

Air quality in megacities

Faraday Discussion



18–20 November 2020
Edinburgh, UK

Tuesday 17 November 2020 (GMT)

14:30	Welcome and Introductions Roy Harrison, <i>Chair of Scientific Committee</i>
14:40	Outline of Discussion Format <i>Royal Society of Chemistry Publishing Editors</i>
14:50	Introductory Lecture (Session Chair: Roy Harrison) Luisa Molina <i>Molina Center for Energy and the Environment and MIT, United States</i>
15:50	Break
	Session 1: Trends in emissions and concentrations (Session Chair: James Schauer)
16:20	Asia Pacific road transportation emissions, 1900–2050 Tim Wallington <i>Ford Motor Company, USA</i>
16:25	Long-term trends in the contribution of PM_{2.5} sources to organic carbon (OC) in the Los Angeles basin and the effect of PM emission regulations Abdulmalik Altuwayjiri <i>University of Southern California, USA</i>
16:30	Discussion
17:10	Close of sessions



Wednesday 18 November 2020 (GMT)

	Session 2: Urban air quality (Session Chair: Masao Gen)
08:00	Diurnal and weekly patterns of primary pollutants in Beijing under COVID-19 restrictions <u>Peter Brimblecombe</u> <i>City University of Hong Kong, China</i>
08:05	Tracer-based characterization of source variations of PM_{2.5} and organic carbon in Shanghai influenced by the COVID-19 lockdown <u>Jian Zhen Yu</u> <i>Hong Kong University of Science & Technology, China</i>
08:10	Discussion
08:50	Poster Session 1

	Session 3: Meteorological influences and air quality trends (Session Chair: Pingqiang Fu)
10:00	Variability of physical meteorology in urban areas at different scales: implications for air quality <u>Sue Grimmond</u> <i>Reading University, UK</i>
10:05	Using a coupled LES aerosol–radiation model to investigate the importance of aerosol–boundary layer feedback in a Beijing haze episode <u>Jessica Slater</u> <i>University of Manchester, UK</i>
10:10	Emission reduction and air quality improvement from China’s clean air action 2013-2017 <u>Qiang Zhang</u> <i>Tsinghua University, China</i>
10:15	Discussion
11:15	Break

	Session 4: Multiphase atmospheric chemistry (Session Chair: Christian Pfrang)
14:30	Multiphase chemistry experiment in fogs and aerosols in the North China Plain (McFAN): integrated analysis and intensive winter campaign 2018 <u>Guo Li</u> <i>Max Planck Institute, Mainz, Germany</i>
14:35	Vertical profile of particle hygroscopicity and CCN effectiveness during winter in Beijing: insight into the hygroscopicity transition threshold of black carbon <u>Dawei Hu</u> <i>University of Manchester, UK</i>
14:40	Insights into air pollution chemistry and sulphate formation from nitrous acid (HONO) measurements during haze events in Beijing <u>William Bloss</u> <i>University of Birmingham, UK</i>
14:45	Discussion
15:45	Break



	Session 5: Source apportionment (Session Chair: Judy Chow)
16:15	An evaluation of source apportionment of fine OC and PM2.5 by multiple methods: APHH-Beijing campaigns as a case study <u>Jingsha Xu</u> <i>University of Birmingham, UK</i>
16:20	PM2.5 pollution in China's Guanzhong Basin and the USA's San Joaquin Valley megaregions <u>John Watson</u> <i>Desert Research Institute, Reno, USA</i>
16:25	Discussion
17:05	Close of sessions



Thursday 19 November 2020 (GMT)

	Session 6: Aerosol formation and growth (Session Chair: Zongbo Shi)
08:00	Is reducing new particle formation a plausible solution to mitigate particulate air pollution in Beijing and other Chinese megacities? <u>Markku Kulmala</u> <i>University of Helsinki, Finland</i>
08:05	Formation and growth of sub-3 nm particles in megacities: impact of background aerosols <u>Jingkun Jiang</u> <i>Tsinghua University, China</i>
08:10	The persistence of a proxy for cooking emissions in megacities: a kinetic study of the ozonolysis of self-assembled films by simultaneous Small & Wide Angle X-ray Scattering (SAXS/WAXS) and Raman microscopy <u>Christian Pfrang</u> <i>University of Birmingham, UK</i>
08:15	Discussion
09:15	Break

	Session 7: VOC sources and secondary organic aerosols (Session Chair: Peter Brimblecombe)
09:45	Simulation of primary and secondary particles in the streets of Paris using MUNICH <u>Lya Ligon</u> <i>CEREA Joint Laboratory École des Ponts ParisTech/EDF R&D, France</i>
09:50	Molecular characterization of size-segregated organic aerosols in the urban boundary layer in wintertime Beijing by FT-ICR MS <u>Pingqing Fu</u> <i>Tianjin University, China</i>
09:55	Using highly time-resolved online mass spectrometry to examine biogenic and anthropogenic contributions to organic aerosol in Beijing <u>Archit Mehra</u> <i>University of Manchester, UK</i>
10:00	Investigating the sources of non-methane volatile organic compounds in Delhi <u>Gareth Stewart</u> <i>University of York, UK</i>
10:05	Discussion
11:25	Faraday Division Presidential address <u>Claire Vallance</u> , Faraday Division President
11:35	Break

	Session 8: Sources, sinks and mitigation measures (Session Chair: Tim Wallington)
16:00	Investigating the background and local contribution of the oxidants in London and Bangkok <u>fAnwar Khan</u> <i>University of Bristol, UK</i>
16:05	The roles of suburban forest in controlling vertical trace gas and OH reactivity distributions – a case study for Seoul Metropolitan Area <u>Saewung Kim</u> <i>University of California, Irvine, USA</i>
16:10	Avoiding high ozone pollution in Delhi, India <u>Ying Chen</u> <i>Lancaster University, UK</i>
16:15	Discussion
17:15	Poster session 2



Friday 20 November 2020 (GMT)

	Session 9: Evaluation of health impacts (Session Chair: Roy Harrison)
08:00	A component-specific exposure-mortality model for ambient PM_{2.5} in China: findings from a nationwide epidemiology based on outputs from a chemical transport model Tong Zhu <i>Peking University, China</i>
08:05	Difference in ambient-personal exposure to PM_{2.5} and its health impact in local residents in urban and peri-urban Beijing, China: Results of the AIRLESS project Yiqun Han <i>Imperial College London, UK</i>
08:10	Discussion
08:50	Break
09:20	Concluding Remarks Lecture Chak Chan <i>City University of Hong Kong, China</i>
10:00	Acknowledgements
10:10	Close of meeting