20th GEIA Conference

Towards mitigating air pollutant and greenhouse gas emissions

Goals: Advance emissions science, Determine GEIA's next steps, Draft conference summary

Wednesday June 21

8:00	9:00	Badge Pickup / Poster Setup	All attendees must have registered online by June 2				
9:00	10:00	Welcome/Introductions/Overviews (3-5 minutes each)					
		GEIA Executive Committee - Welcome to 23rd GEIA Conference. Thanks to Hosts, longtime GEIA Supporters, Scientific Steering Committee, Working Groups, Partnering Organizations, Participants. Conference Goals, Format, Town Hall	GEIA Executive Committee				
			Cathy	Leal-Liousse	CNRS	France	
			Brian	McDonald	NOAA Chemical Sciences Lab	USA	
			Claire	Granier	CNRS and NOAA/Univ. Colorado	France and USA	
			Paulette	Middleton	Panorama Pathways	USA	
		Hosts - Academy Official Welcome	Guy	Brasseur	MPI-Metorology and UCAR	Germany and USA	
		Hosts - Welcome & Logistics	Jenny	Stavrakou	Royal Belgian Institute for Space Aeronon	Belgium	
		GEIA Supporters (IGAC, NASA, NOAA, BIRA-IASB, Belgian Climate Center)	Langley	DeWitt	IGAC	USA	
			Monika	Kopacz	NOAA CPO	USA	
			Valerie	Trouet	Belgian Climate Center	Belgium	
10:00	10:30	Coffee/Tea Break					
10:30	11:45	**Theme 1. Anthropogenic and natural emissions from local to global**					
		Moderators	Johannes	Kaiser		Germany	
			Sekou	Keita	Université Peleforo Gon Coulibaly de Korhogo	Ivory Coast	
			Katerina	Sindelarova	Charles University	Czechia	
		Introduction to Theme 1					
		Oral Session 1a - Presentations (5 minutes each) Followed by Q&A Panel					
		Biogenic VOC emissions from local to global scales	Alex	Guenther	UC Irvine	USA	
		The UrbEm method to derive high-resolution emissions for urban-scale air quality modeling	Martin Otto Paul	Ramacher	Helmholtz-Zentrum Hereon	Germany	
		Review and analysis of methane emissions from oil and gas operations in 7 African countries	Sylvain	Gnamien	Felix Houphouet-Boigny University	Ivory Coast Cote d'Ivoire)	
		Oral Session 1b - Presentations (5 minutes each) Followed by Q&A Panel					
		Daily Emission Patterns of Coal-Fired Power Plants in China Based on Multisource Data Fusion	Nana	Wu	Tsinghua University	China	
		NO_x emissions from Bucharest and Berlin derived from regular airborne DOAS measurements	Alexis	Merlaud	Royal Belgian Institute for Space Aeronon	Belgium	
		The PAPILA regional emission inventory of reactive gases for South America	Nicolas	Huneeus	Centre for Climate and Resilience Research and Department of Geophysics, Universidad de Chile		
		Dust emission enhancement following major wildfires	Paul	Ginoux	NOAA GFDL	USA	
		Global emission of volcanic gases to the atmosphere during 2005-2021	Santiago	Arellano	U. Technology Gottenburg		
11:45	12:45	**Poster # Poster Session 1 - Short 30-Second Introductions Followed by Poster Review**					

