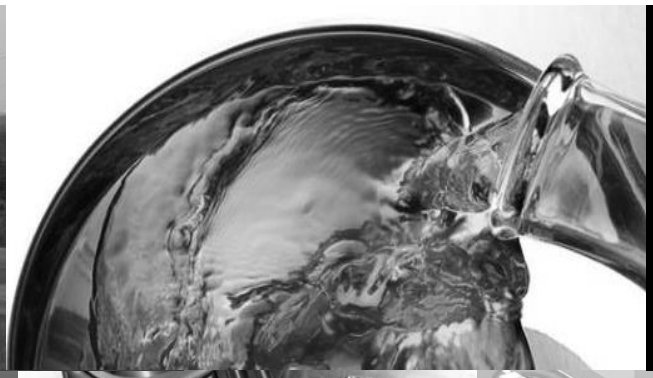
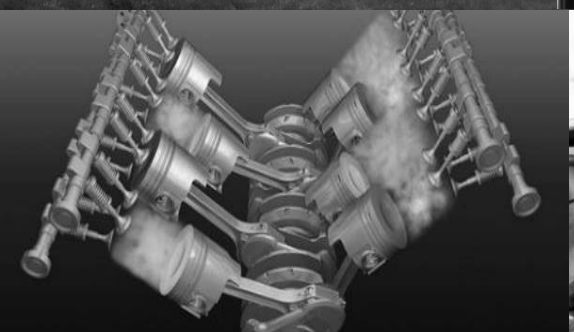
U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY &
RENEWABLE ENERGY

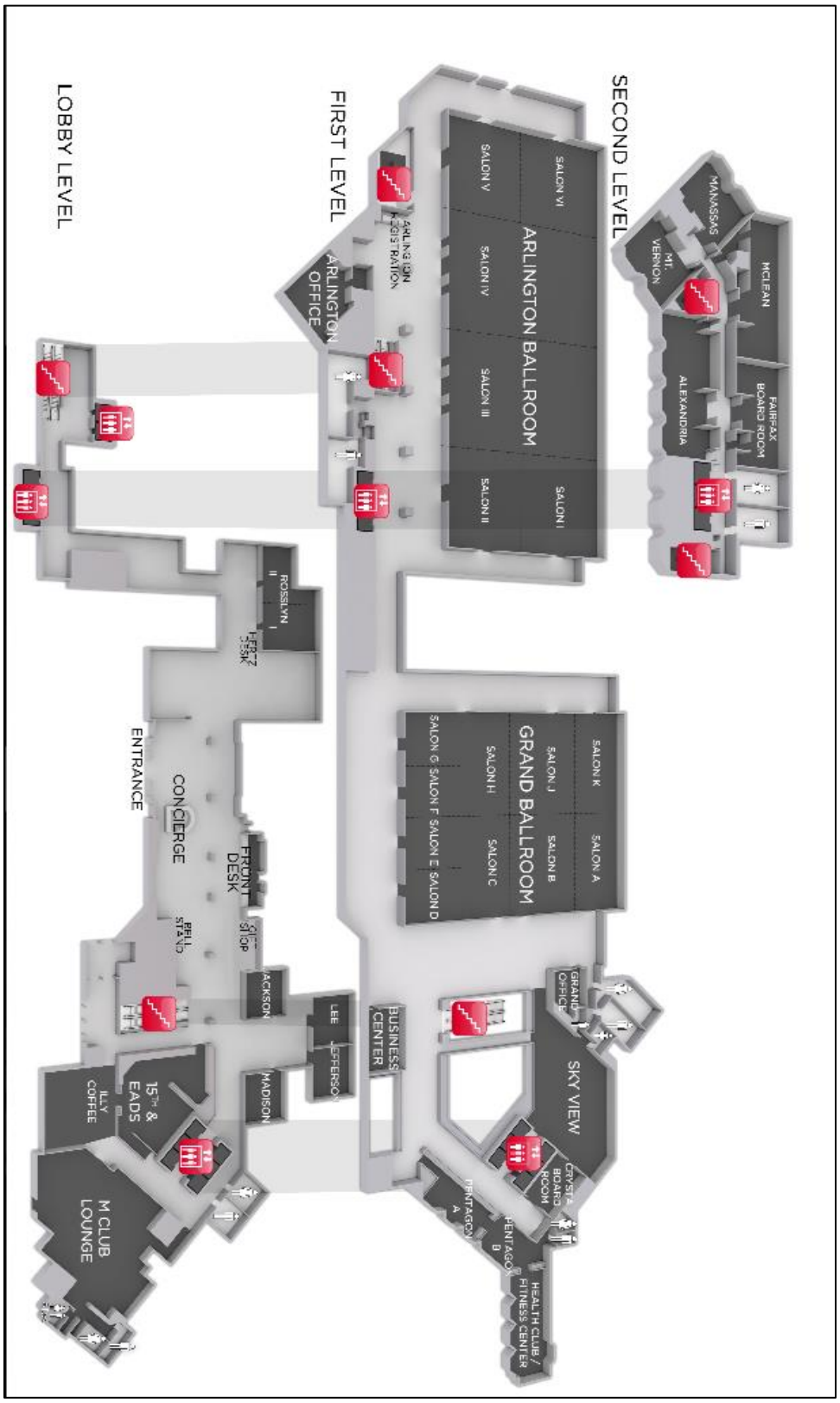
2018 Vehicle Technologies Office Annual Merit Review

Marriott Crystal Gateway
Arlington, VA
June 18-21, 2018



MARRIOTT
CRYSTAL GATEWAY



2018 Vehicle Technologies Office Annual Merit Review

June 18-21, 2018
Marriott Crystal Gateway, Arlington, Virginia

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Meeting Information

Badges and Registration

The official AMR name badge must be worn at all technical sessions (oral and poster) and ancillary events.

The Registration Desk is located on the First Level. All attendees and presenters must visit the Registration Desk upon arrival and pick up their name badges and registration materials.

REGISTRATION DESK HOURS	
Sunday, June17	5:00PM - 7:00PM
Monday, June 18	7:00AM – 5:00PM
Tuesday, June 19	7:00AM – 5:00PM
Wednesday, June 20	7:00AM – 5:00PM
Thursday, June 21	7:00AM – 10:00AM

General Information

Internet Access

There is complimentary Wi-Fi in the hotel lobby. Please refer to the Lobby Level hotel floor plan for location.

Recording, Photography, Cell Phone, and Session Etiquette

While you are in a session, please mute all cell phones and other electronic devices. If necessary, please send an email or text, or step out to the hallway to make a call. Unauthorized photography or electronic capture of presentations in session rooms or associated meeting spaces is not permitted.

Special Needs

Please visit the Registration Desk in person during registration hours if you have any special needs requests.

Meals

Continental breakfasts, AM/PM coffee breaks, and buffet lunches will be provided. Considerations will be made for vegetarian, gluten free, and vegan diets on the buffet.

Meeting Proceedings

Proceedings on the Web

Plenary, oral, and poster presentations are available on the VT AMR Website.

https://energy.gov/eere/vehicles/annual-merit-review

Speaker Instructions

Speaker Ready Station

The Speaker Ready Station is located in the Madison Room. Speakers are not permitted to use their own computers for their presentations. Each session room will be equipped with a laptop, laser pointer, advancer, and microphone.

SPEAKER READY STATION HOURS	
Monday, June 18	8:00AM – 7:00PM
Tuesday, June 19	7:00AM – 7:00PM
Wednesday, June 20	7:00AM – 7:00PM
Thursday, June 21	7:30AM – 3:30PM

If possible, please review your presentation at the Speaker Ready Station prior to the start of your session. Staff will be on hand to help preview your presentation as necessary. **You may not edit your presentation at the meeting.** Computers at the Speaker Ready Station are equipped with software identical to that in the session rooms.

Oral Presenters

The computers in the session rooms will be preloaded with presentations. Audio/visual technicians will be available in all session rooms to provide assistance if necessary. Each presenter will be given 20-minutes to present his/her work followed by a 10-minute question-and-answer period for 30-minute presentations and 10-minutes to present followed by a 5-minute question-and-answer period for 15-minute presentations. **Time limits will be strictly enforced.**

Poster Presenters

All poster sessions will take place in Arlington Ballroom Salons IV-V-VI (First Level). Please mount your poster on the poster board labeled with your project ID (poster maps are included in this program). The boards will be available at 8:00 AM on Tuesday, June 19, for posters presented that day and 8:00 AM on Wednesday for posters on Wednesday, June 20. Please complete set-up of your poster at least 30 minutes prior to the start of the poster session and be ready to present your poster 10 minutes prior to the start of your assigned poster session. Presenters are expected to remain with the poster to answer questions for the duration of the session. Please remove your poster after the session ends.

Reviewer Instructions

Reviewer orientation will be held at 5:45 PM on Monday, June 18, in the Plenary Session room. Reviewer lab is located in the Pentagon Room on the First Level.

