

# AGU JING MEETING

## 全球PM<sub>2.5</sub>研究与治理大会

Xi'an China  
October 16-20, 2018

Atmospheric PM<sub>2.5</sub> in China:  
change, impact, mitigation and global perspective



### Organized and Co-sponsors

Chinese Academy of Sciences (CAS)  
American Geophysical Union (AGU)  
Institute of Earth Environment, Chinese Academy of Sciences  
National Natural Science Foundation of China  
State Key Laboratory of Loess and Quaternary Geology  
Research Center for Advanced Air Technology, YCESTC

**AGU | CAS**  
JOINT MEETING







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- Prof. Mario Molina, University of California, San Diego, USA

## Co-chairs:

- Prof. Zhisheng An, Chinese Academy of Sciences (CAS), China
- Prof. Weijian Zhou, Chinese Academy of Sciences (CAS), China
- Prof. James Hansen, Columbia University, USA
- Prof. Judith Chow, Desert Research Institute, USA

## Members:

- Prof. Urs Baltensperger, Paul Scherrer Institute, Switzerland
- Prof. Huiming Bao, Louisiana State University, USA
- Prof. Gufran Beig, Indian Institute of Tropical Meteorology, India
- Prof. Greg Carmichael, University of Iowa, USA
- Prof. Fahe Chai, Chinese Research Academy of Environment, CAS, China
- Prof. Chak K. Chan, City University of Hong Kong, Hong Kong
- Prof. Jianmin Chen, Fudan University, China
- Prof. P.C.S. Devara, Indian Institute of Tropical Meteorology, India
- Prof. Roy Harrison, University of Birmingham, UK
- Prof. Jiming Hao, Tsinghua University, China
- Prof. Kebin He, Tsinghua University, China
- Prof. Hong He, Research Center for EcoEnvironmental Sciences, CAS, China
- Prof. Daniel Jacob, Harvard University, USA
- Prof. Congqiang Liu, National Science Foundation, China
- Prof. Shaw Liu, Jinan University, China
- Prof. Shuncheng Lee, The Hong Kong Polytechnic University, Hong Kong

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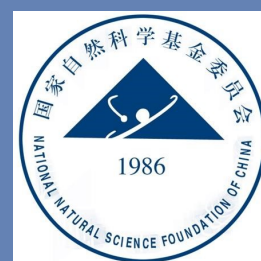
- Prof. Denise Mauzerall, Princeton University, USA
- Dr. Wahid Mellouki, Institut de Combustion, Aérothermique, Réactivité et Environnement-CNRS, France
- Prof. Kihong Park, Gwangju Institute of Science and Technology, Korea
- Dr. Giulia Pavese, IMAA-CNR, Italy
- Prof. David YH Pui, University of Minnesota, USA
- Prof. Hiromu Sakurai, National Institute of Advanced Industrial Science and Technology, Japan
- Prof. John H. Seinfeld, California Institute of Technology, USA
- Prof. Kirk Smith, University of California Berkley, USA
- Prof. Guangyu Shi, Institute of Atmospheric Physics, CAS, China
- Dr. Wladyslaw W. Szymanski, University of Vienna, Austria
- Prof. Shu Tao, Peking University, China
- Prof. Zhonglin Wang, Georgia Institute of Technology, USA
- Prof. John G. Watson, Desert Research Institute, USA
- Prof. Douglas R. Worsnop, Aerodyne Research, Inc., USA
- Dr. Liya E. Yu, National University of Singapore, Singapore
- Prof. Chung-Shin Yuan, Sun Yat-sen University, Taiwan
- Prof. Tong Zhu, Peking University, China
- Prof. Minghua Zhang, Stony Brook University, USA and Institute of Atmospheric Physics (CAS), China
- Prof. Renyi Zhang, Texas A&T University, USA
- Prof. Xiaoye Zhang, Chinese Academy of Meteorological Sciences, China

## General Conference Chair:

- Prof. Junji Cao, Institute of Earth Environment (IEE), CAS

## Organizing Committee:

- Ms. Christine W. McEntee, AGU, USA
- Prof. Yu Liu, IEE, CAS, China
- Prof. Renjian Zhang, Institute of Atmospheric Physics, CAS, China
- Prof. Youbin Sun, IEE, CAS, China
- Prof. Zhangdong Jin, IEE, CAS, China
- Mr. Brooks Hanson, AGU, USA
- Ms. Lauren Parr, AGU, USA
- Ms. Judy Dalie, AGU, USA
- Ms. Janice Lachance, AGU, USA
- Prof. Ruijin Huang, IEE, CAS, China
- Prof. Yu Huang, IEE, CAS, China
- Ms. Jiamao Zhou, IEE, CAS, China
- Ms. Wenting Dai, IEE, CAS, China
- Ms. Huikun Liu, IEE, CAS, China





# Welcome Letter



On behalf of the Scientific Steering Committee, General Conference Chair, and the Organizing Committee, it is our privilege to invite you to the AGU JING (Joint International Network in Geoscience) Meeting, October 16–20, 2018, in Xi'an, Shaanxi, China! We are honored to host this event, and we look forward to welcoming our friends and colleagues from colleges and universities, institutes, organizations, and companies from around the world.

The theme of the AGU JING Meeting is atmospheric  $PM_{2.5}$  in China: changes, impacts, mitigation and global perspectives. The meeting will consist of a series of plenary sessions, regular sessions, and poster sessions. It is with great pleasure that we invite you to attend the meeting, present your latest findings, discuss new discoveries and problems, exchange views and develop plans for future research on  $PM_{2.5}$  and related science and technology issues. These interactions will not only benefit specialists but also increase public awareness and knowledge by providing insights into societal issues involving the environment, health, energy, materials and other facets of life.

The Program Committee has set broad objectives for this workshop to encourage attendees to explore all of the thematic elements. At this meeting, we will advance the achievements already made and actively explore the role of technology in atmospheric  $PM_{2.5}$  research.

More than 700 attendees from over 20 countries and regions will attend our AGU Meeting. We hope that everyone attending will feel completely at home as we try our best to provide the highest levels of service and hospitality. We have planned several special events for you to enjoy and learn more about Xi'an, a city well known for her rich history, delicious local food, and authentic Tang culture. We hope that you will take this opportunity to make new friends, network with other attendees, and build upon relationships that have already been established.

We extend the warmest welcome to all and hope that you enjoy the AGU JING Meeting 2018 in Xi'an!



Sincerely yours,

Junji Cao  
General Conference Chair  
AGU JING Meeting (AJM2018)



# Congratulation Letter

## From the CEO Of American Geophysical Union

There is a phenomenon called the overview effect that many astronauts report experiencing during spaceflight. Upon viewing the Earth from orbit, they see firsthand the fragility of our planet and how we are all protected and nourished by the planet's thin atmosphere. From this vantage point, boundaries between nations disappear and the issues that separate people are viewed as less important. What does become clear is the need to create a more unified global society that works to protect all the inhabitants of the "pale blue dot" that is our shared home.

As climate change, air and water pollution, and other large-scale challenges become more serious and widespread, the need for humanity to join together to address these global ills grows ever more important. This clarion call rings particularly loud for scientists. For it is science that advances human understanding. It is science that makes people's lives better. It is science that creates and stimulates economies. It is science that protects us all from harm.

During times of uncertainty and change, we as a scientific community must not hide. We have to be creative and passionate. We have to be committed and determined. We have to double our efforts to advance our research and do so with the integrity and transparency that is the foundation of scientific discovery. Each of us must speak up and give voice to the value of our work so that it may guide sound policy decisions and be used to improve the well-being of families, communities, and economies worldwide.

In the face of these challenges, I am heartened to see the growth of the partnership between the American Geophysical Union and the Chinese Academy of Sciences. From the launch of a closer, ongoing partnership and relationship between our two societies, I draw inspiration and hope as we work together to find solutions to threats to our global environment, health, and well-being.

I am honored to address this Joint International Network in Geoscience meeting on atmospheric PM2.5, co-presented by the AGU and the Chinese Academy of Sciences. The idea of international partnership and collaboration with China was born from our first visit, and this meeting is the first expression of that. This year, AGU, the world's largest Earth and space scientific society, celebrates 100 years of our history, and the history of our science. Our Centennial, however, is just as much about looking to the future as it is commemorating the past. So, we invite you to join us as we look to the grand challenges, discoveries, and solutions that we and future generations will work together on over the next 100 years.

I would like to thank and recognize the meeting Chair — Professor Mario Molina from the University of California, San Diego — and the co-chairs: Professor Zhisheng An, from the Chinese Academy of Sciences; Professor Weijian Zhou from the Chinese Academy of Sciences; Professor James Hansen from Columbia University; and Professor Judith Chow from the Desert Research Institute for helping spearhead this critical international gathering. AGU's commitment to international collaboration between scientific societies begins with this gathering. We look forward to strengthening and growing this relationship for years to come.

Sincerely,



A handwritten signature in black ink that reads "Christine W McEntee". The signature is fluid and cursive.

Christine McEntee  
Executive Director/CEO  
American Geophysical Union



# Congratulation Letter

## From the CEO Of American Geophysical Union

有一种现象被称为“总观效应”，许多宇航员在太空飞行的报告中提到曾历经这一现象。在从轨道上观察地球时，他们亲眼看到了地球的脆弱，以及人类如何被地球上稀薄的大气层保护和滋养。从这个角度看，国家之间的界限消失了，而使人类之间产生隔阂的问题看起来也不重要了。但有一点变得很明确，那就是我们要建立一个更加统一的国际社会，保护居住在这个“淡蓝星球”上的所有人类，这是我们共同的家园。

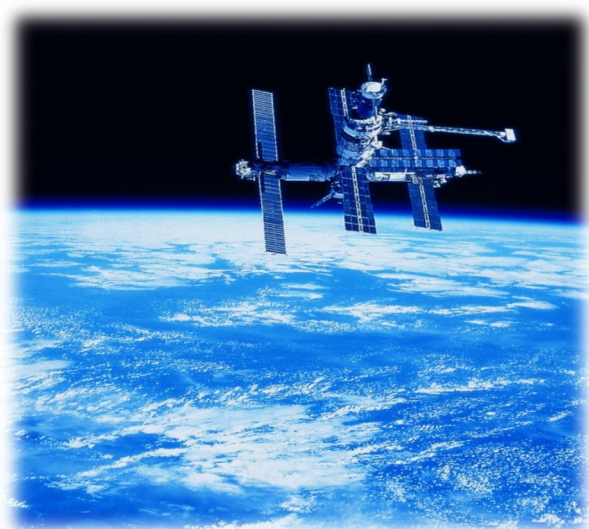
随着气候变化、大气污染和水污染以及其他大范围的环境挑战变得更加严峻和广泛，人类愈加需要团结在一起，共同应对这些全球性问题。这一号召对于科学家来说尤为响亮。因为是科学推进了人类的认知，使人们的生活更美好，也是科学创造和激励了经济发展，是科学保护人类免受伤害。

在充满不确定和变化的时代，我们作为科研群体的一员，绝不能逃避。我们必须要有创造力和激情，要有担当和决心，要加倍努力推进科学研究，并以公正和透明作为科学探索的基础。我们每个人都要毫无保留地为我们研究成果的价值发声，这样才能引导出正确的政策决定，为我们的家庭，人类社会和全球经济谋求更大的福利。

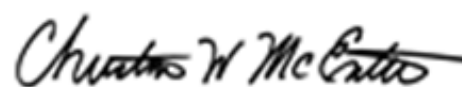
面对这些挑战，我很高兴看到美国地球物理联合会和中国科学院之间的伙伴关系得到进一步发展。自我们双方建立了紧密、持续发展的伙伴关系以来，我们一直在共同努力，寻找应对全球环境恶化、人类健康和幸福受到威胁的解决方案，这使我感受到了鼓舞和希望。

我很荣幸地介绍，这次以大气PM2.5为主题的地球科学国际研讨会由美国地球物理联合会和中国科学院共同举办。在我们第一次访问中国时，就萌生了与中国科研机构建立国际合作伙伴关系的想法，这次会议也是这个想法的首次呈现。今年，世界上最大的地球和空间科学学会——美国地球物理联合会，在庆祝它的百年诞辰以及地球科学百年发展的历史。然而，我们的百年纪念是为了在纪念过去的同时也尽可能地展望未来。因此，我们邀请您加入，在未来的百年里与我们及后代子孙共同面对挑战，发现并找到解决方案。

我要感谢这次大会的主席——加州大学圣地亚哥分校的Mario Molina教授，大会的联合主席——中国科学院的安芷生教授；以及来自中国科学院的周卫健教授；来自哥伦比亚大学的James Hansen教授；来自沙漠研究所的Judith Chow教授，他们共同领导了这次重要的国际会议。美国地球物理联合会团结各学科学会展开国际合作的承诺将由此开始。我们期待在未来的数年内，这种合作关系得到进一步加强和巩固。



致敬，  
Christine McEntee



执行董事/执行总裁  
美国地球物理联合会

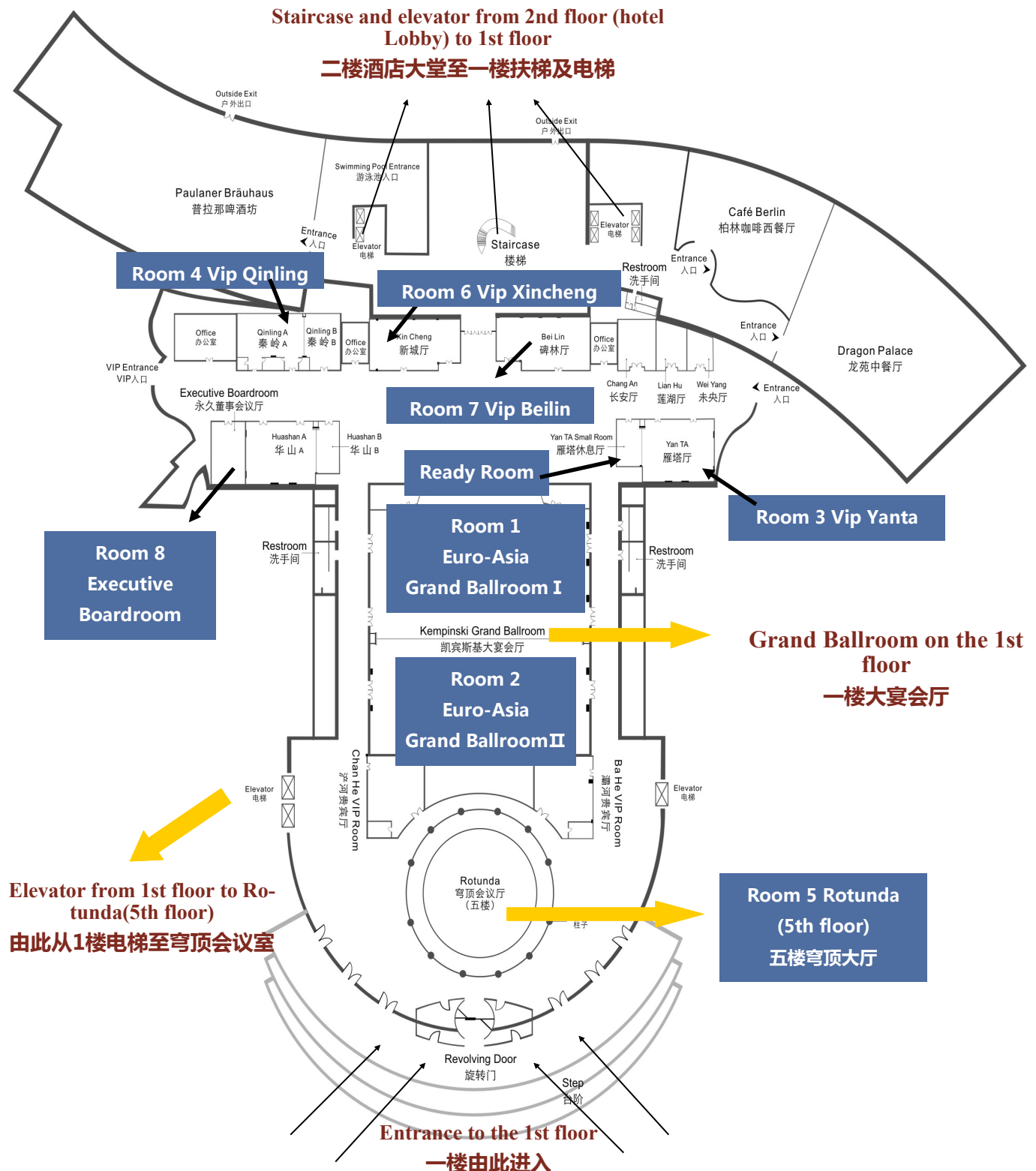


# Venue Floor Plan



西安锦江国际酒店  
JIN JIANG INTERNATIONAL HOTEL  
Jin Jiang Hotels

## I Floor Plan (Level 1) 平面图(一层)





# Schedule Of Events

Time	Event	Page/Location
<b>Tuesday, October 16, 2018</b>		
13:30 — 17:30	Concurrent Short Course.....	Beilin Xincheng Executive Boardroom (Room 6 Room 7 Room 8)
18:00 — 21:00	Evening Reception.....	Executive Floor Lounge
<b>Wednesday, October 17, 2018</b>		
8:00 — 8:30	Opening Ceremony.....	Euro-Asia Grand Ballroom
8:30 — 9:30	Plenary Presentation 1.....	Euro-Asia Grand Ballroom
9:30 — 10:00	Coffee Break & Exhibition.....	Euro-Asia Grand Ballroom
10:00 — 11:00	Plenary Presentation 2.....	Euro-Asia Grand Ballroom
11:00 — 12:00	Plenary Presentation 3.....	Euro-Asia Grand Ballroom
12:00 — 13:30	Lunch Buffet.....	Paulaner & Cafe Berlin
13:30 — 16:30	Oral Sessions.....	Pages 30-33
16:30 — 18:00	Poster, Exhibition and Coffee Break.....	Euro-Asia Grand Ballroom
18:00 — 21:30	Outdoor BBQ.....	Outdoor Lawn
<b>Thursday, October 18, 2018</b>		
8:00 — 10:00	Oral Sessions.....	Pages 34-35
10:00 — 10:30	Coffee Break & Exhibition.....	Euro-Asia Grand Ballroom
10:30 — 12:00	Conference Report.....	Pages 36-37
12:00 — 13:30	Lunch Buffet.....	Paulaner & Cafe Berlin
13:30 — 16:00	Special Session of National Research Program for Key Issues in Air Pollution Control ( Yuanhang Zhang, Fahe Chai etc) .....	Room 5 Rotunda
13:30 — 17:30	Study Tour 1 .....	Page 9
18:30 — 21:30	CAS Invited Dinner.....	Room 7 VIP Beilin
<b>Friday, October 19, 2018</b>		
8:00 — 10:00	Oral Sessions.....	Pages 38-39
10:00 — 10:30	Coffee Break & Exhibition.....	Euro-Asia Grand Ballroom
10:30 — 12:00	Oral Sessions.....	Pages 40-41
12:00 — 13:30	Lunch Buffet.....	Paulaner & Cafe Berlin
13:30 — 15:00	Oral Sessions.....	Pages 42-43
15:00 — 15:30	Coffee Break & Exhibition.....	Euro-Asia Grand Ballroom
15:30 — 18:00	Poster, Exhibition and Coffee Break.....	Euro-Asia Grand Ballroom
18:00 — 21:00	Banquet.....	Euro -Asia Grand Ballroom



## Saturday, October 20, 2018

8:00 — 9:00	Plenary Presentation 4.....	Euro-Asia Grand Ballroom
9:00 — 10:00	Plenary Presentation 5.....	Euro-Asia Grand Ballroom
10:00 — 10:30	Coffee Break &Exhibition.....	Euro-Asia Grand Ballroom
10:30 — 11:30	Plenary Presentation 6.....	Euro-Asia Grand Ballroom
11:30 — 12:30	AGU Presentation.....	Euro-Asia Grand Ballroom
12:30 — 13:00	Closing Ceremony and Award Ceremony.....	Euro-Asia Grand Ballroom
13:00 — 14:00	Lunch Buffet.....	Paulaner & Cafe Berlin
14:00 — 19:00	Study Tour 2 .....	Page 9

### Study Tour 1

Visiting Institute of Earth Environment, Chinese Academy of Sciences (IEECAS) and Xi'an SALSCS (Solar-Assisted Large-Scale Cleaning System) Demonstration Unit.



### Study Tour 2

Arranged by the Conference organizers, this study tour includes Emperor Qin's Terra-cotta Warriors and Horses and the monitoring station in Chanba district.

Emperor Qin's Terracotta Warriors and Horses Museum, "the Eighth Wonder of the World" is a world cultural heritage site. It is among the top archaeological excavations of the 20th century. Han Yang Ling Museums is the first entire underground museum in the world to use the advanced protection technology

The cost for non-full registrants is \$50 per person including transportation, museum entry fees, English-speaking guide, lunch, and insurance. A special Emphasis of the tour is protection methods for cultural artifacts from environmental threats.





# Dining Items

Time	Dining	Site
Tuesday October 16	Evening Reception 18:00-21:00	Executive Floor Lounge 行政酒廊
Wednesday October 17	Lunch Buffet 12:00-13:30 Outdoor BBQ 18:00-21:30	Paulaner & Cafe Berlin 德国鲜酿啤酒坊&柏林咖啡西餐厅 Outdoor Lawn BBQ 户外草坪BBQ
Thursday October 18	Lunch Buffet 12:00-13:30 CAS Invited Dinner 18:30-21:00	Paulaner & Cafe Berlin 德国鲜酿啤酒坊&柏林咖啡西餐厅 VIP Beilin Room (Room 7) 碑林厅
Friday October 19	Lunch Buffet 12:00-13:30 Banquet 18:00-21:00	Paulaner & Cafe Berlin 德国鲜酿啤酒坊&柏林咖啡西餐厅 Euro Asia Grand Ballroom 欧亚大宴会厅
Saturday October 20	Lunch Buffet 13:00-14:00	Paulaner & Cafe Berlin 德国鲜酿啤酒坊&柏林咖啡西餐厅





# Concurrent Short Courses

**TUESDAY, OCTOBER 16**

Time	Topic	Speaker	Title
13:30-17:30	PM <sub>2.5</sub>	<b>Prof. Judith Chow</b> , Desert Research Institute, Nevada System of Higher Education  <b>Prof. John Watson</b> , Desert Research Institute, Nevada System of Higher Education	Applying and Validating Source Apportionment Methods for Air Quality Management
13:30-17:30	Indoor air quality and control	<b>Prof. Shuncheng Lee</b> , The Hong Kong Polytechnic University	Indoor air quality management and control technology
		<b>Prof. Kin fai Ho</b> , The Chinese University of Hong Kong	Sources and health impacts of indoor air pollution
13:30-17:30	Atmospheric aerosol control technology	<b>Prof. Yu Huang</b> , Institute of Earth Environment, Chinese Academy of Sciences	Catalytic removal of VOCs and NO <sub>x</sub> at ambient concentrations
		<b>Prof. Jing Wang</b> , ETH Zurich (Swiss Federal Institute of Technology Zurich)	Filtration as a method for emission control and personal protection







## Judith C. Chow

Professor

Desert Research Institute

Dr. Judith C. Chow, Nazir and Mary Ansari Chair in Entrepreneurialism and Science and Research Professor in the Division of Atmospheric Sciences (DAS) at the Desert Research Institute (DRI), part of the Nevada System of Higher Education (NSHE), has over 40 years of experience in developing measurement techniques and conducting air quality studies to support air quality management. She received her Doctor of Science degree in Environmental Health Science and Physiology from Harvard University in 1985. She is the charter member of the U.S. EPA's Clean Air Science Advisory Committee (CASAC), a recipient of the Air Resources Board's Haagen-Smit Clean Air Award, and a Fellow of the Air & Waste Management Association. Dr. Chow is the principal author or co-author of more than 400 peer-reviewed journal articles and book chapters with more than 18,000 cumulative citations.



