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IRDR
Integrated Research on Disaster Risk

The First International Conference Chemical Weather and Chemical Climate (CWCC2023)

Science, Risks, Impacts, Health and Governance Associated with Multi-scale Environmental Perturbations

第一届化学天气与化学气候国际会议

多尺度环境扰动的科学认知、健康影响与风险治理

October 16-20, 2023, Shanghai, China

Organizer



Supporting Organization



Sponsor





CONTENTS

Introduction	01
Conference Chairs	03
Academic Committee	04
International Organizing Committee	05
Local Organizing Committee	06
General Information	07
Conference Agenda	09
Parallel Sessions	11
Session I: Emissions and physical-chemical transformations of atmospheric components	11
Session II: Simulation and forecasting of chemical weather/climate and its impacts	14
Session III: Environmental and health impact of air quality, climate change, and weather/ climate extremes	17
Session IV: Advancing strategies to reduce climate-environment-health inequalities	20
Session V: Towards mitigation and adaptation to environmental changes	23
Session VI: Towards the development of climate-smart and sustainable cities	26
Session VII: Collaborative pathways for climate-environment-health governance	29
Session VIII: Coordinative pathways for climate-environment-carbon neutrality governance	31
Session IX: Global partnerships and cooperation with stakeholders in the interdisciplinary areas	33
Side Meeting	35
Session X: Poster session	37

Introduction

The first International Conference on Chemical Weather and Chemical Climate (CWCC), themed "Science, Risks, Impacts, Health and Governance Associated with Multi-scale Environmental Perturbations", jointly hosted by the World Meteorological Organization/Global Atmosphere Watch Programme (WMO/GAW), the Monitoring, Analysis, and Prediction of Air Quality International Research Program (MAP-AQ), the Integrated Research on Disaster Risk International Program (IRDR), and Fudan University, along with support from various international and domestic institutions, will be held in Shanghai from October 16th to October 20th, 2023.

The conference, organized by the Fudan IRDR International Centre of Excellence and the MAP-AQ Asian Office Shanghai, aims to review significant advancements in related disciplines and interdisciplinary research. It will provide a deeper understanding of the interconnections between climate change, weather/climate extremes, air quality, and population health, as well as their implications for the climate and environmental governance processes necessary to achieve the target of carbon neutrality and the Sustainable Development Goals. Scholars, experts, and practitioners, both from domestic and international institutions, will be invited to participate in the conference through keynote speeches, thematic presentations, roundtable discussions, collaboration consultation, and outstanding young scientist awards, fostering academic exchange and exploration to address the risk interconnectivity of the interdisciplinary and crosscutting issues for better climate and environment governance. The conference warmly welcomes the participation of researchers, technical personnel and practitioners from universities, institutes, and enterprises, as well as postgraduates. It also extends a sincere invitation to domestic and international institutions, universities, enterprises, and NGOs to support the conference in various capacities and resources.



Objectives



Research: Showcase recent scientific advancements in understanding the connections between atmospheric chemistry, climate change, and meteorological/hydrological extremes.



Forcing: Identify the underlying mechanisms that drive observed environmental changes associated with weather/climate and atmospheric composition. This includes exploring natural and anthropogenic contributions such as traffic and industrial emissions, urbanization, agriculture, etc.



Impacts: Evaluate the socio-economic ramifications of atmospheric and climate changes, including their effects on public health and biological productivity.



Societal responses: Determine how scientific breakthroughs can improve global governance and facilitate collaboration among scientists, technical professionals, and practitioners to accomplish the objectives outlined in international agreements.



Participation: Encourage early career scientists actively engage in interdisciplinary studies, fostering a collaborative environment.

Conference Chairs



Prof. Renhe Zhang
Vice-president of Fudan University



Prof. Guy Brasseur
Co-chair of MAP-AQ, Max-Planck
Institute for Meteorology



Prof. Jürg Luterbacher
Director of WMO Science &
Innovation Department

Academic Committee

Members: *(in alphabetical order of surname)*

Alexander Baklanov, World Meteorological Organization

Greg Carmichael, University of Iowa/WMO Global Atmospheric Watch Program

Jianmin Chen, Fudan University

Jianfeng Feng, Fudan University

Johannes Flemming, European Centre for Medium-Range Numerical Prediction (ECMWF)/
WMO Global Air Quality Forecasting and Information System (GAFIS)

Christian Alain George, Institut de Recherches sur la Catalyse et l'Environnement de Lyon
(IRCELYON, CNRS) in Lyon, France

Huadong Guo, Aerospace Information Research Institute, Chinese Academy of Sciences

Tomas Halenka, Charles University, Czech Republic

Shiro Hatakeyama, Asian Center for Air Pollution Research

Kebin He, Tsinghua University

Hartmut Herrmann, Leibniz Institute for Tropospheric Research, Leibniz, Germany

Ho Kim, Seoul National University, South Korea

Haidong Kan, Fudan University

Rajesh Kumar, National Center for Atmospheric Research

Hong Liao, Nanjing University of Information Science and Technology

Mu Mu, Fudan University

Gunter Schumann, Charetti Medical University/Fudan University

Albert Sulaiman, National Research and Innovation Agency of Indonesia

Xu Tang, UNOCHA and UNEP Joint Expert Network of Environmental Disasters and Humanitarian Assistance

Lin Wang, Fudan University

Zhiping Wen, Fudan University

Tong Zhu, Peking University

Xiaoye Zhang, Chinese Academy of Meteorological Sciences

International Organizing Committee

Members: *(in alphabetical order of surname)*

Sara Basart, World Meteorological Organization

Jianmin Chen, Fudan University

Wenjia Cai, Tsinghua University

Gantuya Ganbat, Mongolian Institute of Resource Technology

Qunli Han, International Programme Office for Integrated Research on Disaster Risk

Suresh Jain, Tirupati Institute of Technology, India

Sri Harsha Kota, Institute of Technology Delhi, India

Huiling Ouyang, Fudan IRDR International Centre of Excellence

Harish Phuleria, Institute of Technology, Mumbai, India

Mochammad Syarif Romadhon, National Research and Innovation Agency, Indonesia

Lu Ren, World Meteorological Organization

Xu Tang, UNOCHA and UNEP Joint Expert Network of Environmental Disasters and Humanitarian Assistance

Xiaoyan Wang, MAP-AQ Asian Office Shanghai

Meihua Zhu, Department of Atmospheric Research, Asian Air Pollution Research Center

Wen Zhou, Fudan University

Hongliang Zhang, Fudan University

Local Organizing Committee

Coordinator:

Jianmin Chen, Fudan University

Vice-coordinators:

Zhiwei Wu, Fudan University

Haidong Kan, Fudan University

Xu Tang, UNOCHA and UNEP Joint Expert Network of Environmental Disasters and Humanitarian Assistance

Hongliang Zhang, Fudan University

Xiaoyan Wang, MAP-AQ Asian Office Shanghai

Huiling Ouyang, Fudan IRDR International Centre of Excellence

Members: *(in alphabetical order of surname)*

Weiqliang Chen, Institute of Urban Ring, Chinese Academy of Sciences

Shengmei Ding, Fudan IRDR International Centre of Excellence

Cathy Li, Max Planck Institute for Meteorology, Germany

Cong Liu, Fudan University

Fang Lian, International Programme Office for Integrated Research on Disaster Risk

Lu Ren, World Meteorological Organization

Li Wang, Fudan University

Rong Wang, Fudan University

Yutao Wang, Fudan University

Bo Yao, Fudan University

Jiacan Yuan, Fudan University

Xingnan Ye, Fudan University

Liwu Zhang, Fudan University

Feng Zhang, Fudan University

Yijun Zhang, Fudan University

Zhiyan Zuo, Fudan University

General Information

Conference Dates: October 16-20, 2023

Registration Date: October 16, 2023

Venue: Fuyue Hotel, Shanghai, China

The Fuyue Hotel



Address: 208 Rongyue Road, Songjiang District, Shanghai 201613, P.R. China

Tel: (0086) 21 3768 8888

Website: www.fuyuehotels.com

Geographical Location



Transportation Information

- To Metro Line 9 Songjiang University Town Station 2km
- To Shanghai Hongqiao International Airport and Hongqiao Railway Station 27km
- To Shanghai Pudong International Airport 68km
- Hongqiao National Convention and Exhibition Center 20 km



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Live Broadcast

The opening session, plenary sessions and closing session will be live broadcasted. Click the link to enter the live broadcast:
<https://wx.vzan.com/live/page/178042157>

Agenda Overview

Time	16 th Oct.	17 th Oct.	18 th Oct.	19 th Oct.	20 th Oct.
08:30-12:30	Registration Day	Opening Session & Plenary Session I (5 Plenary Talks)	Sessions I-VI in Parallel & Side Meeting	Plenary Session I (3 Plenary Talks) & Plenary Session II (Session Outcome Sharing and Recommendations)	Collaboration Consultation between relevant Programmers, Networks and Projects (Private)
12:30-13:30		Lunch & Poster Session	Lunch & Poster Session	Lunch	
13:30-18:00	Sessions I-VI in Parallel	Sessions VII-IX in Parallel (Round-table Discussion) & Poster Sessions	Closing Sessions (Young Scientist Award & Chair's Report & Closing Remarks)		
18:30-19:30	Welcome Dinner	Dinner			