1.01	INEMA: A high-resolution inventory of atmospheric emissions in Chile	Nicolas	Alamos	Research (CR)2	Chile
1.02	Ammonia emissions from feed and food production: contribution of an integrated module within a Land Surface Model and evaluation using IASI	Maureen	Beaudor	LSCE	France
1.03	Impact of Policy and Events on Road Transportation and Emissions in Paris: An Analysis using Open Data and Machine Learning	Xavier	Bonnemaizon	LSCE	France
1.04	Impact of uncertainties in CO and SO2 anthropogenic emissions on simulated tropospheric composition in the CAMS model	Idir	Bouarar	Max Planck Institute for Meteorology	Germany
1.05	Space-time disaggregation of estimated agro-industrial and urban atmospheric emissions in the Cauca River Valley (Colombia) for simulation purposes	Felipe	Cifuentes Castano	Universidad Nacional de Colombia	Colombia
1.06	Quantification of the uncertainties on surface emissions within the CORSO and CAMEO projects	Thierno	Doumbia	Laboratoire d'Aerologie, University of Toulouse, CNRS/UPS	France
1.07	Machine Learning Approach for Particulate Matter Prediction Near the Quarry Industries in South-Eastern Nigeria	Imoh Dominic	Ekpa	University of Calabar	Nigeria
1.08	Observing and modeling air pollution and source signatures across Dakar, Senegal	Aissatou	Faye	University of Virginia	USA
1.09	Multi-scale high-resolution inventory for anthropogenic atmospheric emissions	Daniel	Graca	University of Aveiro	Portugal
1.10	HTAP_v3 emission mosaic: a global effort to tackle air quality issues by quantifying global anthropogenic air pollutant sources	Diego	Guizzardi	JRC	Italy
1.11	A global anthropogenic emissions inventory of reactive gases and aerosols (1750 – 2021): an update to the Community Emissions Data System (CEDS)	Rachel	Hoesly	PNNL	USA
1.12	Developing an open, accessible and future-proof community emission model for the UK	Michael	Holloway	UK Centre for Ecology & Hydrology	UK
1.13	Requirements and new developments for the Global Fire Assimilation System (GFAS)	Johannes	Kaiser		Germany
1.14	A mosaic of emission inventories including an African anthropogenic emission inventories:	Sekou	Keita	Université Peleforo Gon Coulibaly de Korhogo	Ivory Coast Cote d'Ivoire)
1.15	Sensitivity of WRF-Chem model air quality simulations to multiple emission inventories during the KORUS-AQ campaign period	Kyoung-Min	Kim	Yonsei University	South Korea
1.16	Extrapolating officially reported emissions in Europe for the most recent years	Emma	Schoenmakers	TNO	Netherlands
1.17	Evaluation of Asian SLCFs emissions based on updated Regional Emission inventory in ASia (REAS)	Jun-Ichi	Kurokawa	Asia Center for Air Pollution Research	Japan
1.18	MIXv2: a long-term mosaic emission inventory for Asia (2010-2017)	Brian	McDonald	NOAA Chemical Sciences Lab	USA
1.19	Global emissions of unintentional persistent organic pollutants: hotspots and trends over five decades	Marilena	Muntean	Joint Research Center	Italy
1.20	Source apportionment and health risk assessment of PM2.5- bound heavy metals in residential environment of Dhaka, Bangladesh	Samiha	Nahian	University of Dhaka	Bangladesh
1.21	Analysis and extension of local air quality measurements in Senegal	Demba Ndao	Niang	University of Dakar	Senegal
1.22	High-resolution spatial-distribution maps of road transport exhaust emissions in Chile, 1990–2020	Mauricio	Osses	Universidad Técnica Federico Santa María	Chile
1.23	Fossils fuels and carbonaceous aerosol emission source, in Yaounde at Cameroon (African continent)	Marie-Roumy	Ouafo Mendo-Leumbe	U. Douala	Cameroon
1.24	The IGAC Biomass Burning Uncertainty: ReactioNs, Emissions and Dynamics (BBURNED) activity	Mark	Parrington	ECMWF	UK
1.25	Near-real-time monitoring and forecasting of global and European air quality in the Copernicus Atmosphere Monitoring Service	Mark	Parrington	ECMWF	UK
1.26	High resolution emissions inventory in the Iberian Peninsula due to biomass burning in 2022	Cesar	Quishpe	Universidad de Alcalá	Spain