## John G. Watson

Professor

Desert Research Institute

Dr. John G. Watson, Research Professor in the Division of Atmospheric Sciences (DAS) at the Desert Research Institute (DRI), part of the Nevada System of Higher Education (NSHE), has over 40 years of experience in physics, environmental sciences, air quality network design and measurement, and source/receptor modeling to support air quality managements. He received his Ph.D. in Environmental Sciences from Oregon Graduate Institute (now Oregon Health and Science University) in 1979. Dr. Watson is a recipient of the Alessandro Dandini Medal of Science, the Air & Waste Management Association's Frank A. Chambers Award for Outstanding Technical Achievement in the Science and Art of Air Pollution Control and is an A&WMA Fellow. Dr. Watson has authored more than 400 peer-reviewed publications and book chapters with more than 17,000 combine citations.



## Shun-cheng Lee

Professor

The Hong Kong Polytechnic University

Lee Shun-cheng, Professor of the Department of Civil and Environmental Engineering at The Hong Kong Polytechnic University. He has been working on indoor and outdoor air pollution studies, namely toxic air pollution modelling, emission source characterization and carbonaceous aerosol characterization. Apart from air pollution studies, he is devoted to risk assessment research with respect to public health, such as the exposure to volatile organic compounds in indoor environments. He was Chairman of the Air and Waste Management Association in Hong Kong from 1997 to 1999 and is an editorial board member of the Air & Waste Management Association, Atmospheric System, and Aerosol and Air Quality Research. He has published around 300 papers in the international journals, being cited by SCI in total of 10111 times (h-index: 59) and over 100 times of single citation for 30 papers.





## **Kin-fai HO**

Professor

The Chinese University of Hong Kong

Prof. Ho is an environmental scientist, focusing on exposure assessment of air pollutants in Hong Kong and China. He has strong background in analytical chemistry with many years of solid experiences in toxic air pollutants (TAPs) and health related research. He is also competent in applying cutting-edge analytical chemistry techniques in indoor and outdoor air quality monitoring. He has published over 170 scientific articles in international peer-reviewed journals with overall 6000 citations. His recent research focuses on toxic air pollutants and their impacts on human health such as particulate matter compositions, sources and health relations, exposure science and particle toxicology.



## **Yu Huang**

Professor

Institute of Earth Environment, Chinese Academy of Sciences

Dr. Yu Huang is a Professor of the Institute of Earth Environment (IEE), Chinese Academy of Sciences. Dr. Huang received his doctorate (PhD) from the Hong Kong Polytechnic University in 2012. He studied and worked for seven years in Hong Kong, and thereafter joined IEECAS through the "Hundred Talents Program" of the CAS in 2014. His research has mainly focused on fundamental and applied research in photocatalysis technologies for air pollution control, and has made numerous and substantial achievements in the areas of ambient air pollution control technologies, indoor air pollution control technologies and the studies on VOCs sampling and analysis. Dr. Huang has published over 80 papers on peer-reviewed international journals. His publications have been cited more than 1600 times. He has been awarded the 2015 Young Scientist of China Association of Aerosol Science & Technology and the 2017 Young Scientist of Chinese Society of Particology from The China Association of Aerosol Science & Technology.



## **Jing Wang**

Associate professor

Institute of Environmental Engineering at ETH Zurich (Swiss Federal Institute of Technology Zurich)

Jing Wang leads the group of Air Quality and Particle Technology. He is also a group leader at Empa (Swiss Federal Laboratories for Materials Science and Technology). Jing Wang obtained his PhD degree from the Department of Aerospace Engineering, University of Minnesota in 2005. He received the 'Best Dissertation' Award in Physical Sciences and Engineering, University of Minnesota in 2006 and the Smoluchowski award conferred by the Association for Aerosol Research (Gesellschaft für Aerosolforschung, GAeF) in recognition of his contribution to the field of "Environmental, Health and Safety Impact of Nanomaterials" in 2011. He was one of the keynote speakers in the International Aerosol Conference 2014 and the 6th International Conference on Environmental Pollution and Remediation 2016. His main research interests are air quality, environmental and health impact of airborne pollutants, airborne nanoparticle measurement and emission control, air and water filtration. He is currently an editor for Aerosol Science and Technology.



# Plenary Presentation (Euro-Asia Grand Ballroom)

<b>Date and Time</b>	<b>October 17, 8:00-12:00</b>
<b>8:00—8:30 (Euro-Asia Grand Ballroom)</b>	Opening Ceremony
<b>Plenary Session Chair</b>	<b>Prof. Junji Cao</b> Institute of Earth Environment, Chinese Academy of Sciences, China
<b>8:30—9:30 (Euro-Asia Grand Ballroom)</b>	<b>Plenary 1: Air Quality and Climate Change: Science and Politics</b>  Prof. <b>Mario Molina</b> , University of California, San Diego, USA
<b>9:30—10:00 (Euro-Asia Grand Ballroom)</b>	Coffee Break & Exhibition
<b>Plenary Session Chair</b>	<b>Prof. Mario Molina</b> University of California, San Diego, USA; <b>Prof. Zhisheng An</b> Institute of Earth Environment, Chinese Academy of Sciences, China
<b>10:00—11:00 (Euro-Asia Grand Ballroom)</b>	<b>Plenary 2: Aerosol Effects on Climate and Human Health: Urgent Research Needs</b>  Prof. <b>James Hansen</b> , Columbia University, USA
<b>11:00—12:00 (Euro-Asia Grand Ballroom)</b>	<b>Plenary 3: Multiple Payers Have an Influence on New Particle Formation: An Overview on the CLOUD Experiments at CERN</b>  Prof. <b>Urs Baltensperger</b> , Paul Scherrer Institute, Switzerland
<b>12:00—13:30 (Paulaner &amp; Cafe Berli)</b>	Lunch Buffet



<b>Date and Time</b>	<b>October 20, 8:00-13:00</b>
<b>Plenary Session Chair</b>	<p>Prof. James Hansen Columbia University, USA</p> <p>Prof. Minghua Zhang Stony Brook University editor-in-chief of Journal of Geophysical Research, USA</p>
<b>8:00—9:00 (Euro-Asia Grand Ballroom)</b>	<p>Plenary 4: Green Technologies for Sustainable Environment</p> <p>Prof. <b>David Y.H. Pui</b>, University of Minnesota, USA</p>
<b>9:00—10:00 (Euro-Asia Grand Ballroom)</b>	<p>Plenary 5: The progress and challenge of the air pollution control in China</p> <p>Prof. <b>Jiming Hao</b>, Tsinghua University, China</p>
<b>10:00—10:30 (Euro-Asia Grand Ballroom)</b>	Coffee Break & Exhibition
<b>Plenary Session Chair</b>	<p>Prof. Weijian Zhou Institute of Earth Environment, Chinese Academy of Sciences, China</p> <p>Prof. Brooks Hanson AGU Publication Director, USA</p>
<b>10:30—11:30 (Euro-Asia Grand Ballroom)</b>	<p>Plenary 6: Pioneering efforts in India and China signal a new dawn for air pollution control</p> <p>Prof. <b>Kirk Smith</b>, University of California Berkley, USA</p>
<b>11:30—12:30 (Euro-Asia Grand Ballroom)</b>	AGU presentation
<b>12:30—13:00 (Euro-Asia Grand Ballroom)</b>	Closing Ceremony and Award Ceremony
<b>13:00—14:00 (Paulaner &amp; Cafe Berlin)</b>	Lunch Buffet



# Plenary Speakers



## **Mario Molina**

*Academician , National Academy of Sciences, USA*

*University of California (San Diego ) , USA*

He is the President of the Mario Molina Center for Strategic Studies in Energy and the Environment, located in Mexico City. He is also a Professor at the University of California, San Diego (UCSD), with a joint appointment in the Department of Chemistry and Biochemistry and the Scripps Institution of Oceanography. Professor Molina has been involved in developing our scientific understanding of the chemistry of the stratospheric ozone layer and its susceptibility to human-made perturbations. He was a co-author, with F. S. Rowland, of the 1974 publication in the British magazine Nature, of their research on the threat to the ozone layer from chlorofluorocarbon (CFC) gases that were being used as propellants in spray cans, as refrigerants, as solvents, etc. More recently, Professor Molina has also been involved with the chemistry of air pollution of the lower atmosphere, and with science-policy issues related to the climate change problem. He is a member of the US National Academy of Sciences and the Institute of Medicine, the Pontifical Academy of Sciences, and of the Mexican Academy of Sciences. He has received more than forty honorary degrees, as well as numerous awards for his scientific work including the Tyler Ecology and Energy Prize in 1983, the UNEP-Sasakawa Award in 1999, and the 1995 Nobel Prize in Chemistry, as well as various governmental recognitions from around the world, including the US Medal of Freedom..

**Date and Time: 8:30-9:30, OCTOBER 17, 2018**

**Topic: Air Quality and Climate Change: Science and Politics**



## **James Hansen**

*Academician , National Academy of Sciences, USA*

*Columbia University, USA*

Dr. James Hansen, formerly Director of the NASA Goddard Institute for Space Studies, is an Adjunct Professor at Columbia University's Earth Institute, where he directs a program in Climate Science, Awareness and Solutions. Dr. Hansen is best known for his testimony on climate change in the 1980s that helped raise awareness of global warming. He is a member of the U.S. National Academy of Sciences and has received numerous awards including the Sophie and Blue Planet Prizes. Dr. Hansen is recognized for speaking truth to power and for outlining actions needed to protect the future of young people and all species on the planet.

**Date and Time: 10:00-11:00, OCTOBER 17, 2018**

**Topic: Aerosol Effects on Climate and Human Health: Urgent Research Needs**



## **Urs Baltensperger**

*Professor*

*Paul Scherrer Institute, Switzerland*

Urs Baltensperger is head of the Laboratory of Atmospheric Chemistry at the Paul Scherrer Institute and Professor at ETH Zürich in Switzerland. He has published more than 400 peer-reviewed publications which have been cited more than 26'000 times. He has an h-index of 81 and has been a highly cited researcher every year since 2014. He is an AGU Fellow and has among others, won the Fuchs Memorial Award of the International Aerosol Research Assembly.

**Date and Time: 11:00-12:00, OCTOBER 17, 2018**

**Topic: Multiple Players Have an Influence on New Particle Formation: An Overview on the CLOUD Experiments at CERN**





### **David Y.H. Pui**

*Academician, National Academy of Engineering, USA*

*University of Minnesota, USA*

David Y. H. Pui is Distinguished McKnight University Professor. He is a member of US National Academy of Engineering for his contributions to aerosol and nanoparticle science and engineering for air pollution control. He has a broad range of research experience in aerosol and nanoparticle science and filtration technology, and has over 270 published journal papers and 30 patents. He has developed several widely used commercial aerosol instruments.

**Date and Time: 8:00-9:00, OCTOBER 20, 2018**

**Topic: Green Technologies for Sustainable Environment**



### **Jiming Hao**

*Academician, Chinese Academy of Engineering/National Academy of Engineering, USA*

*Tsinghua University, China*

The first batch of distinguished professor of the Changjiang Scholar of the Ministry of Education, National Teaching Teacher, and the Academician of the Chinese Academy of Engineering and the US Academy of Engineering. Prof. Hao is a recipient of several prestigious national awards including the National Science and Technology Progress Award, National Technology Invention Award and National Natural Science Award. In 2015 he won the Haagen-Smit Clean Air Award and in 2016 the IBM Global Faculty Award.

**Date and Time: 9:00-10:00, OCTOBER 20, 2018**

**Topic: The progress and challenge of the air pollution control in China**



### **Kirk Smith**

*Academician, National Academy of Sciences, USA*

*University of California (Berkeley), USA*

Kirk R. Smith is Professor of Global Environmental Health at the University of California Berkeley and Director of the Collaborative Clean Air Policy Centre, New Delhi. For his work measuring the extent and health impacts of the air pollution from household fuels around the world, he was elected to the US National Academy of Sciences in 1997, which is one of the highest scientific honors in the USA. In 2007, along with 800 other scientists, he shared the Nobel Peace Prize for his contributions to the Intergovernmental Panel on Climate Change (IPCC) and was a Convening Author for the IPCC's 5<sup>th</sup> assessment in 2014, co leading the chapter on health effects, and has been a senior participant in the Global Burden of Disease, the World Energy Assessment, and WHO Air Quality Guidelines as well as leading the USNAS's report on Exposure Science for the 21<sup>st</sup> Century. In 2009, he received the Heinz Prize for his work in environment and in 2010, the team he led won first prize in the Vodafone Innovation Contest for technology to meet social needs. In 2012, he was awarded the Tyler Prize for Environmental Achievement. He holds bachelors, masters, and doctoral degrees from the University of California Berkeley and several honorary professorships in both India and China.

**Date and Time: 10:30-11:30, OCTOBER 20, 2018**

**Topic: Pioneering efforts in India and China signal a new dawn for air pollution control**



# Oral Sessions, Wednesday, October 17

Time and Location	Track I ( Euro-Asia Grand Ballroom I )	Track II ( Euro-Asia Grand Ballroom II )
13:30-15:00	<b>Fundamentals PM<sub>2.5</sub> physics and chemistry I</b>	<b>Urban air pollution and source apportionment I</b>
	Session Chairs: <b>Chak Chan:</b> City University of Hong Kong  <b>Rujin Huang:</b> Institute of Earth and Environment, Chinese Academy of Sciences	Session Chairs: <b>Roy Harrison:</b> University of Birmingham  <b>Lin Zhang:</b> Peking University
<b>Details See</b>	Page 30	Page 30
<b>15:00-15:30</b>	Coffee Break & Exhibition	
15:30-16:30	<b>Fundamentals PM<sub>2.5</sub> physics and chemistry I</b>	<b>Urban air pollution and source apportionment II</b>
	Session Chairs: <b>Jun Zhao :</b> Sun Yat-sen University  <b>James J. Lee:</b> Yunlin University of Science & Technology	Session Chairs: <b>John Waston:</b> Desert Research Institute  <b>Zongbo Shi:</b> University of Birmingham
<b>Details See</b>	Page 32	Page 32
16:30-18:00	Poster, Exhibition and Coffee Break	
	<b>Poster Session I</b>  Session Chair: <b>Renjian Zhang</b> Institute of Atmospheric Physics, Chinese Academy of Sciences  <b>Zhenxing Shen</b> Xi'an Jiaotong University	
<b>Details See</b>	Page 44-47	
<b>18:00-21:30</b>	Outdoor BBQ	



<b>Track III (Room 3: VIP Yanta Room)</b>	<b>Track IV (Room 4: VIP Qinling Room)</b>	<b>Track V (Room 5: Rotunda)</b>
<b>Asian haze and dust storm I</b>	<b>Aerosol and climate change I</b>	<b>Health and environment related PM<sub>2.5</sub> I</b>
Session Chairs: <b>Judith Chow:</b> Desert Research Institute  <b>Jason Blake Cohen:</b> Sun Yat-Sen University	Session Chairs: <b>Kebin He:</b> Tsinghua University  <b>Moiz Usmani :</b> West Virginia University	Session Chairs: <b>Wei Huang:</b> Peking University  <b>Kihong Park:</b> Gwangju Institute of Science and Technology
Page 31	Page 31	Page 31
Coffee Break & Exhibition		
<b>Asian haze and dust storm II</b>	<b>Aerosol and climate change II</b>	<b>Health and environment related PM<sub>2.5</sub> II</b>
Session Chairs: <b>Daizhou Zhang:</b> Prefectural University of Kumamoto  <b>Weijun Li :</b> Zhejiang University	Session Chairs: <b>Mingxi Du:</b> Peking University  <b>Chunsong Lu:</b> Nanjing University of Information Science and Technology	Session Chairs: <b>Yang Liu:</b> Emory University  <b>Kinfai Ho :</b> The Chinese University of Hong Kong
Page 33	Page 33	Page 33
Poster, Exhibition and Coffee Break		
<b>Poster Session I</b>  Session Chair: <b>Renjian Zhang</b> The Institute of Atmospheric Physics, Chinese Academy of Sciences  <b>Zhenxing Shen</b> Xi'an Jiaotong University		
Page 44-47		
Outdoor BBQ		



# Oral Sessions, THURSDAY, OCTOBER 18

Time and Location	Track I ( Euro-Asia Grand Ballroom I )	Track II ( Euro-Asia Grand Ballroom II)
8:00-10:00	Fundamentals PM <sub>2.5</sub> physics and Chemistry III	Air quality in Fenwei Plain, China
	Session Chairs: <b>Zhonglin Wang</b> : Georgia Institute of Technology  <b>Lin Wang</b> : Fudan University	Session Chairs: <b>Guohui Li</b> : Institute of Earth Environment, CAS  <b>Shunxi Deng</b> : Chang'an University
Details See	Page 34	Page 34
10:00-10:30	Coffee Break & Exhibition	
10:30-12:00	Urban air pollution and source apportionment III	Urban air pollution and source apportionment IV
	Session Chairs: <b>Wenqing Liu</b> : Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Science  <b>Asta Gregorič</b> : Aerosol d.o.o.	Session Chairs: <b>Xiangdong Li</b> : The Hong Kong Polytechnic University  <b>Benjamin De Foy</b> : Saint Louis University
Details See	Page 36	Page 36
12:00-13:30	Lunch Buffet	
Study tour 1: Visiting Institute of Earth Environment, Chinese Academy of Sciences and Xi'an SALSCS (Solar-Assisted Large-Scale Cleaning System) Demonstration Unit		



<b>Track III (Room 3: VIP Yanta Room)</b>	<b>Track IV (Room 4: VIP Qinling Room)</b>	<b>Track V (Room 5: Rotunda)</b>
<b>Asian haze and dust storm III</b>	<b>Aerosol and climate change III</b>	<b>Health and environment related PM<sub>2.5</sub> III</b>
Session Chairs: <b>Gregory R Carmichael:</b> University of Iowa  <b>Robert A. Rohde:</b> Berkeley Earth	Session Chairs: <b>Jianping Huang :</b> Lanzhou University  <b>Gao Meng :</b> Harvard University	Session Chairs: <b>Tong Zhu:</b> Peking University  <b>Carly Reddington:</b> University of Leeds
Page 35	Page 35	Page 35
Coffee Break & Exhibition		
<b>Asian haze and dust storm IV</b>	<b>Instrumentation and measurement method I</b>	<b>Remote sensing of atmospheric PM<sub>2.5</sub>, aerosol and related precursors I</b>
Session Chairs: <b>Shaocai Yu:</b> Zhejiang Univeristy  <b>Shang Liu:</b> NOAA Earth System Research Laboratory	Session Chairs: <b>Hiromu Sakurai :</b> National Institute of Advanced Industrial Science and Technology  <b>Xiaobing Pang :</b> Nanjing University of Information Science & Technology	Session Chairs: <b>Oleg Dubovik :</b> University of Lille  <b>Zhengqiang Li:</b> Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
Page 37	Page 37	Page 37
Lunch Buffet		
Study tour 1: Visiting Institute of Earth Environment, Chinese Academy of Sciences and Xi'an SALSCS (Solar-Assisted Large-Scale Cleaning System) Demonstration Unit		



# Oral Sessions, FRIDAY, OCTOBER 19

Time and Location	Track I (Euro-Asia Grand Ballroom I)	Track II (Euro-Asia Grand Ballroom II)
8:00-10:00	<b>Characteristics of atmospheric PM I</b>	<b>Urban air pollution and source apportionment V</b>
	Session Chairs: <b>Giulia Pavese:</b> CNR Institute of Methodologies for Environmental Analysis <b>Fumo Yang,:</b> Sichuan University	Session Chairs: <b>Huiming Bao:</b> Louisiana State University <b>Xi Chen:</b> Princeton University
Details See	Page 38	Page 38
10:00-10:30	Coffee Break & Exhibition	
10:30-12:00	<b>Characteristics of atmospheric PM II</b>	<b>Urban air pollution and source apportionment VI</b>
	Session Chairs: <b>Denise Mauzerall:</b> Princeton University <b>Tianliang Zhao:</b> Nanjing University of Information Science and Technology	Session Chairs: <b>Yuanhang Zhang:</b> Peking University <b>Tianchu Zhang:</b> University of Windsor
Details See	Page 40	Page 40
12:00-13:30	Lunch Buffet	
13:30-15:00	<b>Characteristics of atmospheric PM III</b>	<b>Asian haze and dust storm VI</b>
	Session Chairs: <b>Ningning Zhang:</b> Institute of Earth Environment, Chinese Academy of Sciences <b>Yuqin Wang:</b> Shaanxi University of Science and Technology	Session Chairs: <b>Kaicun Wang:</b> Beijing Normal University <b>Min Hu:</b> Peking University
Details See	Page 42	Page 42
15:00-15:30	Coffee Break & Exhibition	
15:30-18:00	Poster, Exhibition and Coffee Break	
	<b>Poster Session II</b> Session Chair: <b>Shuncheng Lee</b> The Hong Kong Polytechnic University  <b>Rujin Huang</b> Institute of Earth Environment, Chinese Academy of Sciences	
	Page 48-52	
18:00-21:00	Banquet	



# Oral Session, FRIDAY, OCTOBER 19

Track III (Room 3: VIP Yanta Room)	Track IV (Room 4: VIP Qinling Room)	Track V (Room 5: Rotunda)
<b>Asian haze and dust storm V</b>	<b>Instrumentation and measurement method II</b>	<b>Remote sensing of atmospheric PM<sub>2.5</sub>, aerosol and related precursors II</b>
Session Chairs: <b>Shaw Liu</b> : Jinan University <b>Ramesh P Singh</b> : Applied Science Department, Vidya College of Engineering	Session Chairs: <b>Chuen-Jinn Tsai</b> : Chiao Tung University <b>Jingkun Jiang</b> : Tsinghua University	Session Chairs: <b>Hai Zhang</b> : IMSG, NOAA <b>Jun Wang</b> : University of Iowa
Page 39	Page 39	Page 39
Coffee Break & Exhibition		
<b>Indoor air quality and control I</b>	<b>Instrumentation and measurement method III</b>	<b>Roles of aerosol liquid water in secondary aerosol formation and climate change</b>
Session Chairs: <b>Douglas R. Worsnop</b> : Aerodyne Research <b>Yu Huang</b> : Institute of Earth Environment, Chinese Academy of Sciences	Session Chairs: <b>Zhong-Ren Peng</b> : Shanghai Jiao Tong University <b>Croteau Philip</b> : Aerodyne Research, Inc.	Session Chairs: <b>Daniel Jacob</b> : Harvard University, USA <b>Zhijun Wu</b> : Peking University
Page 41	Page 41	Page 41
Lunch Buffet		
<b>Indoor air quality and control II</b>	<b>Fundamentals PM<sub>2.5</sub> physics and chemistry V</b>	<b>Indoor air pollution and control V</b>
Session Chairs: <b>Shuncheng Lee</b> : The Hong Kong Polytechnic University <b>Wingkei Ho</b> : The Education University of Hong Kong	Session Chairs: <b>Neil McPherson Donahue</b> : Carnegie Mellon University <b>Kostas Eleftheriadis</b> : Institute of Nuclear and Radiological Science & Technology	Session Chairs: <b>Maosheng Yao</b> : Peking University <b>Xiaosan Luo</b> : Nanjing University of Information Science and Technology
Page 43	Page 43	Page 43
Coffee Break & Exhibition		
Poster, Exhibition and Coffee Break		
<b>Poster Session II</b> Session Chair: <b>Shuncheng Lee</b> The Hong Kong Polytechnic University  <b>Rujin Huang</b> Institute of Earth Environment, Chinese Academy of Sciences		
Page 48-52		
Banquet		



# Keynote Speakers



## Huiming Bao

Charles L. Jones Professor in Geology and Geophysics, Louisiana State University (LSU), U.S.A. He got his BSc from Peking University in 1986 and MSc from Chinese Academy of Sciences (CAS) in 1989. After four years on an assistant professor position in CAS, he moved to US in 1993 and got his PhD from Princeton University in 1998. One of Bao's contributions is the conceptual development, technique development, and applications of triple oxygen isotope composition to geology, planetary, and environmental problems, including the discovery of non-mass-dependently enriched or depleted oxygen-17 anomalies in minerals.