Conference Agenda

17 th Oct.		Oriental Hall 1					
Opening Session (08:30-09:30)		Moderator: Renhe Zhang					
Time	Opening Remarks						
08:30-09:30	Li Jin, Fudan University Jürg Luterbacher, WMO Bert Fabian, UNEP Guy Brasseur, MAP-AQ Motoko Kotani, IRDR/ISC Laksana Tri Handoko, Badan Riset dan Inovasi Nasional Representative of the China Association for Science and Technology Representative of the Administrative Center for China's Agenda 21 Representative of the Ministry of Ecology and Environment of China Wenlan Xie, Science and Technology Commission of Shanghai Municipality						
Plenary Session I: Plenary Talks (09:30-12:30)		Moderator: Jürg Luterbacher					
Time	Presentation Title	Invited Speaker					
09:30-10:00	Related to chemical climate and chemical weather: Carbon sources and sinks inversion in CMA and The development of CMA Chemical Weather Operational Forecasting System	Xiaoye Zhang					
10:00-10:30	Advancing Atmospheric Composition Analysis and Predictions and Related Services to Meet the Growing Societal Needs	Greg Carmichael					
10:30-11:00		Break					
11:00-11:30	Lessons learnt and future prospects in air quality, emissions and chemical climate research	Jenny Stavrakou					
11:30-12:00	Development and application of multi-resolution global carbon emission database	Kebin He					
12:00-12:30	Air Quality and Public Health: How to "Close This Discussion"	Lidia Morawska					
12:30-13:30		Lunch & Poster Session					
Parallel Session I-VI (13:30-18:00)							
13:30-18:00	Session I Conference Room 1	Session II Conference Room 2	Session III Conference Room 3	Session IV Conference Room 6	Session V Conference Room 5	Session VI Conference Room 7	
18:30-20:00		Welcome Dinner					
18 th Oct.		Oriental Hall 1					
Parallel Session I-VI & Side Meeting (08:30-12:30)							
08:30-12:30	Session I (Continue) Conference Room 1	Session II (Continue) Conference Room 2	Session III (Continue) Conference Room 3	Session IV (Continue) Conference Room 6	Session V (Continue) Conference Room 5	Session VI (Continue) Conference Room 7	Side Meeting Shanghai Hall
12:30-13:30		Lunch					

Parallel Session VII-IX (13:30-18:00)			
13:30-18:00	Session VII (Round-table Discussion) Conference Room 1	Session VIII (Round-table Discussion) Conference Room 2	Session IX (Round-table Discussion) Conference Room 3
12:00-18:00 Poster Session			
18:30-19:30 Dinner			
19 th Oct.		Oriental Hall 1	
Plenary Session I: Plenary Talks (08:30-10:00)		Moderator: Guy Brasseur	
Time	Presentation Title	Invited Speaker	
08:30-09:00	Maximizing the Health Benefits of Air Pollution Control and Climate Change Mitigation	Tong Zhu	
09:00-09:30	Towards the development of climate-friendly and sustainable cities: critical issues and strategies	Tao Wang	
09:30-10:00	TBD	Markku Kulmala	
10:00-10:30		Coffee Break	
Plenary Session II: Session outcome sharing and recommendations (10:30-12:30)			
Time	Session	Session Chairs	Moderators
10:30-10:38	I	Greg Carmichael/Lin Wang	Jianmin Chen
10:38-10:46	II	Zhanqing Li/Qiang Zhang	Jianmin Chen
10:46-10:54	III	Mu Mu/Gunter Schumann	Jianmin Chen
10:54-11:02	IV	Hartmut Herrmann/Qingyan Fu	Jianmin Chen
11:02-11:10	V	Shiro Hatakeyama/Gang Yan	Jianmin Chen
11:10-11:18	VI	Alexander Baklanov/Tao Wang	Haidong Kan
11:18-11:26	VII	Tong Zhu/Ho Kim	Haidong Kan
11:26-11:34	VIII	Kebin He/Bert Fabian	Haidong Kan
11:34-11:42	IX	Qunli Han/Xu Tang/Representative of IFRC	Haidong Kan
11:42-11:50	X	Yijun Zhang/Liwu Zhang	Haidong Kan
11:50-12:30	Discussions, Q&A		Greg Carmichael/ Alexander Baklanov
12:30-14:00 Lunch for all and Lunch Meeting organized by GAW-ARCH for invited participants			
Closing Session (14:00-16:00)		Moderator: Renhe Zhang	
14:00-14:20		Young Scientist Award (Renhe Zhang, Guy Brasseur, Greg Carmichael)	
14:20-14:40		Best Student Presentation Award (Representative of Environmental Science: Atmospheres)	
14:40-15:20		Chair's Report (Guy Brasseur)	
15:20-16:00	Closing Remarks, chaired by Renhe Zhang Closing Panelists (2 minutes each): Guy Brasseur (MPI-M), Greg Carmichael (UIOWA), Alexander Baklanov (WMO), Bert Fabian (EANET/UNEP), Qunli Han (IRDR IPO), Albert Sulaiman (BRIN), Tong Zhu (PKU), Hong Liao (NUIST), Hartmut Herrmann (Leibniz Institute for Tropospheric Research), Gunter Schumann (Charite University Medicine Berlin/FDU), Christian Alain George (Institut de Recherches sur la Catalyse et l'Environnement de Lyon, IRCELYON, CNRS), Mellouki Abdelwahid (Centre national de la recherche scientifique), Jianmin Chen (FDU), and Others.		

Parallel Sessions

Session I: Emissions and physical-chemical transformations of atmospheric components



Time:

Oct. 17th 13:30-18:05 & Oct. 18th 08:30-12:10



Chair/Co-Chair:

Greg Carmichael, University of Iowa/WMO Global Atmospheric Observing Program

Lin Wang, Fudan University



Convenors:

Defeng Zhao, Fudan University

Bo Yao, Fudan University

Yele Sun, Institute of Atmospheric Physics, CAS

Xinlei Ge, Nanjing University of Information Science and Technology

Meng Gao, Hong Kong Baptist University



Description:

Focusing on the critical issues and recommendations on emissions and physical-chemical transformations of atmospheric components:

- 1) Measurement of emissions and development of inventories
- 2) Understanding atmospheric transformations and their impacts
- 3) Identifying emission reduction strategies

Part I: Oct. 17th 13:30-15:25

Conference Room 1

Host: Greg Carmichael, Lin Wang

Time	Reporter	Organization	Report Title
13:30-13:50	Mei Zheng (Keynote)	Peking University	Change of Atmospheric Composition and Its Health Effects
13:50-14:10	Harmut Herrman (Keynote)	Leibniz Institute for Tropospheric Research	Recent progress in aerosol particle chemistry: Woodburning SOA, viruses and nanoplastics
14:10-14:25	Lin Zhang	Peking University	Reactive nitrogen emissions and their impacts on atmospheric environment
14:25-14:40	Sasho Gligorovski	Guangzhou Institute of Geochemistry, CAS	Daylight chemistry on building surfaces as an additional pollution source in urban air
14:40-15:55	Dantong Liu	Zhejiang University	Connecting the Light Absorption of Atmospheric Organic Aerosols with Oxidation State and Polarity
14:55-15:10	Xiaopu Lyu	Hong Kong Baptist University	A synergistic ozone-climate control to address emerging ozone pollution challenges
15:10-15:25	Xiaofei Wang	Fudan University	Production mechanism of spray aerosol and its environmental impacts

15:25-15:50 Tea break

Part II: Oct. 17th 15:50-18:05

Conference Room 1

Host: Bo Yao, Defeng Zhao

15:50-16:10	Maheswar Rupakheti (Keynote)	Research Institute for Sustainability - Helmholtz Centre Potsdam	Climate implications of changing aerosols in Asian aerosol dipole regions
16:10-16:30	Xuemei Wang (Keynote)	Jinan University	Reconstruction of Non-agricultural Ammonia Emission Inventory Based on Isotopic Source Apportionment in China
16:30-16:50	Huilin Chen (Keynote)	Nanjing University	Understanding emissions of N ₂ O and CH ₄ from urban area using airborne observations
16:50-17:05	Xuekun Fang	Zhejiang University	Study on emission estimate of halogenated greenhouse gas based on inverse modelling
17:05-17:20	Yu Huang	Institute of Earth Environment, CAS	Technology and Application of Air Purification in Human Settlements
17:20-17:35	Ying Li	Southern University of Science and Technology	The aerosol-photolysis interaction of carbonaceous aerosol control on ozone pollution
17:35-17:50	Chunlin Li	Tongji University	Redox potential and toxicity evolutions of biomass burning HULIS in the air and in lung fluid mimics
17:50-18:05	Jingxin Lin	Fudan University	Nitroaromatics species in gas-phase and particles characterized by NO ₃ -CI-Orbitrap and VACES-Orbitrap