		1.27	Road transport exhaust emissions in Colombia. 1990–2020 trends and spatial disaggregation	Nestor	Rojas	Universidad Nacional de Colombia	Columbia
		1.28	NO_x emissions estimations over East Asia using a chemical transport model and satellite data	Seunghwan	Seo	Yonsei University	South Korea
		1.29	Seasonal variations of aerosols and aerosol optical depth over Middle East by using chemical transport model	ıhammad Zeesha:	Shahid	University of the Punjab Lahore	Pakistan
		1.30	Particulate black carbon variability and mass concentration over South Asian megacity; Lahore, Pakistan	Imran	Shahid	Qatar Unversity	Qatar
		1.31	POPE: a Global Gridded Emission Inventory for PFOA 1950-2020	Pascal	Simon	Helmholtz-Zentrum Hereon, Institute of Coastal Research	Germany
		1.32	High-resolution global BVOC emission dataset including isoprene updates in Europe	Katerina	Sindelarova	Charles University	Czechia
		1.33	High-resolution ammonia (NH_3) WRF-Chem model simulations over Europe and comparison with ground-based and airborne measurements	Martin	Van Damme	Royal Belgian Institute for Space Aeronomy (BIRA-IASB)	Belgium
		1.34	Vehicle exhaust emissions in a densely populated tropical inter-Andean valley	Angela Cristina	Vargas Burbano	UNAL	Collumbia
		1.35	Towards an integrated anthropogenic emission inventory for China	Yijuan	Zhang	University of Bremen	Germany
12:45	14:00		Lunch Meetings: GEIA Working Groups, Other Collaborations				
14:00	15:15		Theme 2. Top-down Emissions & Sattellite Analyses Moderators	Yuxuan Claire Erika Alexander	Wang Granier von Schneidemesser Bakianov	U. of Houston CNRS and NOAA/Univ. Colorado (RIFS) and part of Helmholtz WMO retired	USA France and USA Germany
			Introduction to Theme 2				
			Oral Session 2a - Presentations (5 minutes each) Followed by Q&A Panel				
			Quantification of carbon monoxide emissions from African cities using TROPOMI	Gijs	Leguit	SRON	Netherlands
			Can the data assimilation of CO from MOPITT or IASI constrain high-latitude wildfire emissions? A Case Study of the 2017 Canadian Wildfires	Dylan	Jones	University of Toronto	Canada
			VOC emissions from space: a global joint inversion of TROPOMI glyoxal and formaldehyde data	Jenny	Stavrakou	Royal Belgian Institute for Space Aeronon	Belgium
			Detection and quantification of worldwide industrial and urban point-sources of volatile organic compounds with spaceborne infrared measurements	Bruno	Franco	Université Libre de Bruxelles	Belgium
			Investigating the sensitivity of top-down isoprene emissions to chemistry errors in models	Christian	DiMaria	Universty of Toronoto	Canada
			Oral Session 2b - Presentations (5 minutes each) Followed by Q&A Panel				
			Estimating NO_x emissions with deep learning estimated complete surface NO_2 map from remote sensing	Yunsoo	Choi	University of Houston	USA
			How well can assimilation of geostationary trace-gas observations constrain NOx emissions in the US?	Chia-Hua	Hsu	University of Colorado	USA
			Contribution of the maritime sector to the total NO_2 budget in Mediterranean ports	Andreas	Pseftogkas	Aristotle University of Thessaloniki	Greece
			Quantifying global methane emissions during 2010-2021 using inverse analysis of GOSAT observations	Zhen	Qu	North Carolina State University	USA
			Current potential of CH_4 emission estimates in Africa and the Middle East using TROPOMI	Mengyao	Liu	KNMI	Netherlands
15:15	16:15	**Poster #**	**Poster Session 2 - Short 30-Second Introductions Followed by Poster Review**				
		2.01	Constraining estimates of black carbon (BC) emissions from open biomass burning using lagrangian dispersion modelling		Akanksha	Physical Research Laboratory	India

