

ICAC 2018



INTERNATIONAL CONFERENCE FOR ADVANCED CATHODES
IN LITHIUM ION BATTERIES: **NCM & NCA**
THE 1ST HANYANG INTERNATIONAL BATTERY FORUM 2018

Date: September 10-12, 2018 (Mon-Wed)

Time: 9:20 (9:30) am ~

Location: HIT, Hanyang University, Seoul, South Korea

Organizer: Prof. Yang-Kook Sun

Support: BK21+ program of Energy Engineering
The Korean Electrochemical Society

Website: <http://www.icac2018.org/>

ICAC 2018 is a premium conference to review the current research progress and discuss the challenges in **NCM & NCA cathode materials** for Li-ion batteries, to advocate a strong coupling between fundamental electrochemistry and material science for energy applications, and to forge partnerships between industry and academia.

**ENERGY STORAGE &
CONVERSION MATERIALS LAB**



SEP 10, MON

ICAC 2018

Chair man: Jason Zhang / Co-chair: Kiyoshi Kanamura

Time	Speaker	Organization	Title
9:20 – 9:30	Prof. Young Moo Lee	Hanyang Univ.	Opening remark as a President of Hanyang Univ.
9:30 - 10:00	Prof. Yang-Kook Sun	Hanyang Univ.	Progress in High-Capacity Concentration Gradient Cathodes for Next-generation Lithium Batteries
10:00 - 10:30	Prof. Claude Delmas	Université de Bordeaux	The NMC positive electrode materials from the Solid State Chemistry: point of view
10:30 - 10:50	Coffee Break		
10:50 - 11:20	Prof. Kiyoshi Kanamura	Tokyo Metropolitan Univ.	Degradation of NCA ($\text{LiNi}_{1-x-y}\text{Co}_x\text{Al}_y\text{O}_2$) in 18650 Cell
11:20 - 11:50	Dr. Sung-Jin Kim	BMW	Potential and Limitation of Ni-rich Cathode Materials in Batteries for Automotive Applications
11:50 - 13:30	Lunch		
13:30 - 14:00	Prof. Lianqi Zhang	Tianjin University of Technology	Designing and Synthesis of Core-Shell Structured NCM or NCA Cathode Materials for Liquid and Solid Li-ion Batteries
14:00 - 14:30	Prof. Seung-Taek Myung	Sejong Univ.	An effective method to reduce residual lithium compounds on Ni-rich cathode materials
14:30 - 15:00	Prof. Sang-Young Lee	UNIST	One-Dimensional Building Block Strategy for Advanced Lithium-Ion Battery Electrodes
15:00 - 15:30	Prof. Yoonseok Jung	Hanyang Univ.	Interfacial Engineering for Layered Oxide Cathode Materials for All-Solid-State Lithium-Ion Batteries
15:30 - 15:50	Coffee Break		
15:50 - 16:20	Dr. Wang mo Jung	LG Chem	High Ni Cathode Material for High Energy Density Lithium Ion Batteries
16:20 - 16:50	Dr. Jason Zhang	PNNL	High Voltage Operation of Ni-Rich NMC Cathodes Enabled by Stable Electrode/Electrolyte Interphases
16:50 - 17:20	Prof. Won-Sub Yoon	Sungkyunkwan Univ.	Identifying key factors of Ni-rich cathode performance: Structural aspect
17:20 - 18:00	Poster presentation (All posters must be displayed from Monday afternoon to Closing Ceremony)		

