



Monday 10 April

11:30	Registration, Tea and Coffee	
12:00	Lunch	
12:45	Welcome and Introductions <i>Alexei Kornyshev Chair of Scientific Committee</i>	
12:55	Outline of Discussion Format <i>Royal Society of Chemistry Publishing Editors</i>	
13:00	Introductory Lecture Serge Lemay <i>University of Twente, The Netherlands</i>	
	Session 1: Electrotunable wetting (Session Chairs: Alexei Kornyshev, Frieder Mugele)	
14:00	Spontaneous electrification of fluoropolymer-water interfaces probed by electrowetting Frieder Mugele, Arun Banpurkar, Yogesh Sawane, Sandip Wadhai, Chandra Murade, Igor Siretanu and Dirk van den Ende <i>University of Twente, The Netherlands</i>	Paper 12587
14:05	Electrowetting on conductors: Anatomy of the phenomenon Robert Dryfe, Kontad Ounnunkad, Hollie Patten, Matej Velicky, Anna Farquhar, Paula Brooksby and Alison Downard <i>University of Manchester, UK</i>	Paper 12691
14:10	Reversible ultralow-voltage liquid-liquid electrowetting without a dielectric layer Anthony Kucernak and Nico Cousens <i>Imperial College London UK</i>	Paper 12745
14:15	Discussion	
15:30	Afternoon tea	
16:00	Control of Phase Separation by Electroautocatalysis and Thermodynamic Stability of Driven Open Systems Martin Bazant <i>Massachusetts Institute of Technology, USA</i>	Paper 12583
16:05	Fundamental aspects of electrochemically controlled wetting of nanoscale composite materials Arthur Hillman, Karl Ryder, Hani Ismail, Asuman Unai and Annelies Voorhaar <i>University of Leicester, UK</i>	Paper 12760
16:10	Is electric field always a promoter of wetting? Electro-dewetting of metals by electrolytes probed by in situ X-ray nanotomography Konstantin Kornev, Maryana Nave, Yu Gu, Yu-chen Karen Chen-Wiegart and Jun Wang <i>Clemson University, USA</i>	Paper 12755
16:15	Field Induced Anomalous Spreading, Oscillation, Ejection, Spinning, and Breaking of Oil Droplets on Strongly Slipping Water Surface Sunny Kumar, Dipankar Bandyopadhyay, Bhaskarjyoti, Amaresh Dalal, Dipankar Basu and Ashok Dasmahapatra <i>ITT Guwahati, India</i>	Paper 12749
16:20	Discussion	

18:00	Lightning Poster Session (by invitation of the Scientific Committee)
18:15	Poster Session and Wine Reception
19:30	Close of sessions

Tuesday 11 April

	Session 2: Micro and nanofluidics (Session Chairs: Rob Hillman)	
09:00	Electrostatic interactions between ions near Thomas-Fermi substrates and the surface energy of ionic crystal at imperfect metals <u>Lydéric Bocquet</u> , Vojtech Kaiser, Jean Comtet, Antoine Niques, Alessandro Siria and Benoit Coasne <i>École Normale Supérieure, France</i>	Paper 12585
09:10	Controlling turbulent drag across electrolytes using electric fields <u>Alpha Lee</u> and Rodolfo Ostilla-Monico <i>Harvard University, USA</i>	Paper 12673
09:15	Asymmetric electroosmotic pumping across porous media sandwiched with perforated ion-exchange membranes <u>Andriy Yaroshchuk</u> , Edxon Licon, Emiliy Zholkovskiy, Mykola Bondarenko and Trond Heldal <i>ICREA & Polytechnic University of Catalonia, Spain</i>	Paper 12687
09:20	Discussion	
10:30	Morning Tea	
	Session 3: Nanotribology and voltage-controlled friction (Session Chair: Astrid de Wijn, Michael Urbakh)	
11:00	Underscreening in concentrated electrolytes <u>Susan Perkin</u> , Alpha Lee, Carla Perez-Martinez and Alexander Smith <i>University of Oxford, UK</i>	Paper 12588
11:05	Modifying surface forces through control of surface potentials <u>Ran Tivony</u> and Jacob Klein <i>Weizmann Institute of Science, Israel</i>	Paper 12676
11:10	Electrotunable lubricity with ionic liquids: the influence of nanoscale roughness <u>Fernando Bresme</u> , Alessio David, Oscar Fajardo, Alexei Kornyshev and M Urbakh <i>Imperial College London, UK</i>	Paper 12758
11:15	Discussion	
12:30	Lunch	
13:30	Dynamic shear force microscopy of confined liquids at a gold electrode <u>Roland Bennewitz</u> , Günther Krämer and Florian Hausen <i>INM Leibniz Institute for New Materials, Germany</i>	Paper 12584
13:35	Boundary Layer Friction of Solvate Ionic Liquids as a Function of Potential <u>Hua Li</u> , Rob Atkin, Mark Rutland and Masayoshi Watanabe <i>University of Newcastle, Australia</i>	Paper 12663
13:40	Nanoscale adhesion and sliding on biased semiconductors <u>Mircea Rastei</u> , Amrita Mukherjee, Andra Craciun and Jean Louis Gallani <i>University of Strasbourg, France</i>	Paper 12689
13:45	Electro-Responsive Polyelectrolyte-Coated Surfaces <u>Carlos Drummond</u> , Vincent Senechal, Hassan Saadaoui and Juan Rodriguez Hernandez	Paper 12592