## Junji Cao

Dr. Junji Cao has about 20 years of experience in conducting air quality studies. He got his PhD from CAS in 2001. He is the principal or co-author of ~450 SCI papers (4 papers in Nature and Science) with ~15000 citations and H-index of 57 (data from WOS). He has 22000+ google scholar citations and an H-index of 71. He is listed by ISI as a Highly Cited Re-searcher in 2018. He was the President of Asian Aerosol Research Assembly in 2011-2014. He currently served as the Secretary of International Aerosol Research Assembly (IARA) and Editor-in-chief of Aerosol Science and Engineering. He got several prestigious awards including IARA IAFA award, Frank A. Chambers Excellence in Air Pollution Control Award, and the Second class of National Natural Science Award of China, etc.



## Gregory R. Carmichael

His research is focused on air pollution and climate change, where he uses comprehensive computer models and big data to simulate the interactions of air pollutants with weather and climate and to estimate resulting environmental impacts. His models are also used to evaluate effectiveness of various air pollution and climate change mitigation strategies. He has authored or co-authored over 350 scientific publications and is a Fellow of the American Institute of Chemical Engineers and the American Geophysical Union. He serves on NASA's Earth System Subcommittee and is chair of the Environmental Pollution and Atmospheric Chemistry Scientific Steering Committee for the UN World Meteorological Organization.



## Gary Casuccio

Mr. Gary Casuccio has 40 years of experience in the characterization of particulate matter using electron microscopy techniques. He manages RJ Lee Group's nanotechnology and environmental particle analysis divisions that focus on the characterization of particles for industrial, environmental, industrial hygiene and research purposes. For over 30 years, Mr. Casuccio has worked as a consultant and advisor to the U.S. Environmental Protection Agency (USEPA) related to the analysis, identification and apportionment of ambient particulate matter using scanning electron microscopy (SEM) and computer controlled-SEM (CCSEM) techniques. Gary has been instrumental in the development and use of CCSEM to characterize particulate matter. Presently, he also manages software activities related to RJ Lee Group's next generation CCSEM technology, IntelliSEM.



## Chak K. Chan






Professor Chan obtained BSc in Chemical Engineering from the University of Texas at Austin in 1986 and PhD in Chemical Engineering from the California Institute of Technology in 1992. He joined the Hong Kong University of Science and Technology (HKUST) as Assistant Professor in 1992 and rose to the rank of Professor in 2006. In 2010, he was appointed Founding Head of Division of Environment at HKUST. In 2015, he moved to City University of Hong Kong, where he serves as Dean and Chair Professor in School of Energy and Environment. Professor Chan has over 25 years of research experience in air pollution and aerosol science. He specializes in aerosol water uptake and phase transformation, gas-aerosol interactions and heterogeneous reactions of aerosols, and laser spectroscopy of aerosols. Professor Chan received Haagen Smit Award of Atmospheric Environment in 2015, Second Prize of the State Natural Science Award in 2010, and First Prize of the Natural Science Award in 2007. He was the first winner of the Asian Young Aerosol Scientists Award. He has been an Editor-in-Chief of *Atmospheric Environment* since 2008. He has published over 180 articles with a scopus citation of over 10,000.



## Judith C. Chow

Dr. Judith C. Chow, Nazir and Mary Ansari Chair in Entrepreneurialism and Science and Research Professor in the Division of Atmospheric Sciences (DAS) at the Desert Research Institute (DRI), part of the Nevada System of Higher Education (NSHE), has over 40 years of experience in developing measurement techniques and conducting air quality studies to support air quality management. She received her Doctor of Science degree in Environmental Health Science and Physiology from Harvard University in 1985. She is the charter member of the U.S. EPA's Clean Air Science Advisory Committee (CASAC), a recipient of the Air Resources Board's Haagen-Smit Clean Air Award, and a Fellow of the Air & Waste Management Association. Dr. Chow is the principal author or co-author of more than 400 peer-reviewed journal articles and book chapters with more than 18,000 cumulative citations.



	<p><b>Neil M. Donahue</b></p> <p>He was the founding director of the Center for Atmospheric Particle Studies (CAPS) at Carnegie Mellon University and now directs the Steinbrenner Institute for Environmental Education and Research. CAPS is ranked among the word leaders in research addressing fundamental behavior of atmospheric aerosols as related to both air quality and climate. Donahue is an expert in organic aerosols and fundamental kinetics and mechanisms of organic compounds in the atmosphere. He has a doctorate in Meteorology (MIT). He is a Fellow of the American Geophysical Union, editor of Atmospheric Chemistry and Physics, associate editor of the Journal of Geophysical Research, Atmospheres, and on the editorial board of the Journal of Aerosol Science. He has published more than 200 articles, with more than 16,500 total citations and an h-index of 67, recognized as a “highly-cited researcher” since 2014.</p>
	<p><b>Oleg Dubovik</b></p> <p>Dr. Oleg Dubovik specializes in retrievals of aerosol properties from satellite, ground-based, and airborne remote sensing observations. Dr. Dubovik has received his PhD from Institute of Physics, Minsk, Belarus in 1992. Then, he worked in Japan for two years, participating in ADEOS/ILAS algorithm developments, and nine years in USA at GSFC/NASA research center. Since 2006, Dr. Dubovik works in the Laboratoire d'Optique Atmosphérique, Université Lille, France as CNRS “Research Director”. Main scientific accomplishments of Dr. Dubovik include following developments: - aerosol retrieval algorithm for AERONET federated network of ground-based radiometers; - one of pioneering climatologies of absorption and optical properties of ambient tropospheric aerosol; - popular efficient software for modeling scattering by non-spherical aerosol particles. Dr. Dubovik focuses on refinement of methodological aspects of numerical inversion for needs of remote sensing by applying elaborated statistical optimization approach. The developed principles were recently realized GRASP open source algorithm that can be applied to retrieval detailed aerosol properties from diverse observations including both passive and active observations from satellite or ground. For example, GRASP has been used for deriving extended set of parameters from observations by POLDER and MERIS satellite instruments, combination of ground-based observations by lidar and radiometer, etc.</p>
	<p><b>Konstantinos Eleftheriadis</b></p> <p>Dr. Konstantinos Eleftheriadis is a Director of Research at NCSR Demokritos, Head of the Aerosol Group at the Institute of Nuclear &amp; Radiological Sciences &amp; Technology, Energy &amp; Safety. Research expertise on Physicochemical aerosol characterization and nuclear analytical techniques with respect to climatic active aerosol species, nano-particle metrology, development of novel sampling and measurement techniques for aerosol particles, exposure of humans to aerosol contaminants. PI for Demokritos in several EU FP and DG-ENV programmes, IAEA Regional projects &amp; other National programmes. Established infrastructure, including the Athens GAW/ACTRIS Demokritos station, the Mt. Helmos Free troposphere Aerosol and GHG station and the QA/QC physical aerosol properties lab facility. National Counterpart for Greece in Regional IAEA programmes. He has supervised 12 PhD theses and 10 MSc project theses. He has more than 140 publications in peer reviewed journals. Invited reviewer and evaluator for project proposals by a) EURAMET European Metrology Research, the Czech Academy of Sciences Grant programme. Three invited expert missions by IAEA in the Environment programme for Africa and Middle East, Member of the National Emergency Action Plan “Xenokratris”. Founding member and president of the Hellenic Association for Aerosol Research.</p>
	<p><b>Roy Harrison</b></p> <p>He is Queen Elizabeth II Birmingham Centenary Professor of Environmental Health at the University of Birmingham, UK, and also Distinguished Adjunct Professor at King Abdulaziz University, Saudi Arabia. His research interests are in air pollution, especially airborne particulate matter. He has also been heavily engaged at the science/policy interface as a member of several government technical advisory groups for the Department of Health and the Department for Environment, Food and Rural Affairs (Defra) in the U.K. including until recently membership of Defra’s Science Advisory Council. He was a contributor to the World Health Organization Global Air Quality Guidelines and the Guidelines for Quality of Indoor Air. He was appointed an Officer of the Order of the British Empire (OBE) in the 2004 New Year Honours List and elected a Fellow of the Royal Society in 2017. He is author of over 500 papers in the peer-reviewed literature, and is listed by ISI as a Highly Cited Researcher.</p>
	<p><b>Kebin He</b></p> <p>Dean and Professor, Members of the Chinese Academy of Engineering, School of Environment, Tsinghua University, China. He has over 20 years of research experience in air pollution control. He promoted the development and application of new dynamic regulation technologies for regional air quality management by focusing on technology of high-resolution emission inventories, multi-dimensional source apportionment technology for complex pollution, and multi-pollutant collaborative control technology. HE presided over the establishment of online technology platform for Chinese multi-scale emission inventory. Up to now, HE Kebin has been honored with one Second-class Prize of National Natural Science Award and three Second-class Prizes of National Sci. &amp; Tech. Progress Award. He has published 6 monographs including Atmospheric Particulate Matter and Regional Complex Pollution and Technology and Application of On-road Vehicles Emission Model.</p>



# Keynote Speakers



## Jianping Huang

Professor Huang Jianping focuses on semi-arid climate change by combining observations, numerical modeling and theoretical study. He discovered enhanced warming in semi-arid areas and further investigates the feedback of land-atmosphere interaction and aridification, discovering that the increase of land surface temperature and human activities have devastating effect on vegetation on the underlying surface. Moreover, he revealed the influence of mineral dust on aridification in the northwest of China. Huang has published 233 papers on domestic and international journals (160 SCI ones), which were quoted for 5358 times by SCI papers with an H-Index of 43. Part of his research accomplishments won the 2<sup>nd</sup> National Prize for Natural Science in 2013. He published a cover paper on *Nature Climate Change*.



## Wei Huang

Wei Huang received her Doctor of Science (ScD) degree from Department of Environmental Health at Harvard T.H. Chan School of Public Health in 2003. She then joined the Health Effects Institute in Boston overseeing exposure assessment and environmental epidemiology studies, particularly in Asian cities. Since joined Peking University in 2007, Dr Huang has served as PIs on multiple studies in exposure assessment and environmental epidemiology through collaborations with researchers with interdisciplinary expertise and from multi-countries. Her research focuses on exposure assessment, air pollution attributed effects and risks on chronic diseases and in vulnerable, underlying pathophysiological mechanisms, and health intervention strategies. She also teaches graduate courses on environmental epidemiology and exposure assessment methodology. Since 2012, Dr Huang has served as advisors on national and international panels in environmental health, including WHO, IARC, National Health Commission and Ministry of Ecology and Environment of China.



## Daniel J. Jacob

He is Professor of Atmospheric Chemistry at Harvard University. He received his Ph.D. from Caltech in 1985. His research covers a range of topics from air quality to climate change and biogeochemical cycles. He leads the GEOS-Chem global model community, has led eight NASA aircraft missions, and serves on satellite science teams. Among his honors are the ECMWF Fellowship (2016), the NASA Distinguished Public Service Medal (2003), the AGU Macelwane Medal (1994) and the Packard Fellowship (1989). Jacob has 417 peer-reviewed publications and a *h*-index of 111 according to the Web of Science, and he has trained over 100 Ph.D. students and postdocs over the course of his career. He is textbook author of *Introduction to Atmospheric Chemistry* (1999) and co-author with Guy Brasseur of *Modeling of Atmospheric Chemistry* (2017).



## Shun-cheng Lee

Professor of the Department of Civil and Environmental Engineering at The Hong Kong Polytechnic University. He has been working on indoor and outdoor air pollution studies, namely toxic air pollution modelling, emission source characterization and carbonaceous aerosol characterization. Apart from air pollution studies, he is devoted to risk assessment research with respect to public health, such as the exposure to volatile organic compounds in indoor environments. He was Chairman of the Air and Waste Management Association in Hong Kong from 1997 to 1999 and is an editorial board member of the Air & Waste Management Association, Atmospheric System, and Aerosol and Air Quality Research. He has published around 300 papers in the international journals, being cited by SCI in total of 10111 times (*h*-index: 59) and over 100 times of single citation for 30 papers.



## Xiang-dong Li

Professor Xiang-dong Li is the Director of Research Institute of Sustainable Urban development, Chair Professor of Environmental Science and Technology at Department of Civil & Environmental Engineering, Associate Dean (Research) of Faculty of Construction and Environment, The Hong Kong Polytechnic University.

Prof. Li's major research interests include regional pollution, urban environmental studies, and remediation of contaminated soils. He has published more than 200 papers in leading international journals, and is one of the highly cited researchers in Environment/Ecology of the Web of Science database. He was awarded the Outstanding Young Researcher (Oversea) Fund from the Natural Science Foundation of China (NSFC) in 2007.



	<p><b>Shaw Chen Liu</b>  Prof. Shaw Chen Liu has been a professor and honorary dean at the Institute for Environmental and Climate Research, Jinan University since 2016. He was the Founding Director and a Distinguished Research Fellow at the Research Center for Environmental Changes, Academia Sinica, Taipei, China in 2000-2016. Prof. Liu's research interests focus on atmospheric chemistry, air pollution and climate change. He has more than 160 publications and is one of the ISI Highly Cited Researchers. He served as the Editor-in-Chief of Journal of Geophysical Research-Atmospheres (JGR) in 1988-1991. Prof. Liu is a Fellow of the American Geophysical Union and a Fellow of the Chinese Meteorological Society. He was elected as an Academician of Academia Sinica in 2012, and elected a member of the World Academy of Sciences (TWAS) in 2013.</p>
	<p><b>Wenqing Liu</b>  Wenqing Liu is currently an academician of Chinese Academy of Engineering, research professor at the Hefei Institutes of Physical Science, Chinese Academy of Sciences, Director of National Engineering Lab of Advanced Atmospheric Environmental Monitoring Technology and Equipment. His work is focus on environmental monitoring technology and its application. He initially carried out cross-over integrated innovation research in optics and environmental science, and developed new optical methods of environmental monitoring. He has published more than 200 papers in reputed journals and obtained 79 patents for inventions. He won the Second National Prize for Progress in Science and Technology (2007, 2011, 2015) and the Ho Leung Ho Lee Foundation Science and Technology Prize (2016)</p>
	<p><b>Denise Mauzerall</b>  Denise Mauzerall is a Professor at Princeton University, holding a joint appointment between the Woodrow Wilson School of Public and International Affairs and the Department of Civil and Environmental Engineering. Her research examines linkages between air pollution origin, transport and impacts, including impacts on human health, food security, and climate change. Her recent work has focused on opportunities for China's current and future energy system to simultaneously improve air quality, reduce emissions of greenhouse gases and address water scarcity. Prior to Princeton, Mauzerall worked for the US EPA, at the National Center for Atmospheric Research, and as an environmental consultant. She has lectured widely around the world at universities, conferences, and for government and non-governmental agencies. Mauzerall received her MS in environmental engineering from Stanford University and her PhD in atmospheric chemistry from Harvard University.</p>
	<p><b>Kihong Park</b>  Currently, Kihong Park is a Professor and Dean of School of Environmental Science and Technology, Gwangju Institute of Science and Technology (GIST), Korea  Prof Park is an Editor in Aerosol Science and Technology (AST) and an Editorial Board member of Aerosol and Air Quality Research (AAQR).  He obtained his PhD at University of Minnesota in USA in 2003 under Prof Peter H. McMurry after his BS and MS had been completed at Seoul National University.  He had worked as an Assistant Research Professor at Desert Research Institute (DRI), USA and a Research Associate at National Institute of Science and Technology (NIST) and University of Maryland before he joined the current position at GIST in 2005.  He was a leader of PM2.5 Research Consortium (2014-2017), and now is a PI of National Leading Research Lab (NLRL) (2011-present) in Korea.</p>
	<p><b>Giulia Pavese</b>  Giulia Pavese is Researcher at the Institute of Methodologies for Environmental Analysis (IMAA) of the National Council of Research (CNR) in Italy. She is responsible of the Laboratory of Interferometry and Radiometry (LIRA).  Her research activity is focused on methods for the complete description of aerosol properties through the integration of different techniques and instruments.  She organized and/or participated in many measurements campaigns, both in Italy and abroad.  Professor Cao from IEECAS and she promoted scientific cooperation through the activities of the Joint laboratory named <i>Sino-Italian Joint Laboratory for Environmental Pollution</i>.</p>
	<p><b>Zhongren Peng</b>  Dr. Zhong-Ren Peng is Professor and Director of the Center for Intelligent Transportation Systems and Unmanned Aerial Systems (UAS) Applications Research at Shanghai Jiao Tong University, China, and Professor and Director of the International Center for Adaptation Planning and Design (iAdapt), College of Design, Construction and Planning at the University of Florida, USA. His major research focuses on the development UAS-sensors-based air monitor platform and air pollutant monitoring. In particular, his research focuses on the use of UAS for monitoring three-dimensional distributions of air pollutants, vertical profiling of pollutants, the interaction of vertical distribution and ground distribution of air pollutants, as well as the integration of air sensor networks.</p>



# Keynote Speakers



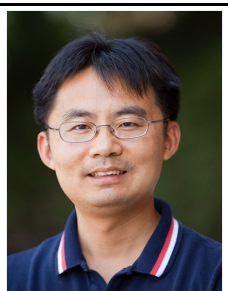
## Hiromu Sakurai

Dr. Hiromu Sakurai is the Group Leader of the Particle Measurement Research Group of the National Institute of Advanced Industrial Science and Technology (AIST), and is responsible on development and management of Japanese national standards for particle measurements, including particle number concentration and particle size. His recent research activities focus on quantitative and precise evaluation and testing of the performance of aerosol instruments for physical characterization and laboratory experiments, such as particle sizing and classification, charge conditioning, counting and detection, and aerosol generation. He is an active member of ISO committees that develop international standards for aerosol measurements..



## Chuen-Jinn Tsai

Professor Chuen-Jinn Tsai is Chair Professor of the Institute of Environmental Engineering, Chiao Tung University, Taiwan. He received his Ph. D. from Particle Technology Laboratory of University of Minnesota with his thesis advisor Prof. David Pui. He is one of the key founding members of Taiwan Association for Aerosol Research in Taiwan) and has served as the Editor-in-Chief and Editor for nearly 14 years for AAQR (Aerosol and Air Quality Research). He received the 2006 International Aerosol Fellow award, 2015 Asian Aerosol Fellow to recognize his outstanding research, technical development, education and service contributions to aerosol science and technology.



## Jun Wang

Jun Wang is a Professor in the University of Iowa, with joint appointments in Department of Chemical and Biochemical Engineering and Iowa Informatics Initiative. His research focuses on the integration of satellite remote sensing and chemistry transport model to study air quality, wildfires, aerosol-cloud interaction, and land-air interaction. He has authored 110+ research articles, and has been a science team member of several NASA missions. In 2005, he received Ph.D. degree in Atmospheric Sciences from University of Alabama –Huntsville. In 2005-2007, he was a postdoctoral researcher in Harvard University. He also holds B.S. from Nanjing Institute of Meteorology and M.S. from Institute of Atmospheric Physics.



## Zhong Lin Wang

Dr. Zhong Lin (ZL) Wang is the Hightower Chair in Materials Science and Engineering and Regents' Professor at Georgia Tech, and Founding Director and Chief Scientist at Beijing Institute of Nanoenergy and Nanosystems. Dr. Wang pioneered the nanogenerators from fundamental principle to technological applications. His research on self-powered nanosystems has inspired the worldwide effort in academia and industry for studying energy for micro-nano-systems. He coined and pioneered the fields of piezotronics and piezo-phototronics for the third generation semiconductors. Wang is ranked **No. 1** in Google Scholar public profiles in Nanotechnology & Nanoscience both in total citations and h-index impacts.

Dr. Wang has received 2018 ENI award in Energy Frontiers; Global Nanoenergy Prize (2017), The NANOSMAT Society, UK (2017); Distinguished Research Award, Pan Wen Yuan foundation (2017); Distinguished Scientist Award from (US) Southeastern Universities Research Association (2016); Thomas Router Citation Laureate in Physics (2015); World Technology Award (Materials) (2014); Distinguished Professor Award (Highest faculty honor at Georgia Tech) (2014); NANOSMAT prize (United Kingdom) (2014); The James C. McGroddy Prize in New Materials from American Physical Society (2014); MRS Medal from Materials Research Soci. (2011).



## John G. Watson

Dr. John G. Watson, Research Professor in the Division of Atmospheric Sciences (DAS) at the Desert Research Institute (DRI), part of the Nevada System of Higher Education (NSHE), has over 40 years of experience in physics, environmental sciences, air quality network design and measurement, and source/receptor modeling to support air quality managements. He received his Ph.D. in Environmental Sciences from Oregon Graduate Institute (now Oregon Health and Science University) in 1979. Dr. Watson is a recipient of the Alessandro Dandini Medal of Science, the Air & Waste Management Association's Frank A. Chambers Award for Outstanding Technical Achievement in the Science and Art of Air Pollution Control and is an A&WMA Fellow. Dr. Watson has authored more than 400 peer-reviewed publications and book chapters with more than 17,000 combine citations.



## Douglas R. Worsnop

He received his PhD in chemistry from Harvard University (1982); was a Humboldt Fellow in Physics at the University of Freiburg, Germany; joined Aerodyne Research, outside Boston, in 1985. Now Vice-President (2000), he also has been FiDiPro Professor of Physics at the University of Helsinki since 2007. A Fellow of AAAS, AGU and AAAR, winner of the Benjamin Liu Prize for Aerosol Instrumentation (AAAR), the Yoram Kaufmann Award for Unselfish Cooperation in Research (AGU), the Fuchs Memorial Award (IARA) for outstanding research in aerosol science and the American Chemical Society (ACS) Award for Creativity in Environmental Science, he has over 500 publications in chemical kinetics and aerosol chemistry, specializing in laboratory and field studies of the interactions of gases and aerosol particles.



