

Beyond Lithium Ion XI, Double Tree by Hilton
July 24-26, 2018
Agenda
Website: beyondlithiumion.org

7:30 AM Registration Breakfast		
8:30 AM	Welcome (10 mins)	Dionne Hernandez-Lugo , NASA Chunmei Ban , NREL
8:40 AM	NASA Glenn Executive Welcome	Janet Kavandi , Director, NASA Glenn Research Center
Session I: Keynote Speakers (Chair: Dionne Hernandez-Lugo)		
9:00 AM	TBD	Sanjiv Malhotra , DOE
9:30 AM	Advanced Batteries for Electrified Aircraft and Space Exploration	Ajay Misra , NASA Glenn Research Center
Session II: Emerging Opportunities for Non-Lithium Metal Anodes (Chair: Jun Liu)		
10:00 AM	Zn electrochemistry and Zn batteries	Yuyan Shao , PNNL
10:30 AM	Understanding the Aluminum Intercalation and the Chemistry of Al Electrolytes	Juchen Guo , UC Riverside
11:00 AM	Rechargeable Superoxide Batteries	Yiying Wu , Ohio State University
11:30 AM	Superconcentrated NaFSI based ionic electrolytes; Na ⁺ ion transport and remarkable cycling and device stability	Patrick C. Howlett , Deakin University
12:00 PM	Lunch (1 hour)	
Session III: Recent Development in Lithium Metal Anode (Chair: Wu Xu)		
1:00 PM	Pathways for High-Energy-Density Rechargeable Lithium Metal Batteries	Jun Liu , PNNL
1:30 PM	Ceramic-Polymer Hybrid Membrane and Solid-State Electrolyte for Li-Metal Battery	Young-Hye Na , IBM
2:00 PM	Challenges Facing Lithium Metal Anode in Li-O ₂ and Li-S Batteries	Jun Lu , Argonne National Laboratory
2:30 PM	Novel approaches for stabilizing the lithium-metal anodes	Jun-Tao Li , Xiamen University
3:00 PM	Break (30 mins)	
3:30 PM	Suppressing Lithium Dendrites in Li-S Batteries	Vilas G. Pol , Purdue University
Session IV: Material and Cell Design for Microbatteries (Chair: Young-Hye Na)		
4:00 PM	Performance modeling and design of ultra-high power microbatteries	James Pikul , University of Pennsylvania
4:30 PM	3D Electrochemical Thin Layers for Electrical Energy Storage: Fast Electrochemistry and Electrode Protection	Sang Bok Lee , University of Maryland
5:00 PM	Selection of Battery Chemistry and Charging Algorithm for IOT Devices	Naoki Matsumura , Intel Corporation
5:30 PM	Break (30 mins)	
6:00pm	Poster and Reception	

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Day 2 – July 25, 2018

7:30 AM	Registration Breakfast	
Session V: New Frontiers of Metal Anode Batteries: Lithium-O₂, Organic redox batteries (Chair: Ray Bair)		
8:30 AM	Bending Dendrites and Oxygen to our Will for Advanced Metal-Air Systems	Thomas Zawodzinski, ORNL-University of Tennessee
9:00 AM	Materials Development for Aqueous Organic Redox Flow Batteries	Xiaoliang Wei, Indiana University and Purdue University.
9:30 AM	Selenium impregnated monolithic carbons as free-standing cathodes for high volumetric energy lithium and sodium metal batteries	David Mitlin, Clarkson University
10:00 AM	High Capacity Lithium-Air Batteries Enabled by Dry-Pressed Holey Graphene Air Cathodes	Yi Lin, NASA Langley Research Center
10:30 AM	Break (30 mins)	
Session VI: Interfacial Stability of Li Metal Solid Electrolyte (Chair: Dionne Hernandez-Lugo)		
11:00 AM	Investigation of Solid Polymer Nanocomposite Electrolyte to Mitigate Li Metal/Electrolyte interface and to Enable Li-metal Safely Cycling	James Wu, NASA Glenn Research Center
11:30 AM	Engineering lithium metal surface to enable long-term cycling with carbonate-based electrolytes	Bin Li, Wildcat
12:00 PM	First Principles Analysis of Interfacial Stability of Solid-State Electrolytes at the Lithium-Metal Anode Surface	Perla Balbuena, Texas A&M University
12:30 PM	Lunch (1 hour)	
Session VII: Enabling Diagnostics for Electrochemical Storage Systems (Chair: Chunmei Ban)		
1:30 PM	Investigation of the interface and processes of lithium batteries by developing in-situ/operando spectroscopic methods	Shi-Gang Sun, Xiamen University
2:00 PM	Recent liquid state and solid state NMR investigations of BLI electrolytes	Steven Greenbaum, City University of NY
2:30 PM	In operando diagnostics as a pathway to mechanistic understanding of SEI electrochemistry	Steve Decaluwe, Colorado School of Mines
3:00 PM	Break (30 mins)	
Session VIII: Batteries for Electrified Aircrafts (Chair: Winfried Wilcke)		
3:30 PM	X-57 Maxwell Battery from requirements to design	Dionne Hernandez-Lugo, NASA GRC
4:00 PM	Structural Energy Storage development	Patricia Loyselle, NASA GRC
4:30 PM	Electrically Powered Aircraft Will Transform Transportation	Brien Seeley, Sustainability Aviation
5:00 PM	Break (45 mins)	
5:45 PM	<u>Everyone on board the bus for Dinner. Dinner will be over the Goodtime III more information following the link Goodtime III information</u>	

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Day 3 – July 26, 2018

7:00 AM	Registration Breakfast	
Session IX: New Battery Architectures, Design and Manufacturing (Chair: Jagjit Nanda)		
8:00 AM	Electrode structuring and processing challenges of advanced lithium secondary batteries with ultra-high energy densities	David Wood , Oak Ridge National Laboratory
8:30 AM	TBD	Amy Prieto , Colorado State University
9:00 AM	High Energy Density Electrodeposited Li and Na-ion Battery Electrodes	Paul Braun , University of Illinois at Urbana-Champaign
9:30 AM	Break (30 mins)	
Session X: Commercialization of Beyond Lithium-ion Technologies (Chair: Gao Liu)		
10:00 AM	From Molecules to MWs: Commercialization of New Generation Vanadium Redox Flow Batteries	Gary Yang , UE Technologies
10:30 AM	Technical challenges and strategies for high-energy lithium-sulfur batteries	Mei Cai , General Motors
11:00 AM	Next Generation High Energy Rechargeable Zinc-Air Batteries	Zhongwei Chen , University of Waterloo
11:30 AM	Advanced Silicon Anode-Based Cells Developed Under NASA's Advanced Energy Storage Systems Project	Brianne DeMattia , NASA GRC, Ionel Stefan , Amprius, Inc.
12:00 PM	Lunch (1 hour)	
NASA Glenn Research Center Tours		
1:00pm – Every on board the bus for NASA GRC lab tour. NASA Glenn Research Center		
1:30 pm – Pick badges @ NASA GRC		
Tours: Visit our website for information on tours facilities-		
After the tour transportation is provided back to the Hotel.		