Part III: Oct. 18th 08:30-10:10 **Conference Room 1**

Host: Yele Sun, Qi Chen

Time	Reporter	Organization	Report Title
08:30-08:50	Christian George (Keynote)	CNRS-IRCELYON	Spontaneous interfacial oxidant formation as a key driver for aerosol oxidation
08:50-09:10	Weigang Wang (Keynote)	Institute of Chemistry, CAS	Secondary aerosol formation and its environmental impact
09:10-09:25	Qi Chen	Peking University	Molecular characteristics and chemical evolution of organic nitrates in urban Beijing
09:25-09:40	Xinlei Ge	Nanjing University of Information Science and Technology	Enhancing characterization of organic nitrogen components in aerosols and droplets using high-resolution aerosol mass spectrometry
09:40-09:55	Ke Li	Nanjing University of Information Science and Technology	Some principles and practice of joint PM _{2.5} -ozone control strategy
09:55-10:10	Dandan Huang	Shanghai Academy of Environmental Sciences	Obscured Contribution of Oxygenated Intermediate-Volatility Organic Compounds to Secondary Organic Aerosol Formation from Gasoline Vehicle Emissions

10:10-10:30 Tea break

Part IV: Oct. 18th 10:30-12:10 **Conference Room 1**

Host: Xinlei Ge, Meng Gao

10:30-10:05	Douglas Worsnop (Keynote)	Helsinki University	Atmospheric Aerosol: Climate and Air Quality
10:50-11:10	Yanlin Zhang (Keynote)	Nanjing University of Information Science and Technology	Stable isotope tracers for aerosol chemistry: recent progresses and challenges
11:10-11:25	Xinhui Bi	Guangzhou Institute of Geochemistry, CAS	Molecular characteristics of organics in cloud water by Fourier transform ion cyclotron resonance mass spectrometry
11:25-11:40	Shaojie Song	Nankai University	Multi-scale chemical transport modeling of hydroxymethanesulfonate (HMS) aerosol
11:40-11:55	Wei Tao	Southern University of Science and Technology	Tagging-based source attribution of extended odd oxygen family (Oy) to volatile organic compounds (VOCs): a case study of heavy ozone pollution episode over the East China
11:55-12:10	Yuwei Wang	Fudan University	Formation of aromatics-derived HOMs and their ambient observation

Parallel Sessions

Session II: Simulation and forecasting of chemical weather/climate and its impacts

Time:

Oct. 17th 13:30-18:00 & Oct. 18th 08:30-12:15

Chair/Co-Chair:

Zhanqing Li, University of Maryland

Qiang Zhang, Tsinghua University

Convenors:

Peng Wang, Fudan University

Yan Zhang, Fudan University

Yuchao Gao, Fudan University

Xin Huang, Nanjing University

Jianlin Hu, Nanjing University of Information Science and Technology

Description:

Focusing on the critical issues and recommendations on simulation and forecasting of chemical weather/climate and its impacts:

- 1) Improving modeling capabilities;
- 2) Forecasting extreme events;
- 3) Assessing impacts on ecosystems and human health.

Part I: Oct.17th 13:30–15:25 **Conference Room 2**

Host: Tzung-May Fu, Peng Wang

Time	Reporter	Organization	Report Title
13:30-13:50	Tzung-May Fu (Keynote)	Southern University of Science and Technology	Development and application of the WRF-GC chemistry-meteorology model for regional air quality studies
13:50-14:10	Shaocai Yu (Keynote)	Zhejiang University	The direct and indirect shortwave radiative flux response to an injection of sea salt aerosols over the large-scale ocean: A model test
14:10-14:25	Xing Li	Shaanxi Normal University	Impacts of Biomass Burning in Peninsular Southeast Asia on PM _{2.5} Concentration and Ozone Formation in Southern China During Springtime—A Case Study
14:25-14:40	Yuting Wang	Hong Kong Polytechnic University	High-resolution modeling for air quality in Hong Kong using Large-eddy simulation (LES)
14:40-14:55	Junfeng Wang	Nanjing University of Information Science and Technology	Aqueous production of sulfur-containing aerosols from nitroaromatic compounds and SO ₂ in winter Beijing haze
14:55-15:10	Jiawei Li	Institute of Atmospheric Physics, CAS	Regional chemistry-climate coupled model development
15:10-15:25	Aoxing Zhang	Southern University of Science and Technology	Deep learning-based ensemble forecasts and predictability assessments for surface ozone pollution

15:25-15:50 Tea break

Part II: Oct.17th 15:50–18:05 **Conference Room 2**

Host: Zhijin Li, Yang Gao

15:50-16:10	Shanling Gong (Keynote)	Chinese Academy of Meteorological Sciences	Extreme weather and ozone in China
16:10-16:30	Shuxiao Wang (Keynote)	Tsinghua University	Impact of anthropogenic emissions and climate change on air Quality and health in China
16:30-16:50	Sri Kota (Keynote)	Indian Institute of Technology, Delhi	Forecasting Carbon Monoxide Concentration in India using Physics-Informed Machine Learning Models
16:50-17:05	Yang Gao	Ocean University of China	Improved simulations of climate extremes and air quality based on a high-resolution Earth system model
17:05-17:20	Mengjiao Jiang	Chengdu University of Information Technology	Model-based insights into aerosol perturbation on pristine continental convective precipitation
17:20-17:35	Yuxing Yun	Chinese Academy of Meteorological Sciences	Temporal and Spatial Variations of the Effects of Aerosols on Clouds and Precipitation in An Extreme-Rain-Producing MCS in South China
17:35-17:50	Yuchao Gao	Fudan University	Applications of an aerosol microphysical model in a changing climate
17:50-18:05	Zhenze Liu	Nanjing University of Information Science and Technology	Benefits of Net Zero policies for future ozone pollution in China

Part III: Oct. 18th 08:30–10:10 **Conference Room 2**

Host: Jianlin Hu, Yan Zhang

Time	Reporter	Organization	Report Title
8:30-8:50	Weijun Li (Keynote)	Zhejiang University	Radiative absorption by black carbon in response to particle mixing structure
8:50-9:10	Chunhong Zhou (Keynote)	Chinese Academy of Meteorological Sciences	Chemical Weather modeling, haze-fog, sand and dust storm
9:10-9:25	Zengliang Zang	National University of Defense Technology	Multi-scale three-dimensional variational data assimilation and forecast for high-resolution aerosol observations
9:25-9:40	Qindan Zhu (Online)	Massachusetts Institute of Technology	Interpreting continental-scale decadal trends in OH
9:40-9:55	Diljit Kumar Nayak	Indian Institute of Technology, Delhi	Projection of change in radiative forcing for years 2019 and 2026 and its implications on climate under the business-as-usual emission scenario: A need for emission reduction scenario under National Clean Air Program (NCAP)
9:55-10:10	Lei Chen	Nanjing University of Information Science and Technology	Process-level quantification on opposite PM _{2.5} changes during COVID-19 lockdown over North China Plain

10:10-10:30 Tea Break

Part IV: Oct. 18th 10:30–12:15 **Conference Room 2**

Host: Yang Yang, Yuchao Gao

10:30-10:50	Chun Zhao (Keynote)	University of Science and Technology of China	Development of high-resolution atmospheric model and its application in studying aerosol effect
10:50-11:10	Rejash Kumar (Keynote, Online)	National Center for Atmospheric Research	Enhancing accuracy of short-term air quality predictions and quantifying their uncertainties by integrating air quality models with multi-platform observations
11:10-11:25	Yang Yang	Nanjing University of Information Science and Technology	Climate effects of future aerosol reductions for achieving carbon neutrality
11:25-11:40	Lichao Yang	Institute of Atmospheric Science, CAS	Toward targeted observations of the meteorological initial state for improving the PM _{2.5} forecasts in the Beijing-Tianjin-Hebei region
11:40-11:55	Riya Su	Hulunbuir University	Prediction of PM _{2.5} concentration in Ulaanbaatar with deep learning models
11:55-12:10	Xiaoli Wei	Shanghai Meteorological Service	Global aerosol typing classification using a new hybrid algorithm utilizing Aerosol Robotic Network data

Parallel Sessions

Session III:

Environmental and health impact of air quality, climate change, and weather/ climate extremes



Time:

Oct.17th 13:30-18:10 & Oct. 18th 08:30-12:10



Chair/Co-Chair:

Mu Mu, Fudan University

Gunter Schumann, Charetti Medical University/Fudan University



Convenors:

Wen Zhou, Fudan University

Xiaoyan Wang, MAP-AQ Asian Regional Office

Jicheng Gong, Peking University

Siyu Chen, Lanzhou University

Feng Zhang, Fudan University



Description:

Focusing on the critical issues and recommendations on environmental and health impact of air quality, climate change, and weather/climate extremes:

- 1) Assessing health risks of air pollution, climate change
- 2) Vulnerability and adaptation
- 3) Ecosystem Impact of extreme weather/climate