REVIEWER LAB HOURS	
Monday, June 18	1:00 PM – 5:00 PM
Tuesday, June 19	7:00 AM – 5:00 PM
Wednesday, June 20	7:00 AM – 5:00 PM
Thursday, June 21	7:00 AM – 12:00 PM

AMR Feedback

Please provide your feedback on the logistics, content, and format of this year's AMR to assist with the planning of future AMR meetings when we email you a link to our AMR Feedback evaluation. Your feedback can be provided via the following link **https://tinyurl.com/VTAMR18**.

For 2018, the AMR badge and holder and lanyard are 100% recyclable. The badge holder is constructed of EVA, a PVC-free material which is BPA and phthalates-free, and the lanyard is 100% recycled PET and is dyed with water-based inks.

Please deposit your recyclable badge holder and lanyard in the designated receptacles at the registration area when you are done with them.

Dates for 2019-2020 Vehicle Technologies Office Annual Merit Reviews

Please join us for the 2019 and 2020 Vehicle Technologies Office Annual Merit Review at the Hyatt Regency Crystal City, 2799 Jefferson Davis Highway, Arlington, VA 22202, on the following dates.

2019 Annual Merit Review - June 10 – 13, 2019

2020 Annual Merit Review - June 8 – 11, 2020

Monday, June 18-Thursday, June 21

Program at a Glance

	Monday
1:00 PM - 2:45 PM	Plenary Session Salon I-II-III
2:45 PM	Break – Arlington Foyer
3:15 PM - 5:35 PM	Awards and Program Overviews Salon I-II-III
5:45 PM	Reviewer Orientation

Legend:

ACS	Advanced Combustion Systems
BAT	Battery R&D
EEMS	Energy-Efficient Mobility Systems
ELT	Electrification Technologies
FT	Fuel & Lubricant Technologies
MAT	Materials Technology
TI	Technology Integration
VAN	Vehicle Technologies Analysis

ORAL TECHNCIAL SESSIONS

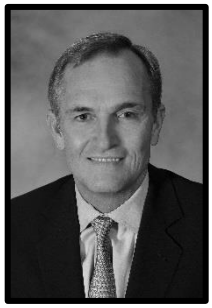
	Tuesday						Wednesday						Thursday				
Session Rooms	Salon B	Salon A	Salon J	Salon K	Salon CDE	Salon FGH	Salon B	Salon A	Salon J	Salon K	Salon CDE	Salon FGH	Salon B	Salon A	Salon J	Salon CDE	Salon A
7:00 AM	Continental Breakfast Ballroom Foyers						Continental Breakfast Ballroom Foyers						Continental Breakfast Ballroom Foyers				
8:00 AM	ACS	TI	ELT	MAT	BAT	EEMS			ELT	MAT		EEMS		FT		BAT	
8:30 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS		ELT	MAT	BAT	EEMS	ACS	FT	ELT	BAT	VAN
9:00 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS		ELT	MAT	BAT	EEMS	ACS	FT	ELT	BAT	VAN
9:15 AM				MAT													
9:30 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS		ELT	BAT	VAN
10:00 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS		ELT	BAT	VAN
10:30 AM	Break Ballroom Foyers						Break Ballroom Foyers						Break Ballroom Foyers				
11:00 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS		ELT	BAT	VAN
11:30 AM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS		ELT	BAT	VAN
12:00 PM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS			BAT	VAN
12:30 PM	Lunch -- Salon I-II-III/Sky View 12:30 PM –2:00 PM						Lunch -- Salon I-II-III/Sky View 12:30 PM –2:00 PM						Lunch -- Salon I-II-III 12:30 PM –2:00 PM				
2:00 PM	ACS	TI	ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS		ELT Panel	BAT	
2:15 PM										MAT							
2:30 PM	ACS		ELT	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS			BAT	
2:45 PM												EEMS					
3:00 PM	ACS		ELT Panel	MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS	ACS			BAT	
3:15 PM										MAT							
3:30 PM	ACS			MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT	EEMS				BAT	
3:45 PM										MAT							
4:00 PM				MAT	BAT	EEMS	ACS	FT	ELT	MAT	BAT Panel	EEMS				BAT	
4:15 PM				MAT													
4:30 PM					BAT				ELT								
5:00 PM - 7:00 PM	POSTER SESSION I -- Salon IV-V-VI BAT, EEMS, ELT, TI, and VAN						POSTER SESSION II -- Salon IV-V-VI BAT and BES										

Plenary Session Speakers: Perspectives on the Future of Transportation and Energy

Mark Phelan
Auto Critic and Columnist
Detroit Free Press

Mr. Phelan began covering the auto industry more than 20 years ago and reported on automotive news around the world for a variety of newspapers, magazines, and online outlets. He joined the *Detroit Free Press* in 2002. He has reported on the auto industry from all over the world, including Europe, Asia, Australia, South America and Africa. He is a regular guest on television and radio programs discussing trends shaping the auto industry. The winner of numerous awards, he was president of the Automotive Press Association and the North American Car and Truck of the Year awards.

Scott L. Corwin
Managing Director, Strategy and Business Transformation Practice
Deloitte Consulting



Mr. Corwin leads Deloitte's Future of Mobility Practice which is working closely with leaders in business, government, academia, local communities and NGOs to actively shape the emergence of the mobility ecosystem. His team has been systematically analyzing and researching how converging forces are giving rise to a new seamless, intermodal mobility ecosystem and the implications for government, industry and society. He is a well published author and frequent speaker on the future of mobility. In addition, over the past three decades, he has worked with senior leaders across a range of industries to help them develop and implement strategy based transformations to address disruptive change in their industries and markets.

Scott has a B.A. *magna cum laude* from Brandeis University and an M.B.A. from New York University's Stern School of Business.

Dr. Jeffrey Chamberlain
CEO, VOLTA Energy Technologies

Dr. Chamberlain has a long record of industrial product and R&D commercialization in energy, integrated circuit and water treatment technology. For ten years he led the energy storage technology licensing and research initiatives at Argonne National Laboratory. With U.S. Department of Energy (DOE) collaboration, he led successful efforts to transfer advanced battery technology to many large industrial companies. He also led a team awarded a U.S. DOE grant to develop advanced energy storage technologies for transportation and the grid.

Jeff received his B.A. in chemistry from Wake Forest University and his Ph.D. in physical chemistry from the Georgia Institute of Technology.

Plenary at a Glance

Marriott Crystal Gateway Annual Merit Review Plenary Program Schedule June 18, 2018 Salons I-II-III		
	Presentation	**Speaker**
1:00 PM - 1:10 PM	Opening Remarks	Steven Chalk, DOE Deputy Assistant Secretary for Transportation
1:10 PM - 2:25 PM	Perspectives on the Future of Transportation and Energy **(Presentations and Discussion Moderated by Michael Berube, Director, Vehicle Technologies Office (VTO))**	●Mark Phelan, Auto Critic and Columnist, Detroit Free Press ●Scott Corwin, Managing Director, Strategy and Business Transformation Practice, Deloitte Consulting ● Jeff Chamberlain, CEO, VOLTA Energy Technologies
2:25 PM - 2:45 PM	VTO Strategy and Direction	Michael Berube, Director, VTO
2:45 PM - 3:15 PM	**BREAK** **Arlington Foyer**	
3:15 PM - 3:35 PM	VTO Achievement Awards	David Howell, Deputy Director, VTO
3:35 PM - 3:50 PM	Vehicle Analysis Overview	Rachael Nealer, Program Manager, VTO
3:50 PM - 4:05 PM	Technology Integration Overview	Mark Smith, Program Manager, VTO
4:05 PM - 4:20 PM	Materials Technology R&D Overview	Felix Wu, Program Manager, VTO
4:20 PM - 4:40 PM	Advanced Combustion Systems and Fuels R&D Overview	Gurpreet Singh, Program Manager, VTO
4:40 PM - 5:00 PM	Energy-Efficient Mobility Systems Overview	David Anderson, Program Manager, VTO
5:00 PM - 5:30 PM	Batteries and Electrification R&D Overview	Steven Boyd, Program Manager, VTO
5:30 PM - 5:35 PM	Announcements	David Howell, Deputy Director, VTO
5:45 PM - 6:15 PM	Reviewer Orientation (optional)	ORISE

U.S. Department of Energy National Laboratories

Laboratory Name	Location
Ames Laboratory	Ames, Iowa
Argonne National Laboratory (ANL)	Argonne, Illinois
Brookhaven National Laboratory (BNL)	Upton, New York
Fermi National Accelerator Laboratory	Batavia, Illinois
Idaho National Laboratory (INL)	Idaho Falls, Idaho
Lawrence Berkeley National Laboratory (LBNL)	Berkeley, California
National Renewable Energy Laboratory	Golden, Colorado
Oak Ridge National Laboratory (ORNL)	Oak Ridge, Tennessee
Pacific Northwest National Laboratory (PNNL)	Richland, Washington
Princeton Plasma Physics Laboratory	Princeton, New Jersey
Sandia National Laboratories (SNL)	Livermore, California
SLAC National Accelerator Laboratory	Stanford, California
Thomas Jefferson National Accelerator Facility	Newport News, Virginia

