

ICEI 2016 Singapore

International Conference on Electrified Interfaces



CONFERENCE PROGRAMME

In July 2016 the 14th International Conference on Electrified Interfaces will be held in Singapore. We cordially invite researchers from across the world to join us at this triennial event.

This year we are excited to return to Asia and host the event from cosmopolitan and stunningly beautiful Changi Cove in Singapore from July 3-8th, 2016.

The ICEI is held every 3 years to provide an interdisciplinary forum to discuss recent advances in interfacial electrochemistry and related subjects. The field of "electrified interfaces" has a wide-reaching scope, and consequently this conference covers a diverse range of topics that fall into this category.

This year we welcome outstanding contributions to sessions on *electrocatalysis, in-situ spectroscopy, atomic scale imaging, batteries, nanomaterials, applied and fundamental electrochemistry.*

This ICEI is 14th in the series, following successful meetings over the past 40 years across the world.

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MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
09:20 Opening				
09:30-10:50 SESSION 1 In-situ spectroscopy	09:30-11:00 SESSION 3 Fundamentals of electrocatalysis	09:30-10:50 SESSION 6 Electrocatalysis towards OER and ORR	09:30-10:50 SESSION 7 New electrocatalytic materials	09:30-10:50 SESSION 9 Nanostructures and nanomaterials
10:50-11:30 COFFEE	11:00-11:30 COFFEE	10:50-11:20 COFFEE	10:50-11:30 COFFEE	10:50-11:30 COFFEE
11:30-12:40 SESSION 1 In-situ spectroscopy	11:30-13:10 SESSION 3 Fundamentals of electrocatalysis	11:20-13:00 SESSION 6 Electrocatalysis towards OER and ORR	11:30-13:00 SESSION 7 New electrocatalytic materials	11:30-13:10 SESSION 10 Batteries
12:40-14:00	13:10-14:30	13:00-14:30	13:00-14:30	Closing remarks 13:20-14:30
LUNCH				
14:00-15:20 SESSION 2 Atomic Scale Imaging and Diffraction	14:30-16:00 SESSION 4 Applied Electrochemistry	14:30 - open end EXCURSIONS	14:30-16:00 SESSION 8 Fundamental Electrochemistry	Sponsored By
15:20-16:00 COFFEE	16:00-16:30 COFFEE		16:00-16:30 COFFEE	
16:00-17:00 SESSION 2 Atomic Scale Imaging and Diffraction	16:30-18:00 POSTER MINI TALKS		16:30-18:00 SESSION 8 Fundamental Electrochemistry	
17:00-18:00 DRINKS	18:00-20:00 Dinner		19:00 (bus transfer) – midnight BANQUET DINNER	
18:00-19:00 CONCERT	20:00-22:00 POSTER SESSION (free flow drinks)		Please make your own dinner arrangements.	



MONDAY, 4th July, 2016

Monday 4th July, 2016			
Time	Talk	Presenter	Title
SESSION 1 In-situ spectroscopy			
Session Chairs: Elena R. Savinova & Katsuyoshi Ikeda			
09:30	T01	Mucalo	In situ IR, XAS and ESMS-based studies of electrically polarized nickel, copper and gold electrode systems with pseudohalide ions in neat DMF and DMSO electrolytes
10:00	T02	Masuda	in situ XPS Apparatus for Electrochemical Reactions at Solid/liquid Interfaces
10:30	T03	Saveleva	In-situ XPS studies of Ir stabilization effect in Ir _x Ru _{1-x} O ₂ electrocatalysts during the oxygen evolution reaction
COFFEE BREAK(10:50 – 11:30)			
11:30	T04	Yeo	Probing Oxygen and Hydrogen Evolution Reactions Using In Situ Raman Spectroscopy
12:00	T05	Koo	In situ ATR-FTIR analysis of methylated amorphous silicon as negative electrode material for Li-ion batteries
12:20	T06	Huang	In-situ Raman spectroscopic study on the electrochemical oxidation of Pt(111) and Pt(100) single crystals
LUNCH (12:40 – 14:00)			
SESSION 2 Atomic Scale Imaging and Diffraction			
Session Chairs: Seden Beyhan & Harry Hoster			
14:00	T07	Giessibl	Ultrahigh resolution scanning probe microscopy on its way from vacuum to ambient and liquid environments
14:30	T08	Magnussen	Transmission surface diffraction: a novel method for operando studies of electrochemical interfaces
15:00	T09	Scherson	Ohmic microscopy: Further Developments and Future Prospects
COFFEE BREAK (15:30 – 16:00)			
16:00	T10	Allongue	Dealloying in 2D: Role of the local atomic environment
16:30	T11	Mertens	A clockwork lotus: electrochemical switching of boron nitride nanomesh wetting
17:00	Pre-concert Drinks		
18:00	Concert (in auditorium)		
19:00	Informal Dinner in Pre-function		