Part I: Oct.17th 13:30-15:25

Conference Room 3

Host: Huizheng Che, Jicheng Gong

Time	Reporter	Organization	Report Title
13:30-13:50	Hong Liao (Keynote)	Nanjing University of Information Science and Technology	Winter particulate pollution severity in North China: Dominant climate drivers and seasonal prediction
13:50-14:10	Johnny C. L. Chan (Keynote)	Asia-Pacific Typhoon Collaborative Research Center	Future landfalling tropical cyclone activity in East Asia
14:10-14:25	Jinyuan Xin	Institute of Atmospheric Physics, CAS	The atmospheric boundary layer structure over complex terrain and its influence in regulating local environment
14:25-14:40	Qing Li	Fudan University	Health-oriented control of aerosol emissions from anthropogenic sources in China
14:40-14:55	Yong Wang	Tsinghua University	Fire heat significantly alleviates the negative impacts of western U.S. wildfires on air pollution and health risks
14:55-15:10	Lei Zhu	Southern University of Science and Technology	Observing network effect of shipping emissions from space: a natural experiment in the world's busiest port
15:10-15:25	Changqin Yin	Shanghai Meteorological Bureau	Evaluation on WRF/Chem forecasting driving by three global NWP from GFS, EC and grapes

15:25-15:50 Break

Part II: Oct.17th 15:50-18:10

Conference Room 3

Host: Aijun Ding, Qing Li

15:50-16:10	Zhanqing Li (Keynote)	University of Maryland	Global air quality monitoring from satellites with spotlights in China and US
16:10-16:30	Aijun Ding (Keynote)	Nanjing University	Interactions of Atmospheric Chemistry and Atmospheric Boundary Layer: From Megacity to Gigacity
16:30-16:50	Huizheng Che (Keynote)	Chinese Academy of Meteorological Sciences	Optical and radiative properties of aerosols: observation methods, technical applications, and meteorological science research
16:50-17:10	Lei Zhou (Keynote)	Shanghai Jiao Tong University	Impacts of subsurface ocean variabilities on tropical cyclone genesis
17:10-17:25	Ken Yamashita	Asia Center for Air Pollution Research	Challenge of EANET for the atmospheric environment in East Asia
17:25-17:40	Feng Zhang	Fudan University	Artificial intelligence technology to retrieve cloud properties using geostationary satellite measurements
17:40-17:55	Fan Cheng	Beijing Normal University	Satellite-derived diurnal surface ozone variations across China with artificial intelligence: air quality and phytotoxicity implications
17:55-18:10	Shifen Xu	Agilent Technologies	Agilent Exposomics solutions in Environmental studies

Part III: Oct. 18th 08:30–10:10 **Conference Room 3**
Host: Haidong Kan, Jiandong Wang

Time	Reporter	Organization	Report Title
8:30-8:50	Qiang Zhang (Keynote)	Tsinghua University	Drivers and health impacts of China's air quality during last two decades
8:50-9:10	Tianmu Chen (Keynote)	Xiamen University	Climate change and early warning of emerging infectious diseases
9:10-9:25	Meng Gao	Hong Kong Baptist University	Co-occurrence of heat and air pollution extremes in China: historical trends, interactive health effects and seasonal prediction
9:25-9:40	Zhicong Yin	Nanjing University of Information Science and Technology	Changes in dominant patterns of summer ozone pollution in the east of China and roles of climate variabilities
9:40-9:55	Jiandong Wang	Nanjing University of Information Science and Technology	Black-carbon-induced regime transition of boundary layer development strongly amplifies severe haze
9:55-10:10	Jian Xu	National Space Science Center, CAS	Monitoring Tropospheric Air Pollutants from Newly-launched Satellite Sensors

10:10-10:30 Tea Break

Part IV: Oct. 18th 10:30–12:10 **Conference Room 3**
Host: Tianmu Chen, Siyu Chen

10:30-10:50	Haidong Kan (Keynote)	Fudan University	Air pollution and daily mortality: from PAPA to MCC studies
10:50-11:10	Tiantian Li (Keynote)	Chinese Center for Disease Control and Prevention	Extreme Weather Events and Human Health
11:10-11:25	Yun Hang (Online)	University of Texas Health Science Center at Houston	Assessment of long-term particulate nitrate air pollution and its health risk in China
11:25-11:40	Lulu Lian	Lanzhou University	Urbanization and population aging exacerbated the health economic impacts of anthropogenic dust fine particulate matter pollution
11:40-11:55	Xiaojing Shen	Chinese Academy of Meteorological Sciences	Long-term measurements of particle number size distributions in China and its applications in chemical weather numerical model
11:55-12:10	Guocheng Wang	Zhejiang University	Response of PM _{2.5} -bound elemental species to emission variations and associated health risk assessment during the COVID-19 pandemic in a coastal megacity

Parallel Sessions

Session IV: Advancing strategies to reduce climate–environment–health inequalities


Time:

 Oct.17th 13:30-17:30 & Oct. 18th 08:30-12:10

Chair/Co-Chair:

Hartmut Herrmann, Leibniz Institute for Tropospheric Research, Leibniz, Germany

Qinyan Fu, Shanghai Academy of Environmental Sciences


Convenors:

Renjie Chen, Fudan University

Ruwei Hu, Sun Yat-Sen University

Wei Xia, Huazhong University of Science and Technology

Mochammad Syarif Romadhon, BRIN, Indonesia.

Sri Kota, Indian Institute of Technology, Delhi


Description:
Focusing on the critical issues and recommendations on strategies for reducing inequities:

- 1) Environmental justice;
- 2) Access to clean air and climate services
- 3) Multi-stakeholder participation and decision-making

Part I: Oct. 17th 13:30–15:10 **Conference Room 6**

Host: Hartmut Hartmut, Qingyan Fu

Time	Reporter	Organization	Report Title
13:30-13:50	Yuming Guo (Online)	Monash University	Inequity of environmental exposure and health impacts
13:50-14:10	Qingyan Fu	Shanghai Academy of Environmental Sciences	Monitoring and health effects of transportation related air pollutants in Shanghai
14:10-14:30	Hualiang Lin	Sun Yat-Sen University	Air pollution associated with incident major chronic diseases, multimorbidity, and subsequent dementia
14:30-14:50	Qi Zhao	Shandong University	Contribution of human-induced climate change on the risk of dengue incidence in China and Brazil
14:50-15:10	Xia Meng	Fudan University	Characteristics of disparity in PM _{2.5} and NO ₂ pollution in China

15:10-15:50 Tea Break

Part II: Oct. 17th 15:50–17:50 **Conference Room 6**

Host: Mochammad Syarif Romadhon, Ruwei Hu

15:50-16:10	Bin Han	Chinese Research Academy of Environmental Sciences	A randomized, blinded, crossover intervention study of traffic-related air pollution (TRAP) and cardiovascular effects in healthy adults
16:10-16:30	Tao Liu	Jinan University	The inequalities in the environmental changes and human health under different spatial scales in China
16:30-16:50	Tao Xue	Peking University	Health inequality embedded in air pollution exposure is co-determined by climate and anthropogenic factors
16:50-17:10	Yi Zhang	Chinese Center for Disease Control and Prevention	Effects of Ambient Fine Particulate Matter Constituents on Cardiovascular Health Vary Among Different Population Groups
17:10-17:30	Lauri Myllyvirta (Online)	Centre for Research on Energy and Clean Air	Health benefits of Just Energy Transition and coal phase-out in Indonesia
17:30-17:50	Wei Xia	Huazhong University of Science and Technology	Global trend risk assessments of trihalomethanes in drinking water and its attributable disease burden of bladder cancer

Part III: Oct. 18th 08:30–10:10 **Conference Room 6**

Host: Sri Kota, Wei Xia

Time	Reporter	Organization	Report Title
08:30-08:50	Kai Chen (Online)	Yale University	Health Equity of Heat and Air Pollution in the United States
08:50-09:10	Jovine Bachwenkizi	Muhimbili University of Health and Allied Sciences	Framework for Assessment of Climate Change and Environmental Health Inequalities in sub-Saharan African Countries
09:10-09:30	Jue Liu	Peking University	Inequalities in human resources for health, climate factors and the impact on infectious diseases
09:30-09:50	Chongjian Wang	Zhengzhou University	PM _{2.5} and its components and cardiovascular diseases in rural areas
09:50-10:10	Yuewei Liu	Sun Yat-Sen University	Widowhood aggravates adverse effects of ozone and heat waves on cardiovascular disease mortality

10:10-10:30 Tea Break

Part IV: Oct. 18th 10:30–12:10 **Conference Room 6**

Host: Jovine Bachwenkizi, Renjie Chen

10:30-10:50	Hao Xiang	Wuhan University	Inequality in the health effects of ambient ozone exposures
10:50-11:10	Bin Luo	Lanzhou University	Health impacts analysis of extreme weather events in a typical Arid area of China
11:10-11:20	Jiao Wang	Chinese Center for Disease Control and Prevention	Study on prediction of human Norovirus outbreaks based on meteorological factors
11:30-11:30	Shirui Chen	Sun Yat-Sen University	The joint associations of PM _{2.5} and its components with cerebrovascular disease hospitalization: Results from a large community-based cohort
11:50-12:10	Sijia Lou	Nanjing University	Shift in peaks of PAH-associated health risks from East Asia to South Asia and Africa in the future

Parallel Sessions

Session V: Towards mitigation and adaptation to environmental changes



Time:

Oct. 17th 13:30-17:35 & Oct. 18th 08:30-12:10



Chair/Co-Chair:

Shiro Hatakeyama, Asian Center for Air Pollution Research (ACAP)

Gang Yan, Environmental Planning Institute, Ministry of Ecology and Environment



Convenors:

Zhiyan Zuo, Fudan University

Guoxing Chen, Fudan University

Yuqiang Zhang, Shandong University

Jianzhong Xu, Northwest Institute of Eco-Environment and Resources, CAS

Xue Qiao, Sichuan University



Description:

Focusing on the critical issues and recommendations on towards mitigation and adaptation to environmental changes:

- 1) Science-based mitigation strategies;
- 2) Nature-based adaptation measures;
- 3) Synergies and trade-offs.

