2015 DOE HYDROGEN and FUEL CELLS PROGRAM and VEHICLE TECHNOLOGIES OFFICE ANNUAL MERIT REVIEW and PEER EVALUATION MEETING OVERALL SCHEDULE

Monday June 8 - Crystal Gateway Marriott Hotel

1:00 PM **Keynote Address (Salons III&IV)**

3:00 PM **Break**

Hydrogen and Fuel Cells Program Overviews and Vehicle Technologies Office Overviews

	Vehicle Technologies Office	Hydrogen and Fuel Cells Program
	Salon III	**Salon IV**
3:30 PM	Vehicle & Systems Simulation	Production and Delivery Overview
4:00 PM	Vehicle Technologies Analysis	Hydrogen Storage Overview
4:30 PM	Advanced Combustion Engines	Fuel Cells Overview
5:00 PM	Electrochemical Storage	Manufacturing R&D Overview

5:30 PM **Break**

5:45 PM **Reviewer Orientation (Salon IV)**

6:00 PM **Poster Session I:** Hydrogen Fuel Cells

Schedule as of: 4-Jun-15

Crystal Gateway Marriott Hotel

Salon	Tuesday June 9 A	I&II	C	H	K&J	B	Wednesday June 10 A	I&II	C	H	K&J	B	Thursday June 11 A	I&II	C	H	K&J	B	Friday June 12 G&F	H	J	K
7:15 AM	Continental Breakfast						Continental Breakfast						Continental Breakfast									
8:00 AM	**I&II, 8:30-10:30**			**K&J, 8:30-10:30**									LM		VSS	VAN			LM			
8:30 AM	Tech. Integration			Sys. Analysis			EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC		LM			
9:00 AM	Fuel & Lub. Tech			Safety, C&S			EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD	LM			
9:30 AM	Materials			Tech. Validation			EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD	LM			
10:00 AM	Elec. Drive Tech.			Market Trans.			EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD	LM			
10:30 AM	Break						Break						Break						Break			
11:00 AM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD	LM			
11:30 AM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD	LM			
12:00 PM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS	VAN	FC	PD				
12:30 PM	**Lunch (Salons III&IV)**						**Lunch (Salons III&IV)**						**Lunch (Salons III&IV)**									
	Sarah Studer, DOE: Presentation on H-Prize						David Ollett, NETL: Presentation on Contracts & Active Proj. Mgmt.						2014 AMR Brainstorming Session Summary followed by 2015 AMR Brainstorming Session									
	Sunita Satyapal, DOE: Hydrogen and Fuel Cell Technologies Program Awards Presentations						Steve Goguen, DOE: Vehicle Technologies Program Awards Presentations															
1:45 PM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS		MN	PD				
2:15 PM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS		MN	PD				
2:45 PM	EDT	ES	VSS	ST	FC	SCS	EDT	ES	VSS	ST	FC	PD	LM	ES	VSS		MN	PD				
3:15 PM	EDT	ES	VSS	ST	FC	SCS	LM	ES	VSS	ST	FC		LM	ES	VSS		MN	PD				
3:45 PM	Break						Break						Break									
4:15 PM	EDT	ES	VSS	ST	FC	SCS	LM	ES	VSS	BES			LM	ES	VSS			PD				
4:45 PM	EDT	ES	VSS	ST	FC	SCS	LM	ES	VSS	BES			LM	ES	VSS			PD				
5:15 PM	EDT	ES	VSS	ST	FC		LM	ES	VSS	BES			LM	ES	VSS			PD				
5:45 PM	EDT		VSS				LM		VSS													

H_2 & FC Program
- PD: Production & Delivery
- ST: Hydrogen Storage
- FC: Fuel Cells
- MN: Manufacturing
- TV: Technology Validation
- SCS: Safety, Codes, & Stand.
- MT: Market Transformation
- SA: Systems Analysis
- H2RA: Recovery Act

6:30 PM – 8:30 PM

POSTER SESSION II: Vehicle and Systems Simulation; Electrochemical Storage; Hydrogen Production and Delivery; Safety, Codes & Standards; and Electric Drive Technologies

POSTER SESSION III: Electrochemical Storage and Hydrogen Storage

POSTER SESSION IV: Vehicle Technologies Analysis; Technology Validation; and Market Transformation

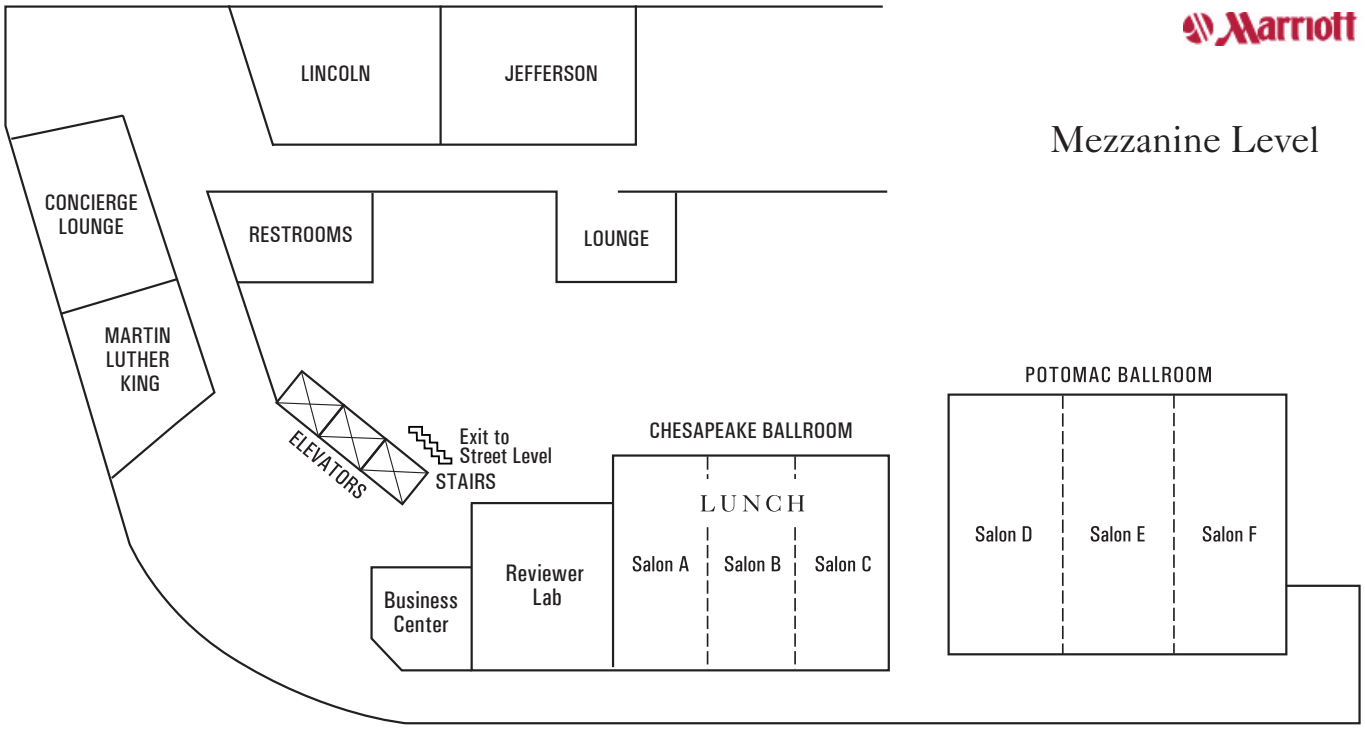
VT Programs
- ACE: Advanced Combustion
- ES: Energy Storage Techs.
- EDT: Electric Drive Techs.
- FT: Fuel & Lubricant Techs.
- PM: Propulsion Materials
- LM: Lightweight Materials
- TI: Technology Integration
- VSS: Veh. & Sys. Simulation
- VAN: Vehicle Analysis

Crystal City Marriott Hotel

Salon	Tuesday June 9 D	E	F	Wednesday June 10 D	E	F	Thursday June 11 D	E	F	Friday June 12 D	E	F
7:15 AM	Continental Breakfast in Gateway			Continental Breakfast			Continental Breakfast			Continental Breakfast		
8:30 AM	Technical Overviews in the Crystal Gateway Marriott Hotel			PM	ACE	MT	FT	ACE	SCS		ACE	
9:00 AM				PM	ACE	MT	FT	ACE	TV		ACE	
9:30 AM				PM	ACE	MT	FT	ACE	PD		ACE	
10:00 AM				PM	ACE	MT	FT	ACE	SCS		ACE	
10:30 AM	Break in Gateway			Break			Break			Break		
11:00 AM	TI	ACE	SA	PM	ACE		FT	ACE	PD		ACE	
11:30 AM	TI	ACE	SA	PM	ACE		FT	ACE	SA		ACE	
12:00 PM	TI	ACE	SA	PM	ACE		FT	ACE	SA		ACE	
12:30 PM	Lunch*			Lunch*			Lunch*					
1:45 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	SA			
2:15 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	SA			
2:45 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	SA			
3:15 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	TV			
3:45 PM	Break			Break			Break					
4:15 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	TV			
4:45 PM	TI	ACE	SA	PM	ACE	TV	FT	ACE	TV			
5:15 PM		ACE		PM	ACE		FT	ACE	TV			
5:45 PM												

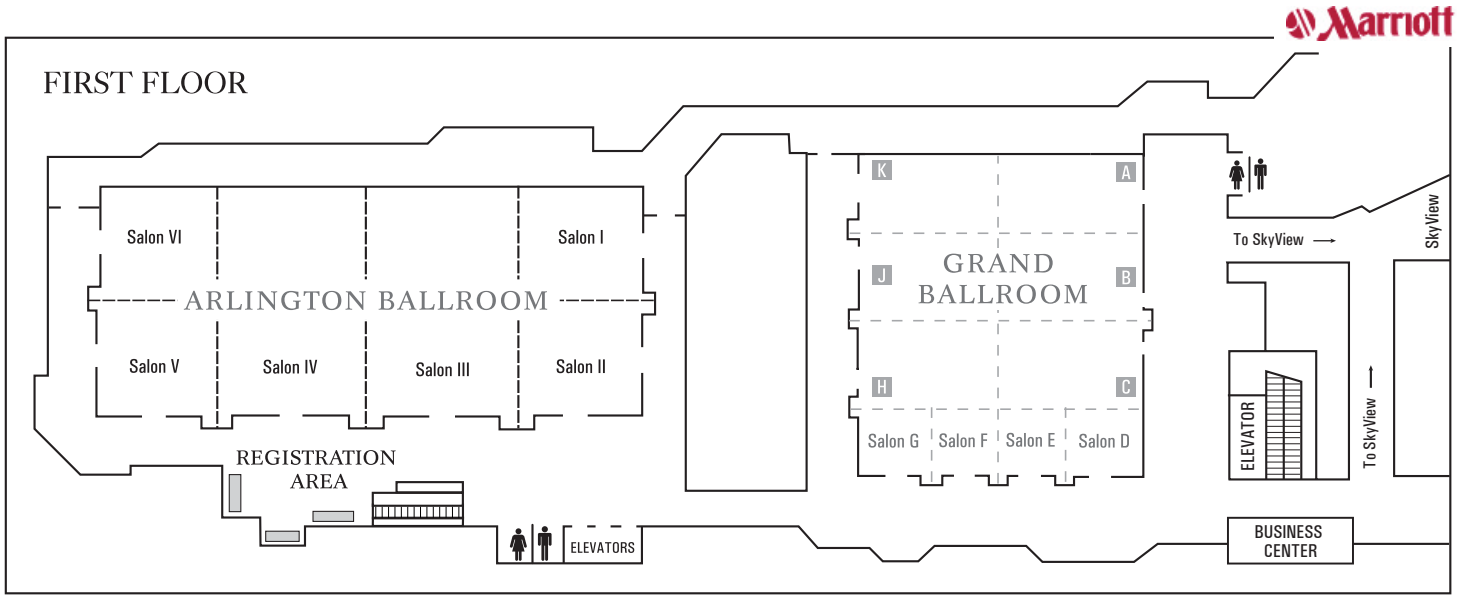
Save the date: the 2016 AMR will be June 6-10

