Atmospheric Chemistry in the Anthropocene

Faraday Discussion

22-24 May 2017
York, UK

Monday 22 May

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12:45	**Welcome and Introductions** Lucy Carpenter, *Chair of Scientific Committee*	
12:55	**Outline of Discussion Format** Jack Busby and Jonathan Ferrier, *Royal Society of Chemistry Publishing Editors*	
13:00	**Introductory Lecture** (Session Chair: Lucy Carpenter) Barbara Finlayson-Pitts *University of California, Irvine*	
	Session 1: Atmospheric chemistry and the biosphere (Session Chairs: Lucy Carpenter & Stephen Arnold)	
14:00	**Interfacial photochemistry of biogenic surfactants: a major source of abiotic volatile organic compounds** Martin Brüggemann, Nathalie Hayeck, Chloé Bonnineau, Stéphane Pesce, Peter A. Alpert, Sébastien Perrier, Christoph Zuth, Thorsten Hoffmann, Jianmin Chen and Christian George, *CNRS-IRCELYON*	**Paper 11893**
14:05	Discussion of Paper 11893	
14:20	**Effects of halogens on European air-quality** Tomás Sherwen, Mathew John J. Evans, Roberto Sommariva, Lloyd D. J. Hollis, Stephen M. Ball, Paul S. Monks, Christopher Reed, Lucy J. Carpenter, James D. Lee, Grant Forster, Brian Bandy, Claire E. Reeves and William J. Bloss *University of York*	**Paper 12985**
14:25	Discussion of Paper 12985	
14:40	**Impact on short-lived climate forcers (SLCFs) from a realistic land-use change scenario *via* changes in biogenic emissions** Catherine. E. Scott, Sarah A. Monks, Dominick V. Spracklen, Stephen R. Arnold, Piers M. Forster, Alexandru Rap, Kenneth S. Carslaw, Martyn P. Chipperfield, Carly L. Reddington and Christopher Wilson *University of Leeds*	**Paper 12989**
14:45	Discussion of Paper 12989	
15:00	General Discussion	
15:30	Afternoon tea	
16:00	**Aerosol climate change effects on land ecosystem services** Nadine Unger, X. Yue and K. L. Harper *University of Exeter*	**Paper 11894**
16:05	Discussion of Paper 11894	
16:20	**The effect of gas-phase polycyclic aromatic hydrocarbons on the formation and properties of biogenic secondary organic aerosol particles** Alla Zelenyuk, Dan G. Imre, Jacqueline Wilson, David M. Bell, Kaitlyn J. Suski, Manish Shrivastava, Josef Beránek, M. Lizabeth Alexander, Amber L. Kramer and Staci L. Massey Simonich *Pacific Northwest National Laboratory*	**Paper 13248**
16:25	Discussion of Paper 13248	
16:40	**Condensed phase biogenic–anthropogenic interactions with**	**Paper**

	implications for cold cloud formation Joseph C. Charnawskas, Peter A. Alpert, Andrew T. Lambe, Thomas Berkemeier, Rachel E. O'Brien, Paola Massoli, Timothy B. Onasch, Manabu Shiraiwa, Ryan C. Moffet, Mary K. Gilles, Paul Davidovits, Douglas R. Worsnop and Daniel A. Knopf *Stony Brook University*	**13243**
16:45	Discussion of Paper 13243	
17:00	General Discussion	
17:30	Poster Session and Wine Reception	
19:30	Free evening	