Part I: Oct. 17th 13:30–15:25 Conference Room 5

Host: Zhiyan Zuo, Jianzhong Xu

Time	Reporter	Organization	Report Title
13:30-13:50	Tianjun Zhou (Keynote)	Institute of Atmospheric Physics, CAS	Precipitation regime changes in High Mountain Asia driven by cleaner air
13:50-14:10	Wenjie Dong (Keynote)	Sun Yat-Sen University	Strengthening the Global Governance in the Context of Climate Justice
14:10-14:25	Jieming Chou	Beijing Normal University	Impact of Russia–Ukraine conflict on European energy landscape and carbon emission reduction
14:25-14:40	Jiajie Wang	Tohoku University	Sustainable process for CO ₂ capture and storage using industrial by-products assisted by a recyclable ligand
14:40-14:55	Cunde Xiao	Beijing Normal University	Northward transport of dust and pollutants in the Northern Hemisphere: Distance and effects
14:55-15:10	Meihua Zhu	Asia Center for Air Pollution Research	Resilience Assessment of Chinese 31 Regions Based on Public Statistical Data
15:10-15:25	Miao Yu	Chinese Academy of Meteorological Sciences	Is urban greening an effective solution to enhance environmental comfort and improve air quality?

15:25-15:50 Tea Break

Part II Oct. 17th 15:50–17:35 Conference Room 5

Host: Guoxing Chen, Xue Qiao

15:50-16:10	Gang Yan (Keynote)	Chinese Academy of Environmental Planning	Mechanism and Pathway of Coordinated Governance for Pollution Reduction and Carbon Emission Reduction
16:10-16:30	Yongshuo Fu (Keynote)	Beijing Normal University	Vegetation phenology dynamics and its ecohydrological implications
16:30-16:50	Botao Zhou (Keynote)	Nanjing University of Information Science and Technology	Projected changes in compound heat waves and associated population exposure in China
16:50-17:05	Yuqiang Zhang	Shandong University	The co-benefits of medium-long term climate policies under the latest Paris Agreement on global air quality and human health
17:05-17:20	Guoliang Shi	Nankai University	Impacts factors of secondary aerosol and ozone
17:20-17:35	Haixing Gong	Fudan University	Quantifying the Spatial Representativeness of Carbon Flux Footprints of a Grassland Ecosystem in the Semi-arid Region

Part III Oct 18th 08:30–10:10 **Conference Room 5**
Host: Guoliang Shi, Shanshan Wang

Time	Reporter	Organization	Report Title
08:30-08:50	Xiaole Pan (Invited)	Institute of Atmospheric Physics, CAS	Shipborne Observations of Atmospheric Black Carbon Aerosol Particles from Antarctic to the Arctic
08:50-09:10	Jinwei Dong (Invited)	Institute of Geographic Sciences and Natural Resources Research, CAS	Synergies and Trade-offs Among Human, Animal, and Environmental Health in the Context of Climate Change
09:10-09:25	Xianda Gong	Westlake University	Quantify aerosol-indirect effects on Arctic climate change
09:25-09:40	Xue Qiao	Sichuan University	Nature-based solutions and designs: cases from the Jiuzhaigou world heritage, Yangtze's headwater, and Sichuan University
09:40-9:55	Yingzhi Zhang	Chengdu University of Technology	Demonstration of Clean Transportation in the Steel Industry in Tangshan City
09:55-10:10	Ning An	Chinese Academy of Meteorological Sciences	Compound hot and ozone extremes in urban China

10:10 –10:30 Tea Break

Part IV Oct 18th 10:30–11:40 **Conference Room 5**
Host: Xiaole Pan, Jiajie Wang

10:30-10:50	Fangqun Yu (Keynote)	State University of New York at Albany	Climate intervention through stratospheric aerosol injection: Uncertainties, impacts, and importance of process-level understanding
10:50-11:10	Evgeniya Soldatova (Keynote)	University of Tyumen	Greenhouse gas fluxes from the surface of the overgrowing littoral of Kuchak Lake (Western Siberia)
11:10-11:25	Jianzhong Xu	Northwest Institute of Eco-Environment and Resources, CAS	Impact of anthropogenic aerosol transport on cloud condensation nuclei activity during summertime in Qilian Mountain, in the northern Tibetan Plateau
11:25-11:40	Cong Liu	Fudan University	Health effects of air pollution in the context of climate change
11:40-11:55	Liang Qiao	Fudan University	Soil moisture–atmosphere coupling accelerates global warming
11:55-12:10	Zongren Dai	Fudan University	Prolonged Anaerobic Environment Weakens the Linkage Between Paddy Soil Organic Carbon Sink and Climate Factors

Parallel Sessions

Session VI: Towards the development of climate-smart and sustainable cities


Time:

 Oct.17th 13:30-18:00 & Oct. 18th 08:30-12:00

Chair/Co-Chair:

Alexander Baklanov, World Meteorological Organization

Tao Wang, The Hong Kong Polytechnic University


Convenors:

Jiacan Yuan, Fudan University

Likun Xue, Shandong University

Yanli Zhang, Guangzhou Institute of Geochemistry, CAS

Xu Yue, Nanjing University of Information Science and Technology

Yupeng Wang, Xi'an Jiaotong University


Description:
Focusing on the critical issues and recommendations on towards the development of climate-smart and sustainable cities:

- 1) Urban simulation and planning
- 2) Low-carbon urban development
- 3) Resilient urban systems

Part I Oct.17th 13:30–15:25 **Conference Room 7**

Host: Tao Wang, Jiacan Yuan

Time	Reporter	Organization	Report Title
13:30-13:50	Kaicun Wang (Keynote)	Peking University	Visibility-derived aerosol optical depth over global land from 1980 to 2021
13:50-14:10	Ranjeet Sokhi (Keynote)	University of Hertfordshire	Challenges and advances in multiscale analysis of air quality and climate impacts affecting South Asia urban areas
14:10-14:30	Ning Zhang (Keynote)	Nanjing University	Modeling Urban Heat Islands and Thermal Comfort during a Heat Wave Event in East China with CLM5 Incorporating Local Climate Zones
14:30-14:50	Jianzhen Yu (Keynote)	Hong Kong University of Science and Technology	Bayesian Inference-Based Estimation of Hourly Primary and Secondary Organic Carbon at Suburban Hong Kong: Multi-temporal Scale Variations and Evolution Characteristics during PM _{2.5} episodes
14:50-15:10	Yuanjian Yang (Keynote)	Nanjing University of Information Science and Technology	Joint Occurrence of Heatwaves and Ozone Pollution and Increased Health Risks in Beijing, China: Role of Synoptic Weather Pattern and Urbanization
15:10-15:25	Yuquan Zhang	Shanghai Jiao Tong University	Better Accessibility and Air Pollutant Emissions Reduction in the Express Delivery Industry in Shanghai– Synergies or Trade-offs?

15:25-15:50 Tea Break

Part II Oct.17th 15:50–18:00 **Conference Room 7**

Host: Alexander Baklanov, Yupeng Wang

15:50-16:10	Shiguang Miao (Keynote)	Institute of Urban Meteorology, China Meteorological Administration	Development of RMAPS model system for integrated urban meteorological services
16:10-16:30	Jian Hang (Keynote)	Sun Yat-Sen University	Some Numerical and Experimental Researches toward Sustainable Urban Climate
16:30-16:45	Chang Cao	Nanjing University of Information Science and Technology	The Local Climatic Effect of Urbanization
16:45-17:00	Xiangyu Ao	Shanghai Typhoon Institute, China Meteorological Administration	Impact of Urbanization on Meteorological Conditions during Landfalling Typhoon Lekima (2019) over the Shanghai Metropolitan Area
17:00-17:15	Lin Pei	Institute of Urban Meteorology, China Meteorological Administration	Convection-permitting simulation over urban areas in China
17:15-17:30	Guangzhao Chen	University of Hong Kong	High Spatiotemporal-resolution Thermal Environment Mapping in a High-density City utilizing Machine Learning
17:30-17:45	Jinlong Chao	Taiyuan Normal University	Analysis of Urban Heat Island Characteristics in Taiyuan under Different Weather Conditions
17:45-18:00	Tengqi Feng	Nanjing University of Information Science and Technology	Effect of Urban Greenspace on Neighborhood Scale Humid-heat Stress – Take Subtropical City Nanjing as an Example