	<p><b>Maosheng Yao</b> Dr. Maosheng Yao is a FULL Professor with Tenure of College of Environmental Sciences and Engineering, Peking University. Dr. Yao received his PhD in Environmental Science in 2006 from Rutgers University, and thereafter performed postdoctoral studies at Yale University. Dr. Yao joined Peking University via “100 Scholar Program” in 2007. Dr. Yao’s research interests are in the field of air pollution and health effects with a focus on bioaerosols. His work is recognized both by the Marian Smoluchowski and the Kenneth T. Whitby Award. In 2017, Dr. Yao was awarded the “The NSF of China Distinguished Young Scholar Fund”. Dr. Yao has published 60+ peer-reviewed first/corresponding author journal articles, and received 6 patents. Dr. Yao’ bioaerosol research developments have been actively commercialized.</p>
	<p><b>Shaocai Yu</b> Dr. Shaocai Yu is "1000 talent plan" Chair Professor in College of Environment and Natural Resources at Zhejiang University, a visiting professor at California Institute of Technology and adjunct professor at North Carolina State University (NCSSU). He received a Ph.D. degree from NCSU and a B.S. degree from Peking University. His research interests include air pollution chemistry modeling and assessment, and interactions among chemistry, cloud microphysics, and climate. He has published more than 80 peer-reviewed journal publications, with papers published in Nature, PNAS, New England of Medicine, etc. He was awarded a few prestigious research awards including Fellow of the Royal Meteorological Society (UK) (elected, 2011), winner of silver medal for superior service of 2011 U.S. EPA National honor awards, winner of the U.S. EPA’s 2011 Level II Scientific and Technological Achievement Awards.</p>
	<p><b>Yuanhang Zhang</b> Dr. Zhang Yuanhang is a professor at College of environmental Sciences and Engineering, Peking University, member of Chinese Academy of Engineering. His research interest mainly focuses on air pollution formation mechanism, environment impacts and control policy in regional and city scale. He is executive chair of MCAP science team, a key project under framework of national key research and development program of China.</p>
	<p><b>Weijian Zhou</b> Member of Chinese Academy of Sciences, Fellow of American Geophysical Union, is a leading scientist in geosciences. Prof. Zhou has been at the forefront of developments in using multiple nuclide tracers for understanding environmental change at both the regional and global scale. She made important breakthroughs in using <math>^{10}\text{Be}</math> in loess, for example, she has solved the ~20 years’ discrepancy of B/M boundary and has made contributions to climate change; She is applying <math>^{14}\text{C}</math> tracing to document fossil fuel emissions and <math>^{129}\text{I}</math> tracing aimed at promoting nuclear environmental safety in China. Prof. Zhou is now the member of the IGCP (the International Geoscience Programme) Council (2018), and now is serving as Member of the Academy of Sciences for the Developing World (TWAS)( from 2010), the Editorial member of the international journal Radiocarbon (from 2000); She was the member of PAGES/CLIVAR Intersection Working Group (2004-2008) and etc.</p>
	<p><b>Fahua Zhu</b> Ph.D, Senior Engineer with Professor-level. He works for State Power Environmental Protection Research Institute as President and for State Environmental Protection Key Lab for Air Physical Simulation and Pollution Control as Director. He works for the 7 <i>periodical science and technology Journals of Electric Power Technology and Environmental Protection</i> as editor-in-chief, vice- editor-in-chief or editor committee. He was awarded person of the year 2017 of Scientific Chinese, National "top ten" outstanding environmental science and technology workers. He is a energy-saving &amp; reduction expert of SASAC of the State Council. He is the State committee member of CIGRE, director of China Society of Environmental Science, Honorary Chairman of environmental protection division of CSEE, Vice-chairman of Environmental Protection Standardization Technological Committee for Power Sector, and Vice-chairman of Environmental Impact Assessment division of CSEC. He has awarded 6 first rewords with ministerial or provincial level scientific and technological progresses. He published 22 monographs, textbooks and other, the preparation of 22 national and sector and local standards, published over 230 articles.</p>
	<p><b>Tong Zhu</b> Dr. Tong Zhu has been a Cheung Kong chair professor of environmental chemistry at Peking University since 2000, and served as the Dean of the College of Environmental Science and Engineering, Peking University since 2012. He received a Bachelor and a Master degree in Chemistry from Peking University and a doctorate degree in Physical Chemistry from Wuppertal University, Germany. He has focused on understanding atmospheric physical and chemical processes at a fundamental level by unraveling the underlying mechanisms of air pollution, and providing critical insights into the impacts of human activities on the megacity air pollution, human health, and climate.</p>



# Oral Sessions

**WEDNESDAY, OCTOBER 17, 13:30-15:00**

Subject	Fundamentals PM <sub>2.5</sub> physics and chemistry I	Urban air pollution and source apportionment I
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Chak Chan:</b> City University of Hong Kong <b>Rujin Huang:</b> Institute of Earth and Environment, Chinese Academy of Sciences	<b>Roy Harrison:</b> University of Birmingham <b>Lin Zhang:</b> Peking University
	<b>Keynote:</b> Comparison of secondary organic aerosol formation from toluene on initially wet and dry ammonium sulfate particles	Ammonia emissions in China and their impacts on surface PM <sub>2.5</sub> pollution over 2005-2015
	<b>13:30-14:00 Chak K Chan</b> City University of Hong Kong,	<b>13:30-13:45 Lin Zhang</b> Peking University
	Developing a mechanistic understanding of gas phase dimer formation from $\alpha$ -pinene ozonolysis through combined experimental and modelling studies	Investigation of the enhanced oxalate formation in the Fe-containing particles and environmental implications
	<b>14:00-14:15 Yue Zhao</b> Shanghai Jiao Tong University	<b>13:45-14:00 Guohua Zhang</b> Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
	Dominated Atmospheric Deposition of Decabrominated Diphenyl Ether-209 (BDE-209) in the Yangtze River Estuary, East China Sea	<b>Keynote:</b> An assessment of the influence of emissions reductions and meteorology upon air quality trends in Beijing: 2013-2017
	<b>14:15-14:30 Tianfeng Guo</b> Fudan University	<b>14:00-14:30 Roy Harrison</b> University of Birmingham
	Characterizations of gas-phase oxalic acid under various environment in China	Characteristics of PAHs, nitro-PAHs and oxy-PAHs in the North China: concentration, sources, secondary formation and health risk assessment
	<b>14:30-14:45 Jun Zheng</b> NUIST	<b>14:30-14:45 Lingxiao Yang</b> Shandong University
	Brown Carbon Aerosol in Urban Xi'an, Northwest China: The Composition and Light Absorption Properties	High resolution lightning induced NO <sub>x</sub> and O <sub>3</sub> source estimation in Guangdong province, South China
	<b>14:45-15:00 Rujin Huang</b> Institute of Earth and Environment, Chinese Academy of Sciences	<b>14:45-15:00 Yonglin Liu</b> Jinan University



Asian haze and dust storm I	Aerosol and climate change I	Health and environment related PM <sub>2.5</sub> I
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Judith Chow</b> : Desert Research Institute, NevadaSystem of Higher Education <b>Jason Blake Cohen</b> : Sun Yat-Sen University	<b>Kebin He</b> :Tsinghua Universit <b>Moiz Usmani</b> : West Virginia University	<b>Wei Huang</b> : Peking University <b>Kihong Park</b> : Gwangju Institute of Science and Technology
Constraining New and Evolving Sources of PM <sub>2.5</sub> , their Long-Range Transport, and Large-Scale Impact	Dipole Like Aerosol Variability in East China Associated with El	Reactive oxygen species and organic radicals formed upon interaction of water with PM <sub>2.5</sub> from clean forest and polluted urban air
<b>13:30-13:45 Jason Blake Cohen</b> Sun Yat-Sen University	<b>13:30-13:45 Jing Li</b> NASA Goddard Institute for Space Studies	<b>13:30-13:45 Haijie Tong</b> Max Planck Institute for Chemistry
Chemical Components, Variation, and Source Identification of PM1 during the Heavy Air Pollution Episodes in Beijing in December 2016	Chemical characterization, optical properties and potential sources of PM <sub>2.5</sub> during winter and summer haze episodes in Xi'an, northwest of China	<b>Keynote:</b> Differential toxicities and sizes of fine particulate matters from various sources: additional health metric for fine particles in the ambient atmosphere
<b>13:45-14:00 Yangmei Zhang</b> Chinese Academy of Meteorology Sciences	<b>13:45-14:00 Qian Zhang</b> Xi'an University of Architecture and Technology	<b>13:45-14:15 Kihong Park</b> Gwangju Institute of Science and Technology
Radiative Feedbacks of Dust-in-Snow over the Tibetan Plateau on East Asian Dust Cycle	The great Indo-Gangetic smog	Temporal and spatial distribution of harmful organic compounds in the aerosols of China
<b>14:00-14:15 Xiaoning Xie</b> Institute of Earth and Environment, Chinese Academy of Sciences	<b>14:00-14:15 Moiz Usmani</b> West Virginia University	<b>14:15-14:30 Jianjun Li</b> Institute of Earth Environment, Chinese Academy of Sciences
Vertically-resolved Characteristics of Air Pollution during Two Severe Winter Haze Episodes in Urban Beijing, China	<b>Keynote:</b> Development and application of Multi-resolution Emission Inventory for China (MEIC) model	<b>Keynote:</b> High level of source-specific particulate matter air pollution associated with cardiac arrhythmias
<b>14:15-14:30 Qingqing Wang</b> Institute of Atmospheric Physics, Chinese Academy of Sciences	<b>14:15-14:45 Kebin He</b> Tsinghua University	<b>14:30-15:00 Wei Huang</b> Peking University
<b>Keynote:</b> Overview of brown carbon measurement methods for source apportionment	Dynamic changes of optical and chemical properties for Tar ball particles during atmospheric aging	
<b>14:30-15:00 Judith Chow</b> Desert Research Institute, NevadaSystem of Higher Education	<b>14:45-15:00 Chunlin Li</b> Weizmann Institute of Science	



# Oral Sessions

**WEDNESDAY, OCTOBER 17, 15:30-16:30**

Subject	Fundamentals PM <sub>2.5</sub> physics and chemistry II	Urban air pollution and source apportionment II
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Jun Zhao</b> :Sun Yat-sen University <b>James J. Lee</b> : Yunlin University of Science & Technology	<b>John Waston</b> : Desert Research Institute <b>Zongbo Shi</b> : University of Birmingham
	New Particle Formation from Ozonolysis of Sesquiterpenes	<b>Keynote:</b> Similarities and differences between air quality characteristics in the Greater Xian Region and Central California by Watson
	<b>15:30-15:45 Jun Zhao</b> Sun Yat-sen University	<b>15:30-16:00 John Watson</b> University of Nevada
	Production of organic particulate matter affected by particle surface area concentration in a continuously mixed flow reactor	Nitrogen Isotope Fractionation During Gas-particle Conversion of NO <sub>x</sub> to NO <sub>3</sub> - in the Atmosphere – Implications for Isotope-based NO <sub>x</sub> Source Apportionment
	<b>15:45-16:00 Yuemei Han</b> Harvard University	<b>16:00-16:15 Yanlin Zhang</b> Nanjing University of Information Science and Technology NUIST
	Acidic Precursor of PM <sub>2.5</sub> Derived from Biomass Burning : How it change to the Atmosphere	An assessment of the influence of emissions reductions and meteorology upon air quality trends in Beijing: 2013-2017
	<b>16:00-16:15 James J.Lee</b> Yunlin University of Science & Technology	<b>16:15-16:30 Zongbo Shi</b> University of Birmingham
	Wintertime secondary organic aerosol formation in Beijing-Tianjin-Hebei (BTH) region	
	<b>16:15-16:30 Li Xing</b> Institute of Earth Environment, Chinese Academy of Sciences	



Asian haze and dust storm II	Aerosol and climate change II	Health and environment related PM <sub>2.5</sub> II
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Daizhou Zhang:</b> Prefectural University of Kumamoto  <b>Weijun Li :</b> Zhejiang University	<b>Mingxi Du;</b> Peking University  <b>Chunsong Lu:</b> Nanjing University of Information Science and Technology	<b>Yang Liu:</b> Emory University  <b>Kinfai Ho :</b> The Chinese University of Hong Kong
Effect of climate change on winter haze pollution in Beijing including extreme events	Socioeconomic and Atmospheric Factors Affecting Aerosol Radiative Forcing: Production-based versus Consumption-based Perspective	Lipopolysaccharide-mediated PM <sub>2.5</sub> Dose-dependent Inflammatory Effects
<b>15:30-15:45 Daniel Jacob</b> Harvard University, USA	<b>15:30-15:45 Jingxu Wang</b> Peking University	<b>15:30-15:45 Fangxia Shen</b> Beihang University
Tibetan Plateau Impacts on Global Dust Transport in the Upper Troposphere	Increasing persistent haze in Beijing: potential impacts of weakening East Asian winter monsoons associated with northwestern Pacific sea surface temperature trends	Associations between birth outcomes and maternal PM <sub>2.5</sub> exposure in Shanghai: a comparison of three exposure assessment approaches
<b>15:45-16:00 Chao Xu</b> Institute of Tibetan Plateau Research, Chinese Academy of Sciences	<b>15:45-16:00 Pei Lin</b> Institute of Urban Meteorology, China Meteorological Administration	<b>15:45-16:00 Yang Liu</b> Emory University
Asian Dust Particles Traveling in Air and Settled to the Surface over the East China Sea areas	Climate change and globalizing air pollution	Toxicological and Chemical Characteristics of Fine Particles from Burning of Crop Residues in China
<b>16:00-16:15 Daizhou Zhang</b> Prefectural University of Kumamoto	<b>16:00-16:15 Mingxi Du</b> Peking University	<b>16:00-16:15 Kinfai Ho</b> The Chinese University of Hong Kong
Wet Deposition of Dust in Globe: Factors Controlling Latitudinal and Longitudinal Distribution	Evaluation of Aerosol Indirect Effects with In-Situ Observations on Mt. Huangshan	Premature Mortality Associated with the PM <sub>2.5</sub> Exposure in China
<b>16:15-16:30 Zhen-Xi Zhang</b> Inner Mongolia University of Technology	<b>16:15-16:30 Chunsong Lu</b> NUIST Nanjing University of Information Science and Technology	<b>16:15-16:30 Sheng Zheng</b> Zhejiang University



# Oral Sessions

**THURSDAY, OCTOBER 18, 8:00-10:00**

Subject	Fundamentals PM <sub>2.5</sub> physics and chemistry III	Air quality in Fenwei Plain, China
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Zhonglin Wang</b> : Georgia Institute of Technology <b>Lin Wang</b> : Fudan University	<b>Guohui Li</b> : Institute of Earth Environment, CAS <b>Shunxi Deng</b> : Chang'an University
	<b>Keynote:</b> Triboelectrification enabled PM <sub>2.5</sub> removing with zero ozone emission	Contributions of trans-boundary transport to the air quality in the Guanzhong Basin
	<b>8:00-8:30 Zhonglin Wang</b> Georgia Institute of Technology	<b>8:00-8:15 Guohui Li</b> Institute of Earth Environment, Chinese Academy of Sciences
	Impacts of sea salt aerosol on formation and deposition of inorganic aerosols in the western Pacific Ocean	Vehicle emission inventory and its spatial and temporal characteristics in the urban cluster of Guanzhong, China
	<b>8:30-8:45 Jiawei Li</b> Institute of Atmospheric Physics, Chinese Academy of Sciences	<b>8:15-8:30 Shunxi Deng</b> Chang'an University
	Development of a gas-phase sulfuric acid concentration proxy in polluted environments	<b>Keynote:</b> Status and control of particulate air pollution in Fenwei Plain, China
	<b>8:45-9:00 Lin Wang</b> Fudan University	<b>8:30-9:00 Junji Cao</b> Institute of Earth Environment, Chinese Academy of Sciences
	Thermodynamic equilibrium modeling for fine particle acidity during Beijing winter haze events	Personal exposure to PM <sub>2.5</sub> from domestic solid fuel combustion in rural Guanzhong Plain, China: Characteristics and health implication
	<b>9:00-9:15 Shaojie Song</b> Harvard University	<b>9:00-9:15 Hongmei Xu</b> Department of Environmental Science and Engineering, Xi'an Jiaotong University
	A New Kinetic Model for Heterogeneous Reactions at the Interface of Mineral Dust	Evaluation of the efficiency of Solar-Assisted Large-Scale Cleaning System (SALSCS)
	<b>9:15-9:30 Kunpeng Chen</b> Sun Yat-sen University	<b>9:15-9:30 Ningning Zhang</b> Institute of Earth Environment, Chinese Academy of Sciences
	Secondary Organic Aerosol Production from Pinanediol, a Semi-volatile Surrogate for First-generation Oxidation Products of Monoterpenes	Characteristic of ambient volatile organic compounds in typical regions of Guanzhong basin
	<b>9:30-9:45 Penglin Ye</b> Aerodyne Research Inc.	<b>9:30-9:45 Yonggang Xue</b> Key Lab of Aerosol Chemistry & Physics, Institute of Earth Environment, Chinese Academy of Sciences
	Surface/Interfacial Multi-electron Transfer and Activation Enhancing Visible Light Oxidation Mechanism of Nitrogen Oxides for Particulate Matter	Particulate matters emitted from maize straw burning for winter heating in rural areas in Guanzhong Plain, China: current emission and future reduction
	<b>9:45-10:00 Yufei Zhang</b> Institute of Earth Environment, Chinese Academy of Sciences	<b>9:45-10:00 Jian Sun</b> Xi'an Jiaotong University



Asian haze and dust storm III	Aerosol and climate change III	Health and environment related PM <sub>2.5</sub> III
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Gregory R Carmichael:</b> The University of Iowa <b>Robert A. Rohde:</b> Berkeley Earth	<b>Jianping Huang:</b> Lanzhou University <b>Gao Meng:</b> Harvard University	<b>Tong Zhu:</b> Peking University <b>Carly Reddington:</b> University of Leeds
Quantifying contributions of natural and anthropogenic dust emission from different climatic regions	Climatological Study of a New Air Stagnation Index (ASI) for China and Its Relationship with Air Pollution	Concentration and characteristics of carbonaceous aerosols in indoor and outdoor of different micro-environments in Xi'an, China
<b>8:00-8:15 Siyu Chen</b> Lanzhou University	<b>8:00-8:15 Qianqian Huang</b> Institute of Urban Meteorology, CMA, Beijing	<b>8:00-8:15 Jingzhi Wang</b> Shaanxi Normal University
Investigating the Relationship between Tropospheric Lapse Rate and the Followed Occurrence of PM <sub>2.5</sub> Increase Events in China's Inland Cities Using AMDAR Aviation Data	Seasonal and diurnal variation of greenhouse gases (CO <sub>2</sub> and CO <sub>2</sub> ) in Shanghai and its relationship with air pollutants	<b>Keynote:</b> Health effects and susceptibility of individuals and subgroups to ambient PM <sub>2.5</sub> exposure
<b>8:15-8:30 Zhizhao Liu</b> The Hong Kong Polytechnic University	<b>8:15-8:30 Chong Wei</b> Shanghai Advanced Research Institute, CAS	<b>8:15-8:45 Tong Zhu</b> Peking University
Analysis of Station-Based PM <sub>2.5</sub> Concentrations, Sources, and Trends in China from 2014 to 2017	Analysis on Possible Effects of PM <sub>2.5</sub> Pollutants on Urban Precipitation in the Sichuan Basin, China	Short-term effects of indoor particulate matter, black carbon and ozone on cardiopulmonary function in chronic obstructive pulmonary disease patients: a panel study in Beijing
<b>8:30-8:45 Robert A. Rohde</b> Berkeley Earth	<b>8:30-8:45 Lei Luo</b> Chengdu Institute of Plateau Meteorology, China Meteorological Administration	<b>8:45-9:00 Furong Deng (Dayu Hu)</b> Peking University
Increasing importance of nitrate formation for heavy aerosol pollution in two megacities in Szechwan Basin	On the roles of anthropogenic emissions and climate change in determining the decadal trend of wintertime PM <sub>2.5</sub> concentrations in Beijing	Exploring the Impacts of Different Emission Sectors on PM <sub>2.5</sub> and Human Health in East Asia
<b>8:45-9:00 Mi Tian</b> Chongqing Institute of Green and Intelligent Technology, CAS	<b>8:45-9:00 Meng Gao</b> Harvard University	<b>9:00-9:15 Carly Reddington</b> University of Leeds
<b>Keynote:</b> Improving Air Quality (and weather) Predictions via Application of New Data Assimilation Techniques Applicable to Coupled Models	The Impact of the Annual Winter Monsoon Intensity to the Spatial Distribution of the PM <sub>2.5</sub> Concentration in Northern China	Association Between Changes in Air Pollution Levels and airway inflammation in Healthy Young Adults
<b>9:00-9:30 Gregory R Carmichael</b> University of Iowa, USA	<b>9:00-9:15 Zhihui Xie</b> Hebei Sailhero Environmental Protection Hi-tech., Ltd, Shijiazhuang	<b>9:15-9:30 Bin Han</b> Chinese Research Academy of Environmental Sciences
Variation of ambient ammonia and its relation with ammonium in PM <sub>2.5</sub> at a rural site in the North China Plain: Measurements and comparison with model	Predicting Monthly High-resolution PM <sub>2.5</sub> Concentrations with Random Forest Model in the North China Plain	Organic Chemical Composition and Oxidative Potential of Beijing PM <sub>2.5</sub>
<b>9:30-9:45 Zhaoyang Meng</b> Chinese Academy of Meteorological Sciences	<b>9:15-9:30 Keyong Huang (Chaoliang Feng)</b> Fuwai Hospital, Peking Union Medical College	<b>9:30-9:45 Yun Zhang</b> Johannes Gutenberg University of Mainz
Heavy near-surface PM <sub>2.5</sub> pollution in Lhasa, China during static winter	<b>Keynote:</b> Long-term Global PM <sub>2.5</sub> Mass Concentrations Retrieved from CALIPSO Lidar Observation	Analysis of the drivers of observed PM <sub>2.5</sub> trends in China using the WRF-Chem model
<b>9:45-10:00 Chaoliu Li (Fangping Yan)</b> Institute of Tibetan Plateau Research	<b>9:30-10:00 Jianping Huang</b> Lanzhou University	<b>9:45-10:00 Ben J Silver</b> University of Leeds