2.02	Satellite retrieved stubble burning activities in north-western India in 2021: Contribution to air pollution in Delhi	Rupal	Ambulkar	Indian Institute of Tropical Meteorology	India
2.03	Long-term emission estimates of radiatively active species at the regional scale using inverse modelling techniques	Saurabh	Annadate	IUSS Pavia and University of Urbino	Italy
2.04	Methane and carbon dioxide concentrations measured using remote sensing in Amazonia and comparison with ground-based measurements	Paulo	Artaxo	Universidade de San Paulo	Brazil
2.05	STUDY OF THE EVOLUTION OF THE SAHELIAN CLIMATE BASED ON SATELLITE OBSERVATION AND ATOVS DATA	Cherif Yunus	Biaye	Gaston Berger University of Saint-Louis	Senegal
2.06	Comparing the LOTOS-EUROS driven by ECMWF meteorology with the LOTOS-EUROS driven by HARMONIE-WINS50	Andres	Botero	TuDelft	Netherlands
2.07	Deriving SO2 emissions from TROPOM observations	Yutao	Chen	KNMI	Netherlands
2.08	Comparison of formaldehyde profiles from three CTMs and of their impact on HCHO tropospheric column satellite retrievals	Isabelle	de Smedt	Royal Belgian Institute for Space Aeronomy (BIRA-IASB)	Belgium
2.09	Quantifying carbonaceous aerosols concentration over megacities based on AERONET-AOD and TROPOMI trace gas satellite retrievals	Adrien	Deroubaix	University of Bremen	Germany
2.10	NH3 emissions derived from CRIS observations over Europe	Jieying	Ding	KNMI	Netherlands
2.11	Do alternative inventories based on satellite observations or mechanistic models improve the spatiotemporal representation of spring ammonia	Gaelle	Dufour	LISA-CNRS	France
2.12	Improving high-resoluton air quality analyses by assimilating vertial profiles from an Unmanned Aerial Vehicle (UAV) and optimizing local emission factors	Hassnae	Erraji	Forschungszentrum Jülich GmbH	Germany
2.13	Non-Road Mobile Machinery Detection in High Resolution Satellite Imagery Using the 'You Only Look Once' (version 4) Model	Christopher	Evangelides	Ricardo Energy & Environment	UK
2.14	Version 2 of the global catalogue of large SO_2 anthropogenic and volcanic sources and emissions derived from satellite measurements	Vitali	Fioletov	Environment and Climate Change Canada	Canada
2.15	Processing of the future IRS-MTG NH3 and temperature products	Nadir	Guendouz	LATMOS	France
2.16	Industrial stack detection by artificial intelligence processed drone-captured images	Pablo	Gutierrez Espada	UNAL	Columbia
2.17	Estimation of anthropogenic NO_x emissions using the LMDZ-INCA model and satellite observations from TROPOMI and OMI	Santanu	Halder	LSCE	France
2.18	Total organic carbon measurements reveal large gaps in emissions reporting	Megan	He	Yale University	USA
2.19	Evaluation and optimization of fire emission products over South America using TROPOMI CO and NO_2 observations	Vincent	Huijnen	KNMI	Netherlands
2.20	A new approach for the identification of regional pollution hotspots using remote sensing technique	Sebastian	Joy	Cochin University of Science and Technology, Kerala	India
2.21	Hourly NOx emissions in Seoul inferred from the first GEMS observations	Si-Wan	Kim	Yonsei University	South Korea
2.22	Airborne top-down constraints for SO_2 and CO_2 from larger industrial facilities in South Korea	Saewung	Kim	U.California Irvine	USA
2.23	Development of top-down FRP-based biomass fire emission inventory for $PM_{2.5}$ air quality modeling using WRF-Chem modeling system in northern Thailand	Sompoke	Kingkaew	Asian Institute of Technology	Thailand
2.24	Unbalanced emission reductions of different species and sectors in China during COVID-19 lockdown derived by multi-species surface observation assimilation	Lei	Kong	IAP CAS	China
2.25	Towards a Copernicus Emission Monitoring System: Methodology and First Results from the IFS Global Inversion System	Panagiotis	Kountouris	ECMWF	Germany
2.26	Inversion of the anthropogenic SO_2 emissions using satellite observations from TROPOMI and OMI and the global chemistry coupled transport model LMDZ-	Pramod	Kumar	LSCE	France
2.27	Aerosol emission by industrial stacks using PRISMA hyperspectral imager	Jean-François	Leon	CNRS, Université Toulouse	France