Part III Oct.18th 08:30–10:10 **Conference Room 7**

Host: Mellouki Abdelwahid, Xu Yue

Time	Reporter	Organization	Report Title
08:30-08:50	Hashem Akbari (Keynote)	Concordia University	Urban Heat Island Mitigation for the Future Development in Big Cities
08:50-09:10	Jianzhuang Xiao (Keynote)	Tongji University/ Guangxi University	The Sustainability of Concrete Structure and The Design Path of Carbon Reduction
09:10-09:25	Hicham Bahi	Mohammed VI Polytechnic University	Integrated multivariate data analysis for Urban Sustainability Assessment, a case study of Casablanca city
09:25-09:40	Yupeng Wang	Xi'an Jiaotong University	Energy and environment coupled evaluation for sustainable urban development
09:40-09:55	Zhaowu Yu	Fudan University	Nature-based solution for urban heat mitigation: From threshold, network to mechanism
09:55-10:10	Chen Liang	Fudan University	The influence of humid heat on morbidity of megacity Shanghai in China

10:10–10:30 Tea Break

Part IV Oct.18th 10:30–12:00 **Conference Room 7**

Host: Alexander Baklanov, Tao Wang

10:30-10:50	Tomas Halenka (Keynote)	Charles University	Cities in changing climate: Interaction with Meteorology, Climate and Air-Quality
10:50-11:10	Xu Tang (Keynote)	ISC/UNDRR IRDR/ICoE	WMO Demonstration and Pilot Study on Integrated Urban Framework on Weather, Climate and Environment Services
11:10-12:00	Discussions		

Parallel Sessions

Session VII: Collaborative pathways for climate–environment–health governance



Time:

Oct.18th 14:00-17:30



Chair/Co-Chair:

Tong Zhu, Peking University

Ho Kim, Seoul National University



Convenors:

Haidong Kan, Fudan University

Wenjia Cai, Tsinghua University

Lei Huang, Nanjing University

Guofeng Shen, Peking University

Tao Xue, Peking University



Background and Objectives:

Understanding the interconnections between climate change, air pollution, and public health is critical for fostering a holistic and integrated approach to address these pressing global issues. The comprehensive perspective gained from analyzing these interconnections is vital for guiding our efforts toward improving public health and mitigating climate change impacts. This session also aims to maximize policy coherence, promote stakeholder engagement, and enable adaptive governance, all while considering equity and social justice principles.



Major Issues for Discussion:

During this discussion, we will explore key issues related to climate change and environmental health governance, but not limited to:

1. The Complex Relationship Between Climate Change and Air Pollution: Examining how climate change exacerbates air pollution and vice versa, leading to health risks.
2. Health Impacts of Air Pollution: Identifying the specific health risks and vulnerabilities associated with exposure to air pollutants.
3. Vulnerable Populations: Recognizing the groups most vulnerable to the adverse effects of air pollution and climate change, considering equity and social justice aspects.
4. Strategies for Harmonized Governance: Developing specific strategies to integrate climate change, air pollution, and public health considerations into governance.
5. Implementation Challenges: Identifying potential challenges and barriers to effective implementation of coordinated approaches and strategies.

Part I: Oct.18th 14:00–15:30

Conference Room 1

Moderators: Haidong Kan, Fudan University

Topic: Understanding the interconnections between climate change, air pollution, and public health; identifying risks and vulnerabilities.

Panelists

- Lei Huang, Nanjing University
- Guofeng Shen, Peking University
- Da Chen, Jinan University
- Jovine Bachwenkizi, Muhimbili University of Health and Allied Sciences
- Xia Meng, Fudan University

15:30-16:00 Tea Break

Part II: Oct.18th 16:00–17:30

Conference Room 1

Moderators: Wenjia Cai, Tsinghua University

Topic: Analyzing current governance structure, establishing coordinated approaches and specific strategies for harmonized governance, taking into account equity and social justice, as well as addressing implementation challenges

Panelists

- Ho Kim, Seoul National University, Korea
- Gasto Frumence, Muhimbili University of Health and Allied Sciences
- Gunter Schumann, Charite University Medicine Berlin/Fudan University
- Tao Xue, Peking University
- Qi Zhao, Shandong University

Expected Outcomes:

The expected outcomes of this discussion are as follows, but not limited to:

1. Increased Awareness of Interconnections: Enhanced understanding of how climate change, air pollution, and public health are interrelated.
2. Identification of Vulnerabilities: Improved recognition of vulnerable populations and areas at high risk.
3. Coordinated Governance Strategies: Formulation of strategies to harmonize governance efforts for more effective policy implementation.
4. Equity and Social Justice Integration: Integration of equity and social justice principles into governance structures and strategies.
5. Addressing Implementation Challenges: Identification of solutions and approaches to overcome implementation challenges in the context of these interconnections.

Parallel Sessions

Session VIII: Coordinative pathways for climate–environment–carbon neutrality governance



Time:

Oct. 18th 14:00-17:30



Chair/Co-Chair:

Kebin He, Tsinghua University

Bert Fabian, EANET Secretariat, UNEP



Convenors:

Weiqiang Chen, Institute of Urban Environment, CAS

Rong Wang, Fudan University

Zhaowu Yu, Fudan University

Zhongde Dai, Sichuan University

Wendong Wei, Shanghai Jiao Tong University



Background and Objectives:

Coordinated analysis in climate–environment–carbon neutrality governance is crucial as it fosters an integrated approach, maximizes policy coherence, promotes stakeholder engagement, and enables adaptive governance. This approach ensures a comprehensive understanding of these interconnected issues, balancing environmental, economic, and social considerations to pursue effective climate action and achieve carbon neutrality.

An integrated governance approach allows for the maximization of synergies, as many strategies like renewable energy adoption, material efficiency improvements, and ecological and environmental governance can offer benefits across climate and carbon dimensions. It also facilitates stakeholder engagement and promotes adaptive governance, which are critical for driving societal change and designing flexible policies that can adapt to new information and changing conditions. This comprehensive perspective is crucial in guiding our efforts towards a sustainable future.

★ Major issues for discussion

The major issues for enhance global partnership to be addressed, but not limited to:

1. The Impact of Climate Change and the Necessity of Coordinated Action
2. Mitigation Strategies for Reducing Greenhouse Gas Emissions
3. Technological Innovations and Deployment for Achieving Carbon Neutrality
4. International Cooperation and Public Participation

Part I: Oct. 18th 14:00–15:30

Conference Room 2

Moderators: Xi Lu, Tsinghua University

Topic: Synergy between environmental governance and carbon neutrality

Panelists

- Franz Gatzweiler, United Nations University Institute in Macau
- Hancheng Dai, Peking University
- Zhongde Dai, Sichuan University
- Kangkang Tong, Shanghai Jiao Tong University
- Rong Wang, Fudan University
- Zhaowu Yu, Fudan University
- Yi Yang, Chongqing University
- Wendong Wei, Shanghai Jiao Tong University

15:30-16:00 Tea Break

Part II: Oct. 18th 16:00–17:30

Conference Room 2

Moderators: Wei-Qiang Chen, Institute of Urban Environment, CAS

Topic: Joint efforts in advancing material metabolism

Panelists

- Ayman Elshkaki, Institute of Geographic Sciences and Natural Resources Research, CAS
- Zhi Cao, Nankai University
- Beijia Huang, University of Shanghai for Science and Technology
- Jiashuo Li, Shandong University
- Yutao Wang, Fudan University
- Fengming Xi, Shenyang Institute of Applied Ecology, CAS
- Yadong Yu, East China University of Science and Technology
- Chao Zhang, Tongji University



Expected Outcomes:

The expected outcomes of the roundtable discussion (Session 8) are those recommendations as, but not limited to

1. Recognizing the synergy between environmental governance strategies and achievement of carbon neutrality goals,
2. Identifying the coupling between energy consumption, material metabolism and the achievement of carbon neutrality goals,
3. Developing effective carbon emission reduction strategies and their potential, promoting innovation and research, and facilitating public awareness and education

Parallel Sessions

Session IX: Global partnerships and cooperation with stakeholders in the interdisciplinary areas

Time:
Oct.18th 14:00-17:30

Chairs:
Qunli Han, Integrated Research on Disaster Risk (IRDR)
Xu Tang, EHAN/JEU/UNOCHA/UNEP
IFRC Representative

Conveners:
Hongliang Zhang, Fudan University
Fang Lian, International Programme Office for Integrated Research on Disaster Risk
Jue Liu, Peking University
Xiaoling Zhang, The University of Hong Kong
Wei Wan, Asia Clean Air Center
Kai Meng, Elsevier Press

Background and Objectives:

Climate change is one of the greatest threats to mankind in the 21st century. The increased risks associated with climate change are manifested by the increase of weather/climate extremes, spread of infectious diseases, accelerated biodiversity losses and decline of environmental quality. Integrated Research on Disaster Risk (IRDR) has recognized the urgent need to address the profound impacts of climate change and called for the global efforts of cooperation to improve the governance on climate change, weather/climate extremes, atmospheric environment and public health.