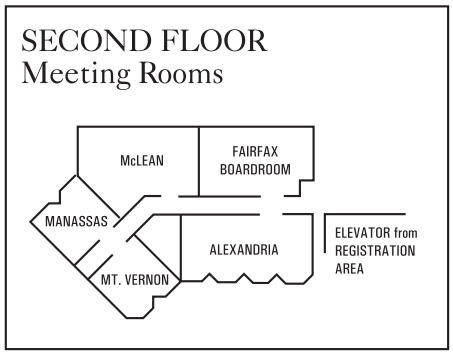
*Awards ceremonies and lunch speakers will take place in the Crystal Gateway Marriott Hotel

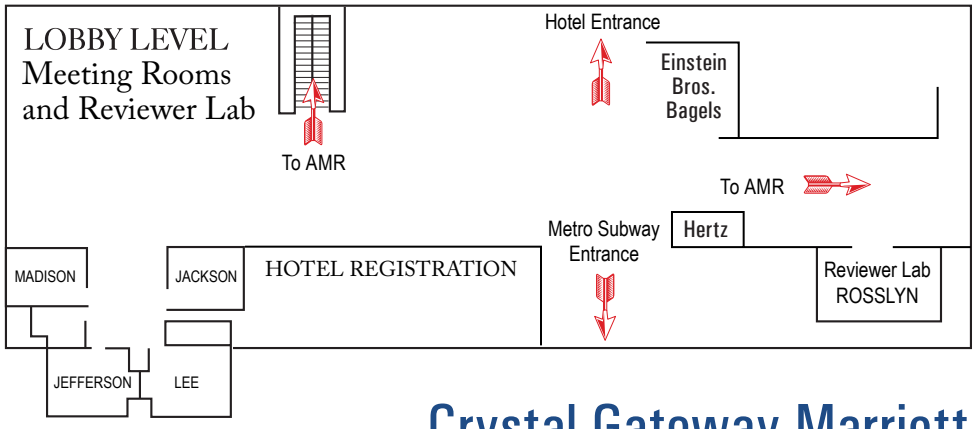


Mezzanine Level

Crystal City Marriott







Crystal Gateway Marriott

2015 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Monday, June 8 - Poster Presentations

Crystal Gateway Hotel, 6:00-8:00 PM

Hydrogen Fuel Cells
FC049; David Harvey, Ballard: Open-Source Performance and Durability Model: Consideration of Membrane Properties on Cathode Degradation
FC052; Tommy Rockward, LANL: Technical Assistance to Developers
FC081; Jennifer Kurtz, NREL: Fuel Cell Technology Status: Degradation
FC117; Hui Xu, Giner, Inc.: Ionomer Dispersion Impact on PEM Fuel Cell and Electrolyzer Durability
FC118; D.J. Liu, ANL: Novel Non-PGM Catalysts from Rationally Designed 3-D Precursors
FC119; Hector Colon-Mercado, SRNL: PGM Free Catalysts for PEMFC
FC120; Yong Wang, PNNL: High Performance and Durable Low PGM Cathode Catalysts
FC121; David Cullen, ORNL: Magnetic Annealing of Pt-Alloy Nanostructured Thin Film Catalysts for Enhanded Activity
FC122; Tom Zawodzinski, ORNL: High Conductivity Durable Anion Conducting Membranes
FC123; Yu Seung Kim, LANL: Advanced Hydroxide Conducting Membranes
FC124; Cy Fujimoto, SNL: High Temperature and Low Humidity Membranes
FC125; Mahlon Wilson, LANL: Engineered Low-Pt Catalyst Layers
FC126; Stoyan Bliznakov, BNL: Semi-Automated MEA Fabrication with Ultra-Low Total PGM Loadings
FC128; Emory DeCastro, Advent Technologies, Inc.: Facilitated Direct Liquid Fuel Cells with High Temperature Membrane Electrode Assemblies
FC129; Hui Xu, Giner, Inc.: Advanced Catalysts and MEAs for Reversible Alkaline Membrane Fuel Cells
FC130; Alexey Serov, University of New Mexico: Development of non-PGM Catalysts for Hydrogen Oxidation Reaction in Alkaline Media
FC131; Yushan Yan, University of Delaware: Highly Stable Anion-Exchange Membranes for High-Voltage Redox-Flow Batteries
FC132; Sanjeev Mukerjee, Northeastern University: Innovative Non PGM Catalysts for CHP Relevant Proton Exchange Membrane Fuel Cells
FC133; Nemanja Danilovic, Proton Energy Systems: Non-Platinum Group Metal OER/ORR Catalysts for Alkaline Membrane Fuel Cells and Electrolyzers
FC134; Paul Matter, pH Matter, LLC: Non-Precious Metal Bi-Functional Catalysts
ARPAE02; Meilin Liu, Georgia Tech: A Novel Intermediate-Temperature Fuel Cell Tailored for Efficient Utilization of Methane
ARPAE03; Gabriel Iftime, PARC: Medium-Temperature Oxygen-Conducting Fuel Cell Based on a Novel Membrane Structure
ARPAE04; Alex Papandrew, ORNL: Nanocomposite Electrodes for a Solid Acid Fuel Cell Stack Operating on Reformate
ARPAE05; Bryan Blackburn, Redox Power Systems: Low Temperature Solid Oxide Fuel Cells for Transformational Energy Conversion
ARPAE07; Masaru Tscuchiya, SiEnergy: Direct Hydrocarbon Fuel Cell - Battery Hybrid Electrochemical System
ARPAE08; Yunfeng Lu, UCLA: Fuel Cells with Dynamic Response Capability Based on Energy Storage Electrodes with Catalytic Function
ARPAE09; Cuijuan Zhang, University of South Carolina: A Novel Intermediate-temperature Bifunctional Ceramic Fuel Cell Energy System
ARPAE10; Dave Tew, UTRC: Development of an Intermediate Temperature Metal Supported Proton Conducting Solid Oxide Fuel Cell Stack
ARPAE11; Ted Krause, ANL: Intermediate Temperature Hybrid Fuel Cell System for the Conversion of Natural to Electricity and Liquid Fuels
ARPAE12; Carl Willman, FuelCell Energy: Dual Mode Intermediate Temperature Fuel Cell: Liquid Fuels and Electricity
ARPAE14; Elango Elangovan, Ceramatec: Intermediate Temperature Proton Conducting Fuel Cells for Transportation Applications
ARPAE15; Chinbay Fan, GTI: Methane to Methanol Fuel: A Low Temperature Process

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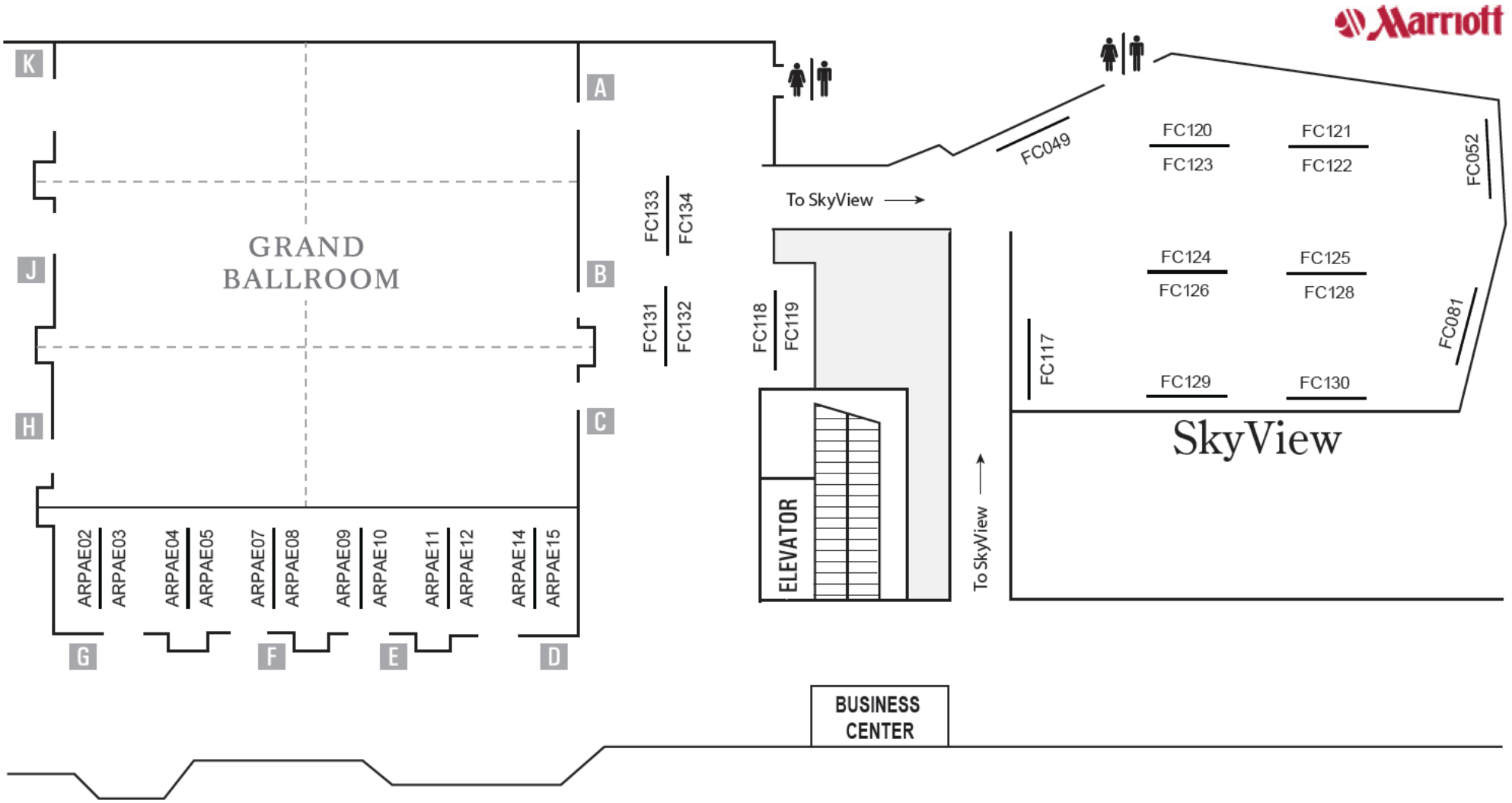