2.28	Modelling the impact of Biogenic Volatile Organic Compound (BVOC) emissions on Formic Acid (HCOOH) concentrations above Central Europe	Marina-Despoina	Lieskoni	Charles University	Czechia
2.29	Monitoring and quantifying CO_2 emissions of isolated power plants from space	Xiaojuan	Lin	KNMI	Netherlands
2.30	Inverse model of Carbonyl Sulfide (COS) by assimilating MIPAS satellite and NOAA surface network	Jin	Ma	Utrecht University	Netherlands
2.31	Use of Covariance Discrimination Analysis to Determine Structural Bias in Modeled Carbon Monoxide	John	McKinnon	U. Arizona	USA
2.32	Observing the effects of unpermitted releases from petrochemical facilities on neighboring communities in Houston, Texas from space	Madeline	Miles	U. Virginia	USA
2.33	Using bias-corrected HCHO columns from OMI and TROPOMI to derive global VOC emissions over 2005-2021	Jean-Francois	Muller	Royal Belgian Institute for Space Aeronon	Belgium
2.34	Variability of OMI derived nitrogen dioxide (NO2) over urban areas of Bangladesh	Abdullah Al	Nayeem	Wageningen University	Netherlands
2.35	Weekly-derived biogenic VOC fluxes over Europe constrained by TROPOMI HCHO data in 2018-2022	Glenn-Michael	Oomen	Royal Belgian Institute for Space Aeronomy	Belgium
2.36	Assessing natural NO_x emissions over Africa using TROPOMI NO_2 observations and inverse modelling	Beata	Opacka	Royal Belgian Institute for Space Aeronomy	Belgium
2.37	French NOx emissions at high resolution as estimated from TROPOMI-PAL NO2 observations	Robin	Plauchu	LSCE	France
2.38	CLAQC v1.0 – Country Level Air Quality Calculator. An empirical modeling approach	Stefania	Renna	RFF-CMCC-EIEE	Italy
2.39	Towards monitoring ship emissions: plume modelling and comparison to TROPOMI NO2 columns	Christoph	Riess	Wageningen University & Research	Netherlands
2.40	NOx emission estimations in urbanized regions using variational inversion CIF-CHIMERE and NO2 satellite observations	Dilek	Savas	LISA	France
2.41	Forest Fire Activity Changes during 2001-2020 Over the Central India Region by Using Satellite Observations	Pallavi	Saxena	Department of Environmental Sciences, Hindu College, University of Delhi	India
2.42	Ensemble-based inverse estimates of European CH_4 emissions with ICON-ART	Michael	Steiner	EMPA	Switzerland
2.43	Spatio-temporal modelling of air pollutant and GHG emissions in the UK	Samuel James	Tomlinson	Centre for Ecology & Hydrology	UK
2.44	Evaluation of satellite-derived NOx emissions from TROPOMI	Ronald	Van der A	KNMI	Netherlands
2.45	Lagrangian Inversion of Volatile Chemical Product Tracers in the U.S. during the 2021 Southwest Urban NOX and VOC Experiment (SUNVEx) and the RECAP	Bert	Verreyken	Royal Belgian Institute for Space Aeronomy	Belgium
2.46	Evaluating Unreported NO_2 Hotspots in Texas (USA) - Tabitha Lee & Yuxuan Wang	Yuxuan	Wang	U. of Houston	USA
2.47	Studying urban methane emissions across seasons, years, and the globe with space-based remote sensing	Erica	Whiting	University of Michigan	USA
2.48	Air Quality Early Warning System for Delhi: wintertime meteorology and particulate matter (PM2.5 and PM10)	Prafull	Yadav	Indian Institute of Tropical Meteorology	India
2.49	Quantifying daily NO_x and CO_2 emissions from Wuhan using satellite observations from TROPOMI and OCO-2	Qianqian	Zhang	National Satellite Meteorological Center	China
2.50	An Experiment of Carbon Dioxied Emissions Inversion in Urban Scale Based on Ensemble Kalman Filter	Xu	Zhou	University of Chinese Academy of Scciences	China
2.51	Building Integral Gridded Carbon Emission Disaggregating Model (BIGCarbonEDM): Near real-time community-level CO2 emission evaluations	Chuanlong	Zhou	LSCE	France