The overall objective of this session is to provide a platform to share the innovations, insights, knowledge and experiences. The participants will identify the challenges and opportunities for the intersectoral, and interdisciplinary collaboration and practice required. The session will contribute to the Priority 1 "Understand risk creation and perpetuation in the present risk landscape" and Priority 9 "Foster interdisciplinary and multi-stakeholder collaboration" identified in the A Framework for Global Science in support of Risk Informed Sustainable Development and Planetary Health (ISC-UNDRR-IRDR, 2021, hereafter as "Research Framework"). The output of this session will be a concrete contribution to the follow-up actions for the Sendai Midterm Review and IPCC AR 6, the implementation of the Research Framework and the inputs toward IRDR 2024 Conference.

Expected Outcomes:

The expected outcomes of the roundtable discussion (Session 9) are those recommendations as, but not limited to

- (1) Increased understanding of risks and their interconnections,
- (2) Identifying, and prioritizing critical risks and best practices to address them,
- (3) Fostering partnerships between stakeholders,
- (4) Developing effective governance mechanisms,
- (5) Promoting innovation and research, and
- (6) Facilitating public awareness and education.

Part I: Oct.18th 14:00-15:30 Conference Room 3

Moderators: Qunli Han, Integrated Research on Disaster Risk
Jue Liu, Peking University

Topic: Understanding and mitigating the impacts of climate change

Panelists

- Yuming Guo (Online), Monash University
- Yue Qin, Peking University
- Shiro Hatakeyama, Asian Center for Air Pollution Research
- Maheswar Rupakheti, Research Institute for Sustainability- Helmholtz Centre Potsdam
- IFRC Representative

15:30-16:00 Tea Break

Part II: Part II: Oct.18th 16:00-17:30 Conference Room 3

Moderators: Xiaoling Zhang, University of Hong Kong
Fang Lian, IRDR-IPO

Topic: Roles of Global partnerships to address these complex and interconnected issues

Panelists

- Xiaoling Zhang, University of Hong Kong (Global target but local actions: synergistic climate action across the production-consumption system)
- Rachel Martin (Online), Elsevier
- Tao Hu, Lakestone Institute for Sustainable Development
- Gang He (Online), City University of New York
- Wei Wan, Clean Air Asia
- Xu Tang, EHAN/JEU/UNOCHA/UNEP

Major issues for discussion

The major issues for enhance global partnership to be addressed, but not limited to:

- (1) The need for understanding the impacts of climate change on public health, including the spread of diseases, mental health impacts, and food and water security.
- (2) The need for early warning systems and disaster risk reduction measures to mitigate the impacts of weather and climate-related hazards.
- (3) The role of businesses and the private sector in addressing climate change and reducing their carbon footprint.
- (4) The importance of investing in renewable energy and energy efficiency to reduce greenhouse gas emissions.
- (5) The need for international cooperation and partnerships to address these complex and interconnected issues.

Side Meeting



The Acid Deposition Monitoring Network in East Asia (EANET)

National Stakeholder Awareness Workshop in P.R. China on

EANET: Promoting acid deposition and air quality management in East Asia

18 October 2023, Fudan University, Shanghai, P.R. China



Time:

Oct. 18th 09:30-11:30



Location:

Room: Shanghai Hall



Background and Objectives:

The Acid Deposition Monitoring Network in East Asia (EANET) was established in 2001 as an intergovernmental initiative to create a common understanding on the state of acid deposition problems in East Asia, provide useful inputs for decision making at various levels, and promote cooperation among countries. China is one of the 13 EANET Participating Countries (PCs). In 2021, the PCs, decided to expand its scope to cover air pollution and adopt a Supplementary Document (Annex) to the Instrument.

EANET's activities are guided by five-year Medium Term Plans and a Work Programme and Budget approved by the Participating Countries every year. For 2023, the Secretariat will organize National Stakeholder Awareness Workshops to support the implementation of activities of the EANET, and to better understand specific country needs. The workshop will be held on 18 October 2023 in Shanghai, P.R. China. The workshop is co-organized by the EANET and the Fudan University. Participants of the workshop will be government officials, academicians, non-government organizations and private sectors.

This workshop aims to showcase the achievements and activities of the EANET over the last 20 years including activities involving P.R. China and to encourage more cooperation with EANET and P.R. China in the implementation of the expanded scope and the EANET Project Fund activities.



Format:

The workshop is planned to be hybrid where presenters from EANET Participating countries can present online and the Secretariat and Network Center and stakeholders in P.R. China can meet in-person.

Tentative Programme Agenda:

Time		Moderated by EANET Secretariat
9:30-9:40	Registration	
9:40-9:50	Opening Remarks	Ministry of Ecology and Environment, P.R. China Network Center of the EANET
9:50-10:00	Objectives of the Workshop	Bert Fabian, Coordinator, EANET Secretariat
10:00-10:20	EANET – 20 years of activities and impact	Network Center of the EANET
10:20-10:40	Status and challenges in acid deposition monitoring and air quality monitoring in China	China National Environmental Monitoring Center (National Center of the EANET)
10:40-11:00	Air Quality Improvement and Sci.&Tech. Development in China during the Last Decade	China Research Academy of Environmental Sciences
11:00-11:20	Discussion	Facilitated discussion moderated by EANET Secretariat
11:20-11:30	Summary and Closing Remarks	Bert Fabian, Coordinator, EANET Secretariat

Session X: Poster session



Time:

Oct. 18th 12:00-18:00



Chair/Co-Chair:

Yijun Zhang, Fudan University

Liwu Zhang, Fudan University



Convenors:

Xiaoyan Wang, MAP-AQ Asian Regional Office

Huiling Ouyang, Fudan IRDR International Centre of Excellence

Dan Li, Fudan University

Lei Yao, Fudan University

Number	Author	Institute	Title
P01	Xiaodong Jiang	China University of Geosciences, Wuhan	Characteristics of Daytime-and-Nighttime AOD Difference over China: A Perspective from CALIOP Satellite Observations and GEOS-Chem Model Simulations
P02	Muhammad Zeeshaan Shahid	University of the Punjab, Lahore Pakistan	Long-Term Variability of Aerosol Concentrations and Optical Properties over South Asia
P03	Jian Zhang	Chinese Academy of Meteorological Sciences	Regional biocrust retrieval and its impacts on dust emission
P04	Jianyan Lu	Chinese Academy of Meteorological Sciences	Assessment of the impacts of cloud chemistry on surface SO ₂ and sulfate levels in typical regions of China
P05	Hao Fan	IUSE	An interactive deep learning tool to explore air quality response to local emission changes at street level
P06	Lingaona Zhu	Fudan University	To what extent can the Ozone Valley over the Tibetan Plateau influence the East Asian summer precipitation?
P07	Ahmad Mahdavi	University of Tehran	Huge Methane Gas Cloud Over Tehran, Iran
P08	Manuj Sharma	Indian Institute of Technology, Tirupati	Development of air pollutants emission inventory of urban anthropogenic sources in the non-attainment city of India: A case study of Vijayawada city, India
P09	Qianjie Chen	Hong Kong Polytechnic University	Sulfate production from hypohalous acids in the marine boundary layer
P10	Yiqun Wang	Guangzhou Institute of Geochemistry, CAS	Production of Volatile Organic Compounds by Ozone Oxidation Chemistry at the South China Sea Surface Microlayer
P11	Huifan Deng	Guangzhou Institute of Geochemistry, CAS	Daytime SO ₂ chemistry on ubiquitous urban surfaces as a source of organic sulfur compounds in ambient air
P12	Jinli Xu	Guangzhou Institute of Geochemistry, CAS	Heterogeneous chemistry of ozone with floor cleaning agent: Implications of secondary VOCs in the indoor environment
P13	Lei Kong	Institute of Atmospheric Physics, CAS	Unbalanced emission reductions of different species and sectors in China during COVID-19 lockdown derived by multi-species surface observation assimilation
P14	Pan Li	University of Chinese Academy of Sciences	Inorganic ions enhance the number of product compounds through heterogeneous processing of gaseous NO ₂ on aqueous layer of acetonyrione
P15	Dipesh Rupakheti	Nanjing University of Information Science and Technology	Aerosol loading and types over an urban (Dushanbe, Tajikistan) and a background (Issyk Kul, Kyrgyzstan) site in Central Asia