SEP 11, TUE

ICAC 2018

Chair man: Jun Liu / Co-chair: Y. Shirley Meng

Time	Speaker	Organization	Title
9:30 - 10:00	Dr. Tien Q. Duong	U.S. Department of Energy	Overview of the Advanced Battery Materials Research (BMR) Program and the Battery500 Consortium
10:00 - 10:30	Dr. Jung Hoon Song	RIST	High-speed Co-precipitation Process for NCM Cathode Precursor Using Taylor-Couette Reactor
10:30 - 10:50	Coffee Break		
10:50 - 11:20	Dr. Chongmin Wang	PNNL	Microscopy and Spectroscopy Diagnosis Guided Optimization of Layer Structured Cathode for Lithium Ion Batteries
11:20 - 11:50	Dr. Dong joon Ihm	Umicore	Evolution of NMC Cathode Active Materials for Lithium Ion Batteries
11:50 - 13:30	Lunch		
13:30 - 14:00	Prof. Honghe Zheng	Soochow Univ.	In-situ development of elastic solid electrolyte interphase via nano-regulation and self-polymerization of unsaturated organic compounds on graphite surface
14:00 - 14:30	Dr. Feng Lin	Virginia Tech	Manipulating the Interfacial Chemistry of Layered Cathode Materials by Exploring 3D Heterogeneous Chemical Distribution
14:30 - 15:00	Prof. Byung chan Han	Yonsei Univ.	Unexpectedly High Energy Density of a Li-Ion Battery by Oxygen Redox in LiNiO ₂ Cathode: First Principles Study
15:00 - 15:30	Prof. Y. Shirley Meng	Univ. of California San Diego	Exploring the Ultimate Limits of Intercalation Layered Oxides
15:30 - 15:50	Coffee Break		
15:50 - 16:20	Prof. Songhun Yoon	Chung-Ang Univ.	Novel Preparation Method for Advanced Cycling Performance in NiCoAl (NCA) Layered Cathode Materials
16:20 - 16:50	Dr. Dongjoon Ahn	LG Chem	Structural Enhancement of Bulk and Surface in High Nickel Layered Lithium Transition-Metal Oxide for Li-ion Batteries
16:50 - 17:20	Prof. Juergen Garche	Ulm Univ.	Safety Behaviour of Li-Ion Battery Cathode Materials
17:20 -	Banquet		

SEP 12, WED

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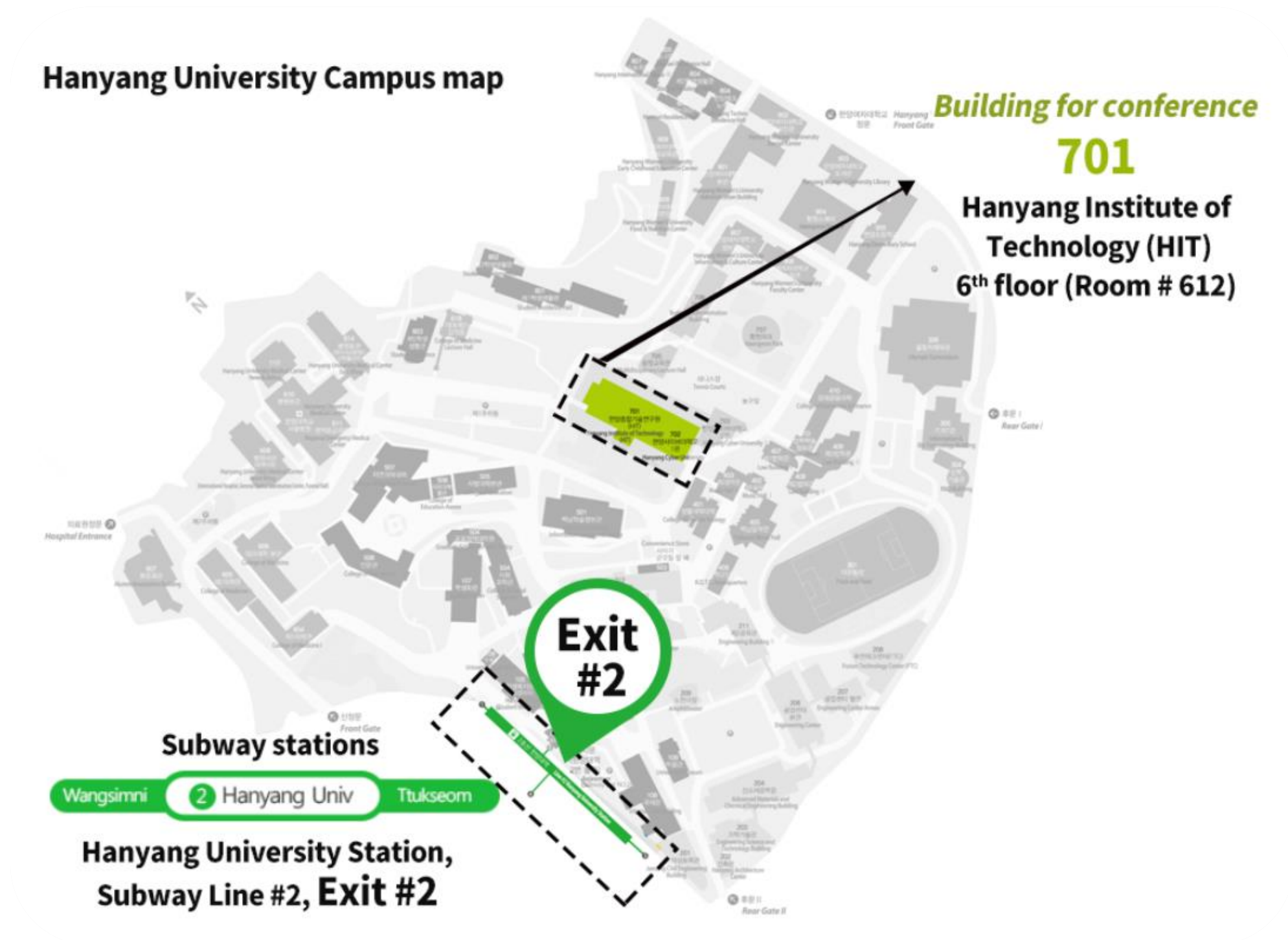
Chair man: Yoonseok Jung / Co-chair: Chongmin Wang