Tuesday, June 19

Oral Presentations

Date	SALON B	SALON A	SALON J
19-Jun	**Advanced Combustion Systems (ACS)**	**Technology Integration (TI)**	**Electrification Technologies (ELT)**
8:00 AM	ACS001: Heavy-Duty Low-Temperature and Diesel Combustion & Heavy-Duty Combustion Modeling--Mark Musculus, SNL	TI001: Tech Integration -- Data and Systems Research Overview--Dennis Smith, DOE	ELT000: DOE Electric Drive Technologies Overview--Susan Rogers, DOE
8:30 AM	ACS002: Light- and Medium-Duty Diesel Combustion--Stephen Busch, SNL	TI084: Northwest Electric Vehicle Consumer Showcase--Zach Henkin, Drive Oregon (Forth)	ELT089: Assessing the North American Supply Chain for Traction Drive Inverters, Motors, and Batteries for Class 3-8 Hybrid Electric and Plug-In Electric Commercial Vehicles--Chris Whaling, Synthesis Partners
9:00 AM	ACS004: Low-Temperature Gasoline Combustion (LTGC) Engine Research--John Dec, SNL	TI083: Midwest EVOLVE (Electric Vehicle Opportunities: Learning, Events, Experience)--Lisa Thurstin, American Lung Association of Upper Midwest	ELT071: Ultra conducting Copper--Tolga Aytug, ORNL
9:30 AM	ACS006: Gasoline Combustion Fundamentals--Isaac Ekoto, SNL	TI085: Advancing Plug-In Electric Vehicle Adoption in New England through Events and Outreach--Eric Cahill, Plug-In America	ELT015: Development of Radically Enhanced alnico Magnets (DREaM) for Traction Drive Motors--Matt Kramer, Ames Laboratory
10:00 AM	ACS054: Rapid Compression Machine (RCM) Studies to Enable Gasoline-Relevant Low-Temperature Combustion--Scott Goldsborough, ANL	TI081: WestSmartEV: Western Smart Plug-In Electric Vehicle Community Partnership for Electric Vehicles and Infrastructure--James Campbell, PacificCorp	ELT075: Electric Motor Thermal Management--Kevin Bennion, NREL
10:30 AM	**Break: Ballroom Foyers**		
11:00 AM	ACS013: Chemical Kinetic Models for Advanced Engine Combustion--Bill Pitz, LLNL	TI082: U.S. Fuels Across America's Highways -- Michigan to Montana (M2M)--Ted Barnes, Gas Technology Institute	ELT049: Advanced High-Performance Computing (HPC) Multiphysics Modeling of Motors and Materials--Jason Pries, ORNL
11:30 AM	ACS012: Model Development and Analysis of Clean & Efficient Engine Combustion--Russell Whitesides, LLNL	TI080: Safety Training and Design, Permitting, and Operational Guidance for Gaseous Fuel Vehicle Facilities--Rob Adams, Marathon Technical Services USA	ELT054: Drivetrain Performance Improvement Techniques--Gui-Jia Su, ORNL
12:00 PM	ACS005: Spray Combustion Cross-Cut Engine Research--Lyle Pickett, SNL	TI079: Training for Cost-Effective, Code-Compliant Gaseous Fuel Maintenance Facilities--Ted Barnes, Gas Technology Institute	ELT078: Power Electronics Thermal Management--Gilbert Moreno, NREL
12:30PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		

Date	SALON B	SALON A	SALON J
19-Jun	**Advanced Combustion Systems (ACS)**	**Technology Integration (TI)**	**Electrification Technologies (ELT)**
2:00 PM	ACS052: Neutron Imaging of Advanced Transportation Technologies--Martin Wissink, ORNL	TI070: Advanced Vehicle Technology Competitions -- EcoCAR--Kristen Wahl, ANL	ELT079: Advanced Multiphysics Integration Technologies and Designs--Emre Gurpinar, ORNL
2:30 PM	ACS010: Fuel Injection and Spray Research Using X-Ray Diagnostics--Christopher Powell, ANL		ELT088: Electrification Technology (ELT) Analysis--Greg Smith, ORNL
3:00 PM	ACS075: Advancements in Fuel Spray and Combustion Modeling with High-Performance Computing (HPC) Resources--Sibendu Som, ANL		**Panel (3:00-5:00 PM):** Multiphysics Integration for Power Electronics and Early-Stage EDT materials
3:30 PM	ACS017: Accelerating Predictive Simulation of Internal Combustion Engines (ICEs) with High-Performance Computing (HPC)--K. Dean Edwards, ORNL		
4:00 PM			
4:30 PM			

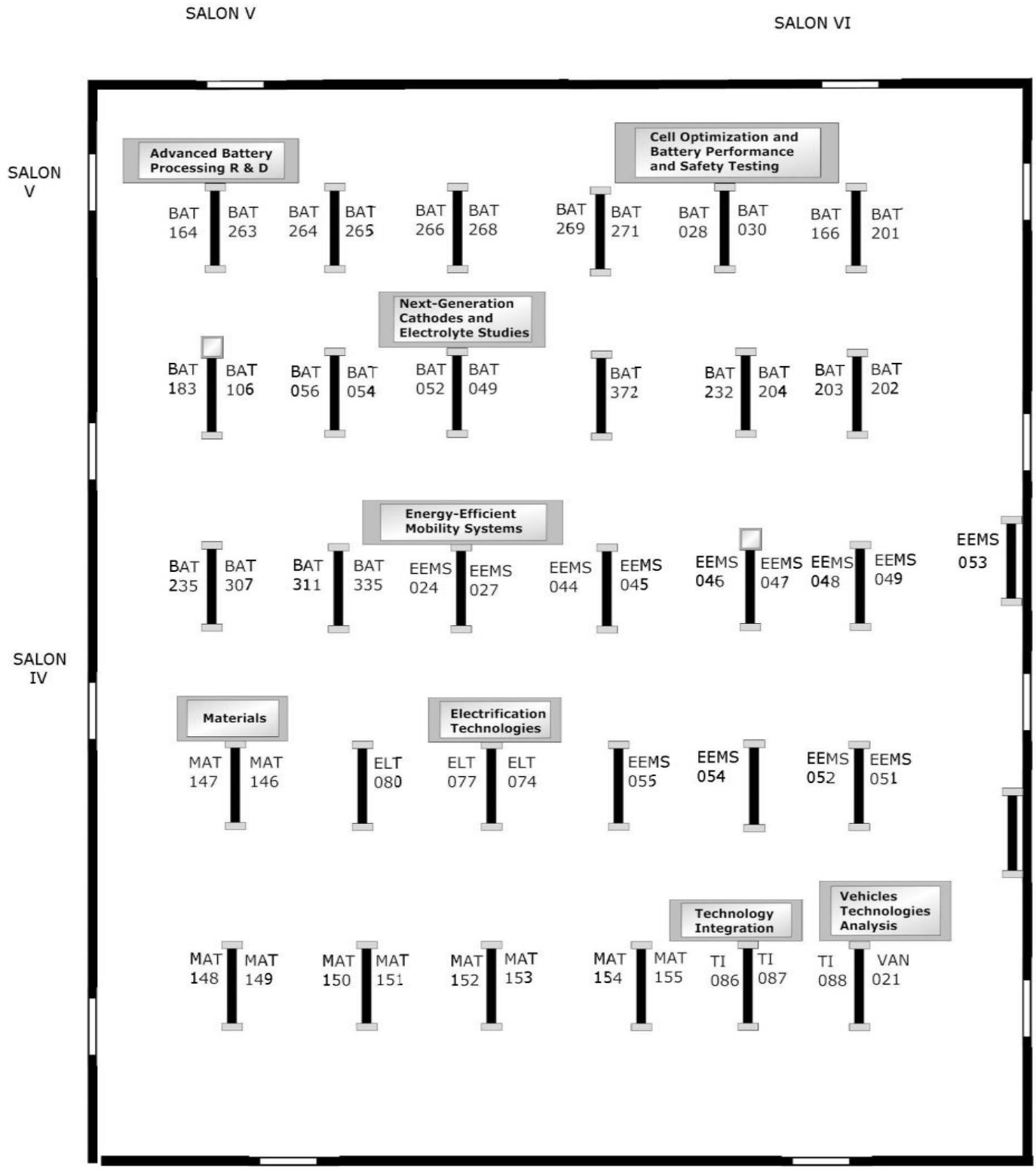
Date	SALON K	SALON CDE	SALON FGH
19-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
8:00 AM	MAT 101: Integrated Computational Materials Engineering (ICME) Development of Carbon Fiber Composites for Lightweight Vehicles--David Wagner, Ford	BAT337: Next-Generation Lithium-Ion Batteries: Electrode Architecture and Cell Materials Research Projects. Peter Faguy--DOE	EEMS020: Multi-Scenario Assessment of Optimization Opportunities due to Connectivity and Automation--Jackeline Rios-Torres, ORNL
8:30 AM	MAT117: Development and Integration of Predictive Models for Manufacturing and Structural Performance of Carbon Fiber Composites in Automotive Applications--Venkat Aitharaju, General Motors	BAT167: Process Development and Scale-Up of Advanced Active Battery Materials--Gradient Cathode Materials--Youngho Shin, ANL	EEMS016: Energy-Efficient Connected and Automated Vehicles (CAVs)--Dominik Karbowski, ANL
9:00 AM	MAT124: Integrated Computational Materials Engineering (ICME) Predictive Tools for Low-Cost Carbon Fiber for Lightweight Vehicles--Xiadong Li, University of Virginia	BAT315: Developing Flame-Spray Production-Level Process for Active Materials--Greg Krumdick, ANL	EEMS026: Expanding Regional Simulations of Connected and Automated Vehicles (CAVs) to the National Level and Assessing Uncertainties--Tom Stephens, ANL