POSTER MAP

Monday, June 8

Crystal Gateway Marriott

2015 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Tuesday, June 9 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salon A**	**Salons I&II**	**Salon C**
11:00 AM	EDT032; Christopher Whaling, Synthesis Partners: North American Electric Traction Drive Supply Chain Analysis: Focus on Motors	ES228; Shabbir Ahmed, ANL: BatPaC Model Development	VSS143; Mike Duoba, ANL: Advanced Vehicle Test Procedure Development: Hybrid System Power Rating
11:30 AM	EDT006; Tim Burress, ORNL: Benchmarking EV and HEV Technologies	ES111; Kevin Gallagher, ANL: PHEV and EV Battery Performance and Cost Assessment	VSS096; Barney Carlson, INL: Wireless & Conductive Charging Testing to support Code & Standards
12:00 PM	EDT015; Iver Anderson, Ames: Development of Radically Enhanced alnico Magnets (DREaM) for Traction Drive Motors	ES229; Linda Gaines, ANL: Lithium-Ion Battery Production and Recycling Materials Issues	VSS144; Perry Jones, ORNL: Green Racing Protocols & Technology Applications
12:30 PM LUNCH	**Sarah Studer, DOE: Presentation on H-Prize** **Sunita Satyapal, DOE: Hydrogen and Fuel Cell Technologies Program Awards Presentations**		
1:45 PM	EDT044; Josh Ley, UQM Technologies, Inc.: Unique Lanthide-Free Motor Construction	ES108; Tien Duong, DOE: Overview and Progress of the Advanced Battery Materials Research (BMR) Program	VSS029; Jeremy Diez, Intertek: Advanced Vehicle Testing & Evaluation
2:15 PM	EDT045; Ayman El-Refaie, General Electric Global: Alternative High-Performance Motors with Non-Rare Earth Materials	ES218; John Zhang, ANL: Fluorinated Electrolyte for 5-V Li-Ion Chemistry	VSS021; Matthew Shirk, INL: Idaho National Laboratory Testing of Advanced Technology Vehicles
2:45 PM	EDT065; Dan Ludois, U of Wisconsin-Madison: Brushless and Permanent Magnet Free Wound Field Synchronous Motors for EV Traction	ES217; Joe Sunstrom, Daikin America: Daikin Advanced Lithium Ion Battery Technology －High Voltage Electrolyte	VSS030; Kevin Stutenberg, ANL: Advanced Technology Vehicle Lab Benchmarking (L1&L2)
3:15 PM	EDT062; Tim Burress, ORNL: Non-Rare Earth Motor Development	ES219; Dee Strand, Wildcat Discovery: Novel Non-Carbonate Based Electrolytes for Silicon Anodes	VSS097; Matthew Jeffers, NREL: Electric Drive Vehicle Climate Control Load Reduction
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	EDT064; Kevin Bennion, NREL: Electric Motor Thermal Management R&D	ES182; Nancy Dudney, ORNL: Composite Electrolytes to Stabilize Metallic Lithium Anodes	VSS132; Wenhua Yu, ANL: Thermal Control of Power Electronics of Electric Vehicles with Small Channel Coolant Boiling
4:45 PM	EDT060; Dan Tan, GE Global Research: High Performance DC Bus Film Capacitor	ES230; Yi Cui, Stanford University: High Energy Lithium-Sulfur Cathodes	TI024; Imtiaz Haque, Clemson University: GATE Center of Excellence in Sustainable Vehicle Systems
5:15 PM	EDT059; Angelo Yializis, Sigma Technologies International: High Temperature DC-Bus Capacitor Cost Reduction and Performance Improvements	ES224; Nitash Balsara, LBNL: Fundamental Studies of Lithium-Sulfur Cell Chemistry	TI025; Joel Anstrom, Pennsylvania State University: Penn State DOE Graduate Automotive Technology Education (GATE) Program for In-Vehicle, High-Power Energy Storage Systems
5:45 PM	EDT061; Balu Balachandran, ANL: Cost-Effective Fabrication of High-Temperature Ceramic Capacitors for Power Inverters		TI022; Giorgio Rizzoni, The Ohio State University: GATE: Energy Efficient Vehicles for Sustainable Mobility

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Tuesday, June 9 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salons H**	**Salons J&K**	**Salon B**
11:00 AM	ST001; Rajesh Ahluwalia, ANL: System Level Analysis of Hydrogen Storage Options	FC109; Michael Yandrasits, 3M: New Fuel Cell Membranes with Improved Durability & Performance	SCS011; Katrina Groth, SNL: Hydrogen behavior and Quantitative Risk Assessment
11:30 AM	ST100; Brian James, Strategic Analysis, Inc.: Hydrogen Storage Cost Analysis	FC110; Andrew Herring, Colorado School of Mines: Advanced Hybrid Membranes for Next Generation PEMFC Automotive Applications	SCS002; Robert Burgess, NREL: Component Standard Research & Development
12:00 PM	ST004; Don Anton, SRNL: Hydrogen Storage Engineering Center of Excellence	FC007; Bryan Pivovar, NREL: Extended, Continuous Pt Nanostructures in Thick, Dispersed Electrodes	SCS005; Brian Somerday, SNL: R&D for Safety, Codes and Standards: Materials and Components Compatibility
12:30 PM LUNCH	**Sarah Studer, DOE: Presentation on H-Prize** **Sunita Satyapal, DOE: Hydrogen and Fuel Cell Technologies Program Awards Presentations**		
1:45 PM	ST044; Bruce Hardy, SRNL: SRNL Technical Work Scope for the Hydrogen Storage Engineering Center of Excellence: Design and Testing of Adsorbent Storage	FC008; Vojislav Stamenkovic, ANL: Nanosegregated Cathode Catalysts with Ultra-Low Platinum Loading	SCS007; Tommy Rockward, LANL: Hydrogen Fuel Quality
2:15 PM	ST010; Mike Veenstra, Ford Motor: Ford/BASF-SE/UM Activities in Support of the Hydrogen Storage Engineering Center of Excellence	FC009; Radoslav Adzic, BNL: Contiguous Platinum Monolayer Oxygen Reduction Electrocatalysts on High-Stability-Low-Cost Supports	SCS021; Bill Buttner, NREL: NREL Hydrogen Sensor Testing Laboratory
2:45 PM	ST046; Kevin Drost, Oregon State U: Microscale Enhancement of Heat and Mass Transfer for Hydrogen Energy Storage	FC085; Nilesh Dale, Nissan: Synthesis and Characterization of Mixed-Conducting Corrosion Resistant Oxide Supports	SCS019; Nick Barilo, PNNL: Hydrogen Safety Panel, Safety Knowledge Tools and First Responder Training Resources
3:15 PM	ST006; Bart van Hassel, UTRC: Advancement of Systems Designs and Key Engineering Technologies for Materials Based Hydrogen Storage	FC086; Sanjeev Mukerjee, Northeastern Univ: Development of Novel Non-Pt Group Metal Electrocatalysts for Proton Exchange Membrane Fuel Cell Applications	SCS001; Carl Rivkin, NREL: National Codes and Standards Deployment and Outreach
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	ST005; Kriston Brooks, PNNL: Systems Engineering of Chemical Hydrogen, Pressure Vessel, and Balance of Plant for On-Board Hydrogen Storage	FC088; Branko Popov, U of South Carolina: Development of Ultra-Low Doped-Pt Cathode Catalysts for PEM Fuel Cells	SCS022; Karen Hall, Fuel Cell & Hydrogen Energy Association: Fuel Cell & Hydrogen Energy Association Codes and Standards Support
4:45 PM	ST008; Matthew Thornton, NREL: System Design, Analysis, and Modeling for Hydrogen Storage Systems	FC107; Piotr Zelenay, LANL: Non-Precious Metal Fuel Cell Cathodes: Catalyst Development & Electrode Structure Design	SCS004; Eric Brosha, LANL: Hydrogen Safety, Codes and Standards: Sensors
5:15 PM	ST113; Chris San Marchi, SNL: Innovative Development, Selection and Testing to Reduce Cost and Weight of Materials for BOP Components	FC114; Deborah Myers, ANL: High-Throughput Synthesis, ORR Activity Modeling, and Testing of non-PGM PEMFC Cathode Catalysts	

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Tuesday, June 9 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**Salon D**	**Salon E**	**Salon F**
11:00 AM	TI001; Dennis Smith, DOE: Clean Cities Overview	ACE001; Mark Musculus, SNL: Heavy-Duty Low-Temperature and Diesel Combustion & Heavy-Duty Combustion Modeling	SA044; Aymeric Rousseau, ANL: Impact of Fuel Cell System Peak Efficiency on Fuel Consumption and Cost
11:30 AM	TI056; Bo Saulsbury, ORNL: Fuel Economy Guide and fueleconomy.gov Website	ACE002; Stephen Busch, SNL: Light-Duty Diesel Combustion	SA050; Zhenhong Lin, ORNL: GPRA Analysis: Impact of Program Targets on Vehicle Penetration and Benefits
12:00 PM	TI057; Brian West, ORNL: Fuel Economy Information Project - Research, Data Validation, and Technical Assistance Related to Collecting, Analyzing, and Disseminating Accurate Fuel Economy Information	ACE004; John Dec, SNL: Low-Temperature Gasoline Combustion (LTGC) Engine Research	SA036; Todd Ramsden, NREL: Pathway Analysis: Projected Cost, Lifecycle Energy Use and Emissions of Emerging Hydrogen Technologies
12:30 PM LUNCH	**Sarah Studer, DOE: Presentation on H-Prize** **Sunita Satyapal, DOE: Hydrogen and Fuel Cell Technologies Program Awards Presentations**		
1:45 PM	TI058; Andrew Hudgins, NREL: Alternative Fuel Station Locator	ACE005; Lyle Pickett, SNL: Spray Combustion Cross-Cut Engine Research	SA054; Dennis Papadias, ANL: Performance and Cost Analysis for a 300 kW Tri-generation Molten Carbonate Fuel Cell System
2:15 PM	TI059; Johanna Levene, NREL: Alternative Fuels Data Center and API	ACE006; Isaac Ekoto, SNL: Automotive Low Temperature Gasoline Combustion Engine Research	SA035; Marianne Mintz, ANL: Employment Impacts of Infrastructure Development for Hydrogen and Fuel Cell Technologies
2:45 PM	TI060; Wendy Dafoe, NREL: Clean Cities Coordinator Resource Building and National Networking Activities	ACE007; Joe Oefelein, SNL: Large Eddy Simulation (LES) Applied to Advanced Engine Combustion Research	SA039; Amgad Elgowainy, ANL: Life-Cycle Analysis of Water Consumption for Hydrogen Production
3:15 PM	TI061; John Gonzales, NREL: Clean Cities "Tiger Team" Technical and Problem Solving Assistance	ACE014; David Carrington, LANL: 2015 KIVA-hpFE Development: A Robust and Accurate Engine Modeling Software	SA055; Rebecca Levinson, SNL: Hydrogen Analysis with the Sandia ParaChoice Model
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	TI062; Marcy Rood Werpy, ANL: Collegiate Programs: Advanced Vehicle Technology Competitions (AVTC), Graduate Research Assistants (GRAs), and Clean Cities University Workforce Development Program	ACE012; Russell Whitesides, LLNL: Model Development and Analysis of Clean & Efficient Engine Combustion	SA056; David Greene, U of Tennessee: Status and Prospects of the N.A. Non-Automotive Fuel Cell Industry: 2014 Update
4:45 PM	TI063; Marcy Rood Werpy, ANL: Alternative Fuel Tools and Technical Assistance Activities	ACE013; Bill Pitz, LLNL: Chemical Kinetic Models for Advanced Engine Combustion	SA047; Brendan Shaffer, UCI: Tri-Generation Fuel Cell Technologies for Location-Specific Applications
5:15 PM		ACE076; Matthew McNenly, LLNL: Improved Solvers for Advanced Engine Combustion Simulation	

