2024 Battery Safety Workshop: Tentative Agenda

Day 1: Aug 5th 2024

8:00~8:15 am, Registration

8:15~8:30am, Welcome and Opening Remarks

• Intro and welcome by meeting organizers
• Overview of battery research at USC, Bill Mustain

8:30~10:00am, Session 1: Integrators’ Perspective

• 8:30~9:20am, Keynote address by Thomas Barrera, Lib-X, Evaluating Industry Lithium-Ion Battery Faults: Causal Factors and Lessons Learned
• 9:20~10:00am, Tejas Bhavsar, GM, Battery safety during handling and storage in EV manufacturing facilities

10:00~10:20am, Coffee Break

• 10:20~11:00am, Chris Turner, Inventus Power, Producing Safe Batteries for the Real World
• 11:00~11:40am, William Rigdon, Stanley Black & Decker, Electrolytic Corrosion Mechanisms in Battery Packs

11:40am~12:40, Lunch

12:40~1:00pm, Group Photo

1:00~3:00pm, Session 2: Materials and Solutions

• 1:00~1:40pm, Jiang Fan, American Lithium Energy, Shut Down Electrode with Zero Volt Stability: A New Method to Mitigate Thermal Runaway Risk for High Energy Lithium Ion Batteries
• 1:40~2:20pm, Chi-Hao Chang, Dow Chemical, Battery Fire Protection (BFP) Materials to Enhance EV Battery Safety
• 2:20~3:00pm, Drew Pereira, NREL, Investigation of Nonflammable Electrolytes for Behind-the-Meter Storage Batteries

3:00~3:30pm, Coffee break

3:20~5:30pm, Session 3: Next-Generation Batteries

• 3:20~4:00pm, Nathan Johnson, Sandia National Lab, Predicting Cell Safety at the Materials Scale to Derisk Next Generation Batteries
• 4:00~4:40pm, Safak Dogu, Pomega, Will sodium-ion battery be a safer alternative to lithium-ion battery?
• 4:40~5:20pm, Wenquan Lu, Argonne, A Sulfurized Carbon Cathode for Lithium–Sulfur Batteries

6:00~8:30pm, Reception and poster session

**Day 2: Aug 5th, 2024**

8:00~10:20am, Session 4: Battery failure behaviors and mechanisms

• 8:00~8:40am, Linghong Zhang, 3M, Thermal Runaway Observations of Large-format Lithium Iron Phosphate (LFP) Batteries and the Implications for Electric Vehicle Applications
• 8:40~9:20am, Guangsheng Zhang, UAH, Understanding internal short circuit and thermal runaway of Li-ion cells through in situ diagnosis
• 9:20~10:00am, Peng Zhao, UTK, Experimental and modeling investigation on Li-ion battery thermal runaway: triggering, propagation, and mitigation

10:00~10:20am, Coffee Break

10:20am~2:00pm, Session 5: Modeling and prediction of battery behaviors

• 10:20~11:00am, Anudeep Mallarapu, NREL, Coupled Multiphysics Modeling to Predict Battery Thermal Runaway Behavior
• 11:00~11:40am, Jason Ostanek, Purdue, Analysis of Impingement Heat Transfer from Venting Li-ion Cells

11:40 am~12:40pm, Lunch Break

• 12:40~1:20pm, Xiang Gao, Univ. of Delaware, Electrochemo-mechanical Coupling Behavior of Composite Energy Materials
• 1:20~2:00pm, Chao Hu, UConn, A Gentle Introduction to Battery Rapid State-of-Health Estimation and Early Life Prediction

2:00~4:00pm, Session 6: Safety Testing and Evaluation

• 2:00~2:40pm, Yi Wang, FM Global, Thermal Abuse Testing for Li-ion Batteries: Towards Standardization and Hazard Assessment
• 2:40~3:20pm, Brian Morin, Soteria, E-bike Battery Safety: From Disassembles to a Safe Standard
• 3:20~4:00pm, Guang Xu, Missouri S&T, Analysis of Toxic fumes emitted during Small Scale Lithium-Ion Battery fires

Summary and wrap-up