Tuesday 23 May

	Session 2: Atmospheric chemistry processes (Session Chairs: Colette Heald & A. R. Ravishankara)	
09:00	**Upper tropospheric water vapour and its interaction with cirrus clouds as seen from IAGOS long-term routine *in situ* observations** Andreas Petzold, Martina Krämer, Patrick Neis, Christian Rolf, Susanne Rohs, Florian Berkes, Herman G. J. Smit, Martin Gallagher, Karl Beswick, Gary Lloyd, Darrel Baumgardner, Peter Spichtinger, Philippe Nédélec, Volker Ebert, Bernhard Buchholz, Martin Riese and Andreas Wahner *Forschungszentrum Jülich*	**Paper 11896**
09:05	Discussion of Paper 11896	
09:20	**Reactive oxygen species formed in aqueous mixtures of secondary organic aerosols and mineral dust influencing cloud chemistry and public health in the Anthropocene** Haijie Tong, Pascale S. J. Lakey, Andrea M. Arangio, Joanna Socorro, Christopher J. Kampf, Thomas Berkemeier, William H. Brune, Ulrich Pöschl and Manabu Shiraiwa *Max Planck Institute for Chemistry*	**Paper 13209**
09:25	Discussion of Paper 13209	
09:40	**Atmospheric gas-to-particle conversion: why NPF events are observed in megacities?** Markku Kulmala, Veli-Matti Kerminen, Tuukka Petäjä, Aijun Ding, Lin Wang *University of Helsinki*	**Paper 13104**
09:45	Discussion of Paper 13104	
10:00	General Discussion	
10:30	Morning Tea	
11:00	**Investigation of the reaction of ozone with isoprene, methacrolein and methyl vinyl ketone using the HELIOS chamber** Yangang Ren, Benoit Grosselin, Véronique Daële and Abdelwahid Mellouki *Icare-CNRS*	**Paper 11897**
11:05	Discussion of Paper 11897	
11:20	**Products of Criegee intermediate reactions with NO_2:**	**Paper**

	experimental measurements and tropospheric implications Rebecca L. Caravan, M. Anwar H. Khan, Brandon Rotavera, Ewa Papajak, Ivan O. Antonov, Ming-Wei Chen, Wen Chao, David L. Osborn, Jim Jr-Min Lin, Carl J. Percival, Dudley E. Shallcross, Craig A. Taatjes *Sandia National Laboratories*	**13206**
11:25	Discussion of Paper 13206	
11:40	**Ambient and laboratory observations of organic ammonium salts in PM_1** P. Schlag, F. Rubach, T. F. Mentel, D. Reimer, F. Canonaco, J. S. Henzing, M. Moerman, R. Otjes, A.S.H. Prévôt, F. Rohrer, B. Rosati, R. Tillmann, E. Weingartner and A. Kiendler-Scharr *Forschungszentrum Juelich GmbH*	**Paper 12967**
11:45	Discussion of Paper 12967	
12:00	General Discussion	
12:30	Lunch	
	Session 3: The air we breathe: Past, present, and future (Session Chairs: Colette Heald & Stephen Arnold)	
13:30	**Observational constraints on particle acidity using measurements and modelling of particles and gases** Jennifer Murphy, P. K. Gregoire, A. G. Tevlin, G. R. Wentworth, R. A. Ellis, M. Z. Markovic and T. C. Vandenboer *University of Toronto*	**Paper 11895**
13:35	Discussion of Paper 11895	
13:50	**Improving present day and future estimates of anthropogenic sectoral emissions and the resulting air quality impacts in Africa** Forrest G. Lacey, Eloise A. Marais, Daven K. Henze, Colin J. Lee, Aaron van Donkelaar, Randall V. Martin, Michael P. Hannigan and Christine Wiedinmyer *University of Colorado Boulder / NCAR*	**Paper 12981**
13:55	Discussion of Paper 12981	
14:10	**Atmospheric protein chemistry influenced by anthropogenic air pollutants: nitration and oligomerization upon exposure to ozone and nitrogen dioxide** Fobang Liu, Pascale Lakey, Haijie Tong, Thomas Berkemeier, Manabu Shiraiwa, Ulrich Pöschl and Christopher J. Kampf *Max Planck Institute for Chemistry*	**Paper 13195**
14:15	Discussion of Paper 13195	
14:30	General Discussion	
15:00	Afternoon Tea	
15:30	**The social cost of methane: theory and applications** Drew Shindell, Jan S. Fuglestvedt, William J. Collins *Duke University*	**Paper 11898**
15:35	Discussion of Paper 11898	
15:50	**Vehicle emissions of short-lived and long-lived climate forcers: trends and tradeoffs** Morgan R. Edwards, Magdalena M. Klemun, Hyung Chul Kim, Timothy J. Wallington, Sandra L. Winkler, Michael A. Tamor and Jessika E. Trancik *Ford Motor Company*	**Paper 12955**
15:55	Discussion of Paper 12955	
16:10	**A world avoided: Impacts of changes in anthropogenic emissions on the burden and effects of air pollutants in Europe and North America** Alexander T. Archibald, Gerd Folberth, David Wade and Duncan Scott	**Paper 13197**