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Tuesday, June 9 - Poster Presentations

Crystal Gateway Hotel, 6:30-8:30 PM

Vehicle and Systems Simulation
VSS095; Keith Hardy, ANL: EV - Smart Grid Research & Interoperability Activities
VSS164; Aymeric Rousseau, ANL: Evaluate VTO Benefits (BaSce)
VSS165; John Rugh, NREL: Design and Implementation of a Thermal Load Reduction System in a Hyundai PHEV
VSS166; Neeraj Shidore, ANL: Advanced Transmission Selection to Provide Accurate VTO Benefits
VSS142; Richard Pratt, PNNL: PEV / Grid Integration Study
VSS167; Brian Hunter, NREL: Integrated Network Testbed for Energy Grid Research and Technology Experimentation (INTEGRATE)
VSS134; Jason Lustbader, NREL: Vehicle Thermal Systems Modeling in Simulink
VSS001; Ken Kelly, NREL: Medium and Heavy-Duty Vehicle Field Evaluations
VSS140; Scott Curran, ORNL: Impacts of Advanced Combustion Engines
VSS058; Oyelayo Ajayi, ANL: Development of High Power Density Driveline for Vehicles
VSS169; Jeffrey Wishart, Intertek: PEV-EVSE Interoperability Project
VSS170; John Smart, INL: Lessons Learned about Workplace Charging in The EV Project
VSS171; Richard Carlson, INL: Electric Vehicle Mile Traveled (eVMT): On-road Results and Analysis
Electrochemical Storage
ES132; Gary Voelker, Miltec UV International: Utilization of UV or EB Curing Technology to Significantly Reduce Costs and VOCs in the Manufacture of Lithium-Ion Battery Electrodes
ES133; YK Son, Johnson Controls: Significant Cost Improvement of Li-Ion Cells Through Non-NMP Electrode Coating, Direct Separator Coating, and Fast Formation Technologies
ES134; Mike Wixom, Navitas Systems: Dry Process Electrode Fabrication
ES135; Brad Brodie, DENSO International America: Stand-Alone Battery Thermal Management System
ES136; Steve Carlson, Optodot Corporation: Innovative Manufacturing and Materials for Low-Cost Lithium-Ion Batteries
ES200; Christian Shaffer, EC-Power: Efficient Safety and Degradation Modeling of Automotive Li-ion Cells and Pack
ES201; Ira Bloom, ANL: Electrochemical Performance Testing
ES202; Jon Christophersen, INL: INL Electrochemical Performance Testing
ES203; Christopher Orendorff, SNL: Battery Safety Testing
ES204; Matthew Keyser, NREL: Battery Thermal Characterization
ES205; Steven Sloop, OnTo Technology: Giga Life Cycle: Manufacture of Cells from Recycled EV Li-ion Batteries
ES206; Jong Yoo, Applied Spectra: Real-time Metrology for Li-ion Battery R&D and Manufacturing
ES119; Taeyoung Han, General Motors: Development of Computer-Aided Design Tools for Automotive Batteries
ES197; Gi-Heon Kim, NREL: Significant Enhancement of Computational Efficiency in Nonlinear Multiscale Battery Model for Computer Aided Engineering
ES198; Harry Moffat, SNL: Mechanistic Modeling Framework for Predicting Extreme Battery Response: Coupled Hierarchical Models for Thermal, Mechanical, Electrical and (Electro)chemical Processes
ES199; Ahmad Pesaran, NREL: Coupling Mechanical with Electrochemical-Thermal Models Batteries Under Abuse
ES121; John Turner, ORNL: Open Architecture Software for CAEBAT
ES236; Shriram Santhanagopalan, NREL: Crash Propagation in Automotive Batteries: Simulations and Validation
ES237; Robert Privette, XG Sciences: Low-cost, High Energy Si/Graphene Anodes for Li-ion Batteries
ES238; Pu Zhang, Navitas Systems: Low-Cost, High-Capacity Lithium Ion Batteries through Modified Surface and Microstructure
ES239; David King, Pneumaticoat Technologies: Scale-Up of Low-Cost Encapsulation Technologies for High Capacity and High Voltage Electrode Powders
ES240; Cary Hayner, Sinode Systems: High Energy Anode Material Development for Li-ion Batteries
Hydrogen Production and Delivery
PD095; Carrie Eckert, NREL: Improving Cyanobacterial O2-Tolerance using CBS Hydrogenase for H2 Production
PD122; Bruce Logan, Penn State: Hydrogen Production from Continuous Flow Bioelectrochemical Systems Treating Fermentation Wastewater
PD118; Yanfa Yan, U of Toledo: New Metal Oxides for Efficient Hydrogen Production via Solar Water Splitting
PD119; Tom Jaramillo, Stanford University: NSF/DOE Solar Hydrogen Fuel: Engineering Surfaces, Interfaces, and Bulk Materials for Unassisted Solar Photoelectrochemical (PEC) Water Splitting
PD120; Charles Musgrave, U of Colorado at Boulder: Accelerated Discovery of Advanced RedOx Materials for STWS to Produce Renewable Hydrogen
PD121; G. Charles Dismukes, Rutgers University: Tunable Photoanode-Photocathode-Catalyst Interface Systems for Efficient Solar Water Splitting
PD100; Kevin Harrison, NREL: 700 bar Hydrogen Dispenser Hose Reliability Improvement
PD123; Katherine Ayers, Proton OnSite: High Performance Platinum Group Metal Free Membrane Electrode Assemblies Through Control of Interfacial Processes
PD124; Randy Petri, Versa Power Systems: Solid Oxide Based Electrolysis and Stack Technology with Ultra-High Electrolysis Current Density and Efficiency
PD125; Shane Ardo, University of California, Irvine: Tandem Particle-Slurry Batch Reactors for Solar Water Splitting
PD126; Ted Barnes, Gas Technology Institute: Compressor-less Hydrogen Refueling Station using Thermal Compression
PD127; Y-H Percival Zhang, Virginia Tech: Sweet Hydrogen: High-yield Production of Hydrogen from Biomass Sugars Catalyzed by in vitro Synthetic Biosystems
PD128; Jeff Serfass, Hydrogen Education Foundation: 2014 – 2016 H2 Refuel H-Prize
Safety, Codes & Standards
SCS017; Salvador Aceves, LLNL: Hands-on Hydrogen Safety Training
Electric Drive Technologies
EDT070; Gilbert Moreno, NREL: Thermal Performance Benchmarking
EDT071; Lixin Tang, ORNL: Multi-Speed Range Electric Motor R&D
EDT072; Robert Erickson, U of Colorado: A Disruptive Approach to Electric Vehicle Power Electronics
EDT073; Jeffrey Casady, Cree: 88 Kilowatt Automotive Inverter with New 900 Volt Silicon Carbide MOSFET Technology

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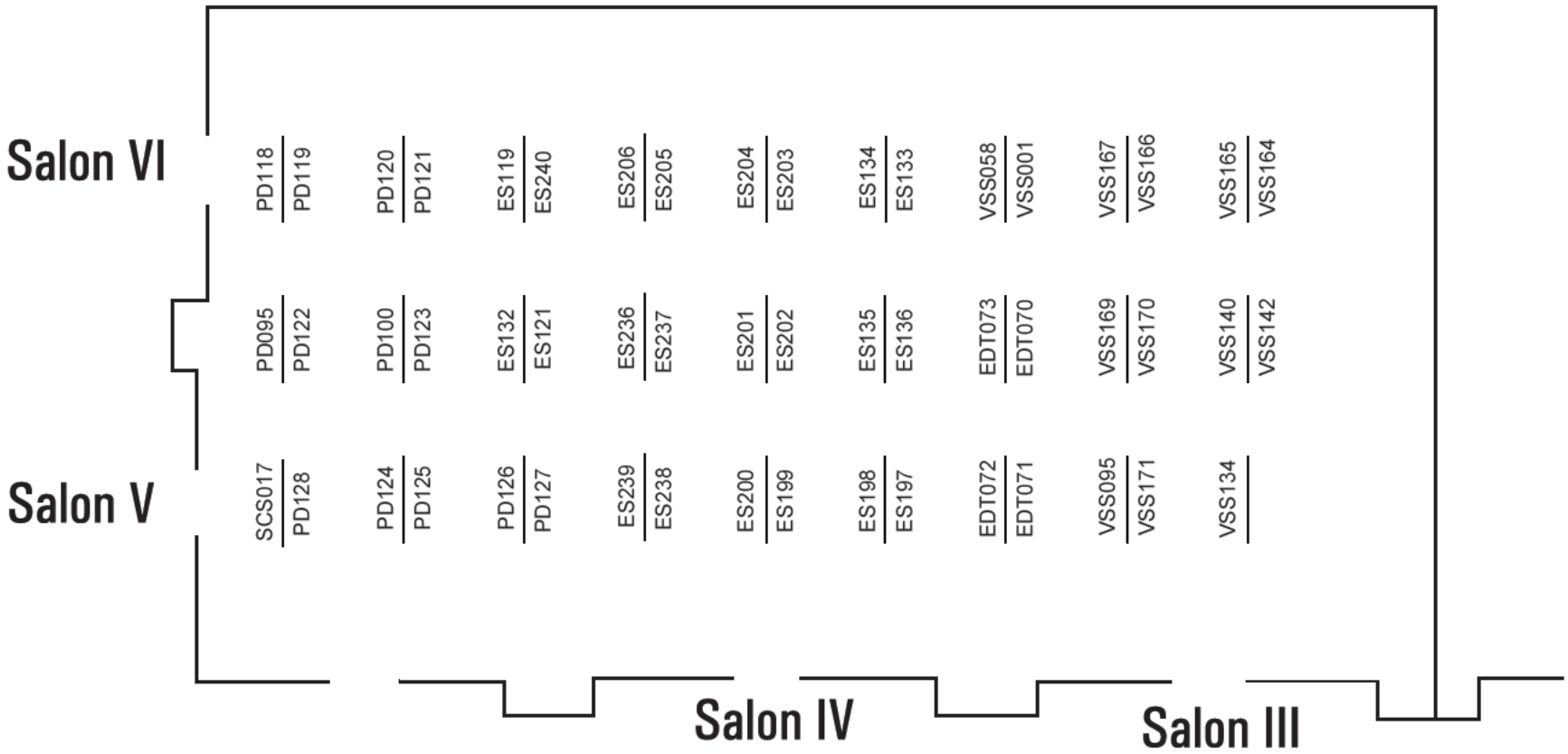
ARLINGTON BALLROOM



