

Agenda

Beyond Lithium Ion XII
 Denver Marriott West
 June 25–27, 2019
beyondlithiumion.org

Day 1 – June 25, 2019		
7:30 AM	Registration Breakfast	
8:30 AM	Welcome	
8:40 AM	Executive Welcome	
Keynote		
9:00 AM	Transforming Energy through Innovation	Martin Keller , National Renewable Energy Laboratory
Session I: New Frontiers of Alkali Metal Batteries (Chair: Wu Xu)		
9:40 AM	Novel Engineering Approaches to High Energy Density Lithium Metal Batteries	Prashant Kumta , University of Pittsburgh
10:10 AM	Investigate the Formation of Discharge Products to the Limitation of Energy Density in Cathode of Li-S Batteries	Jim Zheng , Florida State University
10:40 AM	Break (30 mins)	
11:10 AM	Li-O ₂ Batteries: Challenges and Recent Progress	Larry Curtiss , Argonne National Laboratory
11:40 AM	Development of High Performance Na-ion Battery Cathodes	Xiaolin Li , Pacific Northwest National Laboratory
12:10 PM	Lunch	
Session II: Emerging Opportunities for Multivalent Metal Anodes (Chair: Lei Cheng)		
1:30 PM	Beyond Li-Ion Chemistries in Aqueous Electrolytes	Kang Xu , ARL
2:00 PM	Intercalation Chemistry of Mg and Ca Ions into Host Materials for Post Li-Ion Batteries	Prof. Seung-Tae Hong , Daegu Gyeongbuk Institute of Science and Technology
2:30 PM	Multivalent Anode Interphases: Opportunities To Direct Interfacial Cation Transport	Kevin Zavadil , Sandia National Laboratories
3:00 PM	Break (30 mins)	
Session III: Safe Electrolytes for Beyond Lithium Ion (Chair: Ray Bair and Wu Xu)		
3:30 PM	Non-Flammable Electrolytes for Lithium Metal Batteries	Jason Zhang , Pacific Northwest National Laboratory
4:00 PM	Predicting the Performance of Lithium Metal Electrodes Stabilized by Polymer Electrolytes	Nitash Balsara , University of California Berkeley
4:30 PM	Electrochemical, Quantum Mechanical, and Physical Behavior of the Li Metal-Solid Electrolyte Interface	Jeff Sakamoto , University of Michigan
5:00 PM	Can Glassy Electrolytes Enable Solid-state Li Metal Batteries?	Andrew Westover and Nancy Dudley , Oak Ridge National Laboratory
5:30 PM	Adjourn	

Day 2 – June 26, 2019

7:00 AM	Registration Breakfast	
Keynote		
8:00 AM	Energy Storage for Improved Grid Resilience and Renewables Integration	Vince Sprenkle , Pacific Northwest National Laboratory
Session III: Safe Electrolytes for BLI (Chair: Ray Bair and Wu Xu)		
9:00 AM	Enabling Solid State Batteries with Breakthrough Polymer Technology	Mike Zimmerman , Tufts University
9:30 AM	Towards Solid State Batteries with LLZO	Marca Doeff , Berkeley Lab
10:00 AM	Ceramic-Polymer Composite Electrolytes for Lithium-Metal Batteries	Nick Wu , West Virginia University
10:30 AM	Break (30 mins)	
Session IV: Chemistry for Electrochemical Stationary Energy Storage (Chair: Young-Hye Na)		
11:00 AM	Liquid Metal/Molten Salt Batteries for Stationary Storage	Donald R. Sadoway , Massachusetts Institute of Technology
11:30 AM	Enabling Redox Flow Battery Chemistries for Long Duration Energy Storage: Challenges and Opportunities	Jagjit Nanda , Oak Ridge National Laboratory
12:00 PM	Sodium-Sulfur Flow Batteries for Low-Cost Stationary Energy Storage	Zheng Li , Virginia Tech
12:30 PM	Lunch (1 hour)	
Session V: New Frontiers of Energy Storage: Artificial Intelligence, Machine Learning, and Quantum Computing (Chair: Winfried Wilcke)		
1:30 PM	Identification of 11 New Solid Lithium-Ion Conductors with Promise for Batteries Using Data Science Approaches	Evan Reed , Stanford University
2:00 PM	Neuromorphic Computing with the Redox Transistor	Alec Talin , Sandia National Laboratories
2:30 PM	Fundamentals of Quantum Computing: An Introduction for Engineers and Scientists	Kevin Roche , IBM Almaden
3:00 PM	Quantum Computing as a Platform for Scientific Discovery in Chemical Sciences	Bert de Jong , Lawrence Berkeley National Laboratory
3:30 PM	Break (30 mins)	
Session VI: Advanced Characterization for Beyond Lithium-Ion Technologies (Chair: Chunmei Ban)		
4:00 PM	Measuring and Defining Electrochemical Reactions of Transition Metal Oxides in Mg Electrolytes	Jordi Cabana , University of Illinois at Chicago
4:30 PM	In-Situ Electrochemical Atomic Force Microscopy: A Powerful Tool for Understanding Metal-Air Batteries	Maxwell Giammona , IBM
5:00 PM	Solid State NMR Applications on Rechargeable Battery Chemistries	Fulya Dogan , Argonne National Laboratory
5:30 PM	Understanding Conductivity and Stability of Interfaces in All Solid-State Batteries via STEM	Miaofang Chi , Oak Ridge National Laboratory
6:00–8:30 PM	Poster Session and Reception	

Day 3 – June 27, 2019

7:30 AM	Registration Breakfast	
Keynote		
8:30 AM	Next Generation Batteries	George Crabtree , Argonne National Laboratory
Session VII: Batteries Recycling (Chair: Liu Gao)		
9:30 AM	The ReCell Center: DOE's Advanced Battery Recycling Program	Bryant Polzin , Argonne National Laboratory
10:00 AM	Break (30 mins)	
10:30 AM	Manufacturing with Recycled Materials	Joon Kim , Spear Power
11:00 AM	Quality Assessment for Used Batteries	Shriram Santhanagopalan , National Renewable Energy Laboratory
11:30 AM	Electro-Assisted Recycling of Lithium Ion Batteries	Luis DiazAldana , Idaho National Laboratory
12:00 PM	Lunch (1 hour)	
NREL Tour Preparation		
1:15 PM	Everyone on Board the Bus	
1:40 PM	Pick up Badges	
2:00–4:00 PM NREL Tours (Host: Bill Tumas)		
Tour 1	Energy Systems Integration Facility	
Tour 2	Process Development and Integration Laboratory	
After the tour, transportation is provided back to the hotel.		