Date	SALON K	SALON CDE	SALON FGH
19-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
9:15 AM	MAT125: Integrated Computational Materials Engineering (ICME) Predictive Tools for Low-Cost Carbon Fiber--Jeramie Adams, Western Research Institute		
9:30 AM	MAT122: Low-Cost Carbon Fiber Research Using Close Proximity Electromagnetic Carbonization (CPEC)--Felix Paulauskas, ORNL	BAT168: Process Development and Scale-Up of Critical Battery Materials--Continuous Flow Produced Materials--Krzysztof Pupek, ANL	EEMS028: Developing an Eco-Cooperative Automated Control System (Eco-CAC)--Hesham Rakha, Virginia Polytechnic Institute
10:00 AM	MAT118: Functionally Designed Ultra-Lightweight Carbon Fiber Reinforced Thermoplastic Composites Door Assembly--Sikranth Pilla, Clemson University	BAT207: Toward Solvent less Processing of Thick Electron-Beam (EB) Cured Lithium-Ion Battery Cathodes--David Wood, ORNL	EEMS029: Boosting Energy Efficiency of Heterogeneous Connected and Automated Vehicle (CAV) Fleets via Anticipative and Cooperative Vehicle Guidance-- Ardalan Vahidi, Clemson University
10:30 AM	**Break: Ballroom Foyers**		
11:00 AM	MAT119: Ultra-Light Hybrid Composite Door Design, Manufacturing, and Demonstration--Nate Gravelle, TPI	BAT253: Enabling High-Energy, High-Voltage Lithium-Ion Cells for Transportation Applications: Theory and Modeling--Hakim Iddir, ANL	EEMS030: Experimental Evaluation of Eco-Driving Strategies--Huadong Joshua Meng, LBNL
11:30 AM	MAT126: Room-Temperature Stamping of High-Strength Aluminum Alloys--Aashish Rohatgi, PNNL	BAT254: Enabling High-Energy, High-Voltage Lithium-Ion Cells for Transportation Applications: Materials Characterization--John Vaughey, ANL	EEMS031: Traffic Micro-Simulation of Energy Impacts of CAV Concepts at Various Market Penetrations--Xiao-Yun Lu, LBNL
12:00PM	MAT128: Development of Low-Cost, High-Strength Automotive Aluminum Sheet--Russell Long, Arconic	BAT252: Enabling High-Energy, High-Voltage Lithium-Ion Cells for Transportation Applications: Electrochemistry and Evaluation--Adam Tornheim, ANL	EEMS032: Evaluating Energy-Efficiency Opportunities from Connected and Automated Vehicle (CAV) Deployments Coupled with Shared Mobility in California--Matthew Barth, University of California-Riverside
12:30 PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		

Date	SALON K	SALON CDE	SALON FGH
19-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
2:00 PM	MAT127: USAMP Low-Cost Magnesium Sheet Component Development and Demonstration Project--Stephen Logan, FCA	BAT338: Extreme Fast Charging Cell Development Project Overview--Venkat Srinivasan, ANL	EEMS001: Energy Impact of Connected and Automated Vehicles (CAVs)--Huei Peng, University of Michigan
2:30 PM	MAT113: Magnesium Corrosion Characterization and Prevention--Donovan Leonard, ORNL	BAT339: Micro-/Macro-Scale Modeling for Battery Fast Charge Applications--Kandler Smith, NREL	EEMS033: Truck Cooperative Adaptive Cruise Control/Platooning Testing: Measuring Energy Savings and Aerodynamic Interactions--Xiao-Yun Lu, LBNL
3:00 PM	MAT129: Optimizing Heat-Treatment Parameters for 3rd Generation Advanced High-Strength Steel Using an Integrated Experimental Computational Framework--Xiaohua Hu, PNNL	BAT340: Macroscale Modeling for Fast Charge Applications--Dennis Dees, ANL	EEMS034: Optimization of Intra-City Freight Movement and New Delivery Methods--Amy Moore, ORNL
3:30 PM	MAT130: Enhanced Sheared Edge Stretchability of Advanced High-Strength/Ultra-High Strength Steels--Kyoo Sil Choi, PNNL	BAT371: Cell Analysis, Modeling, and Prototyping (CAMP) Facility Electrode and Cell Development for Fast Charge--Andrew Jansen, ANL	EEMS019: Smart Urban Signal Infrastructure and Control-- H. M. Abdul Aziz, ORNL
4:00 PM	MAT061: Computational Design and Development of a New, Lightweight Cast Alloy for Advanced Cylinder Heads in High-Efficiency, Light-Duty Engines--Mike Walker, General Motors	BAT341: Post-Test Characterization of Fast-Charged Batteries, Ira Bloom, ANL	EEMS035: Coupling Land-Use Models and Network-Flow Models--Paul Waddell, University of California-Berkeley
4:15 PM	MAT060: Integrated Computational Materials Engineering (ICME) Guided Development of Advanced Cast Aluminum Alloys for Automotive Engine Applications--Mei Li, Ford		
4:30 PM		BAT342: Battery Recycling Modeling--Jeff Spangenberger, ANL	

Poster Session Diagram

Tuesday, June 19 – SALONS IV - V – VI



Tuesday, June 19

Poster Presentations

TUESDAY, June 19 Poster Presentations 5:00 PM - 7:00 PM Salon IV-V-VI		
Battery R&D (BAT)		
BAT028	Materials Benchmarking Activities for Cell Analysis, Modeling, and Prototyping (CAMP) Facility	Wenquan Lu, ANL
BAT030	Cell Analysis, Modeling, and Prototyping (CAMP) Facility Research Activities	Steve Trask, ANL
BAT049	Tailoring Integrated Layered- and Spinel Electrode Structures for High-Capacity Lithium-Ion Cells	Jason Croy, ANL
BAT052	Design of High-Performance, High-Energy Cathode Materials	Marca Doeff, LBNL
BAT054	First Principles Calculations of Existing and Novel Electrode Materials	Gerbrand Ceder, LBNL
BAT056	Development of High-Energy Cathode Materials	Jason Zhang, PNNL
BAT106	High-Capacity, Multi-Lithium Oxide Cathodes and Oxygen Stability	Jagit Nanda, ORNL
BAT164	Thick, Low-Cost, High-Power Lithium-Ion Electrodes via Aqueous Processing	Jianlin Li, ORNL
BAT166	Post-Test Analysis of Lithium-Battery Materials	Ira Bloom, ANL
BAT183	In Situ Solvo-Thermal Synthesis of Novel High-Capacity Cathodes	Feng Wang, BNL
BAT201	Electrochemical Performance Testing	Ira Bloom, ANL
BAT202	Idaho National Laboratory Electrochemical Performance Testing	Matt Shirk, INL
BAT203	Battery Safety Testing	Joshua Lamb, SNL
BAT204	Battery Thermal Characterization	Matthew Keyser, NREL
BAT232	High Energy Density Electrodes via Modifications to the Inactive Components and Processing Conditions	Vincent Battaglia, LBNL
BAT235	Characterization Studies of High-Capacity Composite Electrode Structures	Jason Croy, ANL
BAT263	Electrodeposition for Low-Cost, Water-Based Electrode Manufacturing	Stuart Hellring, PPG
BAT264	Lithium-Ion Battery Anodes from Electrospun Nanoparticles/Conducting Polymer Nanofibers	Peter Pintauro, Vanderbilt University
BAT265	Ultra-Violet (UV) Curable Binder Technology to Reduce Manufacturing Cost and Improve Performance of Lithium-Ion Battery Electrodes	John Arnold, Miltec UV International
BAT266	Co-Extrusion (CoEx) for Cost Reduction of Advanced High-Energy and High-Power Battery Electrode Manufacturing	Ranjeet Rao, PARC
BAT268	Low-Cost Manufacturing of Advanced Silicon-Based Anode Materials	Henry Costantino, Group 14
BAT269	An Integrated Flame-Spray Process for Low-Cost Production of Battery Materials	Chad Xing, University of Missouri
BAT271	New Advanced Stable Electrolytes for High-Voltage Electrochemical Energy Storage	Peng Du, Silatronix
BAT307	Discovery of High-Energy Lithium-Ion Battery Materials	Wei Tong, LBNL
BAT311	Understanding and Mitigating Interfacial Reactivity between Electrode and Electrolyte	Nenad Markovic, ANL
BAT335	Development of Fluorinated Electrolytes	Zhengcheng Zhang, ANL
BAT372	Supply-Chain Analysis of Lithium-Ion Battery Material and Impact of Recycling	Ahmad Mayyas, NREL

