

Single Entity Electrochemistry

Faraday Discussion



31 August -
2 September 2016
York, UK

Wednesday 31 August

11:00	Registration, Tea and Coffee	
12:00	Lunch	
12:45	Welcome and Introductions Patrick Unwin <i>Chair of Scientific Committee</i>	
12:55	Outline of Discussion Format Sage Bowser and Alex Pashley <i>Royal Society of Chemistry Publishing Editors</i>	
13:00	Introductory Lecture (Session Chair: Justin Gooding) NJ Tao <i>Arizona State University, United States</i>	
	Session 1 From single cells to single molecules (Session Chair: Kylie Vincent / Patrick Unwin)	
14:00	Single-molecule electrochemistry in nanochannels: probing the time of first passage Serge Lemay <i>University of Twente, The Netherlands</i>	Paper 11018
14:05	Electrochemistry at single molecule occupancy in nanopore-confined recessed ring-disk electrode arrays Paul Bohn <i>University of Notre Dame, United States</i>	Paper 11035
14:10	Discussion	
15:00	On the mechanism of electrochemical vesicle cytometry: chromaffin cell vesicles and liposomes Andrew Ewing <i>University of Gothenberg, Sweden</i>	Paper 11015
15:05	Membrane patches as ion channel probes for scanning ion conductance microscopy Lane Baker <i>Indiana University, United States</i>	Paper 11050
15:10	Discussion	
16:00	Afternoon tea	
16:30	Evidence for a hopping mechanism in metal single molecule metal junctions involving conjugated metal-terpyridyl complexes; potential-dependent conductances of complexes $[M(\text{pyterpy})_2]^{2+}$ (M = Co and Fe; pyterpy = 4'-(pyridin-4-yl)-2,2':6',2''-terpyridine) in ionic liquid Simon Higgins <i>University of Liverpool, UK</i>	Paper 11198
16:35	Voltammetry and molecular assembly of G-quadruplex DNAzyme on single-crystal Au(111)-electrode surfaces – hemin as an electrochemical intercalator Jens Ulstrup <i>Technical University of Denmark, Denmark</i>	Paper 11077
16:40	Single molecular catalysis of a redox enzyme on nanoelectrodes Dongping Zhan <i>Xiamen University, PR China</i>	Paper 11197
16:45	Discussion	
18:00	Lightning presentations (by invitation of the scientific committee)	

18:30	Poster Session and Wine Reception
19:45	Dinner

Thursday 1 September

	Session 2 Reactions at the nanoscale (Session Chair: David Fermin)	
09:00	In situ video-STM studies of the mechanisms and dynamics of electrochemical bismuth nanostructure formation on Au Olaf Magnussen <i>Kiel University, Germany</i>	Paper 11019
09:05	$1/f^2$ noise in bistable electrocatalytic reactions on mesoscale electrodes Katharina Krischer <i>Technische Universität München, Germany</i>	Paper 11017
09:10	Anisotropic etching of rhodium and gold as the onset of nanoparticle formation by cathodic corrosion Thom Hersbach <i>Leiden University, The Netherlands</i>	Paper 11028
09:15	Discussion	
10:30	Morning Tea	
11:00	Electrochemistry of single nanobubbles. Estimating the critical size of bubble-forming nuclei for gas-evolving electrode reactions Henry S. White <i>The University of Utah, United States</i>	Paper 11020
11:05	The oxygen reduction reaction at the three-phase boundary: nanoelectrodes modified with Ag nanoclusters Jan Clausmeyer <i>Ruhr-Universität Bochum, Germany</i>	Paper 11108
11:10	A theoretical consideration of ion size effects on the electric double layer and voltammetry of nanometer-sized disk electrodes Shengli Chen <i>Wuhan University, PR China</i>	Paper 11014
11:15	Discussion	
12:30	Lunch	
	Session 3 Electrochemistry of single nanoparticles (Session Chair: Justin Gooding / Marc Koper)	
13:30	Mechanistic aspects of hydrazine-induced Pt colloid instability and monitoring aggregation kinetics with nanoparticle impact electroanalysis Keith Stevenson <i>Skolkovo Institute of Science and Technology, Russia</i>	Paper 11032
13:35	Stochastic Electrochemistry and Photoelectrochemistry of Colloidal Dye-Sensitized Anatase Nanoparticles at a Pt Ultramicroelectrode Mario A. Alpulche Aviles <i>University of Nevada, Reno, United States</i>	Paper 11122
13:40	Electrochemistry at single bimetallic nanoparticles – using nano impacts for sizing and compositional analysis of individual AgAu alloy nanoparticles Kristina Tschulik <i>Ruhr-Universität Bochum, Germany</i>	Paper 11069
13:45	Discussion	

15:00	Afternoon Tea	
15:30	Electrochemical transformation of individual nanoparticles revealed by coupling microscopy and spectroscopy Vitor Brasiliense <i>CNRS Universite Paris Diderot, France</i>	Paper 11072
15:35	Challenges in nanoelectrochemical and nanomechanical studies of individual anisotropic gold nanoparticles Christine Kranz <i>Ulm University, Germany</i>	Paper 11016
15:40	Imaging electrocatalytic processes on single gold nanorods Chao Jing <i>East China University of Science and Technology, PR China</i>	Paper 11076
15:45	Discussion	
17:00	Close of session	
19:00	Pre-Dinner Drinks	
19:30	Conference Dinner	

Friday 2 September

	Session 4 Nanopores (Session Chair: Phil Bartlett)	
09:00	Interactions of anions and cations in carbon nanotubes Wolfgang Schmickler <i>Ulm University, Germany</i>	Paper 11046
09:05	Theory of electrostatic phenomena in water-filled Pt nanopores Michael Eikerling <i>Simon Fraser University, Canada</i>	Paper 11115
09:10	Nanocapillary electrokinetic tracking for monitoring charge fluctuations on a single nanoparticle Faez, Sanli <i>Utrecht University, The Netherlands</i>	Paper 11102
09:15	Discussion	
10:30	Morning Tea	
11:00	High-bandwidth detection of short DNA in nanopipettes Tim Albrecht <i>Imperial College London, United Kingdom</i>	Paper 11013
11:05	Energetics of base flipping at a DNA mismatch site confined at the latch constriction of α-hemolysin Robert Johnson <i>University of Utah, United States</i>	Paper 11110
11:10	Protein detection using tunable pores: resistive pulses and current rectification Mark Platt <i>Loughborough University, UK</i>	Paper 11030
11:15	Discussion	
12:30	Concluding Remarks Lecture (Session Chair: Patrick Unwin) Richard M. Crooks <i>The University of Texas at Austin, United States</i>	
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.