16:15	16:45	Coffee/Tea Break
16:45	17:30	Continue Poster Session Engagement

17:30	18:30		Summary Discussion of Key Findings - Themes 1 & 2 Moderators: Themes 1 & 2 Chairs All Attendees Participate				
Thursday June 22							
8:00	9:00		Badge Pickup / Poster Setup All attendees must have registered online by June 2				
9:00	9:15		Day 2 Overview - Progression from Themes 3&4 to Town Hall to Next Steps	Leonor Hugo	Tarrason Denier van der Gon	NILU, Norwegian Institute for Air Research TNO, NL	Norway Netherlands
9:15	10:15		Theme 3. Integrated studies of air Pollutant and GHG emissions Moderators	Hugo Greet Monica	Denier van der Gon Janssens-Maenhout Crippa	TNO, NL Joint Research Center Joint Research Centre, European Commission and Unisystems S.A.	Netherlands Italy Italy
			Introduction to Theme 3 Oral Session 3 Presentations (5 minutes each) Followed by Q&A Panel				
			A method for fine-scale spatiotemporal characterization of global anthropogenic CO2 emissions from 1970-2021: under the MEIC framework	Qiang	Zhang	Tsinghua U	China
			Miyazaki, Predictability of fossil fuel CO2 from air quality emissions	Kazuyuki	Miyazaki	NASA	USA
			Particulate matter emission factors and emissions from mechanized agriculture in the Orinoco River savannas	Rodrigo	Jimenez	U Nacional de Colombia	Colombia
			Road transport vehicular emissions impacts on sustainable development in Kenya; A bottom-up approach using Low Emissions Analysis Platform (LEAP)	Cynthia	Sitati	Stockholm Environment Institute	Kenya
			METROCLIMA Project: Greenhouse Gases and Pollutants in the Sao Paulo Megacity	Mario	Calderon	Universidade de Sao Paulo	Brazil
			Underestimation of nitrous oxide emissions from the dairy industry identified using mobile ground-based measurements	Nathan	Li	Princeton	USA
			Health Effects of Reducing Hg Deposition and PM2.5 Concentration under Different Carbon Neutrality Pathways in China	Kaiyun	Liu	Tsinghua U.	China
10:15	10:45		Coffee/Tea Break				
10:45	11:30	**Poster #**	Poster Session 3				
		3.01	Assessment of air pollution health co-benefits of Net-zero climate policies	Lara	Alelula Reis	RFF-CMCC EIEE	Italy
		3.02	The Global Carbon Project's Fossil CO_2 dataset	Robbie	Andrew	CICERO	Norway
		3.03	Lessons learned and challenges in integrating bottom up emissions inventories in the global south cities	Beatriz	Cardenas	WRI Mexico	Mexico
		3.04	Simultaneous Top-Down Model-Free Emissions of Absorbing Aerosol Size, Mixing State, and Radiative Forcing, CH_4, CO, and NO_x: Increases in Emissions	Jason Blake	Cohen	China University of Mining and Technology	China
		3.05	ESA projects' overview on atmospheric pollutants and GHG emissions	Antony	Delavois	European Space Agency (ESRIN)	INT
		3.06	Development, intercomparison and analysis of city emission inventories in support of independent verification of city greenhouse gas budgets	Hugo	Denier van der Gon	TNO, NL	Netherlands
		3.07	Analysis of the temporal variation of carbon dioxide in the megacity of São Paulo at the IAG station of the Metroclima project	Danilo	Dias Cruz	University of San Paulo	Brazil
		3.08	Near-real-time global anthropogenic gridded daily CO_2 emissions	Xinyu	Dou	Tsinghua University	China

3.09	Development of real-time traffic emissions inventories in Hong Kong using open access datasets	Dasa	Gu	Hong Kong University of Science and Technology	China
3.10	A global catalogue of CO_2 emissions and co-emitted species from power plants	Marc	Guevara	Barcelona Supercomputiung Center	Spain
3.11	Downscaling national emissions with high resolution spatial proxies in EDGAR	Diego	Guizzardi	JRC	Italy
3.12	Developing and Validating Self-Consistent Fossil Fuel Carbon Dioxide and Air Quality Emissions Inventories	Colin	Harkins	NOAA/U.Colorado	USA
3.13	DIURNAL INVESTIGATION OF SATELLITE METHANE DATA FOR SUSTAINABLE ENVIRONMENT	Gabriel	Ibeh	Evangel university Akaeze Ebonyi State Nigeria	Nigeria
3.14	ANALYSIS OF THE SPATIAL–TEMPORAL VARIATION OF THE TROPOSPHERIC OZONE CONCENTRATION IN NIGERIA	Gabriel	Ibeh	Evangel university Akaeze Ebonyi State Nigeria	Nigeria
3.15	Carbon Monitor Europe, a near-real-time and country-level monitoring of daily CO_2 emissions for European Union and the United Kingdom	Piyu	Ke	Tsinhua U.	China
3.16	Emission trends of air pollutants and CO_2 in China from 2005 to 2021	Shengyue	Li	Tsinghua University	China
3.17	Time Series Analysis of Air Quality and Atmospheric Air Pollution over Egypt(2014 - 2015)	Khaled	Megahed	Al-Azhar University	Egypt
3.18	Improved sector-wide emissions of methane, nitrous oxide and ammonia from US wastewater treatment through mobile-based measurements	Daniel	Moore	Princeton	USA
3.19	Emissions of secondary inorganic aerosol precursors generated by the poultry industry in the Cauca River valley, Colombia	Wilmer	Mora-Falla	UNAL	Colombia
3.20	Global GHG historical emissions by country and sector including the COVID-19 pandemic response	Marilena	Muntean	Joint Research Center	Italy
3.21	Global GHG historical emissions by country and sector including the COVID-19 pandemic response	Alvaro-Patricio	Prieto-Perez	Charles University	Czech Republic
3.22	Uncertainty Quantification of National Fuel Consumption Statistics for Use in Bottom-Up Emissions Inventories	Jack	Prothero	NIST	USA
3.23	Reductions in emissions of greenhouse gases and air pollutants as a result of Nepal's Long-term Strategy (LTS) for Net-Zero Emissions	Maheswar	Rupakheti	Institute for Advanced Sustainability Studies	Germany
3.24	Quantifying and attributing non-carbon dioxide greenhouse gas emission sources in New York City using recent rooftop observations	Luke	Schiferl	Columbia U	USA
3.25	A Global Inventory of Anthropogenic Emissions of Greenhouse Gases and Atmospheric Pollutants for the Past Two Decades	Antonin	Soulie	CNRS/Laero	France
3.26	Integrated evaluation of air pollutants and greenhouse gases emissions in the framework of the I-CHANGE Living Labs experiences	Carlo	Trozzi	Techne Consulting	Italy
3.27	Numerical Simulation of Atmospheric Methane over Europe: Model Evaluation against Near-Surface and Satellite Data	Angel	Vara-Vela	Aarhus University	Denmark
3.28	Increase in daytime ozone exposure due to nighttime accumulation in a typical city in eastern China during 2014–2020	Junhua	Wang	Chinese Academy of Sciences	China
3.29	Greenhouse gas emissions data and information in the IPCC assessments: from FAR to AR6 and challenges for AR7	Xiaoshi	Xing	Columbia U	USA
3.30	Development of a new global CO_2 emission database with highly-resolved source category and sub-country information: methodology and 1970-2021	Ruochong	Xu	Tsinghua University	China
11:30 12:15	Theme 4 Mitigation efforts including real world examples Moderators	Marc	Guevara	Barcelona Supercomputiung Center	Spain
		Nicolas	Huneeus	Centre for Climate and Resilience Research and Department of Geophysics, Universidad de Chile	Chile
		Beatriz	Cardenas	WRI Mexico	Mexico
		Zig	Klimont	IIASA	Austria