Time	Speaker	Organization	Title
9:30 - 10:00	Dr. Ji-Yong Shin	BASF	High Energy Ni-rich Cathode Materials for Automotive Applications
10:00 - 10:30	Dr. Jun Liu	PNNL	Development and Optimization of Electrode/Electrolyte Materials for Extended Cycling Life of High Energy Rechargeable Li Metal Batteries
10:30 - 10:50	Coffee Break		
10:50 - 11:20	Dr. Kyung Yoon Chung	KIST	Characterization of $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2/\text{Li}_{1.3}\text{Al}_{0.3}\text{Ti}_{1.7}(\text{PO}_4)_3$ Composite Cathode in All-Solid-State Lithium ion Batteries
11:20 - 11:50	Prof. Shinichi Komaba	Tokyo Univ. of Science	Tungstate Solid as Additive into NMC Cathode
11:50 - 13:30	Lunch		
13:30 - 14:00	Dr. Moon Ho Choi	Ecopro BM	Advanced Nickel-rich Cathode Material for High Energy Density Lithium Ion Batteries
14:00 - 14:30	Prof. Chong Seung Yoon	Hanyang Univ.	Characterization of cathode materials using transmission electron microscopy
14:30 - 15:00	Prof. Guanglei Cui	Qingdao Institute of Bioenergy and Bioprocess Technology	Rigid-Flexible Coupling Solid-State Electrolytes for High Energy Density Lithium Batteries
15:00 - 15:20	Coffee Break		
15:20 - 15:50	Dr. Hyungsub Kim	KAERI	Neutron Diffraction Researches on Layerd Cathode Materials for Lithium Rechargeable Batteries
15:50 - 16:20	Dr. Fabio Masiello	Malvern Panalytical	In situ / operando measurements of lithium-ion batteries on a laboratory X-ray diffractometer
16:20 - 16:50	Prof. Nam-Soon Choi	UNIST	Molecularly engineered electrolyte additives for the stabilization of electrolyte-cathode interfaces
16:50 - 17:00	Closing Ceremony		

Access to Venue

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