues (ECMWF)/Emma Knowland (NASA-Morgan State University)	20
13:55	2.05	Challenges associated with validation and value of estimated PM2.5	Shobha Kondragunta (NOAA)	5
14:00	2.06	Aerosol Layer Height from GEMS	Jhoon Kim (Yonsei University)	15
14:15	2.07	TEMPO aerosol algorithms and products	Omar Torres (NASA)	15
14:30	2.08	Aerosol Layer Height from TEMPO - U of Iowa algorithm	Jun Wang (University of Iowa)	15
14:45	2.09	Aerosol Layer Height product from atmospheric Sentinels	Martin De Graaf (KNMI)	15
15:00		Special Topic		
15:00	2.10	AeroSat -- Bringing the international aerosol remote-sensing community together to brainstorm the way forward	Ralph Kahn (NASA GSFC)	15
15:15		Discussion		
15:15	2.11	WP Recommendations	All	30
15:45		End of Session		

time (UTC)	ID	Title	Chair/speaker	Duration (min)
		<b>Wednesday, March 16</b>		
		<b>Air Quality Trace Gases Session</b>	<b>Chairs: Ben Veihelmann (ESA), Barry Lefer (NASA), Hiroshi Tanimoto (NIES)</b>	
13:00	3.01	Introduction / goals		5
13:05		AQ as seen by Missions in Operation		
13:05	3.02	GEMS Air Quality Observations	Jeong Ah Yu (NIER)	10
13:15	3.03	S5P/TROPOMI Air Quality Observations	Claus Zehner (ESA), Pepijn Veefkind (KNMI)	10
13:25	3.04	Air quality as seen by Thermal Infrared Sensors IASI, CrIS, Mopitt	Cathy Clerbaux (LATMOS/CNRS), Dave Edwards (UCAR), Dylan Millet (UMN)	20
13:45	3.05	EMI Air Quality Observations	Cheng Liu (USTC)	10
13:55		Missions in Preparation: Lightning Talks		
13:55	3.06	TEMPO	Kelly Chance (SAO)	5
14:00	3.07	Sentinel-4/UVN and Sentinel-5/UVNS	Ben Veihelmann (ESA), Rasmus Lindstrot (EUMETSAT)	5
14:05	3.08	GEO-XO	Shobha Kondragunta (NOAA)	5
14:10		Calibration/Validation of AQ Observations		
14:10	3.09	S5P/TROPOMI AQ Products Cal/Val Status	Jean-Christopher Lambert (BIRA)	10
14:20	3.10	Pandora Asia Network for Air Quality Diagnosis and GEMS Validation	Limseok Chang (NIER)	10
14:30	3.11	GMAP2021 Campaign, MAX-DOAS and Pandora Consistency, GOSAT-GW Validation Plan	Yugo Kanaya (JAMSTEC)	10
14:40	3.12	ASIA-AQ Campaign Plans	Jim Crawford (NASA)	10
14:50	3.13	AEROMMA Campaign: Objectives for TEMPO Validation	Brian McDonald (NOAA)	10
15:00	3.14	EPA Efforts on Preparing for TEMPO Validation	Luke Valin (US EPA), Jim Szykman (US EPA)	10
15:10		Discussion		
15:10	3.15	what to do to make the satellite products more useful? issues related to assimilating AQ trace gas products into AQ forecasts multi-sensors synergy for AQ trace gas observation? exploring the relationship between AQ trace gases and GHGs and value to the Global Stocktake WGCV-atmospheric sub-group	All	20
15:30		End of Session		

time (UTC)	ID	Title	Chair/speaker	Duration (min)
		<b>Thursday, March 17</b>		
		<b>Tropospheric Ozone Session</b>	<b>Chair: Diego Loyola (DLR)</b>	
13:00	4.01	Introduction / goals		5
13:05		<b>TOAR-II</b>		
13:05	4.02	TOAR-II: General progress report and an update on satellite intercomparisons	Owen R. Cooper (NOAA) and Helen Worden (UCAR)	20
13:25	4.03	TOAR-II data portal for global measurements of ozone and its precursors	Sabine Schröder (FZ Jülich)	20
13:45		<b>Validation</b>		
13:45	4.04	Vertical harmonization of satellite tropospheric ozone data	Arno Keppens (BIRA)	15
14:00	4.05	Intercomparison of satellite tropospheric ozone CDRs	Daan Hubert (BIRA)	15
14:15	4.06	EPIC tropospheric ozone validation	Jerry Ziemke (NASA)	10
14:25	4.07	OMI tropospheric ozone validation	Juseon Bak (Pusan National University)	10
14:25	4.08	IASI/GOME-2 tropospheric ozone validation	Juan Cuesta (LISA)	10
14:35	4.09	AIRS/OMI tropospheric ozone validation	Greg Osterman (JPL)	10
14:45	4.10	CrIS/TROPOMI tropospheric ozone validation	Ed Malina (JPL)	10
14:55	4.11	EuBrewNet: ozone updated algorithm and error budget	Alberto Redondas (AEMET)	15
15:10		<b>Discussion</b>		
15:10	4.12		All	20
15:30		<b>End of Session</b>		

time (UTC)	ID	Title	Chair/speaker	Duration (min)
		<b>Friday, March 18</b>		
		<b>Special Topic Panels: Science serving society, Wrap-up, and Discussion</b>	<b>Chairs: B. Lefer, H. Tanimoto, B. Veihelmann</b>	
13:00	5.01	Introduction / goals		5
13:05		STP#1: AC observations to improve air quality forecasting		
13:05	5.02	Air quality forecasting with downscaling for Latin America, Africa, and Asia	Guy Brasseur (MPI)	10
13:15	5.03	Assimilation of satellite atmospheric composition into AQ forecasting systems	Jérôme Barré (JCSDA)	10
13:25	5.04	Making satellite atmospheric composition observations more accessible	Richard Engelen (ECMWF)	10
13:35		STP#1: Panel Discussion		
13:35	5.05		All	25
14:00		STP#2: AC observations to support our understanding of health effects of air quality		
14:00	5.06	Satellite atmospheric composition to evaluate Environmental Justice	Sally Pusede (UVa)	10
14:10	5.07	Hyper-localized measures of air pollution and risk of preterm birth	Corinne Ridell (UC-Berkeley)	10
14:20	5.08	Long-term satellite urban nitrogen dioxide and associated pediatric asthma cases	Michael Brauer (UBC)	10
14:30		STP#2: Panel Discussion		
14:30	5.09		All	25
14:55		Wrap-up of Sessions and Discussions of New Topics		
14:55		Wrap of Sessions	J. Worden, S. Kondragunta, B. Veihelmann, D. Loyola	5
15:00		What works well, what can we do better?	All	15
15:15		New topics	All	15
15:30		End of Session		