TUESDAY, June 19 Poster Presentations 5:00 PM - 7:00 PM Salon IV-V-VI		
Energy-Efficient Mobility Systems (EEMS)		
EEMS024	Market Acceptance of Advanced Automotive Technologies (MA3T) - Mobility Choice: Analyzing the Competition, Synergy,and Adoption of Fuel and Mobility Technologies	Zhenhong Lin, ORNL
EEMS027	National Scale Multi-Modal Energy Analysis for Freight	Kevin Walkowicz, NREL
EEMS044	Estimation of Potential National Benefits of Advanced Fueling Infrastructure Deployment	Joann Zhou, ANL
EEMS045	Focused Validation of Select SMART Simulation Activities	Eric Rask, ANL
EEMS046	Understanding Connected and Automated Vehicles in Automated Mobility Districts	Matt Shirk, INL
EEMS047	An Estimation of Energy Impacts of Various Policies on Personal Travel Model in the San Francisco Bay Area	Colin Sheppard, LBNL
EEMS048	An Analysis of the Spatial Distribution and Impacts of One-Way Car-Sharing Programs on Transit Ridership and Energy Use	Tom Wenzel, LBNL
EEMS049	Vehicle Modeling & Data Analysis: Transportation Secure Data Center (TSDC), FleetDNA and FASTSim	Jeff Gonder, NREL
EEMS051	SMART Mobility Modeling for A Typical Mid-Sized City	Andrew Duvall, NREL
EEMS052	Resiliency Analysis for Automated Mobility Systems	Joanne Wendelberger, LANL
EEMS053	Infrastructure Spatial Sensing at Intersections	Stan Young, NREL
EEMS054	Infrastructure Impacts of SMART Technology: Data Analyses on Energy Use	John Beck, INL
EEMS055	Simulation Model Results for Energy and Mobility Impact of Behavioral Scenarios in POLARIS	Josh Auld, ANL
Electrification Technologies (ELT)		
ELT074	Non-Rare Earth Electric Motors	Tsarafidy Raminosoa, ORNL
ELT077	Innovative Converters and Chargers	Veda Galigekere, ORNL
ELT080	Performance and Reliability of Bonded Interfaces for High-Temperature Packaging	Paul Paret, NREL
Materials Technology (MAT)		
MAT146	LightMAT Capabilities at Ames Laboratory	Iver Anderson, Ames Laboratory
MAT147	LightMAT Capabilities at Argonne National Laboratory	John Hryn, ANL
MAT148	LightMAT Capabilities at Idaho National Laboratory	Gabriel Ilevbare, INL
MAT149	LightMAT Capabilities at Lawrence Berkeley National Laboratory	Gao Liu, LBNL
MAT150	LightMAT Capabilities at Lawrence Livermore National Laboratory	Tony Van Buren, LLNL
MAT151	LightMAT Capabilities at Los Alamos National Laboratory	Stu Maloy, LANL
MAT152	LightMAT Capabilities at National Renewable National Laboratory	Sreekant Narumanchi, NREL
MAT153	LightMAT Capabilities at Oak Ridge National Laboratory	Rich Davies, ORNL
MAT154	LightMAT Capabilities at Pacific Northwest National Laboratory	Darrell Herling, PNNL
MAT155	LightMAT Capabilities at Sandia National Laboratories	Jon Zimmerman, SNL

TUESDAY, June 19 Poster Presentations 5:00 PM - 7:00 PM Salon IV-V-VI		
Technology Integration (TI)		
TI086	Energy-Efficient Logistics in the Albany to New York City Corridor	Jose Holguin-Veras, Rensselaer Polytechnic Institute
TI087	Electric Last-Mile Project	Bert Haskell, Pecan Street Inc.
TI088	Making the Business Case for Smart, Shared, and Sustainable Mobility Services	Evan Corey, City of Seattle Department of Transportation
Vehicle Technologies Analysis (VAN)		
VAN021	Transportation Energy Evolution Modeling (TEEM) Program	Zhenhong Lin, ORNL

Wednesday, June 20

Oral Presentations

Date	SALON B	SALON A	SALON J
20-Jun	**Advanced Combustion Systems (ACS)**	**Fuel and Lubricant Technologies (FT)**	**Electrification Technologies (ELT)**
8:00 AM			ELT082: Highly Integrated Wide Bandgap Power Module for Next Generation Plug-In Vehicles--John Czubay, General Motors
8:30 AM	ACS011: Advances in High-Efficiency Gasoline Compression Ignition--Chris Kolodziej, ANL		ELT083: 650V Silicon Carbide Integrated Power Module for Automotive Inverters--Monty Hayes, Delphi Automotive Systems LLC
9:00 AM	ACS015: Stretch Efficiency for Combustion Engines: Exploiting New Combustion Regimes--Jim Szybist, ORNL		ELT090: Dual-Phase, Soft Magnetic Laminates for Low-Cost, Non-Reduced Rare-Earth Containing Electrical Machines--Zou Min, GE Global Research
9:30 AM	ACS022: Joint Development and Coordination of Emissions Control Data and Models (Cross-cut Lean Exhaust Emissions Reduction Simulations (CLEERS) Analysis and Coordination)--Josh Pihl, ORNL	FT037: Co-Optimization of Fuels and Engines (Co-Optima) -- Overview--John Farrell, NREL	ELT091: Cost-Effective 6.5% Silicon Steel Laminate for Electric Machines--Jun Cui, Iowa State University
10:00 AM	ACS023: CLEERS: After treatment Modeling and Analysis--Yong Wang, PNNL	FT051: Co-Optimization of Fuels and Engines (Co-Optima) -- Fuel Property Characterization and Prediction--Gina Fioroni, NREL	ELT092: Wound Field and Hybrid Synchronous Machines for Electric Vehicle Traction with Brushless Capacitive Rotor Field Excitation--Ian Brown, Illinois Institute of Technology
10:30 AM	**Break: Ballroom Foyers**		
11:00 AM	ACS085: Low-Temperature Emission Control to Enable Fuel-Efficient Engine Commercialization--Todd Toops, ORNL	FT052: Co-Optimization of Fuels and Engines (Co-Optima) -- Fuel Kinetics and Simulation Tool Development--Matthew McNenly, LLNL	ELT093: High-Speed Hybrid Reluctance Motor with Anisotropic Materials--Edwin Chang, General Motors
11:30 AM	ACS033: Emissions Control for Lean Gasoline Engines--Jim Parks, ORNL	FT053: Co-Optima Boosted Spark-Ignition and Multi-Mode Combustion, Part 1--Scott Sluder, ORNL	ELT094: Development and Demonstration of Medium- and Heavy-Duty Plug-In Hybrid Work Trucks--John Petras, Odyne Systems
12:00 PM	ACS118: Advanced Emission Control for High-Efficiency Engines--Yong Wang, PNNL	FT054: Co-Optima Boosted Spark-Ignition and Multi-Mode Combustion, Part 2--Chris Kolodziej, ANL	ELT095: Vehicle-to-Grid Electric School Bus Commercialization Project--Michael Boggess, Blue Bird Corp.
12:30 PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		