		Introduction to Theme 4				
		Oral Session 4				
		EDGAR-FOOD: the first global inventory of greenhouse gas and air pollutant emissions from food systems	Monica	Crippa	Joint Research Centre, European Commission and Unisystems S.A.	Italy
		Using satellites in support of methane emission reductions	Ilse	Aben	SRON	Netherlands
		AQNEA: Future Emissions in Northeast Asia under Carbon Neutral Scenarios	Jung-Hun	Woo	Konkuk university	South Korea
		High resolution air quality modelling over Argentina: sensitivity to seasonal- and sector- dependent anthropogenic emissions	Ana Isabel	Lopez Norena	National Scientific and Technical Research Council	Argentina
		Mitigation tools to support efficient mitigation strategy design	R.H.H.(Ruud)	Janssen	TNO	Netherlands
12:15	12:45	**Poster #**	Poster Session 4			
	4.01	Biogenic emission contribution to the foration of ozone and fine particulate matter in the Metropolitan Area of Sao Paulo	Mario	Calderon	Universidade de São Paulo	Brazil
	4.02	What contribution can emission reductions from agricultural production make to improving public health in the UK?	Edward	Carnell	Centre for Ecology & Hydrology	UK
	4.03	NMVOC speciation and modelling techniques to design ozone control strategies in Spain	Kevin	de Oliveira	Barcelona Supercomputing Center	Spain
	4.04	Inversion and data assimilation over France during the lockdown period in 2020	Gael	Descombes	INERIS	France
	4.05	Using localised vessel data to distinguish and report domestic and international shipping emissions	Christopher	Evangelides	Ricardo Energy & Environment	UK
	4.06	Challenges for achieving clean air - The case of Barcelona (Spain)	Marc	Guevara	Barcelona Supercomputiung Center	Spain
	4.07	Measurement of near road air pollutants	Jose Ignacio	Huertas	Tecnologico de Monterrey	Mexico
	4.08	Mitigating Methane emissions for Sustainable Development of Nigeria Economy	Gabriel	Ibeh	Evangel university Akaeze Ebonyi State Nigeria	Nigeria
	4.09	Air pollution and Health in West Africa: from estimations to mitigation efforts.	Cathy	Leal-Liousse	CNRS	France
	4.10	Ultra-fine technological emission inventory of air pollutants in five megacities of India: A tool for Air Quality Mitigation	Poonam	Mangaraj	(NIAS), Indian Institute of Science (IISc), Bengaluru- 560012, India	India
	4.11	Changing Government Policy and Technological advancement towards cutting Transport Emission in India: An Initiative for Cleaner Air	Ashirbad	Mishra	Utkal University	India
	4.12	Impacts of errors in fossil fuel CO2 emissions on inverse flux estimates in support of national emission inventory verification	Tomohiro	Oda	USRA	USA
	4.13	Decline profile of $PM_{2.5}$ and PM_{10} during the lockdown period in the urban region of India	Atar Singh	Pipal	Indian Institute of Tropical Meteorology,	India
	4.14	The International Methane Emissions Observatory (IMEO): Bringing together policy-relevant methane emissions data	James	France		UK
	4.15	The DLR project ELK: bottom-up global emission inventories for land transport, shippint and aviation	Mattia	Righi	DLR	Germany
	4.16	NO_x-induced changes in upper tropospheric O_3 during the Asian summer monsoon in present-day and future climate	Chaitri	Roy	Indian Institute of Tropical Meteorology	India
	4.17	Measurements and EMEP model simulations of air quality over China from 2015-2020, including the COVID-19 lockdown	Ziqiong	Wang	University of Edinburgh	UK
	4.18	The rebounded emissions from global power system unveiled by CarbonMonitor-Power, a near-real-time global power daily and hourly database (Poster by	Chuanlong	Zhou	LSCE	France
12:45	14:00		Lunch Meetings: GEIA Working Groups, Other Collaborations			