Number	Author	Institute	Title
P16	Yuying Wang	Nanjing University of Information Science & Technology	The impacts of dust storms with different transport pathways on aerosol chemical compositions and optical hygroscopicity of fine particles in the Yangtze River Delta
P17	Hao Wu	Tsinghua University	Vertical spatiotemporal characteristics of new particle formation and ultrafine particle evolution at Shenzhen Tower
P18	Tian Zhang	Fudan university	Classification and estimation of unfavourable boundary-layer meteorological conditions in Beijing for PM _{2.5} concentration changes using vertical meteorological profiles.
P19	Tong Wu	Civil Aviation Flight University of China	Lidar-based remote sensing of the vertical profile of aerosol liquid water content using a machine-learning model
P20	Miaomiao Zhang	Fudan University	Molecular Characterization of Atmospheric Organic Aerosol in the typical Megacities of China
P21	Jianbing Jin	Nanjing University of Information Science and Technology	Decadal atmospheric ammonia emission inversion in China through assimilating IASI ammonia retrievals
P22	Zhe Song	Zhejiang University	Significant reductions of urban daytime ozone by extremely high concentration NO _x from ship's emissions: A case study
P23	Xiaoi Jin	Zhejiang A&F University	Significant contribution of organics to aerosol liquid water content in winter in Beijing, China
P24	Zhen Song	Fudan University	Roles of regional transport and vertical mixing in aerosol pollution in Shanghai over the COVID-19 lockdown period observed above urban canopy
P25	Shuhui Xue	Fudan University	Source apportionment of organic aerosol in Shanghai using an extractive electrospray ionization time-of-flight mass spectrometer (EESI-TOF-MS)
P26	Mengqi Cheng	Fudan University	The decadal abrupt change of global terrestrial atmospheric aridity
P27	Chuang Li	Fudan University	Detection and Potential Formation Pathways of Chlorinated Organic Compounds in Suburban Shanghai
P28	Chen Yang	Institute of Urban Environment, CAS	Molecular composition of anthropogenic oxygenated organic molecules and their contribution to organic aerosol in a coastal city
P29	Kaiwen Ma	Fudan University	Direct Effects of Air Humidity on Dust Aerosol Production: Evidences for the Surprising Role of Electrostatic Forces
P30	Xinyuan Wu	Fudan University	Seasonal discrepancies and inter-relationship of peroxyacetyl nitrate (PAN), ozone, and other environmental factors in Hangzhou, East China
P31	Tao Wang	Fudan University	Title of poster: Key factors determining the formation of sulfate aerosols through multiphase chemistry

Number	Author	Institute	Title
P32	Yin Wei	Institute of Urban Meteorology, CMA, Beijing	Research on PM _{2.5} and PM ₁₀ Forecast in China with the Application of the WRFDA-Chem Three-dimensional Variational System
P33	Wenlu Wu	Southern University of Science and Technology	Responses of regional surface ozone to temperature-dependent evaporative anthropogenic VOC emissions: a case study in Northern China
P34	Qiyuan Wang	Institute of Earth Environment, CAS	High-time-resolution chemical composition and source apportionment of PM _{2.5} in northern Chinese cities: implications for policy
P35	Jiajia Mo	Southern University of Science and Technology	Evaluating the performance of WRF-GC v2.0 in simulating summertime surface ozone concentrations over China
P36	Rong Hu	Beijing Normal University	Aerosol hygroscopicity enhancement in the twilight zone revealed from Raman LIDAR and HTDMA measurements
P37	Huikui Liu	Institute of Earth Environment, CAS	The impact of atmospheric motions on source-specific black carbon and the induced direct radiative effects over a river-valley region
P38	Runqi Zhang	Fudan University	Application of versatile aerosol concentration enrichment system and online ion chromatography technology in PM _{2.5}
P39	Fangyuan Cheng	Fudan University	Distinct evolution of summer surface air temperature change signal over North China
P40	Meiyu Chang	Fudan University	Land-atmosphere feedbacks weaken the risks of precipitation extremes over Australia in a warming climate
P41	Jiaxin Dong	Fudan University	Sectoral source apportionment of PM _{2.5} and O ₃ in Tangshan
P42	Hongru Bi	Lanzhou University	The Circum-global Transport of Massive African Dust and its Impacts on the Regional Circulation in Remote Atmosphere
P43	Qianqian Gao	Fudan University	High Enrichment of Heavy Metals in Fine Particulate Matter through Dust Aerosol Generation
P44	Chunfeng Tian	Fudan University	The Impact of Urban Expansion on China's Meteorology and Pollution from 1990 to 2020
P45	Aifang Gao	Hebei University of Geosciences	Regional joint PM _{2.5} -O ₃ control policy benefits further air quality improvement and human health protection in Beijing-Tianjin-Hebei and its surrounding areas
P46	Dongze Xu	Tsinghua University	The change of Southern Hemisphere extratropical cyclone precipitation characteristics in SSP5-8.5 scenario in CMIP6 models
P47	Zhenchen Liu	Fudan University	Glo3DHydroClimEventSet(v1.0): A global event set of hydroclimatic extremes with three-dimensional evolutions and metrics (1951-2022)

Number	Author	Institute	Title
P48	Qiao Liu	Peking University	The impact of natural flood disasters on livelihoods and its association with new cases and deaths of infectious diseases in 168 countries and territories from 1990 to 2019: a worldwide observational study
P49	Shikang Du	Lanzhou University	Data-Driven Approaches for Air Pollution Forecasting: A Window Based Multi-Output GBRT Approach
P50	Mengya Wang	Nanjing University of Information Science and Technology	A new approach for health-oriented ozone control strategy: adjoint-based optimization of NOx emission reductions using metaheuristic algorithms
P51	Wenwen Sun	Shanghai University of Medicine & Health Sciences	Formation mechanism of atmospheric PM _{2.5} explosive growth events in Shanghai based on vertical structure
P52	Jiayan Du	Fudan University	The dominant mechanism of the explosive growth of summer surface O ₃ concentrations in Beijing-Tianjin-Hebei region, China
P53	Zeyu Yang	Beijing Normal University	Reconstructing two-decade (2000-2021) of daily 1-km-resolution surface O ₃ concentrations from space in China
P54	Qi Ran	Sun Yat-Sen University	Potential health and economic impacts of shifting manufacturing among Asian countries
P55	Feng Zhang	Fudan University	Cloud identification and properties retrieval of the Fengyun-4A satellite using a ResUnet model
P56	Ning An	Chinese Academy of Meteorological Sciences	Compound hot and ozone extremes in urban China
P57	Cuiping Liu	Fudan University	Deriving overlapped cloud motion vectors based on geostationary satellite and its application on monitoring Typhoon Mulan
P58	Bin Guo	Fudan University	Cloud Classification by machine learning for Geostationary Radiation Imager
P59	Zhijun Zhao	Fudan University	Transfer-learning-based approach to retrieve cloud properties using geostationary satellite measurements
P60	Wenwen Li	Fudan University	Physics-driven machine learning algorithm facilitates multilayer cloud property retrievals from geostationary passive imager measurements
P61	Jun Li	Shanghai Qizhi Institute	Parameterization of optical properties for liquid cloud droplets containing black carbon based on neural network
P62	Yue Cai	Shanghai Qizhi Institute	Optimized Alternate Mapping Correlated K-Distribution Method for Atmospheric Radiative Transfer
P63	Jiaming Wang	Nanjing University	Comprehensive Evaluation Framework for Intervention on Health Effects of Ambient Temperature (CEFI-HEAT)

Number	Author	Institute	Title
P64	Shanya Yang	Fudan University	Constraining Microplastic Particle Emission Flux from the Ocean.
P65	Hao Zhang	Nanjing University	Health threat of PM _{2.5} -bound trace elements exposure on asthma hospital admission: A time-stratified case-crossover study
P66	Siyang He	Fudan University	Contributions of urbanization to a mega-heatwave in the Yangtze River Delta Metropolitan
P67	Weidong Zhang	Nanjing University of Information Science and Technology	Study on Bidirectional Reflectance Distribution Function of Urban Neighborhood based on Unmanned Aerial Vehicle
P68	Zhiruo Lu	Nanjing University of Information Science and Technology	Calibration Scheme for Low-Cost CO ₂ Concentration Sensor Based on Machine Learning for Urban High-Density Network Observation
P69	Jun Wang	Nanjing University of Information Science and Technology	Simulation of atmospheric CO ₂ and CH ₄ concentration with high spatial resolution in urban area
P70	Chenguang Tian	Nanjing University of Information Science and Technology	Projections of fire emissions and the consequent impacts on air quality under 1.5 °C and 2 °C global warming
P71	Kaiwen Zhang	Fudan University	Constrained emergence of air temperature change signal in northern-central India from background variations
P72	Xinghua Jiang	Fudan University	Submicron drops from flapping bursting bubbles
P73	Ruoyu Zhang	Fudan University	Extremely Inexpensive and Simple Method To Remove Indoor Respiratory Aerosols
P74	Yangyang Liu	Fudan University	Unrecognized fast atmospheric sulfate production driven by interfacial strong electric field of aerosol particles
P75	Xiang Zhang	Fudan University	Culturable and Inhalable Airborne Bacteria in a Semiunderground Municipal Wastewater Treatment Plant in Shanghai: Distribution, Transmission, and Health Risk Assessment
P76	Ning Zhang	Nanjing University of Information Science and Technology	Composition characteristics and source analysis of PM during high pollution period in New Delhi
P77	Bin Luo	Shandong University	Spatial-Temporal contributions of anthropogenic and biomass burnings on air quality changes in India from 1995 to 2014
P78	Jingjing Wang	Fudan University	Laser heterodyne radiometers (LHR) for in situ ground-based remote sensing of greenhouse gases in the atmospheric column
P79	Shujun Bie	Fudan University	Shipping originated carbonaceous aerosol emissions, mixing state and potential climate effects
P80	Chenji Jin	Fudan University	Air pollution of PM _{2.5} and O ₃ driven by synoptic and circulation pattern in a Coastal megacity



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