	University of Cambridge	
16:15	Discussion of Paper 13197	
16:30	General Discussion	
17:00	**John Jeyes Award presentation** Roderic L. Jones *University of Cambridge*	
17:15	Close of sessions	
18:30	Pre-Dinner Drinks	
19:00	Conference Dinner	

Wednesday 24 May

	Session 4: New tools for atmospheric chemistry (Session Chairs: A. R. Ravishankara & Jonathan Williams)	
09:00	**Cavity enhanced spectroscopy for measurement of nitrogen oxides in the Anthropocene: results from the Seoul tower during MAPS 2015** Steven S. Brown, Hyun-Jin An, Meehye Lee, Jeong-Hoo Park, Sang-Deok Lee, Dorothy L. Fibiger, Erin E. McDuffie, William P. Dubé, Nicholas L. Wagner, and Kyung-Eun Min *NOAA Research*	**Paper 11899**
09:05	Discussion of Paper 11899	
09:20	**Detection and identification of Criegee intermediates from the ozonolysis of biogenic and anthropogenic VOCs: comparison between experimental measurements and theoretical calculations** Chiara Giorio, Steven J. Campbell, Maurizio Bruschi, Alexander T. Archibald and Markus Kalberer *University of Cambridge*	**Paper 13216**
09:25	Discussion of Paper 13216	
09:40	**Using advanced mass spectrometry techniques to fully characterize atmospheric organic carbon: current capabilities and remaining gaps** G. Isaacman-VanWertz, P. Massoli, R. E. O'Brien, J. B Nowak, M. R. Canagaratna, J. T. Jayne, D. R. Worsnop, L. Su, D. A. Knopf, P. K. Misztal, C. Arata, A. H. Goldstein, and J. H. Kroll *Massachusetts Institute of Technology*	**Paper 12994**
09:45	Discussion of Paper 12994	
10:00	**VOC emission rates over London and South East England obtained by airborne eddy covariance** Adam R. Vaughan, James D. Lee, Marvin D. Shaw, Pawel K. Misztal, Stefan Metzger, Massimo Vieno, Brian Davison, Thomas G. Karl, Lucy J. Carpenter, Alastair C. Lewis, Ruth M. Purvis, Allen H. Goldstein and C. Nicholas Hewitt *University of York*	**Paper 12907**
10:05	Discussion of Paper 12907	
10:20	General Discussion	
11:00	Morning Tea	
11:30	**Clustering approaches to improve the performance of low cost air pollution sensors** Katie R. Smith, Peter M. Edwards, Mathew J. Evans, James D. Lee, Marvin D. Shaw, Freya Squires, Shona Wilde, and Alastair C. Lewis *University of York*	**Paper 11900**
11:35	Discussion of Paper 11900	
11:50	**Accurate representations of the physicochemical properties of atmospheric aerosols: when are laboratory measurements of value?** Aleksandra Marsh, Grazia Rovelli, Young-Chul Song, Kelly L. Pereira, Rose E. Willoughby, Bryan R. Bzdek, Jacqueline F. Hamilton, Andrew J. Orr-Ewing, David O. Topping and Jonathan P. Reid *University of Bristol*	**Paper 12960**
11:55	Discussion of Paper 12960	
12:00	General Discussion	
12:30	**Concluding Remarks Lecture** (Session Chair: A. R. Ravishankara) Jos Lelieveld *Max Planck Institute for Chemistry*	
13:10	**Acknowledgements**	
13:15	**Close of meeting and Lunch**	

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. Please note that this is a draft programme and timings may change.