POSTER MAP

Tuesday, June 9

Crystal Gateway Marriott

2015 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Wednesday, June 10 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salon A**	**Salons I&II**	**Salon C**
8:30 AM	EDT040; Zilai Zhao, General Motors: Next Generation Inverter	ES106; Jagjit Nanda, ORNL: Studies on High Capacity Cathodes for Advanced Lithium-ion Systems	TI020; Chris Mi, Regents University of Michigan: GATE Center for Electric Drive Transportation
9:00 AM	EDT058; Kraig Olejniczak, APEI Inc.: Advanced Low-Cost SiC and GaN Wide Bandgap Inverters for Under-the-Hood Electric Vehicle Traction Drives	ES056; Jason Zhang, PNNL: Development of High-Energy Cathode Materials	TI021; Gregory Plett, University of Colorado Colorado Springs: Innovative Drivetrains in Electric Automotive Technology Education (IDEATE)
9:30 AM	EDT053; Madhu Chinthavali, ORNL: Electric Drive Inverter R&D	ES051; Arumugam Manthiram, U of Texas at Austin : High- Voltage, High-Capacity Polyanion Cathodes	TI023; Gregory Shaver, Purdue University: Hoosier Heavy Hybrid Center of Excellence (H3CoE) at Purdue University
10:00 AM	EDT054; Gui-Jia Su, ORNL: Innovative Technologies for Converters and Chargers	ES049; Michael Thackeray, ANL : Design and Evaluation of High Capacity Cathodes	VSS156; Tony Markel, NREL: Electric Vehicle Grid Integration
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	EDT066; Gui-Jia Su, ORNL: Traction Drive Systems with Integrated Wireless Charging	ES183; Feng Wang, BNL : In-Situ Solvothermal Synthesis of Novel High Capacity Cathodes	VSS103; Omer Onar, ORNL: Wireless Charging of Electric Vehicles
11:30 AM	EDT067; Charles Zhu, Delta Products Corporation: High-Efficiency High-Density GaN-Based 6.6kW Bidirectional On-Board Charger for PEVs	ES052; Marca Doeff, LBNL : Design of High Performance, High Energy Cathode Materials	VSS102; Allan Lewis, Hyundai: High Efficiency, Low EMI and Positioning Tolerant Wireless Charging of EVs
12:00 PM	EDT068; Nance Ericson, ORNL: Gate Driver Optimization for WBG Applications	ES184; Nancy Dudney, ORNL: Mixed polyanion (MP) glasses as cathode materials	VSS152; Omer Onar, ORNL: Technology Requirements for High Power Applications of Wireless Power Transfer
12:30 PM LUNCH	**David Ollett, NETL: Presentation on Contracts & Active Project Management** **Steve Goguen, DOE: Vehicle Technologies Program Awards Presentations**		
1:45 PM	EDT069; Kevin Bennion, NREL: Power Electronics Thermal Management R&D	ES231; Stanley Whittingham, Binghamton U.-SUNY: High Energy Density Lithium Battery	VSS153; Aymeric Rousseau, ANL: Accelerate the Development and Introduction of Advanced Technologies Through Model Based System Engineering
2:15 PM	EDT049; Zhenxian Liang, ORNL: Advanced Packaging Technologies and Designs	ES232; Vincent Battaglia, LBNL: Electrode Fabrication and Performance Benchmarking	VSS075; Jason Lustbader, NREL: CoolCab Test and Evaluation and CoolCalc HVAC Tool Development
2:45 PM	EDT063; Doug DeVoto, NREL: Performance and Reliability of Bonded Interfaces for High-Temperature Packaging	ES222; Karim Zaghib, Hydro Quebec: Electrode Architecture-Assembly of Battery Materials and Electrodes	VSS154; Aymeric Rousseau, ANL: Fuel Displacement Potential of Advanced Technologies under Different Thermal Conditions
3:15 PM	LM999; Will Joost, DOE: Lightweight Materials Overview	ES071; Yet-Ming Chiang, Massachusetts Institute of Technology: Design and Scalable Assembly of High Density Low Tortuosity Electrodes	VSS155; Jeff Gonder, NREL: Analyzing Real-World Light Duty Vehicle Efficiency Benefits
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	LM080; Lou Hector, USAMP: Integrated Computational Materials Engineering Approach to Development of Lightweight 3GAHSS Vehicle Assembly	ES223; Gao Liu, LBNL: Hierarchical Assembly of Inorganic/Organic Hybrid Si Negative Electrodes	VSS168; Richard Carlson, INL: 12 Volt Auxiliary Load On-road Analysis
4:45 PM	LM089; Shiyun Ruan, Xtalic Corporation: High-Strength Electroformed Nanostructured Aluminum for Lightweight Automotive Applications	ES233; Vincent Giordani, Liox: Efficient Rechargeable Li/O2 Batteries Utilizing Stable Inorganic Molten Salt Electrolytes	VSS136; Mingyu Wang, Delphi Automotive: ePATHS - electrical PCM Assisted Thermal Heating System
5:15 PM	LM079; Rich Davies, PNNL: Enhanced Room-Temperature Formability in High-Strength Aluminum Alloys through Pulse-Pressure Forming	ES066; Khalil Amine, ANL: Development of Novel Electrolytes and Catalysts for Li-Air Batteries	VSS135; Heidi Crandall, Halla Visteon: Advanced Climate Systems for EV Extended Range (ACSforEVER)
5:45 PM	LM078; Xin Sun, PNNL: Aluminum Formability Extension through Superior Blank Processing		VSS157; Sourav Chowdhury, Delphi Automotive Systems, LLC: Unitary Thermal Energy Management for Propulsion Range Augmentation (UTEMPRA)

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Wednesday, June 10 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salon H**	**Salon J&K**	**Salon B**
8:30 AM	ST111; Guillaume Petitpas, LLNL: Thermomechanical Cycling of Thin Liner High Fiber Fraction Cryogenic Pressure Vessels Rapidly Refueled by LH2 Pump to 700 Bar	FC104; Andrew Steinbach, 3M: High Performance, Durable, Low Cost Membrane Electrode Assemblies for Transportation Applications	PD014; Amgad Elgowainy, ANL: Hydrogen Delivery Infrastructure Analysis
9:00 AM	ST101; David Gotthold, PNNL: Enhanced Materials and Design Parameters for Reducing the Cost of Hydrogen Storage Tanks	FC106; Deborah Myers, ANL: Rationally Designed Catalyst Layers for PEMFC Performance Optimization	PD088; Zhili Feng, ORNL: Vessel Design and Fabrication Technology for Stationary High-Pressure Hydrogen Storage
9:30 AM	ST114; Brian Edgecombe, Materia: Next Generation Hydrogen Storage Vessels Enabled by Carbon Fiber Infusion with a Low Viscosity, High Toughness Resin System	FC105; C.H. Wang, TreadStone Technologies, Inc.: Novel Structured Metal Bipolar Plates for Low Cost Manufacturing	PD025; Brian Somerday, SNL: Hydrogen Embrittlement of Structural Steels
10:00 AM	ST093; Felix Paulauskas, ORNL: Melt Processable PAN Precursor for High Strength, Low-Cost Carbon Fibers	FC083; Genevieve Saur, NREL: Optimal Stationary Fuel Cell Integration and Control	PD022; George Rawls, SRNL: Fiber Reinforced Composite Pipelines
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	ST115; Hong Li, PPG: Achieving Hydrogen Storage Goals through High-Strength Fiber Glass	FC017; Rajesh Ahluwalia, ANL: Fuel Cells Systems Analysis	PD021; Don Baldwin, Hexagon Lincoln: Development of High Pressure Hydrogen Storage Tank for Storage and Gaseous Truck Delivery
11:30 AM	ST063; Ragaiy Zidan, SRNL: Reversible Formation of Alane	FC018; Brian James, Strategic Analysis, Inc.: Fuel Cell Vehicle and Bus Cost Analysis	PD101; Jennifer Lalli, Nanosonic: Cryogenically Flexible, Low Permeability H2 Delivery Hose
12:00 PM	ST116; Robert Wilson, Ardica: Low-Cost a-Alane for Hydrogen Storage	FC103; Dale Stretch, Eaton Corp.: Roots Air Management System with Integrated Expander	PD108; Eugene Broerman, SWRI: Hydrogen Compression Application of the Linear Motor Reciprocating Compressor (LMRC)
12:30 PM LUNCH	**David Ollett, NETL: Presentation on Contracts & Active Project Management** **Steve Goguen, DOE: Vehicle Technologies Program Awards Presentations**		
1:45 PM	ST104; Shih-Yuan Liu, Boston College: Novel Carbon(C)-Boron(B)-Nitrogen(N)-Containing H2 Storage Materials	FC127; Rod Borup, LANL: Durability Improvements Through Degradation Mechanism Studies	PD109; Zhili Feng, ORNL: Steel Concrete Composite Vessel for 875 bar Stationary Hydrogen Storage
2:15 PM	ST117; John Vajo, HRL: Boron-Based Hydrogen Storage: Ternary Borides and Beyond	FC026; Adam Weber, LBNL: Fuel-Cell Fundamentals at Low and Subzero Temperatures	PD110; Ashok Saxena, Wiretough Cylinders: Low Cost Hydrogen Storage at 875 Bar Using Steel Liner and Steel Wire Wrap
2:45 PM	ST118; Brandon Wood, LLNL: Improving the Kinetics and Thermodynamics of Mg(BH4)2 for Hydrogen Storage	FC048; Huyen Dinh, NREL: Effect of System Contaminants on PEMFC Performance and Durability	PD048; Ludwig Lipp, FuelCell Energy, Inc.: Electrochemical Hydrogen Compressor
3:15 PM	ST103; Jeffrey Long, LBNL: Hydrogen Storage in Metal-Organic Frameworks	FC065; Jean St-Pierre, Hawaii Natural Energy Institute: The Effect of Airborne Contaminants on Fuel Cell Performance and Durability	
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	BES001; Vitalij Pecharsky, Ames Laboratory: Complex Hydrides - A New Frontier for Future Energy Applications		
4:45 PM	BES002; Ragaiy Zidan, SRNL: Elucidation of Hydrogen Interaction Mechanisms with Metal-Doped Carbon Nanostructures		
5:15 PM	BES003; Philip Power, UC Davis: Activation of Hydrogen Under Ambient Conditions by Main Group Molecules		

