

「学際融合による蓄電デバイスの革新」

Innovation of Energy Storage Device by Interdisciplinary Synergy

参加無料
 事前申込み必要

日時

[第1日] 2013年1月17日(木)

[第2日] 2013年1月18日(金)

会場

東京大学 武田ホール

東京大学キャンパス内 武田先端知ビル5階

[Day 1] January 17 (Thursday), 2013

9:00-9:30	Registration	
Opening Remarks		
9:30-9:40	Noritaka Mizuno (The University of Tokyo)	
Plenary Lecture (Chair: Noritaka Mizuno)		
9:40-10:10	P-1	"The Role of Chemical Companies in the Age of Sustainability" Masanori Ikeda (Nippon Shokubai Co., Ltd.)
10:10-10:30	Coffee Break	
Session 1: Intercalation Compounds (Chair: Claude Delmas & Itaru Honma)		
10:30-11:10	I-1	"Design of Poly-anion Based Cathode for Lithium Rechargeable Batteries by First-Principles Calculations and Experiments" Kisuk Kang (Seoul National University, Korea)
11:10-11:50	I-2	"The Layered Oxides in Lithium and Sodium Batteries : from the Past to the Future" Claude Delmas (Université Bordeaux 1, France)
11:50-12:30	I-3	"High Capacity Electrodes Enlisting Polyanions or Not for Li-ion Batteries" Jean-Marie Tarascon (Université de Picardie Jules Verne, France)
12:30-14:30	Lunch Break + Tea Time (Tea Time at Takeda Hall Foyer)	
14:30-14:50	R-1	"A New Anode Material for High-performance Energy Device" Hideki Oki (Toyota Motor Corporation) Hidenori Takagi (The University of Tokyo)
14:50-15:10	R-2	"Rechargeable Quasi-solid State Lithium Battery with Organic Crystalline Cathode" Itaru Honma (Tohoku University)
15:10-15:30	R-3	"Materials for Li/Na Ion and Metal-Free Air Batteries" Atsuo Yamada (The University of Tokyo)
15:30-15:50	Coffee Break	
Session 2: Advanced Analysis (Chair: Robert Kostecki & Masaharu Oshima)		
15:50-16:30	I-4	"In-situ Soft X-ray Spectroscopy Characterization of Interfaces and Charge Transfer Process in Energy Storage" Jinghua Guo (Lawrence Berkeley National Laboratory, USA)
16:30-17:10	I-5	"Advanced Characterization and First Principles Modeling of Surface and Interfaces of Lithium Intercalation Compounds" Ying S. Meng (University of California, San Diego, USA)
17:10-17:50	I-6	"Characterization of Interfaces and Interphases in Li-ion Systems with Far- and Near-Field Optical Probes" Robert Kostecki (Lawrence Berkeley National Laboratory, USA)
17:50-18:10	R-4	"Soft X-ray Nano-Spectroscopy for Lithium Ion Battery Green-Nano Devices" Masaharu Oshima (The University of Tokyo)
18:10-18:30	R-5	"STEM Characterization for Lithium-ion Battery Cathode Materials" Yuichi Ikuhara (The University of Tokyo)

8:30-9:00	Registration	
Keynote Lecture (Chair: Atsuo Yamada)		
9:00-10:00	K-1	"What are the Ultimate Limits to Intercalation Reactions?" M. Stanley Whittingham (State University of New York at Binghamton, USA)
10:00-10:20	Coffee Break	
Session 3: Oxygen Batteries (Chair: Peter G. Bruce & Haoshen Zhou)		
10:20-11:00	I-7	"The Role of Catalysts, Electrolytes and Li ₂ O ₂ Oxidation in Li-O ₂ Batteries" Linda Nazar (University of Waterloo, Canada)
11:00-11:40	I-8	"Breathing Life into the Li-air (O ₂) Battery" Peter G. Bruce (University of St Andrews, Scotland, UK)
11:40-12:00	R-6	"Oxygen Rocking Aqueous Batteries Utilizing Reversible Topotactic Oxygen Insertion/extraction in Iron-based Perovskite Oxides Ca _{1-x} La _x FeO _{3-δ} " Mitsuhiro Hibino (The University of Tokyo) Yasutaka Sumida (Nippon Shokubai Co., Ltd.)
12:00-12:20	R-7	"Development of Lithium Oxygen and Lithium Air Battery" Haoshen Zhou (Advanced Industrial Science and Technology) Kazunari Domen (The University of Tokyo)
12:20-14:00	Lunch Break + Tea Time (Tea Time at Takeda Hall Foyer)	
Session 4: Design Strategy (Chair: Yet-Ming Chiang & Takuzo Aida)		
14:00-14:40	I-9	"Design Criteria for a Three-dimensional Rechargeable Battery" Amy L. Prieto (Colorado State University, USA)
14:40-15:20	I-10	"Mesoscale Design of Batteries to Optimize Storage" Yet-Ming Chiang (Massachusetts Institute of Technology, USA)
15:20-15:40	R-8	"Nanostructured Ion Conductors Formed by Molecular Self-Assembly" Takashi Kato (The University of Tokyo)
15:40-16:00	R-9	"Tailoring New Functional Soft Materials" Takuzo Aida (The University of Tokyo)
16:00-16:20	Coffee Break	
Panel Discussion: Innovation of Energy Storage Battery		
16:20-18:25	"Leaping Beyond the Technical Limit" Moderator: Noritaka Mizuno and Atsuo Yamada Panelists: Toshiya Saito (Toyota Motor Corporation), Peter G. Bruce, Yet-Ming Chiang, Claude Delmas, Robert Kostecki, Linda Nazar, Jean-Marie Tarascon, M. Stanley Whittingham	
Closing Remarks		
18:25-18:30	Atsuo Yamada (The University of Tokyo)	

*Language: English/Japanese (simultaneous interpretation available)