

# Atmospheric chemistry in cold environments

17-19 February 2025 | London, UK

Faraday  
Discussions

## Day 1

11:00	Registration and refreshments
12:00	Lunch
12:45	<b>Welcome and introductions</b> Thorsten Bartels-Rausch, <i>Chair of Scientific Committee</i>
12:55	<b>Outline of Discussion format</b> <i>Royal Society of Chemistry Publishing Editors</i>
13:00	<b>Introductory Lecture – Spiers Memorial Lecture</b> (Session chair: Thorsten Bartels-Rausch) TBC
	<b>Role of trace gases in particle and ice nucleation and growth</b> (Session chair: Thorsten Bartels-Rausch)
14:00	<b>Multiphase sulfur chemistry facilitates particle growth in a cold and dark urban environment</b> Jingqiu Mao <i>University of Alaska Fairbanks, United States</i>
14:05	Discussion
14:30	Refreshments
	<b>Multiphase chemistry of aerosol, clouds, and snow</b> (Session chair: Dwayne Heard)
15:00	<b>In situ measurements of gas-particle partitioning of organic compounds in Fairbanks</b> Barbara D'Anna <i>LCE, France</i>
15:05	<b>Oxidation by ozone of linoleic acid monolayers at the air–water interface in multi-component films at 21 °C and 3 °C</b> Christian Pfrang <i>University of Birmingham, UK</i>
15:10	<b>Unraveling aqueous alcohol freezing : new theoretical tools from graph theory to extract molecular processes in MD simulations</b> Celine Toubin <i>University of Lille, France</i>
15:15	Discussion
16:30	Lightning presentations (by invitation of the Scientific Committee)
17:00	Poster session and wine reception
19:00	Close

## Day 2

	<b>Atmospheric processing, transport and chemical transformations of trace gases in cold regions</b> (Session chair: Natasha Garner)
09:00	<b>Transport of continental particulate over the Labrador Sea and entrainment are important pathways for glaciation of remote marine clouds</b> Hugh Coe <i>University of Manchester, UK</i>
09:05	<b>Direct high-altitude observations of 2-methyltetrols in the gas- and particle phase in air masses from Amazonia</b> Claudia Mohr <i>Paul Scherrer Institute, Switzerland</i>
09:10	<b>The impact of the Himalayan aerosol factory: results from high resolution numerical modelling of pure biogenic nucleation over the Himalayan valleys</b> Giancarlo Ciarelli <i>University of Helsinki, Finland</i>
09:15	Discussion
10:30	Refreshments (Session chair: Megan Willis)
11:00	<b>Iodine speciation in snow during the MOSAiC expedition and its implications for Arctic iodine emissions</b> Lucy Carpenter <i>University of York, UK</i>
11:05	<b>Biotic and abiotic factors controlling isoprene, DMS, and oxygenated volatile organic compounds (VOCs) at the Southern Sea in the Austral Fall</b> Saewung Kim <i>University of California, United States</i>
11:10	<b>Processes regulating the sources and sinks of ammonia in the Canadian Arctic</b> Jen Murphy <i>University of Toronto, Canada</i>
11:15	Discussion
12:30	Lunch

	<b>Atmosphere-surface interactions and heterogenous processes in cold environments</b> (Session chair: Bill Simpson)
14:00	<b>Arctic tropospheric ozone seasonality, depletion, and oil field influence</b> Kerri Pratt <i>University of Michigan, United States</i>
14:05	<b>Impacts of Arctic oil field NO<sub>x</sub> emissions on downwind bromine chemistry: insights from 5 years of MAX-DOAS observations</b> Peter Peterson <i>Whittier College, United States</i>
14:10	Discussion
15:00	Refreshments (Session chair: Paul Zieger)
15:30	<b>The interplay between snow and polluted air masses in cold urban environments</b> <u>Jonas Kuhn</u> ; Jochen Stutz <i>University of California, United States</i>
15:35	<b>Ongoing large ozone depletion in the polar lower stratospheres: the role of increased water vapour</b> <u>Martyn Chipperfield</u> ; Saffron Heddell <i>University of Leeds, UK</i>
15:40	Discussion
	<b>Aerosol-cloud interactions in cold regions</b> (Session chair: Natasha Garner)
16:30	<b>Terrestrial and marine sources of ice nucleating particles in the Eurasian Arctic</b> Zamin A Kanji <i>ETH Zurich, Switzerland</i>
16:35	<b>A comprehensive characterisation of natural aerosol sources in the high Arctic during the onset of sea ice melt</b> Paul Zieger <i>Stockholm University, Sweden</i>
16:40	Discussion
17:30	Close of sessions
18:30	Pre-dinner drinks
19:00	Conference dinner

### Day 3

	<b>Multiphase chemistry of aerosol, clouds, and snow</b> (Session chair: Thorsten Bartels-Rausch)
09:00	<b>Elucidating how trace gases interact with ice surfaces utilizing sum frequency generation</b> <u>Jenée Cyran</u> <i>Boise State University, United States</i>
09:05	<b>Uptake of ammonia by ice surfaces at atmospheric temperatures</b> <u>Clemens Richter</u> <i>Fritz-Haber-Institute of the Max-Planck Society, Germany</i>
09:10	<b>Trapping intermediates of the NO<sub>2</sub> hydrolysis reaction on ice</b> <u>Patrick Ayotte</u> <i>Université de Sherbrooke, Canada</i>
09:15	Discussion
10:30	Refreshments
	<b>Emissions of trace gases and aerosol and atmospheric mixing/transport</b> (Session Chair: Bill Simpson)
11:00	<b>Growth rate dependence of the permeability and percolation threshold of young sea ice</b> <u>Sönke Maus</u> <i>Norwegian University of Science and Technology (NTNU), Norway</i>
11:05	<b>Modeling attainment in Fairbanks, Alaska for winter-time PM 2.5 24-hour non-attainment area using the CMAQ (Community Multi-scale Air Quality) model</b> <u>Deanna Huff</u> ; <u>Thomas Carlson</u> <i>State of Alaska - Department of Environmental Conservation, United States</i>
11:10	<b>Low-cost electrochemical gas sensing of vertical differences in wintertime air composition (CO, NO, NO<sub>2</sub>, O<sub>3</sub>) in Fairbanks, Alaska</b> <u>Tjarda Roberts</u> <i>CNRS/ENS, France</i>
11:15	Discussion
12:30	<b>Concluding Remarks Lecture</b> (Session chair: Thorsten Bartels-Rausch) <u>Markus Ammann</u> <i>Paul Scherrer Institute, Switzerland</i>
13:00	<b>Acknowledgements</b>
13:15	<b>Close of meeting and lunch</b>

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author. If the presenting author of your paper has changed since abstract selection please email [events@rsc.org](mailto:events@rsc.org). **Please note that this is a draft programme and timings may change.**