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Wednesday, June 10 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**Salon D**	**Salon E**	**Salon F**
8:30 AM	PM000; Jerry Gibbs, DOE: Overview of VTO Propulsion Material Technologies	ACE075; Sibendu Som, ANL: Advancements in Fuel Spray and Combustion Modeling with High Performance Computing Resources	MT011; Jim Petrecky, Plug Power: Ground Support Equipment Demonstration
9:00 AM	PM004; Glenn Grant, PNNL: Novel Manufacturing Technologies for High Power Induction and Permanent Magnet Electric Motors	ACE010; Christopher Powell, ANL: Fuel Injection and Spray Research Using X-Ray Diagnostics	MT013; Joe Pratt, SNL: Maritime Fuel Cell Generator Project
9:30 AM	PM054; Andrew Wereszczak, ORNL: Enabling Materials for High Temperature Power Electronics	ACE011; Steve Ciatti, ANL: Use of Low Cetane Fuel to Enable Low Temperature Combustion	MT016; Jason Hanlin, Center for Transportation and the Environment: Fuel Cell Hybrid Electric Delivery Van Project
10:00 AM	PM055; Michael Lance, ORNL: Biofuel Impacts on Aftertreatment Devices	ACE054; Scott Goldsborough, ANL: RCM Studies to Enable Gasoline-Relevant Low Temperature Combustion	MT008; Mitch Ewan, Hawaii Natural Energy Institute: Hydrogen Energy Systems as a Grid Management Tool
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	PM009; Michael Lance, ORNL: Materials Issues Associated with EGR Systems	ACE084; Thomas Wallner, ANL: High Efficiency GDI Engine Research, with Emphasis on Ignition Systems	
11:30 AM	PM057; Charles Finney, ORNL: Applied Integrated Computational Materials Engineering (ICME) for New Propulsion Materials	ACE015; Jim Szybist, ORNL: Stretch Efficiency for Combustion Engines: Exploiting New Combustion Regimes	
12:00 PM	PM060; Mei Li, Ford: ICME Guided Development of Advanced Cast Aluminum Alloys For Automotive Engine Applications	ACE016; Scott Curran, ORNL: High Efficiency Clean Combustion in Multi-Cylinder Light-Duty Engines	
12:30 PM LUNCH	**David Ollett, NETL: Presentation on Contracts & Active Project Management** **Steve Goguen, DOE: Vehicle Technologies Program Awards Presentations**		
1:45 PM	PM059; Rich Huff, Caterpillar: Development of Advanced High Strength Cast Alloys for Heavy Duty Engines	ACE017; Kevin Edwards, ORNL: Accelerating Predictive Simulation of IC Engines with High Performance Computing	TV019; Daniel Terlip, NREL: Hydrogen Component Validation
2:15 PM	PM061; Mike Walker, General Motors: Computational Design and Development of a New, Lightweight Cast Alloy for Advanced Cylinder Heads in High-Efficiency, Light-Duty Engines	ACE090; Brian Kaul, ORNL: High-Dilution Stoichiometric Gasoline Direct-Injection (SGDI) Combustion Control Development	TV029; Salvador Aceves, LLNL: Performance and Durability Testing of Volumetrically Efficient Cryogenic Vessels and High Pressure Liquid Hydrogen Pump
2:45 PM	PM065; Rich Huff, Caterpillar: Development of High-Performance Cast Crankshafts	ACE077; Bill Partridge, ORNL: Cummins-ORNL\FEERC Combustion CRADA: Characterization & Reduction of Combustion Variations	TV030; Kevin Harrison, NREL: FCTO INTEGRATE Stack Test Bed & Grid Interoperability
3:15 PM	PM062; Amit Shyam, ORNL: High Performance Cast Aluminum Alloys for Next Generation Passenger Vehicle Engines	ACE052; Todd Toops, ORNL: Neutron Imaging of Advanced Transportation Technologies	TV001; Jennifer Kurtz, NREL: Fuel Cell Electric Vehicle Evaluation
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	PM053; G. Muralidharan, ORNL: High Temperature Materials for High Efficiency Engines	ACE022; Josh Pihl, ORNL: Joint Development and Coordination of Emissions Control Data and Models (CLEERS Analysis and Coordination)	TV008; Leslie Eudy, NREL: Fuel Cell Bus Evaluations
4:45 PM	PM048; Glenn Grant, PNNL: Tailored Materials for Improved Internal Combustion Engine Efficiency	ACE023; Yong Wang, PNNL: CLEERS: Aftertreatment Modeling and Analysis	TV021; Chris Ainscough, NREL: Material Handling Equipment Data Collection and Analysis
5:15 PM	PM044; Nicole Overman, PNNL: Rapidly Solidified High Temperature Aluminum Alloys	ACE078; Janos Szanyi, PNNL: Investigation of Mixed Oxide Catalysts for NO Oxidation	

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Wednesday, June 10 - Poster Presentations

Crystal Gateway Hotel - Grand Ballroom, 6:30-8:30 PM

Electrochemical Storage
ES242; Farshid Roumi, Parthian Energy: A Disruptive Concept for a Whole Family of New Battery Systems
ES243; John Arnold, Miltec UV International: Dramatically Improve the Safety Performance of Li Ion Battery Separators and Reduce the Manufacturing Cost using Ultraviolet Curing and High Precision Coating Technolgies
ES244; Alex Jacobs, Sila Nanotechnologies: Low Cost, High Capacity Non-Intercalation Chemistry Automotive Cells
ES245; Taison Tan, 24M Technologies: Low Cost, Structurally Advanced Novel Electrode and Cell Manufacturing
ES246; Iftikhar Ahmad, Lambda Technologies: Advanced Drying Process for Lower Manufacturing Cost of Electrodes
ES247; Herman Lopez, Envia Systems: High Energy Lithium Batteries for Electric Vehicles
ES248; John Busbee, Xerion Advanced Battery Corporation: Development of a PHEV Battery
ES249; Mohamed Alamgir, LG Chem Power: A 12V Start-Stop Li Polymer Battery Pack
ES250; Ionel Stefan, Amprius: A Commercially Scalable Process for Silicon Anode Prelithiation
ES251; Michael Everett, Maxwell: Development of Advanced High-Performance Batteries for 12V Start Stop Vehicle Applications
ES030; Andrew Jansen, ANL : Cell Analysis, Modeling, and Prototyping (CAMP) Facility Research Activities
ES028; Wenquan Lu, ANL: Materials Benchmarking Activities For CAMP Facility
ES036; Chris Orendorff, SNL: Abuse Tolerance Improvements
ES166; Ira Bloom, ANL: Post-Test Analysis of Lithium-Ion Battery Materials at Argonne National Laboratory
ES167; Greg Krumdick, ANL: Process Development and Scale up of Advanced Active Battery Materials
ES168; Krzysztof Pupek, ANL: Process R&D and Scale up of Critical Battery Materials
ES165; Debasish Mohanty, ORNL: Electrode Coating Defect Analysis and Processing NDE for High-Energy Lithium-Ion Batteries
ES164; Jianlim Li, ORNL: Thick Low-Cost, High-Power Lithium-Ion Electrodes via Aqueous Processing
ES207; David Wood, ORNL: IR Thermography as a Non-Destructive Evaluation (NDE) Tool for Lithium-Ion Battery Manufacturing
ES162; Robert Tenent, NREL: Development of Industrially Viable Battery Electrode Coatings
ES252; Anthony Burrell, ANL: Enabling High-Energy/Voltage Lithium-Ion Cells for Transportation Applications: Part 1 Baseline Protocols and Analysis
ES253; Anthony Burrell, ANL: Enabling High-Energy/Voltage Lithium-Ion Cells for Transportation Applications: Part 2 Materials
ES254; Anthony Burrell, ANL: Enabling High-Energy/Voltage Lithium-Ion Cells for Transportation Applications: Part 3 Electrochemistry
ES208; Khalil Amine, ANL: New High-Energy Electrochemical Couple for Automotive Applications
ES255; Xiao-Qing Yang, BNL : New High Energy Electrochemical Couple for Automotive Application:
ES210; Jagat Singh, 3M: ANL IC3P Research Focus on Diagnostic Studies at BNL
ES256; Kevin Eberman, 3M: Si Alloy Anode: Sudden Fade Challenge
ES213; Michael Slater, Farasis: High Energy Density Li-ion Cells for EV's Based on Novel, High Voltage Cathode Material Systems
ES257; Christopher Johnson, ANL: Ion-Exchanged Derived Cathodes (IE-LL_NCM) for High Energy Density LIBs
ES211; Subramanian Venkatachala, Envia: High Energy Lithium Batteries for PHEV Applications
ES258; Robert Kostecki, LBNL: Origins of the DC-Resistance Increase in HCMRTM Cathodes
ES212; Donghai Wang, Penn State: High Energy, Long Cycle Life Lithium-ion Batteries for EV Applications
ES259; Arumugam Manthiram, U of Texas at Austin : Prospects and Challenges of Nickel-rich Layered Oxide Cathodes
ES209; Jane Rempel, TIAX: High Energy High Power Battery Exceeding PHEV-40 Requirements
ES260; Jane Rempel, TIAX: Materials Development for High Energy High Power Battery Exceeding PHEV-40 Requirements
Hydrogen Storage
ST014; Phil Parilla, NREL: Hydrogen Sorbent Measurement Qualification and Characterization
ST047; Norman Newhouse, Hexagon Lincoln: Development of Improved Composite Pressure Vessels for Hydrogen Storage
ST007; Troy Semelsberger, LANL: Chemical Hydrogen Rate Modeling, Validation, and System Demonstration
ST009; Mei Cai, General Motors: Testing, Modeling, and Evaluation of Innovative Hydrogen Storage System Designs
ST067; Terry Udovic, NIST: Neutron Characterization in Support of the DOE Hydrogen Storage Sub-Program
ST110; Andrea Haight, Composite Technology Development: Optimizing the Cost and Performance of Composite Cylinders for H2 Storage using a Graded Construction
ST119; Vitalij Pecharsky, Ames Laboratory: High-capacity Hydrogen Storage Systems via Mechanochemistry
ST120; Brent Fultz, California Institute of Technology: Design and Synthesis of Materials with High Capacities for Hydrogen Physisorption
ST121; Hong-Cai (Joe) Zhou, Texas A&M University: High-Capacity and Low-Cost Hydrogen-Storage Sorbents for Automotive Applications
ST122; Don Siegel, University of Michigan: Hydrogen Adsorbents with High Volumetric Density: New Materials and System Projections
ST095; Craig Jensen, U of Hawaii: Hawaii Hydrogen Carriers: Low Cost Metal Hydride Hydrogen Storage System for Forklift Applications (SBIR Phase II)
ST126; Erik Bigelow, Center for Transportation and the Environment: Conformable Hydrogen Storage Coil Reservoir
BES004; Ragaiy Zidan, SRNL: Elucidation of Hydride Interaction Mechanisms with Carbon Nanostructures and the Formation of Novel Nanocomposites