Date	SALON B	SALON A	SALON J
20-Jun	**Advanced Combustion Systems (ACS)**	**Fuel and Lubricant Technologies (FT)**	**Electrification Technologies (ELT)**
2:00 PM	ACS027: Next-Generation Selective Catalytic Reduction (SCR)-Dosing System Investigation--Abhijeet Karkamkar, PNNL	FT055: Co-Optima Boosted Spark-Ignition and Multi-Mode Combustion, Part 3--Scott Curran, ORNL	ELT189: Electric Truck with Range-Extending Engine (ETREE)--John Kresse, Cummins
2:30 PM	ACS119: Development and Optimization of a Multi-Functional SCR-DPF (Diesel Particulate Filter) Aftertreatment System for Heavy-Duty NOx and Soot Emission Reduction--Ken Rappe, PNNL	FT056: Co-Optima -- Mixing-Controlled and Kinetically-Controlled Compression Ignition Combustion--Charles Mueller, SNL	ELT190: Medium-Duty Urban Range Extended Connected Powertrain (MURECP)--Matthew Thorington, Bosch
3:00 PM	ACS056: Fuel-Neutral Studies of Particulate-Matter Transport Emissions--Mark Stewart, PNNL	FT057: Co-Optima -- Emissions, Emission Control, and Spray Research--Josh Pihl, ORNL	ELT191: Medium-Duty Vehicle Powertrain Electrification and Demonstration--Wiley McCoy, McLaren
3:30 PM	ACS032: Cummins-ORNL Emissions Cooperative Research and Development Agreement (CRADA): NOx Control & Measurement Technology for Heavy-Duty Diesel Engines, Self-Diagnosing SmartCatalyst Systems--Bill Partridge, ORNL	FT062: Characterization of Biomass-Based Fuels and Fuel Blends for Low-Emission, Advanced Compression Ignition Engines (Co-Optima)--Ajay Agrawal, University of Alabama	ELT115: Zero-Emission Drayage Truck Demonstration (ZECT I)--Phil Barroca, South Coast Air Quality Management District (SCAQMD)
4:00 PM	ACS120: Enabling Lean and Stoichiometric Gasoline Direct-Injection Engines through Mitigation of Nanoparticle Emissions--Will Northrup, University of Minnesota	FT063: Micro-Liter Fuel Characterization and Property Prediction (Co-Optima)--Ingmar Schoegl, Louisiana State University	ELT116: Zero-Emission Delivery Vehicle Deployment--Andrew DeCandis, Houston-Galveston Area Council
4:30 PM			ELT158: Zero-Emission Cargo Transport II: San Pedro Bay Ports Hybrid & Fuel-Cell Electric Vehicle Project--Joseph Impullitti, SCAQMD

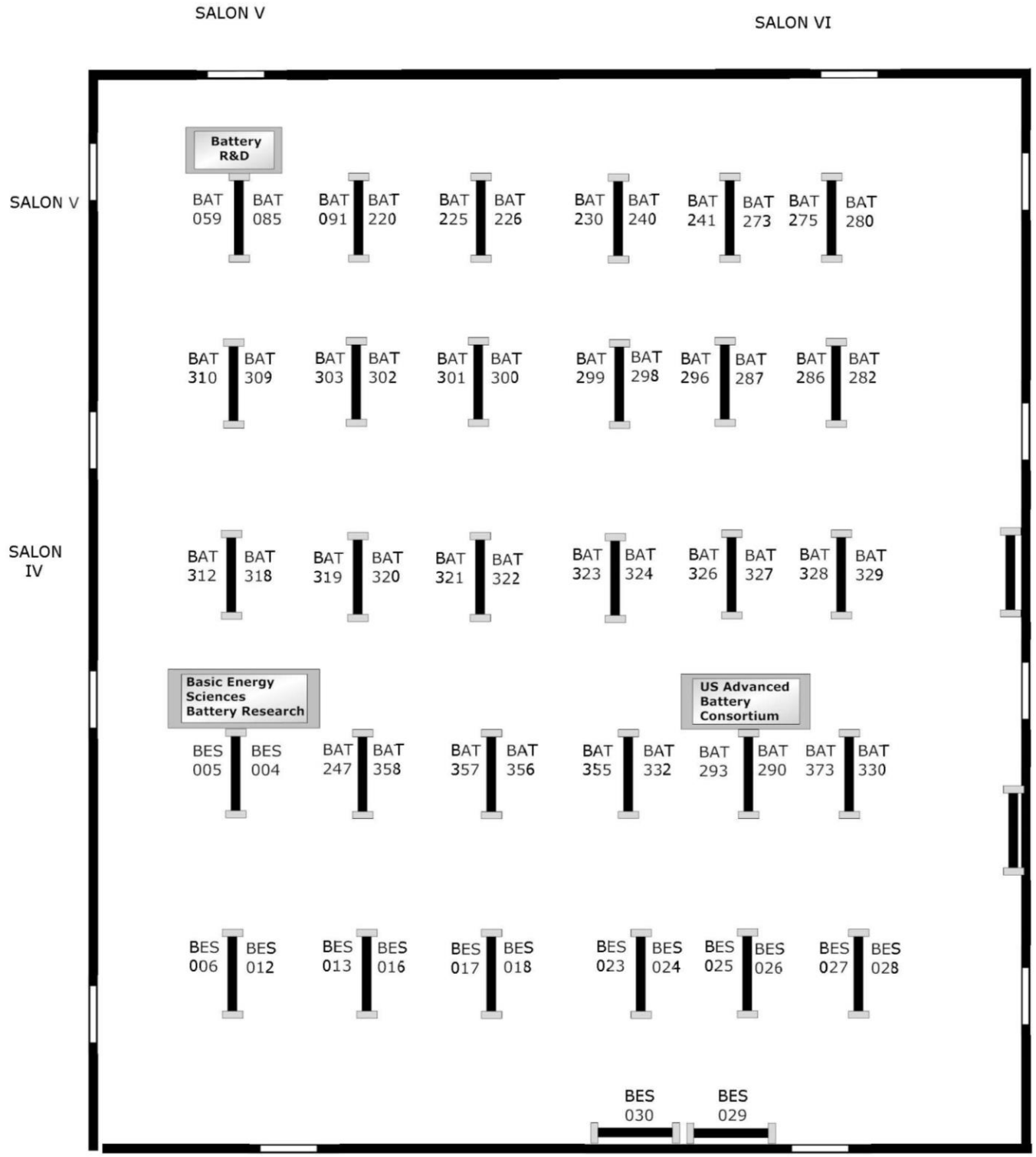
Date	SALON K	SALON CDE	SALON FGH
20-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
8:00 AM	MAT057: Applied Computational Methods for New Propulsion Materials--Charles Finney, ORNL		EEMS013: Integrated Framework to Quantify the Energy Impact of New Mobility Technologies from Individual Vehicle to Metropolitan Areas--Aymeric Rousseau, ANL
8:30 AM	MAT053: High-Temperature Engine Materials: Valve Materials Subtask--G. Muralidharan, ORNL	BAT343: Silicon and Intermetallic Anode Portfolio Strategy Overview--Brian Cunningham, DOE	EEMS041: Hardware-Focused Connected and Automated Vehicle (CAV) Research: Experimental Results and Benefit Analysis--Eric Rask, ANL

Date	SALON K	SALON CDE	SALON FGH
20-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
9:00 AM	MAT069: Lightweight High-Temperature Alloys Based on the Aluminum-Iron-Silicon System--Michelle Manuel, University of Florida	BAT344: Electrolyte Reactivity and Its Implication for Solid-Electrolyte Interface (SEI) Formation--Kristin Persson, LBNL	EEMS017: Impact of Connected and Automated Vehicle (CAV) Technologies on Travel Demand and Energy--Josh Auld, ANL
9:30 AM	MAT131: Corrosion Control in Carbon Fiber Reinforced Polymer Composite--Aluminum Closure Panel Hem Joints--Brian Okerberg, PPG	BAT345: Chemical Reactivity of Silicon at the Surface--Gabe Veith, ORNL	EEMS011: Travel Behavior Modeling in Urban Areas using Behavior, Energy, Autonomy, and Mobility (BEAM)--Colin Sheppard, LBNL
10:00 AM	MAT132: High-Strength Steel-Aluminum Components by Vaporizing Foil Actuator Welding--Glenn Daehn, Ohio State University	BAT346: Spectroelectrochemistry on Silicon Model Electrodes--Robert Kostecki, LBNL	EEMS023: Whole Traveler Survey on Life Trajectories and Mobility Decisions--Anna Spurlock, LBNL
10:30 AM	**Break: Ballroom Foyers**		
11:00 AM	MAT133: Corrosion Protection and Dissimilar Material Joining for Next-Generation Lightweight Vehicles--DJ Spinella, Arconic	BAT347: Surface Analysis of the Silicon Solid-Electrolyte Interface (SEI)--Chunmei Ban, NREL	EEMS038: Fuel Selection of Privately Owned Shared Vehicles--John Smart, INL
11:30 AM	MAT134: Assembly of Dissimilar Aluminum Alloys for Automotive Applications--Piyush Upadhyay, PNNL	BAT348: Synthesis and Stability of Lithium Silicate and Its Interaction with the Solid-Electrolyte Interface (SEI)--Chris Apblett, SNL	EEMS039: Fuel Selection for Fully Automated, Commercially Owned Taxi Fleet--Timothy Lipman, LBNL
12:00 PM	MAT135: Technology Validation of Innovative Dissimilar Materials Joining Method in Automotive Production Environment--Zhili Feng, ORNL	BAT349: Research Facilities Support--Kyle Fenton, SNL	EEMS040: Fuel Selection in Automated Mobility Districts/Dynamic Wireless Power Transfer Feasibility--Omer Onar, ORNL
12:30 PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		
2:00 PM	MAT145: Joining Core Program Overview--Richard Davies, ORNL	BAT350: Electrode Characterization and Analysis--Steve Trask, ANL	EEMS037: High-Performance Computing (HPC) and Big Data Solutions for Mobility Design and Planning--Jane Macfarlane, LBNL
2:15 PM	MAT136: High-Performance Computing (HPC) and High-Throughput Characterizations towards Interfaces-by-Design for Dissimilar Materials Joining--Xin Sun, ORNL		

