New horizons in nanoelectrochemistry

Nanjing University
14-16 October 2024

Day 1

09:00	Registration and refreshments
12:00	Lunch
13:00	**Welcome and introductions** Yi-Tao Long, Co-*chairs of Scientific Committee*
13:10	**Outline of Discussion format** *TBC*
13:15	**Introductory Lecture – Spiers Memorial Lecture** (Session chair: tbc) Lane Baker *Texas A&M University, USA*
	Session 1: Confined Nanopore Electrochemistry (Session chair: tbc)
14:20	**Electrochemical kinetic fingerprinting of single-molecule coordinations in confined nanopores** Yi-Lun Ying *Nanjing University, China*
14:25	**Ion Current Oscillation of Polyelectrolyte Modified Micropipettes** Tianyi Xiong *Beijing National Laboratory for Molecular Sciences, China*
14:10	Discussion
15:15	Refreshments
15:45	**Regulation of Transmembrane Current through Modulation of Biomimetic Lipid Membrane Composition** Fan Xia *China University of Geosciences, China*
15:50	**Non-sticky SiN_x nanonets for single protein denaturation analysis** Yueming Zhai *Wuhan University, China*
15:55	**Molecular sandwich-based DNAzyme catalytic reaction towards transducing efficient nanopore electrical detection for antigen proteins** Liang Wang *Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, China*
16:00	Discussion
17:15	Flash poster presentations (by invitation of the Scientific Committee)
17:45	Poster session and wine reception
19:00	Close

Day 2

	Session 2: Spectroelectrochemistry and light active process at Nanointerface (Session chair: tbc)
09:00	**Seeing nanoscale electrocatalytic reactions at individual MoS2 particles under an optical microscope: probing sub-mM oxygen reduction reaction** Frédéric Kanoufi *Université Paris Cité, CNRS, France*
09:05	**Electrochemical Nucleation and Growth Kinetics: Insights from Single Particle Scanning Electrochemical Cell Microscopy Studies** Caleb M. Hill *University of Wyoming, USA*
09:10	**Electrochemiluminescence microscopy for the investigation of peptides interactions within planar lipid bilayers** Kaoru Hiramoto *Tohoku University, Japan*
09:15	Discussion
10:30	Refreshments
	Session 3: Scanning Electrochemical Probe Microscopy
11:00	**Enzyme-modified Pt nanoelectrodes for glutamate detection** Mei Shen *University of Illinois, USA*
11:05	**Integrated Scanning Electrochemical Cell Microscopy Platform with Local Electrochemical Impedance Spectroscopy using Preamplifier** Dechen Jiang *Nanjing University, China*
11:10	**Revealing the diverse electrochemistry of nanoparticles with scanning electrochemical cell microscopy** Lachlan F. Gaudin *Monash University, Australia*
11:15	Discussion
12:30	Lunch
	Session 3 cont: Scanning Electrochemical Probe Microscopy (Session chair: tbc)
13:30	**Nanoscale visualization of the anti-tumor effect of a plasma-activated Ringer's lactate solution** Yasufumi Takahashi *Nagoya University, Japan*
13:35	**Scanning electrochemical probe microscopy: towards the characterization of micro- and nanostructured photocatalytic materials** Giada Caniglia *Ulm University, Germany*
13:40	**Charge induced deformation of scanning electrolyte before contact** Liang Liu *CNRS, LCPME, France*
13:45	Discussion
15:00	Refreshments
	Session 3 cont: Scanning Electrochemical Probe Microscopy (Session chair: tbc)
15:30	**Delivery of Carbon Dioxide to an Electrode Surface Using a Nanopipette** Kim McKelvey *Victoria University of Wellington, New Zealand*
15:35	**Controlling the Droplet Cell Environment in Scanning Electrochemical Cell Microscopy (SECCM) via Migration and Electroosmotic Flow** Hang Ren *University of Texas at Austin, USA*
15:40	Discussion
16:40	Close of sessions
18:00	Pre-dinner drinks
18:30	Conference dinner

Day 3

	Session 4: Systems Nanoelectrochemistry from single entity to ensemble (Session chair: tbc)
09:00	**Multimodal nanoparticle analysis enabled by a polymer electrolyte nanopore combined with nanoimpact electrochemistry** Paolo Actis *University of Leeds, UK*
09:05	**Nafion coated nanopore electrode for improving electrochemical aptamer-based biosensing** Kaiyu Fu *University of Notre Dame, USA*
09:10	**The electrochemical modulation of single molecule fluorescence** Justin Gooding *University of New South Wales, Australia*
09.15	**Ion Concentration Polarization Causes a Nearly Pore-Length-Independent Conductance of Nanopores** Zuzanna Siwy *University of California, Irvine, USA*
09:20	Discussion
11:00	Refreshments
11:30	**A Micropore Nanoband Electrode Array for Enhanced Electrochemical Generation/Analysis in Flow Systems** Andrew Mount *University of Edinburgh, UK*
11:35	**Single-molecule electrochemical imaging of 'split waves' in the electrocatalytic (EC') mechanism** Jin Lu *National Center for Nanoscience and Technology, China*
11:40	**Advanced Algorithm for Step Detection in Single-Entity Electrochemistry: A Comparative Study of Wavelet Transforms and Convolutional Neural Networks** Ziwen Zhao *Uppsala University, Sweden*
11:45	Discussion
13:00	**Concluding Remarks Lecture** (Session chair: tbc) Andrew Ewing *University of Gothenburg, Sweden*
13:30	**Acknowledgements**
13:45	**Close of meeting and lunch**