# Oral Sessions

**THURSDAY, OCTOBER 18, 10:30-12:00**

Subject	Urban air pollution and source apportionment III	Urban air pollution and source apportionment IV
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Wenqing Liu</b> : Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Science <b>Gregoric</b> : Aerosol d.o.o.	<b>Xiangdong Li</b> : The Hong Kong Polytechnic University <b>Benjamin De Foy</b> : Saint Louis University
	<b>Keynote:</b> On-site observation technology and application for atmospheric fine particles and their precursors	Molecular Distributions and $^{13}\text{C}$ Isotopic Compositions of Diacids and Related Compounds in atmospheric $\text{PM}_{2.5}$ in Tianjin, China: Implications for Sources and Aging
	<b>10:30-11:00 Wenqing Liu</b> Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences	<b>10:30-10:45 Chandra Mouli Pavuluri</b> Institute of Surface-Earth System Science, Tianjin University
	Chemical composition and sources of $\text{PM}_{2.5}$ during winter haze events in Beijing	Modeling $\text{PM}_{2.5}$ in the Sichuan Basin, southwestern China using a source-oriented CMAQ model: source apportionment and future scenarios
	<b>11:00-11:15 Zongbo Shi</b> University of Birmingham	<b>10:45-11:00 Xue Qiao</b> Sichuan University
	Emissions of ultrafine and nanoparticle size fractions from industrial sources and residential small heating stoves	<b>Keynote:</b> Differential Toxicities and Contributing Chemicals in Urban $\text{PM}_{2.5}$ of China – A Tale of Two Cities
	<b>11:15-11:30 Stefano Cernuschi</b> Politecnico di Milano	<b>11:00-11:30 Xiangdong Li</b> The Hong Kong Polytechnic University
	Efficient traffic regulation based on urban Black Carbon measurements and prediction model	Data Mining of Large Air Quality Datasets to Improve Emission Inventories, Identify Long-Term Trends, and Characterize Meteorological Influences on Aerosol Concentrations
	<b>11:30-11:45 Asta Gregorič</b> Aerosol d.o.o.	<b>11:30-11:45 Benjamin de Foy</b> Saint Louis University
	Investigation on the role of $\text{PM}_{2.5}$ mass concentration on lung diseases over Indian sub-continent and beyond: A regional climate model approach	Characterization of Vehicle Emission Changes in Hong Kong from 2003 to 2015 via Tunnel Studies
	<b>11:45-12:00 Sherin Hassan Bran</b> NARIT	<b>11:45-12:00 Xiaoliang Wang</b> Desert Research Institute



Asian haze and dust storm IV	Instrumentation and measurement method I	Remote sensing of atmospheric PM <sub>2.5</sub> , aerosol and related precursors I
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Shaocai Yu:</b> Zhejiang Univeristy <b>Shang Liu:</b> NOAA Earth System Research	<b>Hiromu Sakurai :</b> National Institute of Advanced Industrial Science and Technology <b>Xiaobing Pang :</b> Nanjing University of Information Science & Technology	<b>Oleg Dubovik :</b> University Lille <b>Zhengqiang Li:</b> Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
Sulfate and nitrate in Asian dust aerosol from source region to downwind regions	Performance evaluation and field deployment of a novel Vocus PTR-TOF for quantification, identification, and apportionment of SOA precursors	An ensemble machine-learning model to predict historical PM <sub>2.5</sub> concentrations in China from satellite data
<b>10:30-10:45 Feng Wu</b> Key Laboratory of Aerosol, Institute of Earth Environment, Chinese Academy of Science, Xi'an, China	<b>10:30-10:45 Jordan E. Krechmer</b> Cooperative Institute for Research in Environmental Sciences	<b>10:30-10:45 Yang Liu</b> Emory University
Impact of Atmospheric Circulation Patterns and Meteorological Parameters on Wintertime Aerosol Extinction in Chengdu and Chongqing of Southwest China during 2001–2016	Novel optical particle counter for particle size distribution and mass concentration measurements	<b>Keynote:</b> Characterization of diverse aerosol properties from satellite polarimeters: results and perspectives
<b>10:45-11:00 Guangming Shi</b> Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences	<b>10:45-11:00 Xiaobing Pang</b> Nanjing University of Information Science and Technology	<b>10:45-11:15 Oleg Dubovik</b> University Lille
PM <sub>2.5</sub> and its major chemical components during severe air pollution events in different seasons on a suburb site in Beijing	<b>Keynote:</b> The methodology of laboratory testing of PM <sub>2.5</sub> mass instruments	Remote sensing of PM <sub>2.5</sub> based on aerosol parameters retrieved from satellite measurements
<b>11:00-11:15 Yanju Liu</b> Beijing Milu Ecological Research Center	<b>11:00-11:30 Hiromu Sakurai</b> National Institute of Advanced Industrial Science and Technology	<b>11:15-11:30 Zhengqiang Li</b> RADI Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
Transports of atmospheric tar balls from biomass burning in the Indian subcontinent into the Himalayan-Tibetan Plateau	Investigation of black and brown carbon multi-wavelength dependent light absorption in southeast Tibetan Plateau	Estimation of ground level particulate matter PM <sub>2.5</sub> on the base of satellite remote sensing using GRASP software
<b>11:15-11:30 Qi Yuan</b> Zhejiang University	<b>11:30-11:45 Zhuizi Zhao</b> Key Laboratory of Aerosol Chemistry and Physics, Institute of Earth Environment, Chinese Academy of Sciences, Xi'an, Shaanxi, China	<b>11:30-11:45 Anton Lopatin</b> GRASP-SAS
<b>Keynote:</b> Mitigation of severe urban haze pollution by a precision air pollution control approach	Black carbon vertical profiling at multiple wavelengths using unmanned aerial vehicle (UAV) in urban Shenzhen, China	Estimation of PM <sub>2.5</sub> Using Geostationary Orbit Satellite Measurement of GOCI and AHI over Korea
<b>11:30-12:00 Shaocai Yu</b> Zhejiang University	<b>11:45-12:00 Cheng Wu</b> Jinan University	<b>11:45-12:00 Ja-Ho Koo</b> Yonsei University



# Oral Sessions

**FRIDAY, OCTOBER 19, 8:00-10:00**

Subject	Characteristics of atmospheric PM I	Urban air pollution and source apportionment V
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Giulia Pavese:</b> CNR Institute of Methodologies for Environmental Analysis <b>Fumo Yang,:</b> Sichuan University	<b>Huiming Bao:</b> Louisiana State University <b>Xi Chen:</b> Princeton University
	<b>Keynote:</b> Aerosol properties and processes by integrated measurements	Creating a Methodology for Coordinating High-resolution Air Quality Improvement Map and Greenhouse Gas Mitigation Strategies in Pittsburgh City
	<b>8:00-8:30 Giulia Pavese</b> CNR Institute of Methodologies for Environmental Analysis	<b>8:00-8:15 Jiqiao Shi</b> Carnegie Mellon University
	PM <sub>2.5</sub> Pollution in China and How It Has Been Exacerbated by Terrain and Meteorological Conditions	Characteristics and source apportionment of VOCs in a fast developing city in Yangtze River Delta, China
	<b>8:30-8:45 Xiaoyan Wang</b> Fudan University	<b>8:15-8:30 Jie Zhang</b> Jiangsu Key Laboratory of Environmental Engineering, Jiangsu Academy of Environmental Sciences
	Simultaneous measurements of chemical components of PM <sub>2.5</sub> in different ambient atmospheres	<b>Keynote:</b> Five isotope parameters of atmospheric aerosol sulfate
	<b>8:45-9:00 Jihyo Chong</b> Gwangju Institute of Science and Technology	<b>8:30-9:00 Huiming Bao</b> Louisiana State University
	Investigation of PM <sub>2.5</sub> chemical characteristics in Wuhan, Hubei Province, China	Towards an FV3-based global-to-regional PM <sub>2.5</sub> predicting system: proof of concept and preliminary results
	<b>9:00-9:15 Yuhua Li</b> Hubei University, Institute of Earth Environment, Chinese Academy of Sciences	<b>9:00-9:15 Xi Chen</b> Princeton University
	Identification of the sources apportionment to the major soluble ions quantified in Cerro Tapado glacier snow	Large decrease of VOCs and OVOCs from vehicular emissions in Hong Kong
	<b>9:15-9:30 Francisco Barraza</b> Pontifical Catholic University of Chile	<b>9:15-9:30 Long Cui</b> The Hong Kong Polytechnic University
	The characteristics, formation mechanisms and source origins of PM <sub>2.5</sub> in Szechwan Basin, China	Religious burning as a potential major source of atmospheric fine aerosols in summertime Lhasa on the Tibetan Plateau
	<b>9:30-9:45 Fumo Yang</b> Sichuan University	<b>9:30-9:45 Shang Liu</b> NOAA Earth System Research Laboratory
	Impact of temperature on molecular composition of secondary organic aerosols from anthropogenic and biogenic sources: from lab to field	Impacts of Biogenic and Anthropogenic Emissions on Summertime Ozone Formation in the Guanzhong Basin, China
	<b>9:45-10:00 Cheng Wu</b> Stockholm University	<b>9:45-10:00 Nan Li</b> Nanjing University of Information Science and Technology



Asian haze and dust storm V	Instrumentation and measurement method II	Remote sensing of atmospheric PM <sub>2.5</sub> , aerosol and related precursors II
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Shaw Liu</b> : Jinan University <b>Ramesh P Singh</b> : Applied Science Department, Vidya College of Engineering	<b>Chuen-Jinn Tsai</b> : Chiao Tung University <b>Jingkun Jiang</b> : Tsinghua University	<b>Hai Zhang</b> : MSG, NOAA <b>Jun Wang</b> : University of Iowa
Wintertime Haze and Associated Atmospheric Chemistry	Optical and thermal measurements and source apportionment of TC, BC, OC, EC and CM with high time-resolution and comparison to aerosol mass spectrometry	Surface PM <sub>2.5</sub> Estimates from Satellite AOD over the United States and Asia
<b>8:00-8:15 Aparna Satsangi</b> Dayalbagh Educational Institute	<b>8:00-8:15 Martin Rigler</b> Aerosol d.o.o.	<b>8:00-8:15 Hai Zhang</b> MSG, NOAA
Chemical composition and sources estimation of PM <sub>2.5</sub> in Huangshi, central China during 2012~2013	Improving electrical mobility size spectrometers by reducing variations in aerosol bipolar charge fractions	<b>Keynote</b> : Satellite remote sensing of surface PM <sub>2.5</sub> : a critical review
<b>8:15-8:30 Changlin Zhan</b> Hubei Polytechnic University	<b>8:15-8:30 Jingkun Jiang</b> Tsinghua University	<b>8:15-8:45 Jun Wang</b> University of Iowa
Dust Events Exert Great and Long-lasting Influence on Aerosol Physical and Chemical Properties in Winter at SACOL	Measurement of Aircraft Engine Soot Emissions Using the ESCOM- The Engine Soot Compliance Monitor	A New Top-Down Approach to Quantifying the Spatial and Temporal Distribution of Urban and Biomass Burning Regions using Decadal Measurements from MOPITT and AERONET
<b>8:30-8:45 Pengfei Tian</b> Lanzhou University	<b>8:30-8:45 Andrew Freedman</b> Aerodyne Research Inc.	<b>8:45-9:00 Chuyong Lin</b> Sun Yat-Sen University
Sources of PM <sub>2.5</sub> Emissions, Long Range Transport and Threat to Human Health in India	Three-wavelength differential photoacoustic spectrometer (RGB-DPAS) for atmospheric aerosol light absorption measurement	Synergy of AERONET and MODIS AOD products in the estimation of PM <sub>2.5</sub> concentrations in Beijing
<b>8:45-9:00 Ramesh P Singh</b> Chapman University	<b>8:45-9:00 Zhenhong Yu</b> Aerodyne Research Inc.	<b>9:00-9:15 Disong Fu</b> The Institute of Atmospheric Physics, CAS
<b>Keynote</b> : On the trends of haze in four major polluted regions of China	Effect of Aerosol Loading on Separation Performance of PM <sub>2.5</sub> Cyclone Samplers	Satellite-Based Spatiotemporal Analysis of PM <sub>2.5</sub> Concentrations in Hubei, Central China
<b>9:00-9:30 Shaw Liu</b> Jinan University	<b>9:00-9:15 Chih-Chieh Chen</b> Taiwan University	<b>9:15-9:30 Yuxi Ji</b> Wuhan University
Haze Transportation and Mixing Observed By A Hybrid Sensor Suite in Beijing	<b>Keynote</b> : A new automatic ambient monitor for hourly concentrations of soluble ions and metallic elements	Retrieval of aerosol properties from multi-viewing polarimetric remote sensing based on the optimal estimation and empirical orthogonal function
<b>9:30-9:45 Yunhui Zheng</b> Sigma Space Corp	<b>9:15-9:45 Chuen-Jinn Tsai</b> Chiao Tung University	<b>9:30-9:45 Weizhen Hou</b> Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
Spatial and Temporal Distribution of Carbonaceous Substances and Water Soluble Ionic Species (WSIS) in PM <sub>2.5</sub> Collected at Chiang-Mai, Bangkok, and Phuket, Thailand	<b>Keynote</b> : The Characterization, Identification and Apportionment of Particulate Matter using Automated Scanning Electron Microscopy Technique	Aerosol and planetary boundary-layer interactions and influence on PM <sub>2.5</sub> on ground in Beijing
<b>9:45-10:00 Siwatt Pongpiachan</b> NIDA	<b>9:45-10:15 Gary Casuccio</b> RJ Lee Group	<b>9:45-10:15 Haofei Wang</b> State Environment Protection Key Laboratory of Satellite Remote Sensing



# Oral Sessions

**FRIDAY, OCTOBER 19, 10:30-12:00**

Subject	Characteristics of atmospheric PM II	Urban air pollution and source apportionment VI
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Denise Mauzerall:</b> Princeton University <b>Tianliang Zhao:</b> Nanjing University of Information Science and Technology	<b>Yuanhang Zhang:</b> Peking University <b>Tianchu Zhang:</b> University of Windsor
	<b>Keynote:</b> Potential Implications of China's Energy Future on PM <sub>2.5</sub> , Health and Climate	Characterization of Particulate Pollution and Regional Transport during a Springtime Dust Storm in 2018 over Beijing Area, China
	<b>10:30-11:00 Denise Mauzerall</b> Princeton University, USA	<b>10:30-10:45 Xiaodan Ma</b> Nanjing University of Information Science and Technology
	Observation study of aerosol vertical structures in boundary layer during a heavy haze event in Chengdu, China based on intensive sounding measurements	Long-term trends of PM <sub>2.5</sub> mass and elemental concentrations in Windsor, Ontario, Canada during 2003-2012
	<b>11:00-11:15 Tianliang Zhao</b> Nanjing University of Information Science and Technology	<b>10:45-11:00 Tianchu Zhang</b> University of Windsor
	Free-floating and Particle-attached Bacteria in Asian Continental Outflow: Concentration, Viability and Influence of Weather Conditions	<b>Keynote:</b> Overview of J3 Regional Campaign on Heavy Air Pollution in Winter
	<b>11:15-11:30 Wei Hu</b> Tianjin University	<b>11:00-11:30 Yuanhang Zhang</b> Peking University
	Characteristics and mixing state of amine-containing particles at a rural site in the Pearl River Delta, China	Evaluation of Radical Emission Control Measures on Air Quality Improvement during 2016 G20 Summit in Hangzhou
	<b>11:30-11:45 Chunlei Cheng</b> Jinan University	<b>11:30-11:45 Jun He</b> NUIST Nanjing University of Information Science and Technology
	Characterization of non-refractory PM <sub>2.5</sub> in Chengdu, Southwestern China using an Aerosol Chemical Speciation Monitor (ACSM)	Continuous Measurements of Ice Nucleating Particles in Beijing
	<b>11:45-12:00 Yang Chen</b> Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences	<b>11:45-12:00 Kai Bi</b> Beijing Key Laboratory of Cloud, Precipitation and Atmospheric Water Resources



Indoor air quality and control I	Instrumentation and measurement method III	Roles of aerosol liquid water in secondary aerosol formation and climate change
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Zhong-Ren Peng</b> : Shanghai Jiao Tong University <b>Yu Huang</b> : Institute of Earth Environment, Chinese Academy of Sciences	<b>Douglas R. Worsnop</b> : Aerodyne Research, Inc. <b>Croteau Philip</b> : Aerodyne Research, Inc.	<b>Daniel Jacob</b> :Harvard University, USA <b>Zhijun Wu</b> : Peking University
Efficient Adsorption and Sustainable Degradation of Gaseous Acetaldehyde and O-xylene using TiO <sub>2</sub> -based Photocatalysts	Development of a new calibration technique for Aerosol Chemical Speciation Monitors	Phase state of ambient atmospheric aerosols
<b>10:30-10:45 Xiaofeng Xie</b> Shanghai Institute of Ceramics, Chinese Academy of Sciences	<b>10:30-10:45 Croteau Philip</b> Aerodyne Research, Inc.	<b>10:30-10:45 Zhijun Wu</b> Peking University
Combination of nano-photocatalyst and cement-based materials for air-purification application	Particle Detection Using the Dual-Vaporizer Configuration of the Soot Particle Aerosol Mass Spectrometer	<b>Keynote:</b> Uncertainties in aerosol chemistry and links to the gas phase
<b>10:45-11:00 Mingzhi Guo</b> Hohai University	<b>10:45-11:00 Anita M Avery</b> Aerodyne Research Inc.	<b>10:45-11:15 Daniel Jacob</b> Harvard University, USA
Photocatalysis Films: Fabrication Strategies, and Application for Air Pollution Control	Measurement of Ambient PM <sub>2.5</sub> with the Aerodynamic Aerosol Classifier, including Filter Performance	Multiphase chemistry as a key to understand air pollution and its mitigation strategies
<b>11:00-11:15 Yu Huang</b> Institute of Earth Environment, Chinese Academy of Sciences	<b>11:00-11:15 Jonathan P.R.</b> Symonds Combustion	<b>11:15-11:30 Hang Su</b> Max Planck Institute for Chemistry/JNU
Spatial positioning effect of dual cocatalysts accelerating charge transfer in three dimensionally ordered macroporous g-C <sub>3</sub> N <sub>4</sub> for photocatalytic Hydrogen evolution	<b>Keynote:</b> Mass Spectrometry of Atmospheric Aerosol: 1 nanometer to 1 micron	Key role of nitrate in phase transitions of urban particles: implications of important reactive surfaces for secondary aerosol formation
<b>11:15-11:30 Guidong Yang</b> School of Chemical Engineering and Technology, Xi'an Jiaotong University	<b>11:15-11:45 Douglas R. Worsnop</b> Aerodyne Research, Inc.	<b>11:30-11:45 Weijun Li</b> Zhejiang University
<b>Keynote:</b> Essential Research Questions and Progress in the Use of Unmanned Aerial Vehicles with Miniaturized Sensors for Atmospheric Environment Monitoring	An Advanced Methodology for the Automated and Continuous Measurement of Gaseous and Particulate Phase Ionic Species in Ambient Air	Interactions at the aqueous aerosol surface
<b>11:30-12:00 Zhongren Peng</b> Shanghai Jiao Tong University	<b>11:45-12:00 Zhongyang Hu</b> Marketing manager, Thermofisher Scientific China Co., LTD	<b>11:45-12:00 Lin Du</b> Shandong University



# Oral Sessions

**FRIDAY, OCTOBER 19, 13:30-15:00**

Subject	Characteristics of atmospheric PM III	Asian haze and dust storm VI
Room	Euro-Asia Grand Ballroom I	Euro-Asia Grand Ballroom II
Session Chair	<b>Ningning Zhang:</b> Institute of Earth Environment, Chinese Academy of Sciences <b>Yuqin Wang:</b> Shaanxi University of Science and Technology	<b>Kaicun Wang:</b> Beijing Normal University <b>Min Hu:</b> Peking University
	<b>Keynote:</b> Simulation study of PM <sub>2.5</sub> mass concentration in ambient air due to Ultra-low emission of thermal power plants	Decadal variability of surface solar radiation and its contribution to surface warming pattern over China
	<b>13:30-14:00 Fahua Zhu (Xiuyong Zhao)</b> Environmental Protection Research Institute limited Company	<b>13:30-13:45 Kaicun Wang</b> Beijing Normal University
	Light-absorbing organic carbon in aerosol extracts from primary and aged coal combustion emissions	Evolution from New Particle Formation to Haze in the Megacity Beijing and Surrounding Areas
	<b>14:00-14:15 Haiyan Ni</b> Institute of Earth Environment, Chinese Academy of Sciences	<b>13:45-14:00 Min Hu</b> Peking University
	Influential Factors on Particulate Pollution in Public Transport Travel	<b>Keynote:</b> Tracing Atmospheric Fossil Fuel CO <sub>2</sub> in China
	<b>14:15-14:30 Ying Zhang</b> Research Institute for Smart Cities, School of Architecture and Urban planning, Shenzhen University	<b>14:00-14:30 Weijian Zhou (Zhenchuan Niu)</b> Institute of Earth Environment, Chinese Academy of Sciences
	Concentrations, physical-chemical characteristics and sources of environmentally persistent free radicals (EPFRs) of atmospheric PM <sub>2.5</sub> in Xi'an, China	Satellite-based Estimation of PM <sub>2.5</sub> Levels in Heavy Winter Pollution Episodes in the Yangtze River Delta, China
	<b>14:30-14:45 Yuqin Wang</b> <b>Shaanxi University of Science and Technology</b>	<b>14:30-14:45 Qiannan She</b> School of Ecological and Environmental Sciences, East China Normal University
	The SMART Basilicata Project: preliminary results of aerosol properties long-term measurements close to the largest European oil and gas pre-treatment plant (Centro Olio Val d'Agri - COVA)	Massive coal-saving induced by the Green Light Program and resultant potential benefit to haze pollution in North China Plain
	<b>14:45-15:00 Giulia Pavese</b> CNR Institute of Methodologies for Environmental Analysis	<b>14:45-15:00 Xin Long</b> Institute of Earth Environment, Chinese Academy of Science



Indoor air quality and contro II	Fundamentals PM <sub>2.5</sub> physics and chemistry V	Indoor air pollution and control V
Room 3: VIP Yanta Room	Room 4: VIP Qinling Room	Room 5: Rotunda
<b>Shuncheng Lee:</b> The Hong Kong Polytechnic University <b>Wingkei Ho:</b> The Education University of Hong Kong	<b>Neil McPherson Donahue:</b> Carnegie Mellon University <b>Kostas Eleftheriadis:</b> Institute of Nuclear and Radiological Science & Technology	<b>Maosheng Yao:</b> Peking University <b>Xiaosan Luo:</b> Nanjing University of Information Science and Technology
Ultrafine Particle Emissions from Household Cookstoves and Implications for Advanced Clean Stove Intervention	<b>Keynote:</b> Volatility Basis Set Modeling of Organic-Aerosol Formation and Growth	Seasonal Differences of PM Cytotoxicity to Human Epithelial Cells (A549) in an Industrial Area of Nanjing, China
<b>13:30-13:45 Guofeng Shen</b> Peking University	<b>13:30-14:00 Neil McPherson Donahue</b> Carnegie Mellon University	<b>13:30-13:45 Xiaosan Luo</b> Nanjing University of Information Science and Technology
Surface Vacancy Induced Enhancement for Visible-Light-Driven Photocatalytic Abatement of Nitric Oxides	Aerosol Optical Absorption Coefficients at a Rural Site in Northwest China: the Great Contribution of Dust Particles	<b>Keynote:</b> In Vivio Analysis of PM Toxicity Using Integrated Systems
<b>13:45-14:00 Wingkei Ho</b> The Education University of Hong Kong	<b>14:00-14:15 Yunfei Wu</b> Institute of Atmospheric Physics, Chinese Academy of Sciences	<b>13:45-14:15 Maosheng Yao</b> Peking University
Outdoor and indoor sources of indoor 1.1 – 4.0 nm and ultrafine particles	<b>Keynote:</b> Lessons learned from extensive source apportionment studies for PM <sub>2.5</sub> in Greece and Southern Europe	Associations of Hazardous Pollutants in Indoor, Outdoor, and Personal Exposures with PM <sub>2.5</sub> Bioreactivity for Adults in Hong Kong
<b>14:00-14:15 Minna Väkevä</b> Airmodus Ltd.	<b>14:15-14:45 Kostas Eleftheriadis</b> Institute of Nuclear and Radiological Science & Technology	<b>14:15-14:30 Xiaocui Chen</b> Institute of Environment, Energy and Sustainability
Rich oxygen vacancies in SrTiO <sub>3</sub> induced by iron substitution: Effect on photoassisted oxidation of NO by in situ IR spectroscopy	Lidar measurements of dust aerosol over northwest China	Direct Kinetic Measurements and Toxic Inhibition of Formaldehyde Oxides (CH <sub>2</sub> OO) over Room-temperature Catalytic Degradation of Indoor Formaldehyde
<b>14:15-14:30 Qian Zhang</b> Institute of Earth Environment, Chinese Academy of Science	<b>14:45-15:00 Tian Zhou</b> Key Laboratory for Semi-Arid Climate Change of the Ministry of Education, College of Atmospheric Sciences, Lanzhou University	<b>14:30-14:45 Haiwei Li</b> The Hong Kong Polytechnic University
<b>Keynote:</b> Exposure and source apportionment of indoor PM <sub>2.5</sub> at residential homes in Hong Kong, Shanghai, Xi'an, and Guangzhou		Chemical characteristics and cytotoxic effects of indoor and outdoor air pollution in Xi'an, China
<b>14:30-15:00 Shun-cheng Lee</b> The Hong Kong Polytechnic University		<b>14:45-15:00 Xinyi Niu</b> The Chinese University of Hong Kong



