Thursday, June 13, Oral Presentations

Time	Advanced Combustion Engines (ACE)	Fuel and Lubricant Technologies (FT)
7:00AM	**Continental Breakfast**	
8:00 AM		
8:15 AM		
8:30 AM	ACE001: Heavy-Duty Diesel Combustion Mark Musculus, SNL	
8:45 AM		
9:00 AM	ACE131: Ducted Fuel Injection (DFI) for Heavy-Duty Engines Charles Mueller, SNL	
9:15 AM		
9:30 AM	ACE132: Heavy-Duty Gasoline Compression Ignition Chris Kolodziej, ANL	
9:45 AM		
10:00 AM	ACE133: Next-Generation Heavy-Duty Powertrains Scott Curran, ORNL	FT079: Expanding the Knock/Emissions/Misfire Limits for the Realization of Ultra-Low Emissions, High-Efficiency, Heavy-Duty Natural Gas Engines Dan Olsen, Colorado State University
10:15 AM		
10:30 AM	**Break**	
11:00 AM	ACE121: A High Specific Output, Gasoline, Low-Temperature Combustion Engine Hanho Yun, General Motors	FT086: On-Demand Reactivity Enhancement to Enable Low-Temperature Combustion of Natural Gas Will Northrop, University of Minnesota
11:15 AM		
11:30 AM	ACE123: Temperature-Following Thermal Barrier Coatings for High-Efficiency Engines Tobias Schaedler, HRL Laboratories	FT080: Fundamental Advancements in Pre-Chamber Ignition and Emissions Control for Natural Gas Engines Brad Zigler, NREL
11:45 AM		
12:00 PM		FT081: Direct Injection 4.3 L Propane Engine Research, Development, and Testing Brad Zigler, NREL
12:15 PM		

12:30 PM	**Lunch**	
2:00 PM	ACE100: Improving Transportation Efficiency through Integrated Vehicle, Engine, and Powertrain Research - SuperTruck II Derek Rotz, Daimler Trucks North AmerIca	FT082: High-Performance Fluids and Coatings for Off-Road Hydraulic Components George Fenske, ANL
2:15 PM		
2:30 PM	ACE101: Volvo SuperTruck II: Pathway to Cost-Effective Commercialized Freight Efficiency Pascal Amar, Volvo Trucks North America	FT083: Efficient, Compact, and Smooth Variable Propulsion Motor James Van de Ven, University of Minnesota
2:45 PM		
3:00 PM	ACE102: Cummins-Peterbilt SuperTruck II Michael Ruth, Cummins-Peterbilt	FT084: Individual Electro-Hydraulic Drives for Off-Road Vehicles Andrea Vacca, Purdue University
3:15 PM		
3:30 PM	**Break**	
4:00 PM	ACE103: Development and Demonstration of a Fuel-Efficient Class 8 Tractor and Trailer SuperTruck Russell Zukouski, Navistar	FT085: Hybrid Hydraulic-Electric Architecture for Mobile Machines Perry Li, University of Minnesota
4:15 PM		
4:30 PM	ACE124: SuperTruck II - PACCAR Carl Hergart, PACCAR	
4:45 PM		
5:00 PM		
5:15 PM		
5:30		