14:00	14:30	Summary Discussion of Key Findings - Themes 3 & 4 and Lead in to Town Hall				
14:30	16:15	Town Hall -- We invite the audience to contribute to a lively interactive discussion of how GEIA can best support decision making processes and how we can best organise ourselves to support mitigation of air pollution and greenhouse gases.				
		Moderators	Leonor	Tarrason	NILU, Norwegian Institute for Air Research	Norway
			Paulette	Middleton	Panorama Pathways	USA
			Hugo	Denier van der Gon	TNO, NL	Netherlands
16:15	16:45	Coffee/Tea Break				
16:45	18:00	GEIA Working Groups - Updates, Opportunities, Next Steps				
		VOC Emissions	Erika	von Schneidemesser	Research Institute for Sustainability (RIFS) and part of Helmholtz	Germany
		COVID-19	Marc	Guevara	Barcelona Supercomputiung Center	Spain
		Africa	Cathy	Leal-Liousse	CNRS	France
		Latin America	Nicolas	Huneeus	Centre for Climate and Resilience Research and Department of Geophysics, Universidad de Chile	Chile
		China	Yuxuan	Wang	U. of Houston	USA
		Urban	Leonor	Tarrason	NILU, Norwegian Institute for Air Research	Norway
18:00	18:30	Demonstration of ECCAD and Updates	Sabine	Darras	CNRS	France
			Nicolas	Zilbermann	CNRS	France
18:30	21:00	Reception				
Friday June 23						
8:00	9:00	Badge Pickup / Poster Setup All attendees must have registered online by June 2				
9:00	10:00	Conference Summaries and Key Findings Moderators - Theme Chairs, Town Hall Leaders				
10:00	10:30	Coffee/Tea Break				
10:30	12:00	Moving Forward - GEIA Working Groups and Other Initiatves Discussions Moderators - GEIA Executive Committee, Working Group Leaders, Other Opportuniity Leaders				
12:00	13:30	Lunch Meetings: GEIA Working Groups, Other Collaborations **END OF CONFERENCE**				
14:00	**17:00**	**GEIA Scientific Steering Committee Meeting**				

Other Participants

Yasmine	Sfendla	BIRA	Belgium
Patrick	Draheim	German Aerospace Center (DLR)	Germany
Eileen	Kim	Seoul Foreign School	South Korea
Susana	Bustos	Universidad de Chile	Chile

Tim	Butler	Institute for Advanced Sustainability Studi	Germany
Elizabeth	Leon Velasquez	Universidad EAN	Columbia
Avelino	Arellano	U. Arizona	USA
Sultan Aliyev	Gasham	The Azerbajian Oil and Industry University	Azerbajian
Matthieu	Pommier	Univ of Toronto	Canada
Rajarshi	Ray	GHG Management Institute CDP	
Oksana	Tarasova	WMO	INT
Hugo	Merly	LAERO	France
Itiara Mayra	Albuquerque	Universidade de San Paulo	Brazil
Jorge	Pachon	Universidad de la Salle	Columbia
Corinne	Vigouroux	Royal Belgian Institute for Space Aeronomy (B	Belgium
Jeroen	Kuenen	TNO	Netherlands