# Poster Session I

## DAY I

No.	Urban air pollution and source apportionment	Authors	Institution
1	Impact of high-rise buildings on the air quality in Xi'an, China: A case study	Xia Li,Guohui Li,Naifang Bei,Xuqiang Li	Institute of Earth Environment, Chinese Academy of Sciences
2	The characterization and formation of nitroaromatic compounds under anthropogenic VOCs-NOx dominant environment in urban Beijing	Yujue Wang,Min Hu,Yuchen Wang,Jing Zheng,Yudong Yang,Rongzhi Tang,Xiao Li,Dongjie Shang,Zhuofei Du,Song Guo,Zhijun Wu,Sihua Lu,Mattias Hallquist,Jianzhen Yu	Peking University
3	Anthropogenic HOMs and NH <sub>3</sub> trigger the new particle formation events in atmosphere of China under relatively clean condition	Dongjie Shang,Min Hu,Keding Lu,Pontus Roldin,S. Kecorius,Yusheng Wu,Tinja Olenius,B. Birger,Limin Zeng,Yuanhang Zhang,Alfred Wiedensohler,Micheal Boy	Peking University
4	Size characteristic and source of carbon components in atmospheric aerosols from Huangshi city, central China	Hongxia Liu	Hubei Polytechnic university
5	Evaluation of polycyclic aromatic hydrocarbon compositions and ratios in different combustion sources	Bo Gao,Hao Shen,Wei Zhao,Shexia Ma,Xiaowei Yu,Laiguo Chen,Guocheng Hu	South China Institute of Environmental Sciences
6	Source apportionment of Xinzheng,Beijing using nuclear analytical techniques with positive matrix factorization	Xudong Liu	China Institute of Atomic Energy
7	Evolution of ambient VOCs in dust-to-haze event: a case study in typical heavy pollution city of Xi'an in northern China during wintertime	Yonggang Xue,Steven Sai Hang Ho,Yu Huang,Junji Cao	Institute of Earth Environment, Chinese Academy of Sciences
8	Fine-scale spatial patterns of urban PM <sub>2.5</sub> concentration based on air monitoring sensor network and spatiotemporal series data mining approach	Rong Cao,Zhongren Peng	Shanghai Jiao Tong University
9	Spatiotemporal assessment of PM <sub>2.5</sub> in urban air pollution using remote sensing techniques and ground station data	Byambakhuu Gantumur,Falin Wu,Battsengel Vandansambuu,Bolorchuluun Chogsom,Fareda Itiripphan,Yan Zhao	Beihang University
10	Pollution characteristics and evaluation of PCBs in dust of Wuhan grand railway station square	Qian Tian,Xinli Xing	China University of Geosciences
11	Characteristics of air pollution in winter in a central city on the low-latitude plateau in China	Wenxuan Fan	Yunnan University
12	Emission characteristics of PM <sub>2.5</sub> and trace gases from household wood burning in Guanzhong Plain, Northwest China	Yong Zhang	Institute of Earth Environment, Chinese Academy of Sciences
13	Long-term chemical characteristics and sources of polycyclic aromatic hydrocarbons in PM <sub>2.5</sub> in Zhengzhou, China	Liping Li,Nan Jiang,Qiang Li,Zhe Dong,Ruiqin Zhang	Zhengzhou University
14	Source apportionment of aerosol ammonium in an ammonia rich atmosphere: An isotopic study of summer clean and hazy days in urban Beijing	Yuepeng Pan	Institute of Atmospheric Physics, Chinese Academy of Sciences
15	PM <sub>2.5</sub> -bound PAHs along summer transmission channel from Pingdingshan, Suizhou to Wuhan, China	Yao Mao	China University of Geosciences
16	The contribution of vehicle exhaust to PM <sub>2.5</sub> in Jinan urban area	Li Zhu,Guiqin Zhang,Huaizhong Yan,Baojun Deng,Guanghui Liu	Shandong Jianzhu University
17	Road dust particle size characteristics and PM <sub>2.5</sub> emission inventory in 2007 in Lanzhou, China	Xiaorui Zhang	Lanzhou university



18	Change of chemical composition and source apportionment of PM <sub>2.5</sub> during 2013-2017 in urban Handan, China	Zhao Le,Litao Wang,Jihua Tan,Jingchun Duan,Mengyao Qi,Xiaohan Lu	Hebei University of Engineering
19	Exploring the chemical composition of gas and aerosol phase measurements from FIGAERO-TOF-CIMS in Beijing using positive matrix factorisation	Archit Mehra,Manjula R Canagaratna,Stephen D Worrall,Asan Bacak,Tom Bannan,Michael Priestley,James D Lee,Freya Anne Squires,James R Hopkins,Rachel Dunmore,Jacqueline Hamilton,Eloise Slater Lisa Whalley,Yele Sun,Wei Qi Xu,Jian Zhao,Pingqing Fu,James Brean,Roy M Harrison,Andrew T Lambe,James D Allan,Carl Percival,John Toulson Jayne,Douglas R Worsnop,Hugh Coe	University of Manchester
20	Spatial and temporal variations of air pollutants in the Beijing-Tianjin-Hebei region and their correlation with meteorological factors	KeQin Tang,Nan Li,Haoran Zhang,Hongyu Pan	Nanjing University of Information Science& Technology
21	PM <sub>2.5</sub> in Wuhan based on online observation: source apportionment, transport pathways, potential sources and regional pollution events	Jiabin Zhou,Fan Huang,Nan Chen,Yuhua Li,Liang Peng	Wuhan University of Technology
22	Spatiotemporal characteristics of atmospheric pollutants in the Yangtze River Delta region	Hongyu Pan,Nan Li,Haoran Zhang, Keqin Tang	Nanjing University of Information Science & Technology
23	Spatio-temporal variations of air pollutants in the Pearl River Delta region during 2014-2017	Haoran Zhang,Nan Li,KeQin Tang,Hongyu Pan	Nanjing University of Information Science & Technology
24	Composition and isotope ratios of nitrogenous aerosols in Tianjin, north China: Implication for their sources	Zhanjie Xu,Chandra Mouli Pavuluri,Shuang Wang,Lujie Ren,Pingqing Fu,Congqiang Liu	Tianjin University
25	Effects of pollution control on city air quality changes during a typical conference	Xintian Yan	Nanjing University of Information Science & Technology
26	Characterization of individual aerosol particles collected during KORUS-AQ (Korea US Air Quality) campaign period at Olympic park, Seoul, Korea old	Li Wu,Hanjin Yoo,Hyeonsu Kim,HyeKyoung Kim,Chul-Un Ro	Inha University
27	Chemical characterization and source apportionment of PM <sub>1</sub> particles at the campus site of Agra, India	Ankita Mangal,Anita Lakhani,Maharaj Kumari Kandikonda,Ankita Mangal	Dayalbagh Educational Institute
28	Effects of inter-scale chemical interactions on tropospheric ozone in a simplified 1D model	Hao Kong	Peking University
29	Comprehensive analysis of carbonaceous gases and particles in Beijing, 2016	Kebin He,Shuo Yang,Hui LI and Fengkui Duan	Tsinghua University
30	Chemical compositional bulk analysis of size-segregated aerosol particles using ATR-FTIR	Li Wu,Hee-seung Chae,Chul-Un Ro,Abdul Malek,Xue Li	Inha University
31	Seasonal variability of NH <sub>3</sub> in China using an IASI oversampling algorithm	Xuehui Guo,Kang Sun,Rui Wang,Lieven Clarisse,Martin van Damme,Simon Whitburn,Pierre-Francois Coheur,Mark A Zondlo	Princeton University
32	Seasonal variation of alkylamines in ambient aerosol in the urban area of Pearl River Delta, China	Xiufeng Lian,Xinhui Bi,Guohua Zhang,Qinhao Lin,Fengxian Liu,Long Peng,Yuxiang Yang,Yuzhen Fu	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
33	Modelling and aerosol radiative properties during air pollution episodes in Chiang Mai, northern Thailand	Vanisa Surapipith,Ronald C Macatangay,Sherin Hassan Bran,Raman Solanki,Vichawan Sakulsupich	NARIT, Atmospheric Research Unit
34	Temporal distribution and bioaccessibility of PM <sub>2.5</sub> heavy metals in urban and industrial areas of Nanjing, China	Zhen Zhao,Xiaosan Luo,Yan Chen,Hongbo Li,Lichun Wu,Qi Chen,Yuanshu Jing,Long Cang,Jie Yang	Nanjing University of Information Science and Technology
35	Observation of secondary aerosol formation using oxidation flow reactor in various environments	Taehyoung Lee,Taehyun Park,Gyutae Park, Jihee Ban,Kyunghoon Kim,Ilgu Jang,Gungkook Joe,Seounghwan Lee,Myeongbok Kim	Hankuk University of Foreign Studies
36	Evaluation and characterization of aerosols during extreme haze and dust pollution episodes over the Yangtze River Delta: Comparison of different aerosol subtype profiles and source apportionment	Richard Boiyo,Kumar Raghavendra Kanike,Birhanu Asmerom,Tianliang Zhao	Nanjing University of Information Science and Technology
37	Seasonal pattern of <sup>15</sup> N natural abundance of air ammonia, ammonium in particulate and precipitation in Shenyang city of the northeast China	Linlin Song,Dongwei Liu,Yuepeng Pan, Yunting Fang	Institute of Applied Ecology, Chinese Academy of Sciences
38	Multi model analysis of motor vehicle source emission in Beijing	Rongrong Wang ,Qizhong Wu	Beijing Normal University
39	An atmospheric emission inventory of antimony from Brake Linings: Based on conservation of mass	Yiming Wu,Hezhong Tian,Yaping Duan,Zhigang Shi	Beijing Normal University



# Poster Session I

40	Estimation of potential source contributions of PM <sub>1</sub> in Baengyeong Island and Seoul, Korea	Jihee Ban, Taehyun Park, Yongjoo Choi, Taehyoung Lee	Hankuk University of Foreign Studies
41	Chemical characteristics of aerosol in rural and urban environments: Baengnyeong Island and Seoul Metropolitan Area, Korea	Taehyun Park, Jihee Ban, Taehyoung Lee	Hankuk University of Foreign Studies
42	New insights into sources of organic aerosol in PM <sub>2.5</sub> in a polluted urban environment	Yan Zheng, Qi Chen, Yaowei Li, Xi Cheng, Ying Liu, Tong Zhu, John Toulson Jayne, Douglas R Worsnop	Peking University
43	Spatial distribution of particulate and gaseous pollutants in Beijing measured by mobile aerosol mass spectrometry	Keren Liao, Qi Chen, Ying Liu, Tong Zhu	Peking University
44	Gas-particle distribution and source apportionment of Polycyclic Aromatic Hydrocarbons (PAHs) and Nitro-PAHs at traffic dominated site over an Indo-Gangetic Plain	Puneet Kumar Verma, Dinesh Sah, Maharaj Kumari Kandikonda, Anita Lakhani	Dayalbagh Education Institute
45	Characteristics and emission sources analysis of atmospheric mercury speciation in Jinan, China	Xiaoling Nie, Yan Wang, Xin Ya Li, Guanghao Qie, Tao Li, Lili Du, Huiting Mao	Shandong University
46	Observations of gaseous nitrated phenols from secondary formations in Beijing	Xi Cheng, Qi Chen, Ying Liu, Tong Zhu,	Peking University
47	PM <sub>2.5</sub> source apportionment analysis under different synoptic patterns over the Pearl River Delta Region	Yiang Chen, Xincheng Lu, Jimmy Chi-Hung Fung	Hong Kong University of Science and Technology
48	Does emission reduction activity dominant the variations of PM <sub>2.5</sub> concentrations in China during 2013—2017	Zhe Cai, Fei Jiang, Jingming Chen, Ziqiang Jiang	Nanjing University
49	Analysis of variation trend of visibility and effect factors in Tianjin from 2000 to 2010	Xiaobin Qiu, Wei Song	Tianjin Institute of Meteorological Science
50	Study on PM <sub>10</sub> and PM <sub>2.5</sub> atmospheric particulates in Beijing with nuclear analytical techniques	Xudong Liu	China Institute of Atomic Energy
	<b>PM<sub>2.5</sub> physics and chemistry</b>	<b>Authors</b>	<b>Institution</b>
51	Mixing state of oxalic acid containing particles in the rural area of Pearl River Delta, China: implications for the formation mechanism of oxalic acid	Chunlei Cheng, Hang Su, Pöschl Ulrich, Yafang Cheng	Jinan University
52	Chemical characteristics of organic aerosols at a forest site in south China using FT-ICR MS	Yuqing Zhang, Xiang Ding	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
53	Characteristics of ionic compositions in fine particulate matter emitted from ultra-low emissions coal-fired power plants in China	Bobo Wu, Hezhong Tian, Wei Liu, Xiaoxuan Bai, Weizhao Liang, Shuhan Liu, Xiangyang Liu, Shumin Lin, Yiming Wu	Beijing Normal University
54	Comparison on the chemical composition of PM <sub>2.5</sub> in the urban and rural regions of Guanzhong Plain, China	Jin Li, Jianjun Li, Gehui Wang	Institute of Earth Environment, Chinese Academy of Sciences
55	Chemical characteristics of haze particles in Xi'an during Chinese Spring Festival: Impact of fireworks burning	Can Wu, Gehui Wang	Institute of Earth Environment, Chinese Academy of Sciences
56	Characterization of particulate-bound polycyclic aromatic compounds (PACs) and their oxidations in heavy polluted atmosphere: a case study in urban Beijing, China during haze events	Lijuan Li	Institute of Earth Environment, Chinese Academy of Sciences
57	Reactive oxygen species of ambient water-soluble PM <sub>2.5</sub> in the north and northwestern China: Contrasts in concentration and sources	Yaqing Zhou, Rujin Huang, Junji Cao	Institute of Earth Environment, Chinese Academy of Sciences
58	Mixed biomass burning and biogenic organic aerosol in Himalayas: insight from ultrahigh resolution mass spectrometry	Jianzhong Xu	Northwest Eco-Environment and Resources Institute, Chinese Academy of Sciences
59	Biomass burning tracers and contribution to TSP in the southeastern Tibetan Plateau	Chongshu Zhu	Institute of Earth Environment, Chinese Academy of Sciences
60	Global simulation of aerosol effects on tropospheric photolysis frequencies and photochemistry	Rong Tian, Xiaoyan Ma	Nanjing University of Information Science & Technology



61	Fractal dimensions and mixing structures of soot particles during atmospheric processing	Yuanyuan Wang,Fengshan Liu,Cenlin He,Lei Bi,Tianhai Cheng,Zhili Wang,Hua Zhang,Xiaoye Zhang,Zongbo Shi,WeiJun Li	Zhejiang University
62	Aerosol chemical characteristic under different air pollution levels at north suburban Nanjing	Cheng Zhang,Li Shen	Nanjing University of Information Science & Technology
63	Cloud processing of iron-containing particles at a mountain site, Southern China	Qinhao Lin,Xinhui Bi,Guohua Zhang	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
64	Synthesis and characterization of organosulfur compounds and their identification in atmospheric aerosols from Tianjin, China	Subba Rao Devineni,Chandra Mouli Pavuluri,Pingqing Fu,Congqiang Liu	Tianjin University
65	Composition, morphology and mixing state of individual cloud residues and interstitial particles at a high-altitude mountain site in south China	Yuzhen Fu,Xinhui Bi,Guohua Zhang,Fengxian Liu,Yuxiang Yang,Qinhao Lin	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
66	Low hygroscopicity of organic material in anthropogenic aerosols under pollution episode in China	Juan Hong	Jinan University
67	Optical property variations from the isoprene to its oxidation products	Yaling Zeng	Xi'an Jiaotong University
68	Characteristics of carbonaceous species in PM <sub>2.5</sub> at the urban, suburban and rural sites in the Northern Zhejiang province, China	Honghui Xu,Jingsha Xu,Jun He,Jingjiao Pu,Bing Qi,Rongguang Du	Institute of Meteorological Science of Zhejiang Province
69	Stage-resolved in-cloud scavenging of black carbon at a mountain site in Southern China	Yuxiang Yang,Yuzhen Fu,Qinhao Lin,Long Peng,Guohua Zhang,Xinhui Bi	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
70	Characterization and formation mechanisms of size-segregated sulfate and nitrate in Guangzhou, China	Feng Jiang	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
71	Relationships between source areas and isotopes of nitrate aerosols in South Korea	Heejo Lee,Jinho Ahn,Jin-Soo Park,Daniel Mikhail Sigman,Mira A Weigand	Seoul National University
72	Effects of pH and Ionic Strength (IS) on the absorption of different Brown Carbon (BrC) model compounds	Linhui Tian,Wanyi Huang,Yongjie Li	University of Macau
73	Effects of nitrate and H <sub>2</sub> O <sub>2</sub> on the aqueous-phase photochemical reactions of Brown Carbon (BrC) model compounds	Wanyi Huang,Linhui Tian and Yongjie Li	University of Macau
74	Morphology and mixing state of individual ambient aerosol particles collected in the city of Beijing	Yishu Zhu,Peter Alpert,Zhijun Wu	Peking University
75	Aerosol acidity in a megacity with high ambient temperature and relative humidity of Central China: temporal variation, determining factors and pollution transition effect	Mingming Zheng	China University of Geosciences (Wuhan)
76	VOC formation from reaction of isoprene with nitrate radicals (NO <sub>3</sub> )	Yan Tan,Shuncheng Lee	The Hong Kong Polytechnic University
77	Effect of oligomerization reactions of criegee intermediate with organic acid/peroxy radical on secondary organic aerosol formation from isoprene ozonolysis	Long Chen ,Yu Huang,Yonggang Xue,Junji Cao,Wenliang Wang	Institute of Earth Environment, Chinese Academy of Sciences
78	Characterization of soot particles emitted from the combustion of household coal with different maturity by pyrolysis–gas chromatography/mass	Jianzhong Song,Meiju Li,Xingjun Fan,Ping'an Peng and Chiling Yu	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences



# Poster Session II

## DAY II

No.	Health and environment related PM <sub>2.5</sub>	Authors	Institution
1	The characteristics of personal exposure to PM <sub>2.5</sub> -bound organic species and induced reactive oxygen species in rural Guanzhong Plain, northwestern China	Yaqi Li ,Hongmei Xu	Xi'an Jiaotong University
2	Indoor VOCs profiles and inhalation health risk assessment caused by residential solid fuel burning in Guanzhong, China	Jian Sun	Xi'an Jiaotong University
3	Pollution level, health risk assessment of acid-extractable metals of PM <sub>2.5</sub> in Xi'an	Pingping Liu,Yiling Zhang, Huarui Ren,Hongmei Xu,Zhenxing Shen	Xi'an Jiaotong University
4	Concentrations, physical-chemical characteristics and sources of environmentally persistent free radicals (EPFRs) of atmospheric PM <sub>2.5</sub> in Xi'an, China	Yuqin Wang, Qingcai Chen,Mamin Wang,Haoyao Sun,Zhen Mu, Yanguang Li,Lixin Zhang	Shaanxi University of Science and Technology
5	Seasonal differences of PM <sub>2.5</sub> cytotoxicity to human epithelial cells (A549) in an industrial area of Nanjing, China	Yan Chen,Xiaosan Luo,Zhen Zhao,Qi Chen,Di Wu,Xue Sun,Lichun Wu	Nanjing University of Information Science and Technology
6	Chemical composition and health risk of urban atmospheric PM <sub>2.5</sub> at different altitude related to traffic environment	Hong Geng,Shijie Zhang,Zhaoxia Guo,Gao-Jie Chen,Jihao Zhu,Chul-Un Ro	Shanxi University
7	Analysis of the drivers of observed PM <sub>2.5</sub> trends in China using the WRF-Chem model	Ben J Silver,Carly Reddington,Steve Arnold,Luke Conibear,Christoph Johannes Knote,Dominick V Spracklen	University of Leeds
8	Chemical speciation, enrichment, mobility and health risk assessment of heavy metals in fine particulate matter at a traffic site of Agra, India	Dinesh Sah	Dayalbagh Education Institute
9	Temporal variation, sources, and health risks of PM <sub>2.5</sub> -Bound toxic elements in Jinan, China during 2013-2017	Lili Du,Yan Wang,Guanghao Qie,Xiaoling Nie,Mingming Yang,Tao Li,Fengchun Yang	Shandong university
10	Concentration and characteristics of carbonaceous aerosols in indoor and outdoor of different micro-environments in Xi'an, China	Jingzhi Wang,Zhibao Dong,Junji Cao,Xiaoping Li,Lijun Wang	Shaanxi Normal University
11	Assessment of Urban Resilience on PM <sub>2.5</sub> in metropolitan area	Chao Li,Zhongren Peng	Shanghai Jiao Tong University
12	Chemical characteristics and cytotoxic effects of indoor and outdoor air pollution in Xi'an, China	Xinyi Niu,Kin Fai Ho,Junji Cao	The Chinese University of Hong Kong
13	Relative influence of short-term emissions controls on gas and particle-phase reactive oxygen species during the 2015 China Victory Day Parade in Beijing, China	Dongqing Fang,Wei Huang,Yuanxun Zhang,James J. Schauer	University of Chinese Academy of Sciences,
14	Spatial-temporal dynamics of PM <sub>2.5</sub> concentration in Beijing and estimation of its health risk	Mingqun Huo,Ken Yamashita,Fang Chen	Asia Center for Air Pollution Research
15	Effect of PM <sub>2.5</sub> pollution on daily respiratory diseases mortality for different groups of people in Beijing	Tianyi Gong,Zhaobin Sun,Xiaoling Zhang,Shigong Wang,Ziming Li	Chengdu University of Information Technology
16	Characteristics and health risk assessments of polycyclic aromatic hydrocarbons in the PM <sub>2.5</sub> of Baoji, Northwest China	Bianhong Zhou,Junli Guo,Meijuan Li,Sunxin Liu	Baoji University of Arts and Sciences
17	Health risk assessment of atmospheric polycyclic aromatic hydrocarbons over the central himalayas,	Bigyan Neupane	Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences
	<b>Asian haze and dust storm</b>	<b>Authors</b>	<b>Institution</b>
18	Comparing the impact of strong and weak east asian winter monsoon on PM <sub>2.5</sub> concentration in Beijing	Chao Wang,Xingqin An,Peiqun Zhang,Zhaobin Sun,Meng Cui,Lin Ma	Institute of Atmospheric Composition, Chinese Academy of Meteorological Sciences
19	Recent wind decline in China and its environmental effects	Chenwei Xiao, Zhiwei Xu	Nanjing University
20	An effect of surface radiation cooling on the sudden explosion of PM <sub>2.5</sub> pollution in the Sichuan Basin, Southwest China	Jun Hu	Nanjing University of Information Science & Technology
21	Emission characteristics of brown carbon absorption from biomass and coal burning: Development of a novel optical emission inventory for China	Jie Tian ,Qiyuan Wang, Junji Cao,Yongming Han,	Xi'an Jiaotong University
22	Organic aerosol nucleation, climate and land use change: Decrease in radiative forcing	Jialei Zhu	University of Michigan Ann Arbor