	<i>Centre de Recherche Paul Pascal, CNRS, France</i>	
13:50	Discussion	
15:30	Afternoon Tea	
	Session 4: Electroactuators: from understanding to micro-robotics and energy conversion (Session Chair: Florian Hausen)	
16:00	Energy harvesting from aperiodic low-frequency motion using reverse electrowetting <i>Tom Krupenkin, Tsung-Hsing Hsu and Ashley J Taylor</i> <i>University of Wisconsin-Madison, USA</i>	Paper 12590
16:05	Synergetic effects of K⁺ and Mg²⁺ ions intercalation on electrochemical and actuation properties of two-dimensional Ti₃C₂ MXene <i>Nina Balke, Gao Qiang, Jeremy Come, Michael Naquib, S Jesse and Yury Gogotsi</i> <i>Oak Ridge National Laboratory, USA</i>	Paper 12582
16:10	Strain-capacitance relationship in polymer actuators based on single-walled carbon nanotubes and ionic liquid gels <i>Hyacinthe Randriamahazaka and Kinji Asaka</i> <i>Université Paris Diderot, France</i>	Paper 12658
16:15	Discussion	
17:30	Close of session	
18:30	Pre-Dinner Drinks – Dome Dining Hall, Murray Edwards College	
19:00	Conference Dinner – Dome Dining Hall. Murray Edwards College	

Wednesday 12 April

	Session 5: Electroactuators: from understanding to micro-robotics and energy conversion (Session Chair: Tom Krupenkin)	
09:00	Challenges in Realizing a Self-Contained Hydraulically-Driven Contractile Fiber Actuator <i>Elisabeth Smela</i> <i>University of Maryland, USA</i>	Paper 12591
09:05	Theoretical and numerical analysis of nano-actuators based on grafted polyelectrolytes in electric field <i>Nikolai Brilliantov, Yury Budkov and Christian Seidel</i> <i>University of Leicester, UK</i>	Paper 12727
09:10	Direct observation of active material interactions in flowable electrodes using X-ray tomography <i>Kelsey Hatzell Jens Eller, Samantha Morelly, Maureen Tang, Nicolas Alvarez and Yuri Gogotsi</i> <i>Vanderbilt University, USA</i>	Paper 12762
09:15	Discussion	
10.30	Morning Tea	
	Session 6: Electrovariable nanoplasmonics (Session Chair: David Schiffrin)	
11:00	Semiempirical Modeling of Electrochemical Charge Transfer <i>George Schatz, Rebecca Gieseking and M Ratner</i> <i>Northwestern University, USA</i>	Paper 12589
11:05	Electrovariable gold nanoparticle films at liquid-liquid interfaces: from redox electrocatalysis to marangoni-shutters <i>Hubert Girault, Grégoire Gschwend, Evgeny Smirnov and Pekka Peljo</i>	Paper 12586

	<i>Ecole Polytechnique Fédérale de Lausanne, France</i>	
11:10	Electrochemical plasmonic metamaterials: Towards fast electro-tuneable reflecting nanoshutters <u>Debabrata Sikdar</u> , Alwin Bucher, Cristian Zagar and Alexei Kornyshev <i>Imperial College London, UK</i>	Paper 12759
11:15	Discussion	
12:30	Concluding Remarks Lecture Mark Rutland <i>KTH Royal Institute of Technology, Sweden</i>	
13:15	Acknowledgements	
13:20	Close of meeting and Lunch	

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