Date	SALON K	SALON CDE	SALON FGH
20-Jun	**Materials Technology (MAT)**	**Battery R&D (BAT)**	**Energy-Efficient Mobility Systems (EEMS)**
2:30 PM	MAT137: Adhesive Bonding of Carbon-Reinforced Plastic to Advanced High-Strength Steel--Amit Naskar, ORNL	BAT351: Active Particle Studies--Baris Key, ANL	EEMS036: Reinforcement Learning-Based Traffic Control to Optimize Energy Usage and Throughput--Tom Karnowski, ORNL
2:45 PM	MAT138: Solid-State Joining of Magnesium Sheet to High-Strength Steel--Piyush Upadhyay, PNNL		EEMS042: High-Performance Computing (HPC) Enabled Computation of Demand Models at Scale to Predict the Energy Impacts of Emerging Mobility Solutions--Jane Macfarlane, LBNL
3:00 PM	MAT139: Joining Magnesium Alloys to Carbon-Fiber Reinforced Polymers--Darrell Herling, PNNL	BAT352: Active Materials Advancements--Zhengcheng (John) Zhang, ANL	EEMS009: Modeling and Simulation of Automated Mobility Districts--Venu Garikapati, NREL
3:15 PM	MAT140: LightMAT & DataHUB Overview--Darrell Herling, PNNL		
3:30 PM	MAT142: Metal Matrix Composite Brakes Using Titanium Diboride--Glenn Grant, PNNL	BAT353: Crucial Supporting Materials Advancements--Gao Liu, LBNL	EEMS043: Mobility Behavioral Responses to Transportation Network Company Services--Alejandro Henao, NREL
3:45 PM	MAT143: Mitigating Corrosion in Magnesium Sheet in Conjunction with a Sheet-Joining Method that Satisifies Structural Requirements within Subassemblies--Aashish Rohatgi, PNNL		
4:00 PM	MAT144: Reducing Mass of Steel Auto Bodies Using Thin Advanced High-Strength Steel with Carbon Fiber Reinforced Epoxy Coating, David Warren, ORNL	**Panel (4:00-4:30 PM):** Intermetallic Anodes	EEMS007: Mobility Data and Models Informing Smart Cities--Joshua Sperling, NREL
4:15 PM			
4:30 PM			

Poster Session Diagram

Wednesday, June 20 – SALONS IV - V – VI



Wednesday, June 20

Poster Presentations

WEDNESDAY, June 20 Poster Presentations 5:00 PM - 7:00 PM Salon IV-V-VI		
Battery R&D (BAT)		
BAT059	Advanced In Situ Diagnostic Techniques for Battery Materials	Xiao-Qing Yang, BNL
BAT085	Interfacial Processes -- Diagnostics	Robert Kostecki, LBNL
BAT091	Predicting and Understanding Novel Electrode Materials from First Principles	Kristin Persson, LBNL
BAT220	Addressing Heterogeneity in Electrode Fabrication Processes	Brian Mazzeo, Brigham Young University
BAT225	Model System Diagnostics for High-Energy Cathode Development	Guoying Chen, LBNL
BAT226	Microscopy Investigation of the Fading Mechanism of Electrode Materials	Chongmin Wang, PNNL
BAT230	Nanostructed Design of Sulfur Cathode for High Energy Lithium-Sulfur Batteries	Yi Cui, Stanford University
BAT240	High-Energy Anode Material Development for Lithium-Ion Batteries	Cary Hayner, Sinode Systems
BAT241	Advanced High-Performance Batteries for Electric Vehicle (EV) Applications	Ionel Stefan, Amprius
BAT247	High-Energy Lithium Batteries for Electric Vehicles (EV)	Herman Lopez, Zenlabs
BAT273	Composite Electrolyte to Stabilize Metallic Lithium Anodes	Nancy Dudney, ORNL
BAT275	Lithium Dendrite Prevention for Lithium Batteries	Wu Xu, PNNL
BAT280	Novel Chemistry: Lithium-Selenium and Selenium-Sulfur Couple	Khalil Amine, ANL
BAT282	Development of High-Energy Lithium-Sulfur Batteries	Dongping Lu, PNNL
BAT286	Lithium-Air Batteries	Khalil Amine, ANL
BAT287	Exploratory Studies of Novel Sodium-Ion Battery Systems	Xiao-Qing Yang, BNL
BAT290	Hybrid Electrolytes for Plug-In Hybrid Vehicle Applications	Luigi Abbate, NOHMs Technologies
BAT293	A Closed-Loop Process for End-of-Life Electric Vehicle Lithium-Ion Batteries	Yan Wang, Worcester Polytechnic Institute
BAT296	Development and Validation of a Simulation Tool to Predict the Combined Structural, Electrical, Electrochemical, and Thermal Responses of Automotive Batteries	Chulheung Bae, Ford
BAT298	Efficient Simulation and Abuse Modeling of Mechanical-Electrochemical-Thermal Phenomena in Lithium-Ion Batteries	Shriram Santhanagopalan, NREL
BAT299	Microstructure Characterization and Modeling for Improved Electrode Design	Kandler Smith, NREL
BAT300	Enhancement and Deployment of VIBE, the Open Architecture Software (OAS) Environment	Srikanth Allu, ORNL
BAT301	Experiments and Models for the Mechanical Behavior of Battery Materials	Sergiy Kalnaus, ORNL
BAT302	Microstructure Imaging and Electrolyte Transport Property Measurements for Mathematical Modeling	Venkat Srinivasan, ANL
BAT303	Exploring How Electrode Structure Affects Electrode-Scale Properties Using 3-D Mesoscale Simulations	Scott Roberts, SNL
BAT310	Advancing Solid-State Interfaces in Lithium-Ion Batteries	Nenad Markovic, ANL

WEDNESDAY, JUNE 20 Poster Presentations 5:00 PM- 7:00 PM Salon IV-V-VI		
BAT312	Advanced Lithium-Ion Battery Technology: High-Voltage Electrolyte	Joe Sunstrom, Daikin
BAT319	Advanced Microscopy and Spectroscopy for Probing and Optimizing Electrode-Electrolyte	Minghao Zhang, University of California-San Diego
BAT320	Multi-Functional, Self-Healing Polyelectrolyte Gels for Long-Cycle Life, High-Capacity Sulfur Cathodes in Lithium-Sulfur Batteries	Jihui Yang, University of Washington
BAT321	Solid-State Inorganic Nanofiber Network Polymer Composite Electrolytes for Lithium Batteries	Nianqiang Wu, West Virginia University
BAT322	High Conductivity and Flexible Hybrid Solid-State Electrolyte	Eric Wachsman, University of Maryland
BAT323	Self-Forming Thin Interphases and Electrodes Enabling 3-D Structured High Energy Density Batteries	Glenn Amatucci, Rutgers University
BAT324	Dual Function Solid-State Battery with Self-Forming, Self-Healing Electrolyte and Separator	Esther Takeuchi, Stony Brook University
BAT326	Self-Assembling and Self-Healing Rechargeable Lithium Batteries	Yet-Ming Chiang, MIT
BAT327	Engineering Approaches to Dendrite-Free Lithium Anodes	Prashant Kumta, University of Pittsburgh
BAT328	Dendrite-Growth Morphology Modeling in Liquid and Solid Electrolytes	Yue Qi, Michigan State University
BAT329	Understanding and Strategies for Controlled Interfacial Phenomena in Lithium-Ion Batteries and Beyond	Perla Balbuena, Texas A&M University
BAT330	Electrochemically Responsive, Self-Formed, Lithium-Ion Conductors for High-Performance Lithium-Metal Anodes	Donghai Wang, Pennsylvania State University
BAT332	High Electrode Loading Electric Vehicle Cell	William Woodford, 24M Technologies
BAT355	Development of High-Performance Lithium-Ion Cell Technology for Electric Vehicle Applications	Madhuri Thakur, Farasis Energy
BAT356	Lithium-Ion Cell Manufacturing Using Directly Recycled Active Materials	Mike Slater, Farasis Energy
BAT357	Thicker Cathode Coatings for Lithium-Ion Electric Vehicle Batteries	Stuart Hellring, PPG Industries
BAT358	Advanced Separators for Vehicle Lithium Battery Applications	Junqing Ma, Celgard
BAT373	First Principles Modeling and Design of Solid-State Interfaces for the Protection and Use of Lithium-Metal Anodes	Howard Qingsong Tu, University of California-Berkeley
Basic Energy Sciences (BES) Battery Research		
BES004	Science of Precision Multifunctional Nanostructures for Electrical Energy Storage	Gary Rubloff, University of Maryland
BES005	Northeastern Chemical Energy Storage Center (NOCESC)	M. Stanley Whittingham, Binghamton University
BES006	Center for Mesoscale Transport Properties (m2M)	Esther Takeuchi, Stony Brook University
BES012	Transition Metal Oxides Spinel Nanomaterials for Supercapacitor Reactions	Xiaowei Teng, University of New Hampshire

