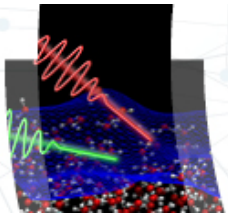
Water at Interfaces

20-22 September 2023 | London, UK
and online



Faraday Discussions

20 September 2023 (all timings are BST)

11:30	Registration and refreshments
12:00	Lunch
12:45	**Welcome and introductions** Mischa Bonn, *Chair of Scientific Committee*
12:55	**Outline of Discussion format** Christopher Dias and Konoya Das, *Royal Society of Chemistry Publishing*
13:00	**Introductory Lecture (Spiers Memorial Lecture)** (Session Chair: Mischa Bonn) Rich Saykally *University of Berkeley, USA*
14:00	Comfort break (no refreshments)
	Session 1: Ice interfaces (Session chair: Angelos Michaelides)
14:15	**The effect of surface hydrophobicity and hydrophilicity on the ion-ion interaction at water-solid interfaces** Ying Jiang *Peking University, China*
14:20	**First-principles spectroscopy of aqueous interfaces using machine-learned electronic and quantum nuclear effects** Venkat Kapil *University of Cambridge, UK*
14:25	**Hydrophobic hydration of the hydrocarbon adamantane in amorphous ice** Christoph Salzmann *University College London, UK*
14:30	Discussion
15:45	Afternoon tea
	Session 1 continued: Ice interfaces (Session chair: Ying Jiang)
16:15	**Interaction of surface cations of cleaved mica with water in vapor and liquid forms** Ulrike Diebold *TU Wien, Austria*
16:20	**A first-principles machine-learning force field for heterogeneous ice nucleation on microcline feldspar** Pablo Piaggi *Princeton University, USA*
16:25	**Understanding the impact of ammonium ion substitutions on heterogeneous ice nucleation** Katarina Blow *University of Warwick, UK*
16:30	**Discussion**
17:45	Flash poster presentations (by invitation of the Scientific Committee)
18:00	Poster session and wine reception
19:30	End of day

21 September 2023 (all timings are BST)

	Session 2: Dynamics and nano-rheology of interfacial water (Session Chair: Laura Fumagalli)
09:00	**Collective modes and quantum effects in two-dimensional nanofluidic channels** Nikita Kavokine *Flatiron Institute, USA*
09:05	**Raman and IR spectra of water under graphene nanoconfinement at ambient and extreme pressure-temperature conditions: a first-principles study** Ding Pan *Hong Kong University of Science and Technology, Hong Kong*
09:10	**Insight into the K channel's selectivity from binding of K+, Na+ and water to N-methylacetamide** Susan Rempe *Sandia National Labs, USA*
09:15	Discussion
10:30	Morning coffee
	Session 2 continued: Dynamics and nano-rheology of interfacial water (Session Chair: Ulrike Diebold)
11:00	**The limit of macroscopic homogeneous ice nucleation at the nanoscale** Stephen Cox *University of Cambridge, UK*
11:05	**Convergence of dissolving and melting at the nanoscale** Yafang Cheng *Max Planck Institute for Chemistry, Germany*
11:10	Discussion
12:00	Lunch
	Session 3: Electrified/charged aqueous interfaces (Session Chair: Yuki Nagata)
13:15	**Water molecules mute the dependence of the double-layer potential profile on ionic strength** Adam Willard *Massachusetts Institute of Technology, USA*
13:20	**Water dynamics and sum-frequency generation spectra at electrode/aqueous electrolyte interfaces** Damien Laage *Ecole Normale Supérieure, France*
13:25	**Substrate effect on charging of electrified graphene/water interfaces** Yongkang Wang ** *Max Plank Institute for Polymer Research, Germany*
13:30	Discussion
14:45	Afternoon Tea
	Session 3 continued: Electrified/charged aqueous interfaces (Session Chair: Damien Laage)
15:15	**Biological lipid hydration: Distinct mechanisms of interfacial water alignment and charge screening for model lipid membranes** Ellen Backus *University of Vienna, Austria*
15:20	**Properties of aqueous electrolyte solutions at carbon electrodes: effects of concentration and surface charge on solution structure, ion clustering and thermodynamics in the electric double layer** Aaron Finney *University College London, UK*
15:25	**Are SAXS and SANS suitable to extract information on the role of water for electric double-layer formation at the carbon - aqueous electrolyte interface?**

	Malina Seyffertitz *Montanuniversitaet Leoben, Austria*
15:30	Discussion
16:45	Close of sessions
18:30	Pre-dinner drinks – Burlington House
19:00	Conference dinner – Burlington House

** presenting online

22 September 2023 (all timings are BST)

	Session 4: Soft matter-water interface (Session chair: Karina Morgenstern)
09:00	**Transformations in crystals of DNA-functionalized nanoparticles by electrolytes** Monica Olvera de la Cruz *Northwestern University, USA*
09:05	**Collective motion of Nafion-based micromotors in water** Jordi Fraxedas *ICN2-CSIC-BIST, Spain*
09:10	**How do water-mediated interactions and osmotic second virial coefficients vary with particle size?** Kenichiro Koga *Okayama University, Japan*
09:15	Discussion
10:30	Morning coffee
	Session 4 continued: Soft matter-water interface (Session chairs: TBC)
11:00	**Atomic-scale structure of interfacial water on gel and liquid phase lipid membranes** Simone Benaglia *University of Manchester, UK*
11:05	**Water-lipid interface in lipidic mesophases with excess water** Yang Yao *ETH Zurich, Switzerland*
11:10	Discussion
12:00	**Concluding Remarks Lecture** (Session Chair: Mischa Bonn) Giulia Galli ** *University of Chicago, USA*
12:40	**Acknowledgements and poster prize presentation**
12:45	**Close of meeting and lunch**

** Presenting online

Presenting authors are indicated in the programme by an underline. The affiliation is for the presenting author.