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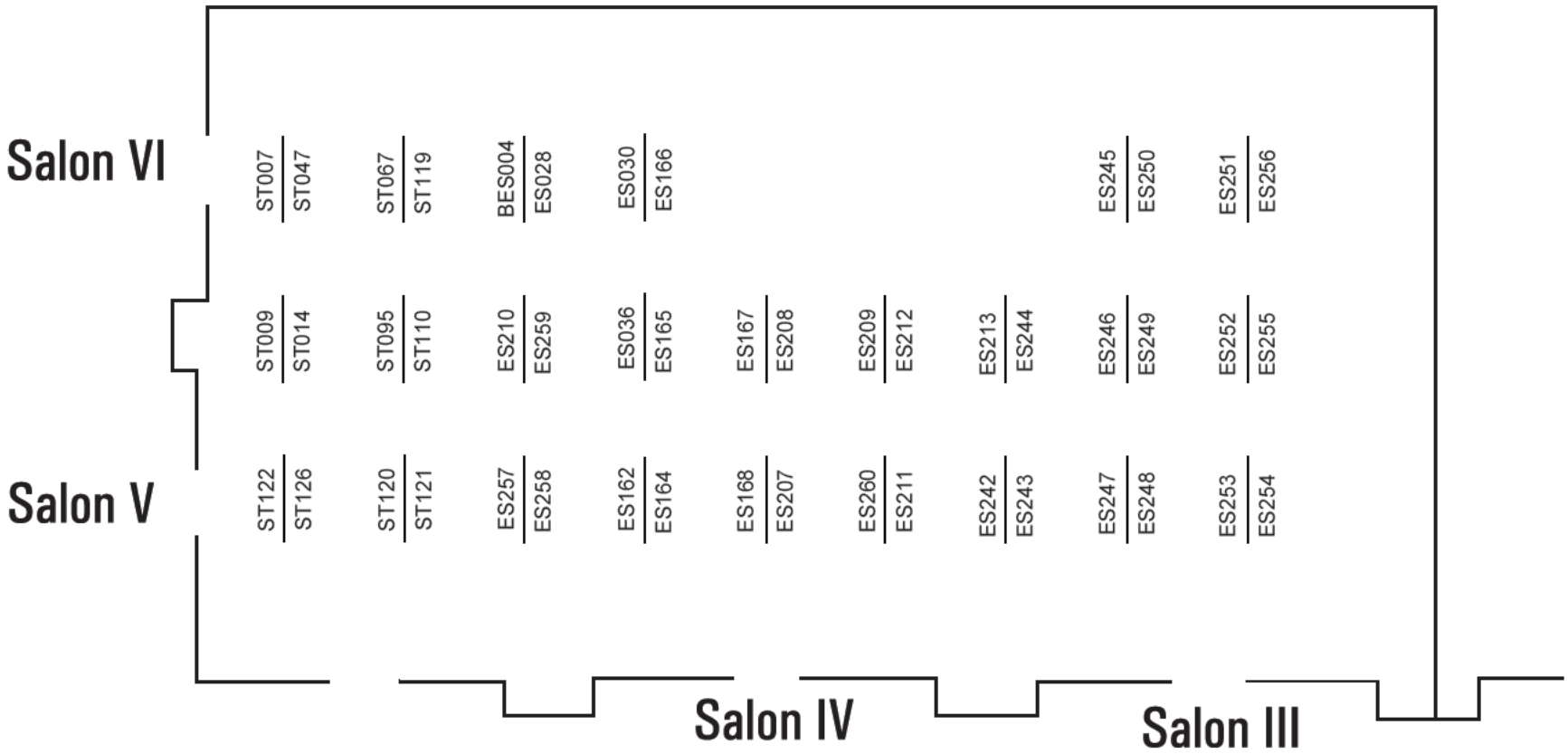

POSTER MAP

Wednesday, June 10

Crystal Gateway Marriott

2015 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Thursday, June 11 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salon A**	**Salons I&II**	**Salon C**
8:00 AM	LM006; Felix Paulauskas, ORNL: Advanced Oxidation & Stabilization of PAN-Based Carbon Precursor Fibers		VSS163; Justin Martin, PPG: Advanced Bus and Truck Radial Materials for Fuel Efficiency
8:30 AM	LM084; Omar Faruque, Ford: Validation of Material Models for Crash Simulation of Automotive Carbon Fiber Composite Structures (VMM)	ES234; Venkat Srinivasan, LBNL: Continuum Modeling as a Guide to Developing New Battery Materials	VSS006; Kambiz Salari, LLNL: DOE's Effort to Improve Heavy Vehicle Fuel Efficiency through Improved Aerodynamics
9:00 AM	LM081; Uday Vaidya, Univ Alabama Birmingham: GATE Center of Excellence at UAB for Lightweight Materials and Manufacturing for Automotive, Truck and Mass Transit	ES091; Kristin Persson, LBNL: Predicting and Understanding Novel Electrode Materials From First-Principles	VSS116; Nicholas Williams, Houston-Galvelston Area Council: Zero Emission Cargo Transport Projects
9:30 AM	LM072; Tim Skszek, VEHMA: Multi-Material Lightweight Vehicles	ES054; Gerbrand Ceder, Massachusetts Institute of Technology: First Principles Calculations of Existing and Novel Electrode Material	VSS115; Brian Choe, SCAQMD: Zero-Emission Heavy-Duty Drayage Truck Demonstration
10:00 AM	LM090; Tony Mascarin, IBIS Associates: Technical Cost Modeling for Vehicle Lightweighting	ES214; Perla Balbuena, Texas A&M: First Principles Modeling of SEI Formation on Bare and Surface/Additive Modified Silicon Anodes	VSS158; Joseph Impullitti, SCAQMD: Zero Emission Cargo Transport II
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	LM035; Steve Derezinski, INFINIUM, Inc.: Scale-Up of Magnesium Production by Fully Stabilized Zirconia Electrolysis	ES221; Xingcheng Xiao, GM: A Combined Experimental and Modeling Approach for the Design of High Coulombic Efficiency Si Electrodes	ARRAVT083; Matt Myasato, SCAQMD: Plug-In Hybrid Medium-Duty Truck Demonstration and Evaluation Program
11:30 AM	LM077; Jim Quinn, USAMP: Magnesium-Intensive Front End Sub-Structure Development	ES220; Dean Wheeler, BYU: Predicting Microstructure and Performance for Optimal Cell Fabrication	VSS159; Bob Prohaska, NREL: Medium Duty ARRA Data Reporting and Analysis
12:00 PM	LM091; John Allison, U of Michigan: Phase Transformation Kinetics and Alloy Microsegregation in High Pressure Die Cast Magnesium Alloys	ES225; Guoying Chen, LBNL: Design and Synthesis of Advanced High-Energy Cathode Materials	VSS160; Adam Duran, NREL: Fleet DNA Phase 1 Refinement & Phase 2 Implementation
12:30 PM LUNCH	**2014 AMR Brainstorming Session Summary followed by 2015 AMR Brainstorming Session**		
1:45 PM	LM092; Aashish Rohatgi, PNNL: In-Situ Investigation of Microstructural Evolution During Solidification and Heat Treatment in a Die-Cast Magnesium Alloy	ES235; Jason Croy, ANL: User Facilities for Energy Storage Materials Research	VSS161; Bulent Chavdar, Eaton: Multi-Speed Transmission for Commercial Delivery Medium Duty Plug-In Electric Drive Vehicles
2:15 PM	LM093; Alan Lou, Ohio State University: High-Throughput Study of Diffusion and Phase Transformation Kinetics of Magnesium-Based Systems For Automotive Cast Magnesium Alloys	ES059; Xiao-Qing Yang, BNL: Advanced In-Situ Diagnostic Techniques for Battery Materials	VSS064; Russ Zukouski, Navistar: SuperTruck – Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer, Vehicle
2:45 PM	LM076; Donovan Leonard, ORNL: Understanding Protective Film Formation by Magnesium Alloys in Automotive Applications	ES085; Robert Kostecki, LBNL: Interfacial Processes in EES Systems Advanced Diagnostics	VSS081; Pascal Amar, Volvo Trucks: Volvo SuperTruck
3:15 PM	LM094; Karl Sieradzki, Arizona State University: Microstructure and the Corrosion/Protection of Cast Magnesium Alloys	ES055; Clare Grey, U. of Cambridge: NMR and Pulse Field Gradient Studies of SEI and Electrode Structure	ARRAVT080; Derek Rotz, DTNA: Class 8 Truck Freight Efficiency Improvement Project
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	LM095; Mark Horstemeyer, Mississippi State University: A Systematic Multiscale Modeling and Experimental Approach to Understand Corrosion at Grain Boundaries in Magnesium Alloys	ES216; Shirley Meng, UC San Diego: Optimization of Ion Transport in High-Energy Composite Cathodes	VSS133; Dean Deter, ORNL: Cummins MD & HD Accessory Hybridization CRADA
4:45 PM	LM096; Guang-Ling Song, ORNL: Corrosivity and Passivity of Metastable Mg Alloys	ES215; G. Somorjai, UC Berkeley: Analysis of Film Formation Chemistry on Silicon Anodes by Advanced In Situ and Operando Vibrational Spectroscopy	VSS162; Vasilios Tsourapas, Eaton: Integrated Boosting and Hybridization for Extreme Fuel Economy and Downsizing
5:15 PM	LM057; Xin Sun, PNNL: Mechanistic-Based Ductility Prediction for Complex Mg Castings	ES226; Chongmin Wang, PNNL: Microscopy Investigation on the Fading Mechanism of Electrode Materials	VSS141; David Smith, ORNL: Powertrain Controls Optimization for Heavy Duty Line Haul Trucks

