

# 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>Particle growth facilitated by multiphase chemistry 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>Ozonolysis of linoleic acid monolayers in multi-component films at the air-water interface at <math>3\pm 1</math> °C and <math>21\pm 1</math> °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>TBC</b> Hugh Coe <i>University of Manchester, UK</i>
09:05	<b>Direct observations of 2-methyltetrols in Amazon air at high altitudes</b> Claudia Mohr <i>Paul Scherrer Institute, Switzerland</i>
09:10	<b>Chemistry and impact of oxidized organic molecules in the free troposphere: direct observations from mountain tops</b> Qiaozhi Zha <i>Nanjing University, China</i>
09:15	<b>Transport of biogenic particles in the Himalayan valleys</b> Giancarlo Ciarelli <i>University of Helsinki, Finland</i>
09:20	Discussion
11:00	Refreshments (Session chair: Megan Willis)
11:30	<b>What are the sources of atmospheric iodine to the polar regions?</b> Lucy Carpenter <i>University of York, UK</i>
11:35	<b>The distribution of volatile organic compounds (VOCs) over the Southern Ocean</b> Saewung Kim <i>University of California, United States</i>
11:40	<b>Processes regulating the sources and sinks of ammonia in the Canadian Arctic</b> Jen Murphy <i>University of Toronto, Canada</i>
11:45	Discussion
13:00	Lunch

	<b>Atmosphere-surface interactions and heterogenous processes in cold environments</b> (Session chair: Bill Simpson)
14:00	<b>TBC</b> Kerri Pratt <i>University of Michigan, United States</i>
14:05	<b>Impacts of NO<sub>2</sub> emissions on downwind bromine chemistry: insights from 5 years of MAX-DOAS observations at Utqiagvik Alaska</b> Peter Peterson <i>Whittier College, United States</i>
14:10	Discussion
15:00	Refreshments (Session chair: Paul Zieger)
15:30	<b>Impact of snow chemistry on air pollution in cold polluted environments</b> <u>Jonas Kuhn</u> ; Jochen Stutz <i>University of California, United States</i>
15:35	<b>Why are we still experiencing very large ozone depletion in the polar lower stratosphere?</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>Acid-base chemistry of ammonia at the ice-vapor interface</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>Connectivity of the sea ice pore space - insights from microstructure observations and directed percolation theory</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.**