WEDNESDAY, JUNE 20 Poster Presentations 5:00 PM- 7:00 PM Salon IV-V-VI		
BES013	Materials and Interfacial Chemistry for Next-Generation Electrical Energy Storage	Sheng Dai, ORNL
BES016	Designing Efficient Nanostructured Polymer Electrolytes Using Tapered Block Polymers -- Joint Experiment and Theory Effort in Controlled Interface Design	Thomas Epps, University of Delaware
BES017	Using Nanoporous Materials to Understand Kinetic Constraints in Pseudocapacitive Energy Storage	Terri Lin, University of California-Los Angeles
BES018	The Nature of Charge Storage in Nitroxide Radical Polymers	Jodie Lutkenhaus, Texas A&M University
BES023	Joint Center for Energy Storage Research (JCESR)	George Crabtree, ANL
BES024	Electrochemically Driven Phase Transitions in Battery Storage Compounds	Ming Tang, Rice University
BES025	Nanoscale X-Ray Imaging and Dynamics of Electronic Magnetic Materials	Oleg Shpyrko, University of California-San Diego
BES026	Novel Materials for Renewable Energy	Hongjie Dai, Stanford University
BES027	High-Rate Sodium Storage Mechanisms in Non-Graphitic Carbons	David Mitlin, Clarkson University
BES028	In Situ Studies of Solid Electrolyte Interphase on Nanostructured Materials	Nancy Dudney, ORNL
BES029	Center for Electrical Energy Storage: Tailored Interfaces	Paul Fenter, ANL
BES030	Fluid Interface Reactions, Structures, and Transport (FIRST) Center	Sheng Dai, ORNL

Thursday, June 21

Oral Presentations

Date	SALON B	SALON A	SALON J
21-Jun	**Advanced Combustion Systems (ACS)**	**Fuel & Lubricant Technologies (FT)**	**Electrification Technologies (ELT)**
8:00 AM		FT064: The Development of Yield-Based Sooting Tendency Measurements and Modeling to Enable Advanced Combustion Fuels (Co-Optima)--Charles McEnally, Yale University	
8:30 AM	ACS123: Temperature-Following Thermal Barrier Coatings for High-Efficiency Engines--Peter Andruskiewicz, General Motors	FT065: Dynamic Species Reduction for Multi-Cycle Computational Fluid Dynamics (CFD) Simulations (Co-Optima)--George Lavoie, University of Michigan	ELT193: Grid Modernization Laboratory Consortium: Vehicle-to-Grid Integration Pathway (GM0062)--Rick Pratt, PNNL
9:00 AM	ACS122: Solenoid Actuated Cylinder Deactivation Valvetrain for Dynamic Skip Fire--Hermes Fernandez, Delphi Automotive Systems	FT066: Reduced Petroleum Use Through Easily Reformed Fuels and Dedicated Exhaust Gas Recirculation--Tom Briggs, Southwest Research Institute	ELT194: Grid Modernization Laboratory Consortium: Systems Research for Standards and Interoperability (GM0085)--Don Scoffield, INL
9:30 AM	ACS093: Lean Miller Cycle System Development for Light-Duty Vehicles--Paul Battison, General Motors		ELT195: PEV Grid Services--Mike Duoba, ANL
10:00 AM	ACS121: A High Specific Output Gasoline Low-Temperature Combustion Engine--Hanho Yun, General Motors		ELT187: Comprehensive Assessment of On- and Off-Board, Vehicle-to-Grid Technology Performance and Impacts on Batteries and the Grid--Sunil Chhaya, EPRI
10:30 AM	**Break: Ballroom Foyers**		
11:00 AM	ACS116: Advanced Non-Tread Materials for Fuel-Efficient Tires--Lucas Dos Santos Freire, PPG Industries		ELT188: Bi-Directional Wireless Power Flow for Medium-Duty Vehicle-to-Grid Connectivity--Steven Sokolsky, CALSTART
11:30 AM	ACS100: Improving Transportation Efficiency through Integrated Vehicle, Engine, and Powertrain Research - SuperTruck II--Justin Yee, Daimler Trucks North America		ELT196: Grid Modernization Laboratory Consortium: Diagnostic Security Modules for Electric Vehicle-to-Building Integration (163)--Kenneth Rohde, INL
12:00 PM	ACS101: Volvo SuperTruck II: Pathway to Cost-Effective Commercialized Freight Efficiency--Pascal Amar, Volvo Trucks North America		
12:30 PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		

Date	SALON B	SALON A	SALON J
21-Jun	**Advanced Combustion Systems (ACS)**		**Electrification Technologies (ELT)**
2:00 PM	ACS102: Cummins-Peterbilt SuperTruck II--Michael Ruth, Cummins-Peterbilt		**Panel (2:00-4:00 PM):** High Power Charging
2:30 PM	ACS103: Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer SuperTruck--Russ Zukouski, Navistar		
3:00 PM	ACS124: SuperTruck II - PACCAR--Carl Hergart, PACCAR		
3:30 PM			
4:00 PM			
4:30 PM			

Date		SALON CDE	SALON H
21-Jun		**Battery R&D (BAT)**	**Vehicle Technologies Analysis (VAN)**
8:00 AM		BAT317: Progress and Status of Battery500 Program--Jun Liu, PNNL	
8:30 AM		BAT359: Status and Challenges of Electrode Materials for High Energy Cells--Stanley Whittingham, Binghamton University	VAN000: Overview of VTO Analysis Program--Rachael Nealer, DOE
9:00 AM		BAT360: Overview and Synthesis of High-Nickel Nickel Manganese Cobalt Oxide (NMC) Cathodes--Arumugam Manthiram, University of Texas-Austin	VAN026: Modeling Framework and Results to Inform Charging Infrastructure Investments--Eric Wood, NREL
9:30 AM		BAT361: Lithium-Sulfur Batteries: From Materials Understanding to Device Integration--Yi Cui, Stanford University/SLAC	VAN018: VTO Program Benefits Analysis--Tom Stephens, ANL
10:00 AM		BAT362: Lithium-Metal Anodes: Problems and Multiple Solutions Based on Hosts, Interphase, and Electrolytes--Jun Liu, PNNL	VAN028: Electric Vehicle--Grid Analysis Benefits--Anand Gopal, LBNL
10:30 am		**Break: Ballroom Foyers**	

Date		SALON CDE	SALON H
21-Jun		**Battery R&D (BAT)**	**Vehicle Technologies Analysis (VAN)**
11:00 AM		BAT363: Understanding Performance Limitations in Thick Electrodes--Ping Liu, University of California-San Diego	VAN017: ANL VTO Analysis Modeling Program--Michael Wang, ANL
11:30 AM		BAT364: Coatings for Cathode and Separator--Jihui Yang, University of Washington	VAN023: Assessing the Energy and Cost Impact of Advanced Technologies through Model-Based Design--Aymeric Rousseau, ANL
12:00 PM		BAT365: Stabilizing Lithium-Metal Anode by Interfacial Layer--Zhenan Bao, Stanford University/SLAC	VAN016: Transportation Data Program: A Multi-Laboratory Coordinated Project--Stacy Davis, ORNL
12:30 PM	**Lunch: 12:30-2:00 PM Salons I-II-III**		
2:00 PM		BAT366: Advanced Imaging and Spectroscopic Study of Electrochemically Deposited Lithium Metal--Shirley Meng, University of California-San Diego	
2:30 PM		BAT367: Integrated Characterization Studies of Battery500 Consortium--Xiao-Qing Yang, BNL	
3:00 PM		BAT368: Battery500 Integrated Cell Diagnostics and Modeling to Identify Critical Gaps in Achieving High Cycle Life--Eric Dufek, INL	
3:30 PM		BAT369: High Energy Rechargeable Lithium-Metal Cells: Fabrication and Integration--Jie Xiao, PNNL	
4:00 PM		BAT370: Advanced Diagnostics of Nickel-Rich, Layered-Oxide Secondary Particles--William C. Chueh, Stanford University/SLAC	