Thursday, June 13, Oral Presentations

Time	Electrification Technologies (ELT)	Materials Technology (MAT)
7:00AM	**Continental Breakfast**	
8:00 AM	ELT198: Cybersecurity: Securing Vehicle Charging Infrastructure - SNL Jay Johnson, SNL	MAT157: Graphene-Based Solid Lubricant for Automotive Applications Anirudha Sumant, ANL
8:15 AM		
8:30 AM	ELT199: Cybersecurity: Consequence-Driven Cybersecurity for High-Power Charging Infrastructure -INL Richard "Barney" Carlson, INL	MAT126: Room-Temperature Stamping of High-Strength Aluminum Alloys Aashish Rohatgi, PNNL
8:45 AM		
9:00 AM	ELT205: Cybersecurity for Grid Connected eXtreme Fast Charging (XFC) Station (CyberX) Junho Hong, ABB	MAT158: Overcoming the Barriers to Lightweighting by Enabling Low-Cost and High-Performance Structural Automotive Aluminum Castings Aashish Rohatgi, PNNL
9:15 AM		
9:30 AM	ELT206: Cybersecurity Platform and Certification Framework Development for XFC-Integrated Charging Infrastructure Ecosystem Tobias Whitney, EPRI	MAT129: Optimizing Heat-Treatment Parameters for 3rd Generation Advanced High-Strength Steel Using an Integrated Experimental Computational Framework Erin Baker, PNNL
9:45 AM		
10:00 AM	ELT207: Enabling Secure and Resilient XFC: A Software/Hardware Security Co-Design Approach Ryan Gerdes, Virginia Tech	MAT144: Reducing Mass of Steel Auto Bodies Using Thin, Advanced High-Strength Steel with Carbon-Fiber Reinforced Epoxy Coating Dave Warren, ORNL, Gabriel Ilevbare, INL,
10:15 AM		
10:30 AM	**Break**	
11:00 AM	ELT197: High Power and Dynamic Wireless Charging of Electric Vehicles(Evs) Veda Galigekere, ORNL	MAT069: Lightweight High-Temperature Alloys Based on the Aluminum-Iron-Silicon System Michelle Manuel, University of Florida
11:15 AM		
11:30 AM	ELT235: Behind-the-Meter Storage Overview Anthony Burrell, NREL	MAT159: Powertrain Core Program: High-Temperature Lightweight Alloys--Aluminum-/Titanium-Based Alloys Amit Shyam, ORNL
11:45 AM		
12:00 PM	ELT204: Charging Infrastructure Technologies: Development of a Multiport, ≥1 MW Charging System for Medium- and Heavy-Duty Electric Vehicles - NREL Kevin Walkowicz, Representing NREL, ORNL, ANL	MAT160: Powertrain Core Program: Higher Temperature (>550°C) Alloys--Nickel-/Iron-Based Alloys G. Muralidharan, ORNL
12:15 PM		

12:30 PM	**Lunch**	
2:00 PM	ELT239: High-Power Inductive Charging System Development and Integration for Mobility Omer Onar, ORNL	MAT161: Powertrain Core Program: Overview of Exploratory Projects Jerry Gibbs, DOE
2:15 PM		MAT162: Machine Learning and Supercomputing to Predict Corrosion/Oxidation of High-Performance Valve Alloys Dongwon Shin, ORNL
2:30 PM	ELT240: Wireless Extreme Fast Charging for Electric Trucks (WXFC-Trucks) Mike Masquelier, WAVE	MAT163: Multi-Scale Modeling of Corrosion and Oxidation Performance and Their Impact on High-Temperature Fatigue of Automotive Exhaust Manifold Components Mei Li, Ford
2:45 PM		MAT164: Multi-Scale Development and Validation of the Stainless Steel Alloy Corrosion (SStAC) Tool for High-Temperature Engine Materials Michael Tonks, University of Florida
3:00 PM	ELT241: High-Efficiency, Medium-Voltage-Input, Solid-State-Transformer-Based 400-kW/1000-V/400-A Extreme Fast Charger for Electric Vehicles Charles Zhu, Delta Electronics	MAT057: Applied Computational Methods for New Propulsion Materials Charles Finney, ORNL
3:15 PM		
3:30 PM	**Break**	
4:00 PM	ELT236: DC Conversion Equipment Connected to the Medium-Voltage Grid for Extreme Fast Charging (XFS) Utilizing Modular and Interoperable Architecture Watson Collins, EPRI	
4:15 PM	ELT237: Enabling Extreme Fast Charging with Energy Storage Jonathan Kimball, Missouri S&T	
4:30 PM	ELT238: Intelligent, Grid-Friendly, Modular Extreme Fast Charging System with Solid-State DC Protection Srdjan Lukic, North Carolina State University	
4:45 PM	Panel Discussion: Medium-Voltage Extreme Fast Charging Technologies	
5:00 PM		
5:15 PM		
5:30		