TUESDAY, 5th July, 2016

Tuesday 5th July, 2016			
Time	Talk	Presenter	Title
SESSION 3 Fundamentals of Electrocatalysis			
Session Chairs: Jason Boon Siang Yeo & Kohei Uosaki			
09:30	T12	Girault	Redox electrocatalysis on "floating" metallic particles
10:00	T13	Koper	Proton-coupled electron transfer in electrocatalysis
10:30	T14	Kongkanand	Characterizing the Pt-Electrolyte Interface in PEM Fuel Cells
COFFEE BREAK (11:00 – 11:30)			
11:30	T15	Kulesza	Structure and reactivity of hybrid materials for electrocatalytic, bioelectrocatalytic and photoelectrochemical reduction of carbon dioxide
12:00	T16	Calle-Vallejo	Understanding the structure sensitivity of electrocatalytic reactions in simple terms
12:20	T17	Göttle	Electrochemical reduction of CO ₂ catalyzed by cobalt porphyrin complexes: a mechanistic study from DFT.
12:40	T18	Schmickler	A scenario for oxygen reduction in alkaline media
LUNCH (13:10 - 14:30)			
SESSION 4 Applied Electrochemistry			
Session Chairs: Petr Krtil			
14:30	T19	Sagara	Electrochemistry of Viologens: New Perspectives
15:00	T20	Cheng	Electrochemical detection of gallic acid in mild neutral solutions using conducting polymer film-modified electrodes
15:20	T21	O'Rorke	Electrochemical crosslinking of hydrogel adhesives
15:40	T22	Hu	Pt-Ni-SU-8 microrocket with steerable trajectory using eccentric Pt nanoengine
COFFEE BREAK (16:00 – 16:30)			
SESSION 5 Poster mini talks			
16:30	Abstracts 48-72		
18:00	Informal Dinner (18:00 – 20:00)		
20:00 - 22:00	Poster Session (20:00 – 22:00)		



WEDNESDAY, 6th July, 2016

Wednesday 6th July, 2016			
Time	Talk	Presenter	Title
SESSION 6 Electrocatalysis towards OER and ORR			
Session Chairs: Wolfgang Schmickler & Radenka Maric			
09:30	T23	Savinova	Understanding Oxygen Electrocatalysis on Transition Metal Oxides
10:00	T24	Baltruschat	Bifunctional ORR and OER Electrocatalysis for Metal-oxygen Batteries: Role of the Catalyst
10:30	T25	Xu	Oxygen Electrocatalysis on Transition Metal Spinel Oxides
COFFEE BREAK (11:00 – 11:30)			
11:20	T26	Stephens	Accelerating oxygen reduction on alloys of Pt and rare earths
11:50	T27	Maillard	Defects do Catalysis: CO Monolayer Oxidation and Oxygen Reduction Reaction on Hollow PtNi/C Nanoparticles
12:20	T28	Diaz-Morales	Iridium-based Double Perovskites for Efficient Water Oxidation
12:40	T29	Ruttala	Effect of ad-atoms on reconstruction of shape-controlled Pt nanoparticles
LUNCH (13:00 - 14:30)			
Excursions			
Depart Changi Cove 14:30 (prompt)			



THURSDAY, 7th July, 2016

Thursday 7th July, 2016			
Time	Talk	Presenter	Title
SESSION 7 New Electrocatalytic Materials			
Session Chairs : Marc Koper & Kathryn Toghil			
09:30	T30	Uosaki	Theoretical and Experimental Investigations on BN on Gold as an Efficient Electrocatalyst
10:00	T31	Yau	Ordered Pt Adlayer on Au(111) and Its Electrocatalytic Properties
10:30	T32	Rutkowska	Application of Rh-containing highly-acidic mixed-metal (W, Zr) oxide films as active supports for noble metal electrocatalytic nanoparticles: enhancement of oxidation of organic fuels
COFFEE BREAK (11:00 – 11:30)			
11:30	T33	Lefebvre	Enhancement of electrocatalytic activity of carbon-based cathodes for electrochemical wastewater treatment
12:00	T34	Krtil	Water splitting on illuminated semiconductors
12:30	T35	Maric	New core-shell nano-structures (CSNS) for critical energy conversion
LUNCH (13:00 - 14:30)			
SESSION 8 Fundamental Electrochemistry			
Session Chairs: Hubert Girault and Takamasa Sagara			
14:30	T36	Groß	Equilibrium adsorbate structures at electrochemical electrode/electrolyte interfaces studied from first principles
15:00	T37	Uddin	The impact of high-frequency-high-current perturbations
15:30	T38	Sides	Best Practices of Electrochemical Test Methods
COFFEE BREAK (16:00 – 16:30)			
16:30	T39	Murakoshi	Electronic Excitation induced by Confined Electromagnetic Field at Electrified Interfaces
17:00	T40	Nichols	STM Studies in Ionic Liquids of Electrochemical Single Molecule Transistors and Molecular Wires
17:30	T41	Doneux	Gaining insights into Au Room Temperature Ionic Liquids interfaces through the study of adsorption phenomena
BANQUET DINNER			
Depart Changi Cove 18:45			