23	Aerosol light absorption in a coastal city in Southeast China: temporal variations and implications for brown carbon	Yuqing Qiu	Institute of Urban Environment, Chinese Academy of Sciences
24	Estimation of the aerosol optical properties based on the composition resolved PM <sub>2.5</sub> and multivariate receptor model	Chang Hoon Jung	Kyungin Women's University
25	Exploring aerosol cloud interaction using VOCALS-REx aircraft measurements	Hailing Jia	Nanjing University of Information Science and Technology
26	Impact of climate change on Siberian High and wintertime air pollution in China in past two decades	Shuyu Zhao, Tian Feng, Xuexi Tie, Xin Long, Guohui Li, Junji Cao, Weijian Zhou, Zhisheng An	Institute of Earth Environment, Chinese Academy of Sciences
27	Impacts of anthropogenic emissions on springtime mesoscale convective systems in south China	Lijuan Zhang, Tzung-May Fu	Peking University
28	Evaluation of the emergency response measurements to Severe Air Pollution Events in Northern China during winter 2015	Yaping Ma, Tzung-May FU	Peking University
29	Simulations on impacts of emission and climate change on air quality in China between 2010 and 2040	Heng Tian, Tzung-May Fu	Peking University
30	Ice nucleation activity of droplets containing Humic like substances (HULIS)	Jie Chen, Zhijun Wu, Heike Wex, Yao Bai, Jingchuan Chen, Yujue Wang	Peking university
31	A novel method of the seasonal PM <sub>2.5</sub> predictions in East China based on the multivariable climate indices	Yanyu Wang, Qianshan He, Tiantao Cheng	Fudan University
32	Assessment of Beijing's air pollution with spatial and temporal adjustment to meteorological confounding	Shuyi Zhang, Song Xi Chen, Bin Guo, Wei Lin, Hengfang Wang	Peking University
33	The evaluating study of the momentum and heat exchange process of two surface layer schemes during the Severe Haze Pollution in East China	Yue Peng, Hong Wang, Yubin Li, Changwei Liu, Tianliang Zhao, Xiaoye Zhang, Zhiqiu Gao, Huizheng Che, Meng Zhang	Chinese Academy of Meteorological Sciences
34	Assessment of urban air quality change over the Chinese YRD: PM variations and its relation with aerosol optical properties and meteorology, and source emissions	Han Ding, Kanike Raghavendra Kumar, Tianliang Zhao, Richard Boiyo,	Nanjing University of Information Science and Technology
35	Analysis on a persistent fog and haze event in northern Jiangsu in early 2017	Ruixiang Liu	Meteorological Bureau
36	Air pollution characteristics across China: spatiotemporal variations and key meteorological factors	Rui Li	Fudan University
	<b>PM<sub>2.5</sub> modeling</b>	<b>Authors</b>	<b>Institution</b>
37	The Impact of Aerosol-Radiation Interactions on the Effectiveness of Emission Control Measures	Mi Zhou, Lin Zhang, Dan Chen	Peking University
38	Secondary organic aerosol enhanced by increasing atmospheric oxidizing capacity in Beijing-Tianjin-Hebei (BTH), China	Tian Feng, Shuyu Zhao, Naifang Bei, Jiarui Wu, Xia Li, Lang Liu, Weijian Zhou, Guohui Li	Institute of Earth Environment, Chinese Academy of Sciences
39	Impact of Emission Inversion with EnKF on PM <sub>2.5</sub> Forecasts over China	Shuzhuang Feng, Fei Jiang	Nanjing University
40	Contributions of N <sub>2</sub> O <sub>5</sub> heterogeneous hydrolysis to the haze formation during wintertime in the North China Plain: A case study	Lang Liu, Guohui Li	Institute of Earth Environment, Chinese Academy of Science
41	Coupling GEOS-Chem with WRF: Model Structure & Preliminary Results	Haipeng Lin, Feng Xu, Tzung-May Fu	Peking University
42	Origin of springtime ozone pollution in the coastal region of south China: A case study	Jiarui Wu, Guohui Li	Institute of Earth Environment, Chinese Academy of Sciences
43	Neural network prediction of pollutant emissions from open burning of crop residues and application to air quality forecasts in Southern China	Xu Feng, Tzung-May FU	Peking University
44	An air quality model system based on the comprehensive air quality model with extensions (CAMx) in Xi'an, China	Xiaochun Yang, Han Xiao	Beijing Normal University
	<b>PM<sub>2.5</sub> remote sensing techniques</b>	<b>Authors</b>	<b>Institution</b>
45	Predicting monthly high-resolution PM <sub>2.5</sub> concentrations with random forest model in the North China Plain	Keyong Huang, Qingyang Xiao, Xia Meng, Guannan Geng, Alexei Lyapustin, Dongfeng Gu, Yang Liu,	Fuwai Hospital, Peking Union Medical College
46	Predicting ground-level PM <sub>2.5</sub> in the Beijing-Tianjin-Hebei Region using satellite and machine learning	Xintong Li, Xiaodong Zhang	Shandong University
47	Research on spatio-temporal continuous and satellite-ground cooperative data fusion technology of PM <sub>2.5</sub> in Guangdong-Hong Kong-Macao Greater Bay Area, China	Chunlin Wang	Guangzhou Climate Center
48	Estimation of total suspended particles (TSP) mass concentration based on ground-based remote sensing	Yuan Wei, Zhengqiang Li, Ying Zhang, Lili Qie, Haofei Wang, Yang Zhang	Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences



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49	Retrieval of aerosol optical depth and fine-mode fraction from single-viewing multispectral polarimetric observation: statistically optimized inversion algorithm and inversion test with synthetic measurements	Fengxun Zheng,Zhengqiang Li,Weizhen Hou,Xiaobing Sun,Jun Wang	University of Chinese Academy of Sciences
50	Estimation of atmospheric columnar organic matter (OM) mass concentration using Fine and Coarse Mode Separation (FCMS) method from ground based remote sensing measurements	Ying Zhang	Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
51	Spatial and temporal distribution of wintertime PM <sub>2.5</sub> over Beijing in 2013-2017 based on MODIS AOD	Qianqian Zhang	National Satellite Meteorological Center
52	Satellite remote sensing of surface PM <sub>2.5</sub> at night: Radiative transfer development and case studies.	Jun Wang	University of Iowa
53	Validation of MODIS aerosol optical depth in Chengdu area and analysis of the spatial characteristics	Chi Zhang,Zhengqiang Li,Hua Xu	Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
54	RH influences on Absorbing Aerosol Index in different types of pollution composition	Zhuo Zhang,Yongmei Wang,Weihe Wang	National Space Science Center
55	Satellite-based spatiotemporal analysis of PM <sub>2.5</sub> concentrations in Hubei, Central China	Yuxi Ji,Yusi Huang,Tianhao zhang,Zhongmin Zhu,Wei Gong	Wuchang Shouyi University
56	Climatology of columnar aerosol optical and microphysical properties in Xi'an, a megacity of Northwestern China	Xiaoli Su	Institute of Earth Environment, Chinese Academy of Sciences
57	Estimating spatiotemporal distribution of PM <sub>2.5</sub> over Wuhan with Gaofen-1 derived aerosol optical depth data at 160m resolution	Kun Sun	Southern University of Science and Technology
58	Spectral variation of AERONET derived depolarization ratio according to aerosol source regions	Youngmin Noh,Sung-Kyun Shin,Detlef Mueller,Matthias Tesche	Pukyong National University
59	Aerosol type separation using dust ratio derived by AERONET Sun/sky radiometer data	Youngmin Noh,Sung-kyun Shin,Detlef Mueller,Matthias Tesche	Pukyong National University
60	Understanding APEC blue in both short- and long-term perspectives	Ting Wang,Pucui Wang	Institute of Atmospheric Physics, Chinese Academy of Sciences
61	Using machine learning models to estimate ground pollutant concentrations from satellite data	Bozhou Zhou	Peking University
62	Estimating the long-term trend of the atmospheric environmental capacity for PM <sub>2.5</sub> over North China Plain	Ying Li,Shuyun Yuan,Changqing Lin,Alexis K.H.Lau	Southern University of Science and Technology
63	High resolution historical comprehensive biomass burning emission inventories in China based on satellite observation and field survey from 2003 - 2016	Jian Wu	China University of Geosciences
64	A new top-Down approach to quantifying the spatial and temporal distribution of urban and biomass burning regions using decadal measurements from MOPITT and AERONET	Chuyong Lin,Jason Cohen	Sun Yat-Sen University
65	Comparison of aerosol parameters obtained from ground-based observations of different wavelengths	Kaitao Li	Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences
	<b>Asian haze and dust storm</b>	<b>Authors</b>	<b>Institution</b>
66	Highly time-resolved characterization of water-soluble inorganic ions during a winter heavy PM <sub>2.5</sub> pollution episode in Xi'an, China	Ting Zhang	Institute of Earth Environment, Chinese Academy of Sciences
67	Identification of chemical compositions and sources of atmospheric aerosols in Xi'an, inland China during two types of haze events	Jianjun Li,Gehui Wang	Institute of Earth Environment, Chinese Academy of Sciences



68	Seasonal variations of dust transport over East Asia	Di Liu	Nanjing University of Information Science & Technology
69	Synoptic situation and characteristics of winter air pollution events in Southeastern China	Xin Wu	Institute of Urban Environment, Chinese Academy of Sciences
70	Synergetic impact of the thermal anomalies of Tibetan Plateau and Arctic on haze pollution in Eastern China	Xiaoyun Sun,Tianliang Zhao,Xiangde Xu,Sunling Gong,Xiaodan Ma	Nanjing University of Information Science and Technology
71	Modeling dust aerosol budget, regional transport structures within the Tarim Basin	Lu Meng,Tianliang Zhao,XingHua Yang,Qing He,Wen Huo,Fan Yang,	Nanjing University of Information Science and Technology
72	The temporal and spatial distribution of haze in Sichuan Province from 1980 to 2014	Xinying Tang	Institute of Plateau Meteorology,Chengdu
73	Spatio-temporal variations and source distribution of a provincial PM <sub>2.5</sub> pollution in eastern China during 2013-2017 by geostatistics	Xue Sun,Xiaosan Luo,Jiangbing Xu,Zhen Zhao,Yan Chen,Lichun Wu,Qi Chen,Dan Zhang,	Nanjing University of Information Science and Technology
74	An assessment of meteorological drivers in modeling dust emissions in Taklimakan Desert, China	Chong Liu	Nanjing University
75	Comparisons of bottom-up and top-down Inventories and their effect on air pollutants over Yangtze River Delta	Sha Tong	Nanjing University of Information Science & Technology
76	Multiyear variation of haze frequency over the Coastal East China Sea and related major extinction components in PM <sub>2.5</sub>	Bo Wang,Ying Chen,Shengqian Zhou,Haowen Li,Fanghui Wang,Tianjiao Yang	Fudan University
77	Direct radiative forcing characteristics of absorbing aerosols in different climatic region over East Asia	Feng Taichen	Lanzhou University
	<b>Other PM<sub>2.5</sub> related topics</b>	<b>Authors</b>	<b>Institution</b>
78	Characterizing spatial patterns of NO <sub>2</sub> and SO <sub>2</sub> in Xi'an urban area by passive sampling	Jie Liu,Zhaomei Liu,Ping Wang,Junning Liang,Jie Chen	Institute of Earth Environment, Chinese Academy of Sciences
79	Influence of PM <sub>2.5</sub> deposition and accumulation on solar PV covers with nanocoatings	Ke Sun	Wuhan University
80	Links between the large-scale circulation and daily air quality variations over central-eastern China during winter	Wanru Ge,Jonathon S. Wright,Yuening Yin,WenYu Huang	Tsinghua University
81	Morphologies and elemental compositions of local biomass burning particles at urban and glacier sites in southeastern Tibetan Plateau: Results from an expedition in 2010	Tafeng Hu	Institute of Earth Environment, Chinese Academy of Sciences
82	Interactive and quantitative transportation of BC in North and Central China during winter haze episodes	Huang Zheng,Shaofei Kong,Fangqi Wu,Yi Cheng,Shurui Zheng,Guowei Yang,Qin Yan,Jian Wu,Mingming Zheng,Shihua Qi	China University of Geosciences (Wuhan)
83	The impact of dilution ratio and burning conditions on the size distribution and mixing state of particles emitted from domestic coal combustion in China	Shurui Zheng,Shaofei Kong	China University of Geosciences (Wuhan)
84	Effects of lowering the olefin and aromatics contents in gasoline on tailpipe PM emissions and VOCs species from exhaust and evaporative emissions in modern light-duty cars in China	Tingting Yue	China Academy of Environmental Sciences
85	Aerosol deposition in the sampling train of PM CEMS	Chih-Chieh Chen,Sheng-Hsiu Huang,Chih-Wei Lin,Yumei Kuo,ShiBo Wang	Taiwan University
86	Diurnal and seasonal variability of PM <sub>2.5</sub> and AOD in North China Plain: first comparison of MERRA-2 products and ground measurements	Zijue Song	Institute of Atmospheric Physics
87	Long-term fog and haze variation and impact factors over polluted regions of East China	Shuqi Yan,Bin Zhu,Hanqing Kang,Chen Pan,	Nanjing University of Information Science and Technology
88	Understanding persistent winter fog impact on aerosol chemistry by evaluating day and night time particulate matter and their chemical species concentration at UNESCO world heritage site Lumbini, Nepal	Saifi Izhar	Indian Institute of Technology Kanpur
89	Typical winter haze pollution in Zibo, an industrial city in China:Characteristics, secondary formation, and regional contribution	Hui Li	Tsinghua University
90	NMVOCs in a heavily polluted city in North China during haze episodes: pollution characteristics, effects on SOA formation, and source appointment	Mengyao Qi,Litao Wang,Le Zhao,Xiaohan Lu	Hebei University of Engineering
91	Comparative study of volatile organic compounds in autumn and winter season in Handan	Xiaohan Lu,Litao Wang,Mengyao Qi, Le Zhao	Hebei University of Engineering
92	Assessing air-quality in Beijing-Tianjin-Hebei Region: the method and mixed tales of PM <sub>2.5</sub> and O <sub>3</sub>	Lei Chen,Bin Guo, Jiasheng Huang,Jing He,Hengfang Wang,Shuyi Zhang,Song Xi Chen	Peking University

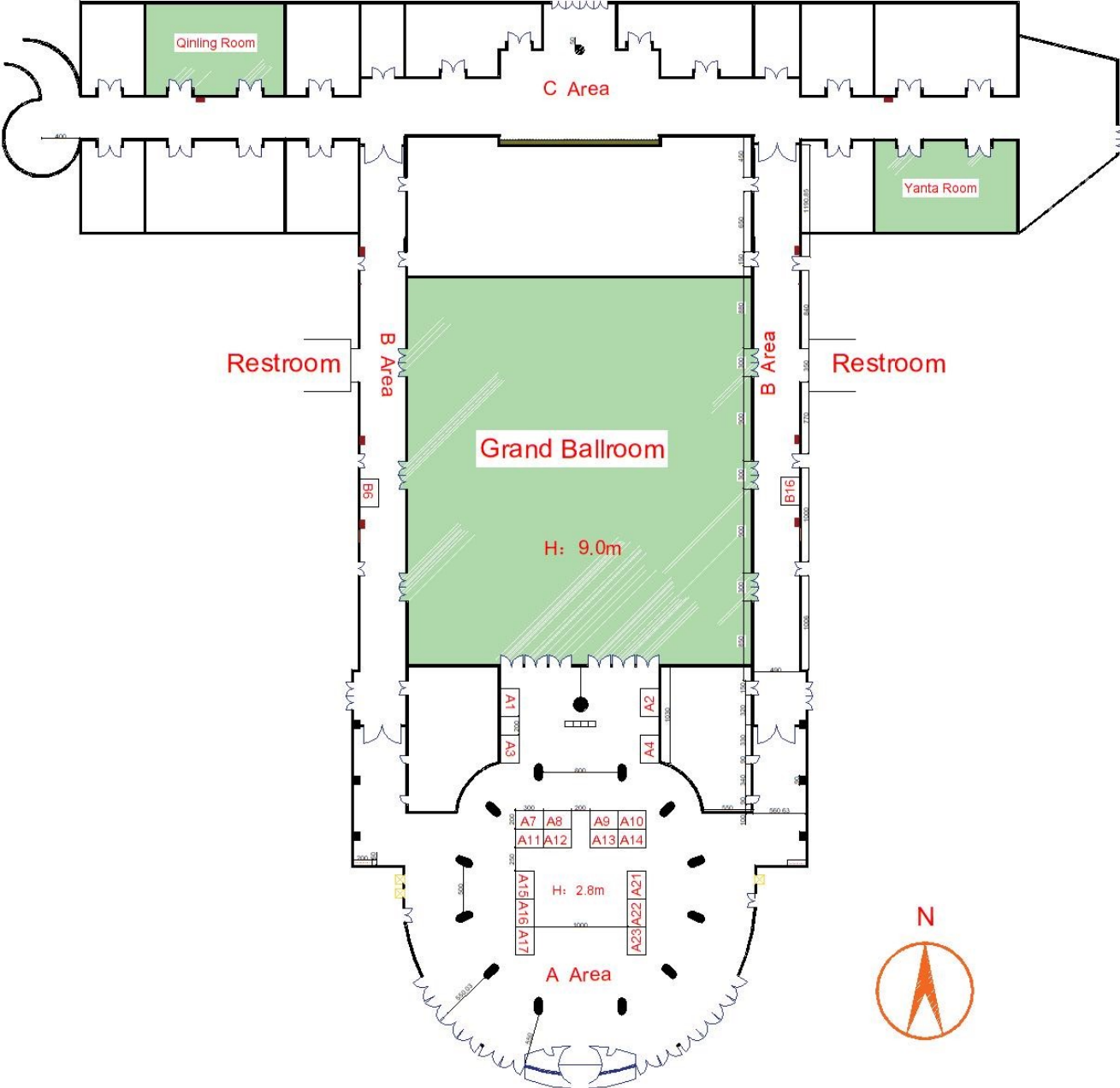


# Poster Session II

93	Effect of multi-scale interactions on oxidation in the troposphere	Hongjian Weng	Peking University
94	Seasonal variations of model bias in simulations of major PM <sub>2.5</sub> chemical components in China	Ruqian Miao, Qi Chen, Yele Sun, Jianping Guo	Peking University
95	One-year simulation of gaseous and particulate air pollutants in Xinjiang using WRF/CMAQ modeling system	Wenye Deng, Jiaerheng Ahati, Xinjie Yuan, Hao Guo, Kui Deng, Xue Qiao, Jing He, Pengfei Wang, Jing Yang, Weiyan Lin, Jie Zhu, Weixin Du, Hongliang Zhang	Xinjiang Academy of Environmental Protection Science
96	Fitting and simulating ultrafine 3nm to 10um via the demarcation symmetric L probability distribution function	Wanli Wang	Wuhan University
97	Water-soluble ions in hailstones in northern and southwestern China	Xiaofei Li	Peking University
98	Evidence of anthropogenic refractory particles contaminating cloud droplets over polluted areas	Lei Liu, Weijun Li	Zhejiang University
99	Light-absorbing impurities accelerate glacier melt in the Central Tibetan Plateau	Xiaofei Li, Shichang Kang, Xiaobo He, Chaoliu Li	Institute of Earth Environment, Chinese Academy of Sciences
100	Seasonal variation of black carbon in the Himalayas and Tibetan Plateau under the biomass burning effect from south Asia: The analysis of the WRF-Chem modeling	Ruiguang Xu, Xuexi Tie, Junji Cao, Guohui Li, Shuyi Zhao, Tian Feng, Yiting Wang, Xing Su, Xin Long, Qiang Zhang	Institute of Earth Environment, Chinese Academy of Sciences
101	Insights into chemical characteristics and sources of submicron aerosols at Waliguan Baseline Observatory, a high-altitude remote station (3816 m a.s.l.) in the northeastern Qinghai-Tibet Plateau	Xinghua Zhang, Jianzhong Xu	Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences
102	The influence of air filtration on indoor air pollution and children's personal exposure to PM <sub>2.5</sub> and ozone in Shanghai, China	Karoline K. Johnson, Shiyun Ma, Michael Bergin, Christina Norris, Tongshu Zheng, Xiaoxing Cui, James J Schauer, Yinping Zhang, Junfeng Zhang	Duke University
103	Density functional theory study of NO oxidation mechanism on the different surfaces of BiOCl with oxygen vacancies	Huan Shang, Zhihui Ai, Lizhi Zhang	Central China Normal University
104	Investigating vertical distribution patterns of lower tropospheric PM <sub>2.5</sub> in the Yangtze River Delta region using unmanned aerial vehicle measurements	Xiaobing Li, Zhongren Peng	Shanghai Jiaotong University
106	Field evaluation of a multiple wavelengths micro aethalometer	Cheng Wu	Jinan University
107	Development of a humidified cavity-enhanced albedometer	Jiacheng Zhou, Xuezhe Xu, Weixiong Zhao, Weijun Zhang	Anhui Institute of Optics and Fine Mechanics
108	Aerosol spectral measurement by three wavelength cavity-enhanced albedometer	Xuezhe Xu, Weixiong Zhao, Bo Fang, Weijun Zhang	Anhui Institute of Optics and Fine Mechanics
109	Evaluation of a multi-wavelength black carbon sensor	Amara Holder, Brannon Seay, Sue Kimbrough, Johanna Aurell, Brian Gullett, Steven Blair, Jeff Blair	AethLabs
110	Serial dilution of inverted flame source as a calibration approach for black carbon monitors	Steven Chillrud, Richard Perry, James Ross, Qiang Yang, Beizhan Yan, Jeff Blair, Matt Perzanowski, Columbia University, AethLabs	AethLabs
111	High levels of ambient PM <sub>2.5</sub> -bound organic components associated with cardiovascular responses in young healthy adults living in Beijing, China	Hongbing Xu, Xiaoming Song, Qian Zhao, Jianping Li, Junji Cao, Wei Huang	Peking University
112	Prior exercise training prevented endothelium dysfunction induced by subsequent particulate matter exposure	Baihuan Feng, Rongzhen Qi, Ran Li, Wei Huang	Peking University
113	The effects of exposure to particle-bound PAHs on lung function in patients with COPD in Beijing	Tong Wang, Tong Wang, Xiaoming Song, Yi Zhang, Jie Chen, Hongbing Xu, Junji Cao, Bei He, Wei Huang	Peking University
114	Temporal variations in short-term mortality risks associated with ambient particulate matter in Guangzhou, China: a time-series analysis (2006-2016)	Rongshan Wu, Liuju Zhong, Xiaoliang Huang, Xiaoming Song, Hongbing Xu, Baihuan Feng, Tong Wang, Xuemei Wang, Wei Huang	Peking University
115	Personal sulfate exposure adversely impacted insulin resistance: AIRCMD Study	Jiakun Fang, Hongbing Xu, Tong Wang, Rongshan Wu, Baihuan Feng, Shuo Liu, Wei Huang	Peking University