	Thursday, June 13, Oral Presentations	
Time	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
7:00AM	**Continental Breakfast**	
8:00 AM	BAT276: Mechanical Properties at the Protected Lithium Interface Nancy Dudney, ORNL	EEMS029: Boosting Energy Efficiency of Heterogeneous Connected and Automated Vehicle (CAV) Fleets via Anticipative and Cooperative Vehicle Guidance Ardalan Vahidi, Clemson University
8:15 AM	BAT327: Engineering Approaches to Dendrite-Free Lithium Anodes Prashant Kumta, University of Pittsburgh	
8:30 AM	BAT326: Self-Assembling and Self-Healing Rechargeable Lithium Batteries Yet-Ming Chiang, MIT	EEMS032: Evaluating Energy-Efficiency Opportunities from Connected and Automated Vehicle (CAV) Deployments Coupled with Shared Mobility in California Matthew Barth, University of California at Riverside
8:45 AM	BAT272: Pre-Lithiation of High-Capacity Battery Electrodes Yi Cui, SLAC	
9:00 AM	Panel Discussion: Lithium Metal Protection	EEMS028: Developing an Eco-Cooperative Automated Control System (Eco-CAC) Hesham Rakha, Virginia Tech
9:15 AM		
9:30 AM	BAT330: Electrochemically Responsive, Self-Formed, Lithium-Ion Conductors for High-Performance Lithium-Metal Anodes Donghai Wang, Penn State University	
9:45 AM	BAT230: Nanostructured Design of Sulfur Cathode for High-Energy Lithium-Sulfur Batteries Yi Cui, Stanford University	
10:00 AM	Panel Discussion: Sulfur Electrodes	
10:15 AM		
10:30 AM	**Break**	
11:00 AM	BAT312: Advanced Lithium-Ion Battery Technology: High-Voltage Electrolyte Joe Sunstrom, Daikin America	
11:15 AM	BAT322: High Conductivity and Flexible Hybrid Solid-State Electrolyte Eric Wachsman, University of Maryland	
11:30 AM	BAT365: Stabilizing Lithium-Metal Anode by Interfacial Layer Zhenan Bao, Stanford University/SLAC	
11:45 AM	BAT389: Improving the Stability of Lithium Metal Anodes and Inorganic-Organic Solid Electrolytes Nitash Balsara, LBNL	
12:00 PM	Panel Discussion: Electrolytes	
12:15 PM		

12:30 PM	**Lunch**	
2:00 PM	BAT054: First Principles Calculations of Existing and Novel Electrode Materials Gerbrand Ceder, LBNL	
2:15 PM	BAT309: Electrode Materials Design and Failure Prediction Venkat Srinivasan, ANL	
2:30 PM	BAT329: Understanding and Strategies for Controlled Interfacial Phenomena in Lithium-Ion Batteries and Beyond Perla Balbuena, Texas A&M University	
2:45 PM	BAT091: Predicting and Understanding Novel Electrode Materials from First Principles Kristin Persson, LBNL	
3:00 PM	Panel Discussion: Modeling	
3:15 PM		
3:30 PM	**Break**	
4:00 PM	BAT370: Advanced Diagnostics of Nickel-Rich, Layered-Oxide Secondary Particles William Chueh, Stanford University/SLAC	
4:15 PM	BAT225: Model System Diagnostics for High-Energy Cathode Development Guoying Chen, LBNL	
4:30 PM	BAT085: Interfacial Processes Robert Kostecki, LBNL	
4:45 PM	BAT226: Microscopy Investigation of the Fading Mechanism of Electrode Materials Chongmin Wang, PNNL	
5:00 PM	Panel Discussion: Diagnostics	
5:15 PM		
5:30		

Thursday, June 13, Oral Presentations

Time	Vehicle Technologies Analysis (VAN)
7:00AM	**Continental Breakfast**
8:00 AM	VAN000: Overview of VTO Analysis Program Jacob Ward, DOE
8:15 AM	
8:30 AM	VAN026: Infrastructure Assessment Eric Wood, NREL
8:45 AM	
9:00 AM	VAN028: VTO Program Benefits Analysis Alan Jenn, UC Davis
9:15 AM	
9:30 AM	VAN019: ParaChoice Model Camron Proctor, SNL
9:45 AM	
10:00 AM	VAN021: Transportation Energy Evolution Modeling (TEEM) Program Zhenhong Lin, ORNL
10:15 AM	
10:30 AM	**Break**
11:00 AM	VAN023: Assessing the Energy and Cost Impact of Advanced Technologies of Light-Duty Vehicles Aymeric Rousseau, ANL
11:15 AM	
11:30 AM	VAN029: Battery Recycling Supply Chain Analysis Margaret Mann, NREL
11:45 AM	
12:00 PM	VAN031: Advanced Vehicle Cost and Energy-Use Model (AVCEM) - Overview, Recent Developments, and Preliminary Findings Mark Delucchi, LBNL
12:15 PM	

12:30 PM	**Lunch**
2:00 PM	
2:15 PM	
2:30 PM	
2:45 PM	
3:00 PM	
3:15 PM	
3:30 PM	**Break**
4:00 PM	
4:15 PM	
4:30 PM	
4:45 PM	
5:00 PM	
5:15 PM	
5:30	