

Hong Kong Symposium of Batteries

17-18 December 2018

Lecture Theatre TU103

The Hong Kong Polytechnic University

Sponsored by

The logo for GP Batteries, featuring the letters 'GP' in a bold, yellow, sans-serif font, followed by the word 'Batteries' in a bold, white, sans-serif font, all contained within a solid green rectangular background.

GP Batteries

http://ap.polyu.edu.hk/GP_workshop/index.html

Technical Program

16 December 2018

- 17:00 – 18:00 Preconference Organizing Committee Meeting
18:30 – 21:00 Welcome reception (For Speakers and Organizing Committee Members)

17 December 2018

- 09:00 - 09:30 **Opening Ceremony, Chairperson, Guohua CHEN (HK PolyU)**
Welcome speech from HK PolyU
Prof. P.K. Alex Wai, Vice President (Research Development).

Opening remarks from GB Batteries International
Dr. Mingde Wang, Head of Center of Excellence-RD (Acting) and Head of Strategic Business Unit-Lithium.

Opening address
Prof. CC Chan, Academician, Chinese Academy of Engineering
Fellow, Royal Academy of Engineering, U.K.,
Founding President, World Electric Vehicles Association
Past President, Hong Kong Institution of Engineers
- 09:30 – 10:30 **Plenary 1 - Chairperson, Mingde Wang (GPI)**
Advances in NiMH Battery Technology for Energy Storage
Michael A. Fetcenko, Battery Materials G-CCB/L, BASF
- 10:30 - 10:45 **Coffee/Tea Break**, Corridor Outside TU103
- Session I – Chairpersons, Daniel Lau (HK PolyU), Quan Li (CUHK)**
- 10:45 – 11:30 **Keynote 1 – First Principles Based Multiscale Simulation for Fuel Cell and Lithium Ion Battery Design**,
Che-Wun Hong, National Tsinghua University
- 11:30 – 12:00 **Invited Lecture 1 – Fiber-enabled Wearable Energy Storage Devices**
Zijian Zheng, ITC, The Hong Kong Polytechnic University
- 12:00 – 12:30 **Invited Lecture 2 - Toward High-Energy-Density Energy Storage: Redox Processes and Design Strategies**
Yi-Chun Lu, MAE, The Chinese University of Hong Kong
- 12:30 – 14:00 **Lunch**, PolyU Staff Club
(5/F, Communal Building, The Hong Kong Polytechnic University)
- Session II – Chairpersons, Limin Zhou (HK PolyU), Che-Wun Hong (NTU)**
- 14:00 - 15:00 **Plenary 2 – Using Synchrotron X-ray and Neutron Based Scattering combined with TEM and TXM imaging Techniques to Study the New Cathode Materials for Batteries**,
Xiaoqing Yang, Brookhaven National Laboratory
- 15:00 – 15:30 **Invited Lecture 3 – Development of stable Si anode for lithium-ion batteries**
Denis Yu, SEE, City University of Hong Kong
- 15:30 – 16:00 **Coffee/Tea Break, Poster Session**, Corridor Outside TU103

- Session III - Chairpersons, Minhua Shao (HKUST), Denis Yu (HK CityU)**
- 16:00 – 16:45 **Keynote 2** - Construction of Flexible Interfacial Layer for Solid-State Li Batteries
Yong Yang, Xiamen University
- 16:45 – 17:15 **Invited Lecture 4** - Defect Chemistry and Li Transport in Antiperovskite Materials
Francesco Ciucci, MAE/CBE, The Hong Kong University of Science and Technology
- 17:15 – 17:45 **Invited Lecture 5** – Recent Development on Battery Research at GP
Mingde Wang, GPI
- 17:45 – 18:30 **Keynote 3** – Space Control for Li⁺ Storage and Transport in Spinel LiNi_{0.5}Mn_{1.5}O₄ Systems Through Synergistic Effects of Dually-Incorporated F_{vo} and Cu_{Mn} Defects
Nobuyuki Zettsu, Shinshu University
- 19:00 – 21:00 **Symposium Dinner**, Choi Fook Royal Banquet 彩福皇宴
(Shop 858, 8/F, Fortune Metropolis, 6-10 Metropolis Drive, Hung Hom)

18 December 2018

- Session IV – Chairpersons, Khalil Amine (ANL), Yong Yang (XMU)**
- 09:00 - 10:00 **Plenary 3 - Tackling Challenges in Flow Cells Using Thermo-fluid Sciences**
Tianshou Zhao, MAE, The Hong Kong University of Science and Technology
- 10:00 - 10:30 **Invited Lecture 6** – Core-shell electrocatalysts for fuel cells: design, synthesis and fuel cell performance
Minhua Shao, CBE, The Hong Kong University of Science and Technology
- 10:30 – 10:45 **Coffee/Tea Break**, Corridor Outside TU103
- Session V – Chairpersons, BJ Hwang (NTUST), Kaili Zhang (CityU)**
- 10:45 - 11:30 **Keynote 4** - Lithium-excess electrode materials with cation-disordered rocksalt structure for high-energy rechargeable lithium batteries,
Naoaki Yabuuchi, Yokohama National University
- 11:30 - 12:30 **Plenary 4 – Material-Gene and Structure Electrochemistry of Li-ion battery**
Feng Pan, Peking University (SZ)
- 12:30 - 14:00 **Lunch**, PolyU 南北小廚
(4/F, Communal Building, The Hong Kong Polytechnic University)
- Session VI – Chairpersons, KY Chan (HKU), Liang An (HK PolyU)**
- 14:00 - 14:45 **Keynote 5** – In Operando Studies on Advanced Batteries
BJ Hwang, National Taiwan University of Science and Technology
- 14:45 – 15:15 **Invited Lecture 7** - Nanostructured Materials as Anodes for Energy Storages
Limin Zhou, ME, The Hong Kong Polytechnic University
- 15:15 – 15:45 **Invited Lecture 8** - Shuttling-free lithium sulfur batteries using black phosphorus quantum dots as electrocatalysts
Daniel Lau, AP, The Hong Kong Polytechnic University
- 15:45 – 16:15 **Invited Lecture 9** – Lithiophilic Cu-CuO-Ni Hybrid Structure: Advanced Current Collectors towards Stable Lithium Metal Anodes
Kaili Zhang, ME, City University of Hong Kong
- 16:15 – 16:45 **Coffee/Tea Break, Poster Session**, Corridor Outside TU103

Session VII – Chairpersons, Feng Pan (PKUSZ), Haitao Huang (HK PolyU)

- 16:45 – 17:15 **Invited Lecture 10** – Probing oxide-ion conduction in low-temperature SOFCs
Bolong Huang, ABCT, The Hong Kong Polytechnic University
- 17:15 – 17:45 **Invited Lecture 11** – Porous Electrodes for Batteries and Fuel Cells
KY Chan, Chemistry, The University of Hong Kong
- 17:45 – 18:45 **Plenary 5 – Advanced Energy Storage systems for enabling electrification of vehicles “lithium ion & beyond”,**
Khalil Amine, Argonne National Laboratory
- 18:45 - 19:15 **Closing Ceremony – Chairperson Guohua CHEN (HK PolyU)**
- Presentation of the Best Poster Awards
- Remarks from GP Batteries
Mr. Victor Chung, Joint Chief Operating Officer; Head of Rechargeables Products at GP Batteries.
- Financial report and concluding remarks
Prof. Guohua Chen, Chairman, HK Symposium of Batteries
Chair Professor, Energy Conversion and Storage, Mechanical Engineering
Associate Vice President (Research Support), HK PolyU.