# Exhibition Floor Plan





# Exhibitor List

Booth No.	Company	Website	Country/ Region
A1	Agilent Technologies(China) Co., Ltd.	<a href="http://www.agilent.com">www.agilent.com</a>	USA
A2	Thermo Fisher Scientific Inc.	<a href="http://www.thermofisher.com">www.thermofisher.com</a>	USA
A3	Guangzhou Hexin Instrument Co., Ltd.	<a href="http://www.tofms.net">www.tofms.net</a>	China
A4	Wuxi CAS Photonics Co. Ltd.	<a href="http://www.cas-pe.com">www.cas-pe.com</a>	China
A7	Hangzhou Shallow-sea Technology Co.,Ltd.	<a href="http://www.shallow-sea.com">www.shallow-sea.com</a>	China
A8	Cambustion Ltd.	<a href="http://www.cambustion.com">www.cambustion.com</a>	UK
A9	Focused Photonics Inc.	<a href="http://www.fpi-inc.com">www.fpi-inc.com</a>	China
A10	Xiamen Molecular Analysis Trading Co., Ltd.	<a href="http://www.ma-analyzers.com">www.ma-analyzers.com</a>	Taiwan
A11	Dekati Ltd.	<a href="http://www.dekati.fi">www.dekati.fi</a>	Finland
A12	FORTELICE INTERNATIONAL CO., LTD.	<a href="http://www.machine-shop.com.tw">www.machine-shop.com.tw</a>	Taiwan
A13	TSI Instrument Co.,Ltd	<a href="http://www.tsi.com">www.tsi.com</a>	USA
A14	AERODYNE RESEARCH, Inc.	<a href="http://www.aerodyne.com">www.aerodyne.com</a>	USA
A15	KANOMAX Corporation Inc.	<a href="http://www.kanomax.co.jp">www.kanomax.co.jp</a>	Japan
A16	Malvern Panalytical	<a href="http://www.malvernpanalytical.com">www.malvernpanalytical.com</a>	UK
A17	Beijing Saak-Mar Environmental Instrument Ltd.(Bmet)	<a href="http://www.bmet.cn">www.bmet.cn</a>	China
A21	GRIMM Aerosol Technik Ainring GmbH & Co. KG	<a href="http://GRIMM-aerosol.com">GRIMM-aerosol.com</a>	Germany
A22	Beijing NairTENG Technology Co., Ltd.	<a href="http://www.nairteng.com">www.nairteng.com</a>	China
A23	Met one Instrument, Inc.	<a href="mailto:sales@metone.com">sales@metone.com</a>	USA
B6	Nanjing Handa Environmental Science and Technology Limited	<a href="http://www.handix.cn">www.handix.cn</a>	China
B16	Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences	<a href="http://www.cigit.cas.cn">www.cigit.cas.cn</a>	China
	Springer	<a href="http://www.springer.com">www.springer.com</a>	
	Aerosol Science and Engineering	<a href="https://link.springer.com/journal/41810">https://link.springer.com/journal/41810</a>	
	Atmospheric and Oceanic Science Letters (AOSL)	<a href="http://www.iapjournals.ac.cn/aosl">www.iapjournals.ac.cn/aosl</a>	





# About the Exhibitors

**Agilent Technologies(China) Co., Ltd.**



Booth A1

USA

[www.agilent.com](http://www.agilent.com)

Agilent Technologies Inc. (NYSE: A) is a global leader in life sciences, diagnostics and applied chemical markets. With more than 50 years of insight and innovation, Agilent instruments, software, services, solutions, and people provide trusted answers to its customers' most challenging questions. The company generated revenues of \$4.47 billion in fiscal 2017 and employs 13,500 people worldwide.

**Thermo Fisher Scientific Inc.**



Booth A2

USA

[www.thermofisher.com](http://www.thermofisher.com)

About Thermo Fisher Scientific Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science, with revenues of more than \$20 billion and approximately 70,000 employees globally. Our mission is to enable our customers to make the world healthier, cleaner and safer. We help our customers accelerate life sciences research, solve complex analytical challenges, improve patient diagnostics, deliver medicines to market and increase laboratory productivity. Through our premier brands – Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific and Unity Lab Services – we offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive services.

**Guangzhou Hexin Instrument Co., Ltd.**



Booth A3

China

[www.tofms.net](http://www.tofms.net)

Guangzhou Hexin Instrument Co., Ltd. (The new third board listed company, Stock abbreviation: Hexin Instrument, Stock code: 871079), founded in 2004, is a national Torch Plan key high-tech enterprise and a national "Thousand Talents Plan" venture enterprise, which integrates the R & D, manufacturing, sales and technical services of mass spectrometers.

Hexin has provided environmental monitoring, meteorology, industrial production, medicine and other fields with a variety of mass spectrometers and relevant technical services.

**Wuxi CAS Photonics Co. Ltd.**



Booth A4

China

[www.cas-pe.com](http://www.cas-pe.com)

Wuxi CAS Photonics Co. Ltd. (CASP) is an hi-tech joint venture company, established by Focused Photonics Co. Ltd. (FPI), Anhui Institute of Optics and Fine Mechanics (AIOFM) and Jiangsu CAS Internet-of-things Technology Venture Capital Co. Ltd. (CIOTC). Located in Taihu Science and Technology Industrial Park, core area of the Internet of Things industrial cluster, CASP registered capital to be ¥ 15 million.

With the supporting of technologies, market resources, and industrialization capacity from AIOFM, CIOTC, and FPI, CASPI can provide kinds of equipment combinations of environmental air quality comprehensive monitoring system, and supply professional solution scheme to atmospheric monitoring industries for now and future. By these efforts, CASP is constructing a benchmark enterprise and establishing its leading position in environmental atmosphere quality monitoring industry.

Possessing the key technologies in optical/laser remote sensing, sources apportionment, and so on, CASP mainly focusing its business fields on environmental and meteorological, technology fields on optical. CASP can provide compound air pollution three-dimension monitoring, haze monitoring and many other solutions, as well as a variety of equipment with self-owned intellectual property rights.

**Hangzhou Shallow-sea Technology Co.,Ltd.**



Booth A7

China

[www.shallow-sea.com](http://www.shallow-sea.com)

Hangzhou Shallow-Sea Technology Co., Ltd. located in National Hi-Tech Development Zone of Hangzhou, Zhejiang Province, was founded by overseas Doctors and is an advanced technology-based company of meteorology & marine instruments and systems. The company has the professional marketing technical team, and the senior technical personnel is accounted for 60%. All of them have undergraduate diploma or above, and most of them come from 985, 211 universities, research institutes and other first-class institutions.

The company's current main business includes: Intelligent Marine information solutions, intelligent meteorological solutions, marine detection instruments & systems, meteorological detection equipment & systems. The company is focused on providing customers with leading technology application services and intelligent solutions, and is the leading supplier of marine, meteorological equipment and intelligent overall solutions in China.

**Cambustion Ltd.**



Booth A8

UK

[www.cambustion.com](http://www.cambustion.com)

Cambustion design and manufacture unique instrumentation for measuring aerosol particles, as well as a range of fast response gas analyzers.

The Centrifugal Particle Mass Analyzer (CPMA) selects particles by individual particle mass. This can be used to study particle density and morphology, or to calibrate other instruments, whether they measure single particle mass or mass concentration. When combined with the Cambustion UDAC particle charger and an aerosol electrometer, the CPMA forms a suspended particle mass calibration standard.

The DMS500 MkII is the fastest available instrument to measure particle mobility size spectra. The instrument is available in versions covering 5 nm to PM1.0 and 5 nm to PM2.5, with 10 Hz data and a time response to step changes as fast as just 200 ms. With class leading accuracy and reproducibility, the DMS500 has found applications in engine emissions, and atmospheric and aerosol sciences for the last 16 years.

**Focused Photonics Inc.**



Booth A9

China

[www.fpi-inc.com](http://www.fpi-inc.com)

Focused Photonics Inc. (also known as FPI) is a world-leading environmental and safety solution expert. It was registered and established in January 2002 in Hangzhou with a registered capital of 453 million RMB. Listed on April 15, 2011 (A-share listing, stock code: 300203). It is a leading provider of advanced urban intelligent solutions and one of the pioneers in the construction of green and smart cities in China.

The company's current main business includes: environmental and safety monitoring management, environmental governance, smart water conservancy, comprehensive development of ecological environment, smart industry, smart laboratory. Focus on providing advanced technology application services and green smart city solutions for users in various industries.



**Xiamen Molecular Analysis Trading Co., Ltd.**



Booth A10

Taiwan

www.ma-analyzers.com

Xiamen Molecular Analysis Trading Corporation (Xiamen) is a subsidiary of Jusun Instrument Corporation (Taiwan) which is established in Xiamen to serve mainland China customers. Jusun Instrument Corporation was established in 1990 to work as a professional gas analyzer equipment agent. It has won the trust and considerable evaluation of many customers since it was established. The company has been providing customers with higher service quality and passed ISO9001 certification in February 2006. At present, the company's products are divided into two series: semiconductor-related equipment and industrial safety monitoring equipment.

**Dekati Ltd.**



Booth A11

Finland

www.dekati.fi

Dekati Ltd. is a world leader in designing and manufacturing innovative fine particle measurement solutions. We have over 25 years of experience in providing measurement instruments and complete measurement solutions to a wide variety of environments and sample conditions. We take pride in the quality and robustness of our products and are committed to finding the best possible solution for your aerosol measurement needs. Our experience and expertise in aerosol measurement applications is at your disposal throughout the lifecycle of your investment via our global partner network. All Dekati® Products are developed and manufactured in Finland and are available with up to five-year warranty.

**Fortelice International CO.,LTD**



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Taiwan

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Fortelice International CO.,LTD established in 1989, has been insisted on the integrity, care, professional and innovation. Always committed to develop environmental monitoring equipment. For the professional R&D and excellent experience, Fortelice International CO.,LTD is not only based in Taiwan but also shining in the world.

**TSI Instrument Co.,Ltd**



Booth A13

USA

www.tsi.com

TSI Incorporated serves a global market by investigating, identifying and solving measurement problems. As an industry leader in the design and production of precision instruments, TSI partners with research institutions and customers around the world to set the standard for measurements relating to aerosol science, health and safety, indoor air quality, air flow, fluid dynamics and biohazard detection. With headquarters based in the U.S. and field offices throughout Europe and Asia, TSI has established a worldwide presence in the markets we serve.

**AERODYNE RESEARCH, Inc.**



Booth A14

USA

www.aerodyne.com

Aerodyne Research, Inc. (ARI) provides research and development (R&D) services to address national and international environmental, energy and defense challenges to industrial, academic and governmental customers worldwide. In conjunction with our research activities, ARI also produces state of the art instrumentation for measuring gases or aerosol particles with fast time response and great sensitivity. Our instruments are used in research and monitoring applications on ground and mobile (truck, ship, aircraft) platforms for measuring atmospheric pollutants, combustion and industrial emissions.

**KANOMAX Corporation Inc.**



Booth A15

Japan

www.kanomax.co.jp

Founded in 1934 in Osaka, Japan, Kanomax has been delivering the best measurement solutions with its products and services that adapt precision measurement technology for fluids and particles. We are contributing to technological innovation and quality improvements for the processes of quality and environment management. Sustaining human well-being in the areas of environment, health and energy have always been a primary focus of Kanomax. We develop leading technology with the goal of maintaining health and safety in industries including automobile, aerospace, semiconductor, electronics manufacturing, heavy industry, steel, shipbuilding, pharmaceutical, biotechnology, food processing, medical, construction and civil engineering.

**Malvern Panalytical**



Booth A16

UK

www.malvernpanalytical.com

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**Beijing Saak-Mar Environmental Instrument Ltd.**



Booth A17

China

www.bmet.cn

Beijing Saak-Mar Environmental Instrument Ltd. is the professional environmental atmospheric monitoring company, introducing the world's cutting-edge analytical technology & Manufacturer to China. BMET is specializing in environmental atmospheric monitoring system integration, and has advanced technology to provide professional service.

The main products include: the Aethalometer of Magee Scientific Corporation (USA), the DRI OC/EC Analyzer from USA, the GC5000 VOCs Monitoring System(C2-C12) of AMA Instrument (Germany), Aerosol sampler of BGI Incorporated and Tisch Environmental Inc. USA, MPL series Micro Pulse Lidar of Anhui Institute of Optics and Fine Mechanics in Chinese Academy of Sciences, Visibility Instrument of Belfort Instrument (USA),Nephelometer of Ecotech Pty Ltd. (Australia), PAN on-line automatic analyzer from Metcon meteorology consult gmbh in Germany, and so on.



## Booth A21

Germany  
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GRIMM Aerosol, Member of the DURAG Group, is one of the worldwide leading companies in the field of high-tech aerosol measurement instrumentation due to its innovations and quality manufacturing. We determine particle number and particle size as well as particle mass distribution. The company is developing and manufacturing devices from portable hand-held spot measurements to complete stationary systems. The product portfolio of GRIMM includes: Dust Monitors for PM10, PM2.5 and PM1 Nanoparticle Counting and Sizing Indoor Air Quality Monitors Workplace Monitors Filter Efficiency Test Systems Aerosol Generators.

## Beijing NairTENG Technology Co., Ltd.



## Booth A22

China  
www.nairteng.com

Beijing NairTENG Technology Co., Ltd. is a joint venture established by Beijing Institute of Nanotechnology and Nanosystems, Chinese Academy of Sciences and Beijing Datsing Venture Capital Co., Ltd.

The core technology is triboelectric filter, which is based on the mechanism of the triboelectric nanogenerator. The triboelectric filter can realize the highly efficiency removal of particulate matters, which is completely different from the traditional HEPA filter and electrostatic precipitation. The products have the revolutionary advantages of zero ozone release, no need for replacing consumable materials and super high removal efficiency. In the triboelectric filter, the high electric field can be created automatically because of the triboelectric process between flowing air and nanometer materials. Thus, in view of the nonionizing process, 99.5% of the particulate matters in the range of PM0.001 ~ PM10 can be completely filtered without ozone emissions.

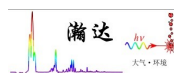
## Met one Instrument, Inc.



## Booth A23

USA  
sales@metone.com

Met One Instruments, Inc. is a forward looking, innovative manufacturing company developing products for our customers. Incorporated in 1985 in the State of Oregon, USA, MOI has grown to become a significant provider of instrumentation worldwide. We listen to customers' needs and wants and engineer their solutions. Our after sales service is unrivalled in our marketplace. The leading USA manufacturer of meteorological, particulate monitoring and systems solutions, Met One Instruments, Inc. would like to hear from you and assist in solving your air monitoring requirements.



## Booth B6

China  
www.handix.cn

Nanjing Handa Environmental Science and Technology Limited (Handa) specializes in the distribution of environmental and meteorological instruments in China. We are currently focused on the consultation, sales and support of advanced instruments manufactured by Aerodyne Research Inc. (ARI) of USA, Airmodus Limited of Finland, Droplet Measurement Technologies LLC (DMT) of USA, and Handix Scientific LLC (HSL) of USA. We strive for excellence in servicing clients in universities, academic research institutions, government agencies and industries.

## Chongqing

**Institute of Green and Intelligent Technology, Chinese Academy of Sciences**



## Booth B16

China  
www.cigit.cas.cn

Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences (referred into as Chinese Academy of Sciences Chongqing Institute) is a public institution directly under Chinese Academy of Sciences and established jointly by Chinese Academy of Sciences, State Council Three Gorges Office and Chongqing Municipal People's Government. Since its initiation and establishment in March 2011, insisting in the core value concept of 'innovation being soul and based on market' and taking as guidance major scientific and technological demands of economic and social development from Chongqing and the upper reaches of Yangtze River, it has an Institute of Electronic Information Technology, an Intelligent Manufacturing Technology Institute and a Three-Gorges Ecological and Environmental Research Institute.

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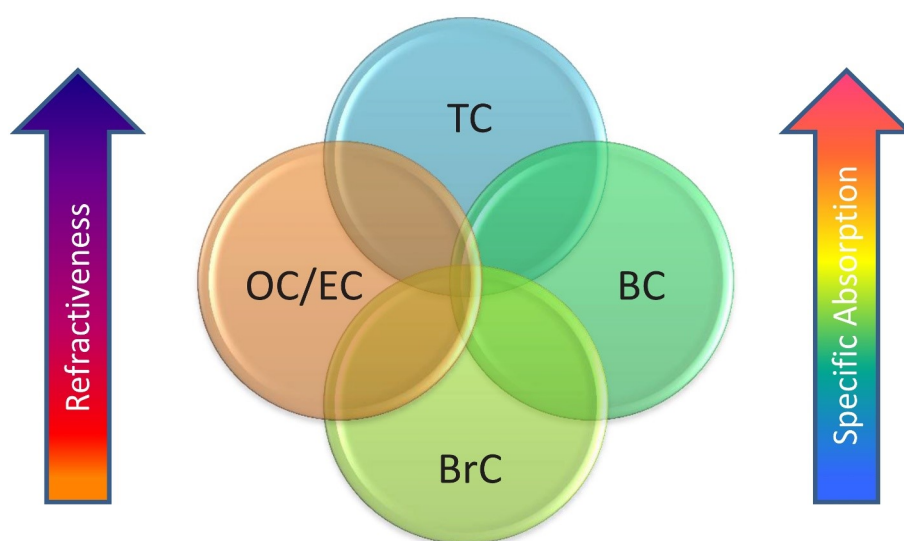


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Booth: A17

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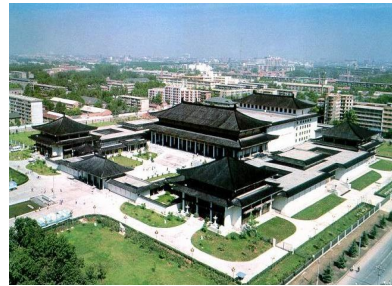


# Spouse/Companion Tour

Big Wild Goose Pagoda and the North Square + Shaanxi History Museum  
\$65 US dollar, 8.30am - 6pm 16th October



**Big Wild Goose Pagoda and the North Squar**



**Shaanxi History Museum**

Mount CuiHua National Park  
\$65 US dollar, 8am - 6pm 17<sup>th</sup> October



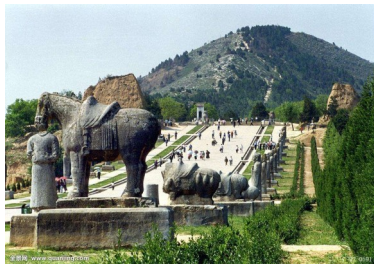
**Mount CuiHua National Park**

Mount Huashan  
\$85 US dollar, 8am - 7pm 18<sup>th</sup> October

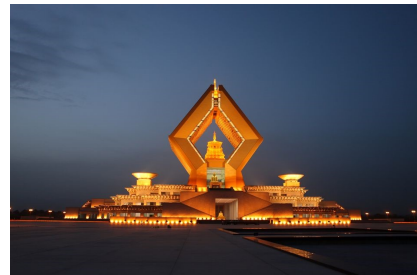


**Mount Huashan**

Qianling Mausoleum + Famen Temple  
\$85 US dollar, 8am - 7pm 19<sup>th</sup> October



**Qianling Mausoleum**

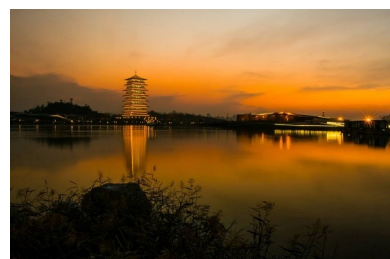


**Famen Temple**

Xi'an China International Horticultural Exposition  
\$30 US dollars, 9am - 5pm 20<sup>th</sup> October



**Xi'an China International Horticultural Exposition**





## Note

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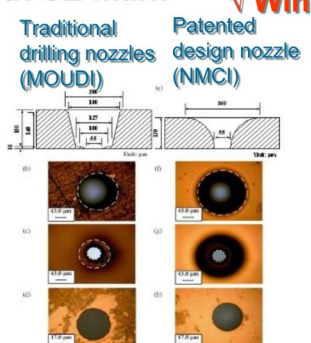
**Molecular Analysis**

## Series 1000M/A NMCI

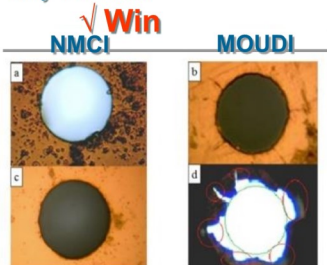
### NCTU Micro-orifice Cascade Impactor

#### Advantage

- Patented nozzle design (7th-10th Stage)
- All nozzles can be cleaned with an ultrasonic cleaner
- Can replace the existing nozzles of the MODUI with new patented nozzles
- Each jet-to plate distance of Impactor has been calibrated to obtain highly accurate data
- With Semi – Automatic (1000M) and Fully Automatic (1000A) Series
- With CE mark



NMCI can be cleaned with an ultrasonic cleaner about 1hr  
MODUI's nozzles are damaged only 1 minute



## Series 9000 On-line Analyzer

for  $PM_{2.5}$  / Aerosol and Gas

#### Advantage

- Patented PPWD for precursor gas sampling
- Patented SDEC or PILS for  $PM_{2.5}$  soluble ion sampling
- Patented Software with Interface can connect with all types of Ion Chromatograph for direct Measurements of Nitrate, Sulfate, Nitrite, Phosphate and Chloride, Sodium, Ammonium, Calcium, Potassium, Magnesium, Hydrogen Chloride, Nitric Acid, Sulfur Dioxide, Hydrogen Fluoride and Ammonia
- Can connect with ICP-MSD or Anodic & Cathodic Voltammetry Instrument for direct heavy metal ion detection

### IAQ-Pro

Our product IAQ-Pro is a field-display type Indoor Air Quality monitor. It can detect and display the  $PM_{2.5}$  /  $PM_{10}$  / Gas / Temperature / Humidity readings simultaneously while controlling your HVAC system at the same time.



**Molecular Analysis**

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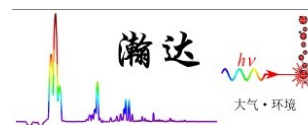
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# Thank you

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