FRIDAY 8th July, 2016

Friday 8th July, 2016			
SESSION 9 Nanostructures and nanomaterials			
Session Chairs: Frédéric Maillard			
09:30	T42	Ikeda	Nano-gap structures for surface spectroscopy, energy conversion, and nanofabrication
10:00	T43	Switzer	Nanometer-thick gold on silicon as a proxy for single-crystal gold for the electrodeposition of epitaxial ceramic thin films
10:30	T44	Quinson	Controlled Synthesis and Characterization of Unprotected Nanoparticles
COFFEE BREAK (11:00 – 11:30)			
SESSION 10 Batteries			
Session Chairs: Zhichuan Xu			
11:30	T45	Randriamahazaka	Redox Flow Lithium Batteries based on the Redox Targeting Reactions between Ferrocene Derivatives and LiFePO ₄
12:00	T46	Wang	In-situ GC/MS studies in gas evolution of Li-rich high voltage cathode material of lithium ion battery
12:30	T47	Hoster	Lithium oxygen cells as function generators: from declining logarithms to sine oscillations
Final remarks			
LUNCH (13:00 - 14:30)			
END OF CONFERENCE			



Poster presentations

POSTER SESSION (Only registered participants shown)

Tuesday 5th July, 2016

Abstract	Presenter	Title
P01	Hesong Jeon	KOH activation of coffee grounds: Effect of electrochemical behavior on lithium sulfur battery
P02	Im	Doping effects of electrolyte-electrode interfacial stabilities on Li ₇ La ₃ Zr ₂ O ₁₂ garnet-type solid electrolytes
P03	Wang	NEW STOBA technology in lithium ion battery
P04	Armstrong	The development of new chemistries as redox active electrolytes for non aqueous flow batteries
P04	Nikman	In-situ Measurements of Future Battery Technologies
P06	Wang	Fundamental Analysis on the Effect of Nitrogen Doping in SnO ₂ Anode for Li-ion Battery
P07	Lin	Stability assessment of transition metal sulfide based counter electrode for dye-sensitized solar cells
P08	Wei	Valence Change Ability and Geometrical Occupation of Substitution Cations Determine the Pseudocapacitance of Spinel Ferrite XFe ₂ O ₄ (X = Mn, Co, Ni, Fe)
P09	Lee	Comparative study on the morphology of Cu deposited-gas diffusion electrode for electrochemical CO ₂ reduction
P10	Beyhan	The influence of Rh in Pt-Sn/C nanocatalyst for ethanol oxidation
P11	Tamašauskaitė-Tamašiūnaitė	Decoration of cobalt with a fiber structure with gold nanoparticles for hydrazine oxidation
P12	Sun	Electrochemical Oxidation of C3 Saturated Alcohols on Co ₃ O ₄ in Alkaline
P13	Morooka	Potential-Dependent Behavior of Hexadecane Droplets on Au Electrode Surfaces
P14	Norkus	Electroless deposition of platinum studied by EQCM
P15	Wang	Exploring the impact of semicore level electronic relaxation on polaron dynamics
P16	Randriamahazaka	Smart Nanostructured Interface based on Immobilized Redox Active Ionic Liquids
P17	Yang	CO/Pt(111) Electrochemical Interface Probed by Potential-Dependent Double Resonance Sum Frequency Generation Spectroscopy
P18	Krystynik	Electrochemical deposition of Yttrium for CRT waste recovery
P19	Chiu	On the composition effects on the catalytic activity of iron oxide toward electrochemical water oxidation
P20	Nguyen	A Facile Synthesis of Size-Controllable IrO ₂ and RuO ₂ Nanoparticles for the Oxygen Evolution Reaction
P21	Lee	Synthesis of saw-toothed palladium-platinum nanocubes and their electrocatalysis in oxygen reduction reaction
P22	Hayashi	Development of electrocatalysts for ORR through the encapsulation of Pt into carbon nanochannels
P23	Zhou	Effects of Mn Valence and Occupation on Spinel Manganese Ferrite toward Oxygen Reduction/Evolution Reaction
P24	Yesibolati	Developing methods for In-situ TEM and correlated electrochemistry studies
P25	Toghill	Electrocatalytic determination of formaldehyde on nickel modified electrodes
P26	Mercer	Monte Carlo Simulations for lithium intercalation



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