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Thursday, June 11 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**Salon H**	**Salons J&K**	**Salon B**
8:00 AM	VAN999; Jake Ward, DOE: Overview of VTO Analysis Program		
8:30 AM	VAN003; Mark Singer, NREL: Consumer Vehicle Technology Data	FC020; Karren More, ORNL: Characterization of Fuel Cell Materials	
9:00 AM	VAN004; Aaron Brooker, NREL: Unified Modeling, Simulation, and Market Implications: FASTSim and ADOPT	FC021; David Jacobson, NIST: Neutron Imaging Study of the Water Transport in Operating Fuel Cells	PD102; Brian James, Strategic Analysis, Inc.: Analysis of Advanced H2 Production Pathways
9:30 AM	VAN002; Michael Wang, ANL: Emissions Modeling: GREET Life Cycle Analysis	FC097; Vincent Contini, Battelle: Stationary and Emerging Market Fuel Cell System Cost Analysis--Primary Power and Combined Heat and Power Applications	PD111; Wei Liu, PNNL: Monolithic Piston-Type Reactor for Hydrogen Production through Rapid Swing of Reforming/Combustion Reactions
10:00 AM	VAN005; Zhenhong Lin, ORNL: MA3T—Modeling Vehicle Market Dynamics with Consumer Segmentation	FC098; Max Wei, LBNL: A Total Cost of Ownership Model for Design and Manufacturing Optimization of Fuel Cells in Stationary and Emerging Market Applications	PD112; Fred Jahnke, FuelCell Energy, Inc.: Reformer-Electrolyzer-Purifier (REP) for Production of Hydrogen
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	VAN014; Dawn Manley, SNL: ParaChoice: Parametric Vehicle Choice Modeling	FC115; Bryan Blackburn, Redox Fuel Cells, Inc.: Affordable, High Performance, Intermediate Temperature Solid Oxide Fuel Cells	PD113; Tony McDaniel, SNL: High Efficiency Solar Thermochemical Reactor for Hydrogen Production
11:30 AM	VAN001; Tom Stephens, ANL: Impact Analysis: VTO Baseline and Scenario (BaSce) Activities	FC116; Chao-yi Yuh, FuelCell Energy, Inc.: Smart Matrix Development for Direct Carbonate Fuel Cell	PD114; Al Weimer, U of Colorado: Flowing Particle Bed Solarthermal RedOx Process to Split Water
12:00 PM	VAN015; Mike Nicholas, UCD: PEV Consumer Behavior in Practice	FC108; Bryan Pivovar, NREL: Advanced Ionomers & MEAs for Alkaline Membrane Fuel Cells	PD096; Hector Colon-Mercado, SRNL: Electrolyzer Component Development for the HyS Thermochemical Cycle
12:30 PM LUNCH	**2014 AMR Brainstorming Session Summary followed by 2015 AMR Brainstorming Session**		
1:45 PM		MN001; Michael Ulsh, NREL: Fuel Cell MEA Manufacturing R&D	PD115; Todd Deutsch, NREL: High-Efficiency Tandem Absorbers for Economical Solar Hydrogen Production
2:15 PM		MN012; Pat Valente, Ohio Fuel Cell Coalition: Clean Energy Supply Chain and Manufacturing Competitiveness Analysis for Hydrogen and Fuel Cell Technologies	PD116; Nicolas Gaillard, U of Hawaii: Wide Bandgap Chalcopyrite Photoelectrodes for Direct Solar Water Splitting
2:45 PM		MN013; Alleyn Harned, Virginia Clean Cities at James Madison University: Fuel Cell and Hydrogen Opportunity Center	PD038; Pin-Ching Maness, NREL: Fermentation and Electrohydrogenic Approaches to Hydrogen Production
3:15 PM		MN014; Patrick Fullenkamp, GLWN – Westside Industrial Retention & Expansion Network: U.S. Clean Energy Hydrogen and Fuel Cell Technologies: A Competiveness Analysis	PD031; Mike Peters, NREL: Renewable Electrolysis Integrated System Development and Testing
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM			PD103; Hui Xu, Giner Electrochemical Systems: High-Performance, Long-Lifetime Catalysts for Proton Exchange Membrane Electrolysis
4:45 PM			PD098; Katherine Ayers, Proton OnSite: Low-Noble-Metal-Content Catalysts/Electrodes for Hydrogen Production by Water Electrolysis
5:15 PM			PD117; Cortney Mittelsteadt, Giner Electrochemical Systems, LLC: High Temperature, High Pressure Electrolysis

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Thursday, June 11 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**Salon D**	**Salon E**	**Salon F**
8:30 AM	FT999; Kevin Stork, DOE: Overview of the VTO Fuel and Lubricant Technologies R&D	ACE026; Feng Gao, PNNL: Enhanced High and Low Temperature Performance of NOx Reduction Materials	SCS024; Danny Terlip, NREL: Hydrogen Contaminant Detector
9:00 AM	FT008; James Szybist, ORNL: Gasoline-Like Fuel Effects on Advanced Combustion Regimes	ACE027; Abhijeet Karkamkar, PNNL: Next Generation SCR-Dosing System Investigation	TV026; Terry Johnson, SNL: Development of the Hydrogen Station Equipment Performance (HyStEP) Device
9:30 AM	FT023; Arup Gangopadhyay, Ford: Polyalkylene Glycol (PAG) Based Lubricant for Light & Medium Duty Axles	ACE056; Mark Stewart, PNNL: Fuel-Neutral Studies of Particulate Matter Transport Emissions	PD106; Joe Pratt, SNL: Reference Station Design
10:00 AM	FT002; Brad Zigler, NREL: Advanced Combustion and Fuels	ACE033; Jim Parks, ORNL: Emissions Control for Lean Gasoline Engines	SCS025; Chris LaFleur, SNL: Enabling Hydrogen Infrastructure Through Science-based Codes and Standards
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FT024; Q. Jane Wang, Northwestern University: A Novel Lubricant Formulation Scheme for 2% Fuel Efficiency Improvement	ACE085; Jim Parks, ORNL: Low Temperature Emission Control to Enable Fuel-Efficient Engine Commercialization	PD107; Amgad Elgowainy, ANL: Hydrogen Fueling Station Pre-Cooling Analysis
11:30 AM	FT004; Chuck Mueller, SNL: Fuel Effects on Mixing-Controlled Combustion Strategies for High-Efficiency Clean-Combustion Engines	ACE032; Bill Partridge, ORNL: Cummins-ORNL\FEERC Emissions CRADA: NOx Control & Measurement Technology for Heavy-Duty Diesel Engines, Self-Diagnosing SmartCatalyst Systems	SA045; Amgad Elgowainy, ANL: Analysis of Incremental Fueling Pressure Cost
12:00 PM	FT003; Matt Ratcliff, NREL: Performance of Biofuels and Biofuel Blends	ACE024; Hee Je Seong, ANL: Particulate Emissions Control by Advanced Filtration Systems for GDI Engines	SA033; Zhenhong Lin, ORNL: Analysis of Optimal On-Board Storage Pressure for Hydrogen Fuel Cell Vehicles
12:30 PM LUNCH	**2014 AMR Brainstorming Session Summary followed by 2015 AMR Brainstorming Session**		
1:45 PM	FT025; Gefei Wu, Ashland: Improve Fuel Economy through Formulation Design and Modeling	ACE079; Rangachary Mukundan, LANL: Robust Nitrogen Oxide/Ammonia Sensors for Vehicle On-board Emissions Control	SA051; Marc Melaina, NREL: Infrastructure Investment and Finance Scenario Analysis
2:15 PM	FT006; Magnus Sjoberg, SNL: Advanced Lean-Burn DI Spark Ignition Fuels Research	ACE091; Claus Schnabel, Robert Bosch: Intake Air Oxygen Sensor	SA052; Robert Rosner, U of Chicago: The Business Case for Hydrogen-powered Passenger Cars: Competition and Solving the Infrastructure Puzzle
2:45 PM	FT007; Todd Toops, ORNL: Fuel and Lubricant Effects on Emissions Control Technologies	ACE089; Alexander Sappok, Filter Sensing Technologies, Inc.: Development of Radio Frequency Diesel Particulate Filter Sensor and Controls for Advanced Low-Pressure Drop Systems to Reduce Engine Fuel Consumption	SA053; Ian Thompson, Kalibrate: Retail Marketing Analysis: Hydrogen Refueling Stations
3:15 PM	FT026; Bill Pitz, LLNL: Developing Kinetic Mechanisms for New Fuels and Biofuels, Including CFD Modeling	ACE095; Pu-Xian Gao, U. Conn: Metal Oxide Nano-Array Catalysts for Low Temperature Diesel Oxidation	TV027; Ben Xiong, CaFCP : Station Operational Status System (SOSS) 3.0 Upgrade
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	FT027; Tim Bays, PNNL: Unconventional Hydrocarbon Fuels	ACE094; Keith Confer, Delphi Powertrain: Ultra Efficient Light Duty Powertrain with Gasoline Low Temperature Combustion	TV020; Larry Moulthrop, Proton OnSite: Validation of an Advanced High Pressure PEM Electrolyzer and Composite Hydrogen Storage, with Data Reporting, for SunHydro Stations
4:45 PM	FT012; George Fenske, ANL: Engine Friction Reduction Technologies	ACE065; Corey Weaver, Ford Motor Company: Advanced Gasoline Turbocharged Direct Injection (GTDI) Engine Development	TV025; Ted Barnes, GTI: Performance Evaluation of Delivered Hydrogen Fueling Stations
5:15 PM	FT029; Oyelayo Ajayi, ANL: Engine Friction Reduction – Part II (Base fluid and additive technologies)	ACE093; David Sczomak, General Motors: Lean Miller Cycle System Development for Light-Duty Vehicles	TV017; Sam Sprik, NREL: Hydrogen Station Data Collection and Analysis

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Thursday, June 11 - Poster Presentations

Crystal Gateway Hotel, 6:30-8:30 PM

Vehicle Technologies Analysis
VAN009; Stacy Davis, ORNL: Transportation Energy Data Book, Vehicle Technologies Market Report, and VT Fact of the Week
VAN011; Joann Zhou, ANL: E-drive Vehicle Sales Analyses
VAN008; Neeraj Shidore, ANL: Evaluation of VTO Benefits (BaSce)
VAN012; Alicia Birky, Energetics: Modeling for Light and Heavy Vehicle Market Analysis
VAN006; Joann Zhou, ANL: Development and Update of Long-Term Energy and GHG Emission Macroeconomic Accounting Tool
VAN010; Changzheng Liu, ORNL: Assessing the Outlook of US Oil Dependence Using Oil Security Metrics Model (OSMM)
VAN013; Changzheng Liu, ORNL: Transportation Energy Transition Modeling and Analysis: the LAVE-Trans Model
Technology Validation
TV024; David Blekhman, CSULA: CSULA Hydrogen Refueling Facility Performance Evaluation and Optimization
TV016; Genevieve Saur, NREL: Stationary Fuel Cell Evaluation
TV031; Robert Hovsapian, INL: Dynamic Modeling and Validation of Electrolyzers in Real Time Grid Simulation
Market Transformation
MT018; Abas Goodarzi, US Hybrid: Demonstration and Deployment of a Fuel Cell-Electric Refuse Truck for Waste Transportation

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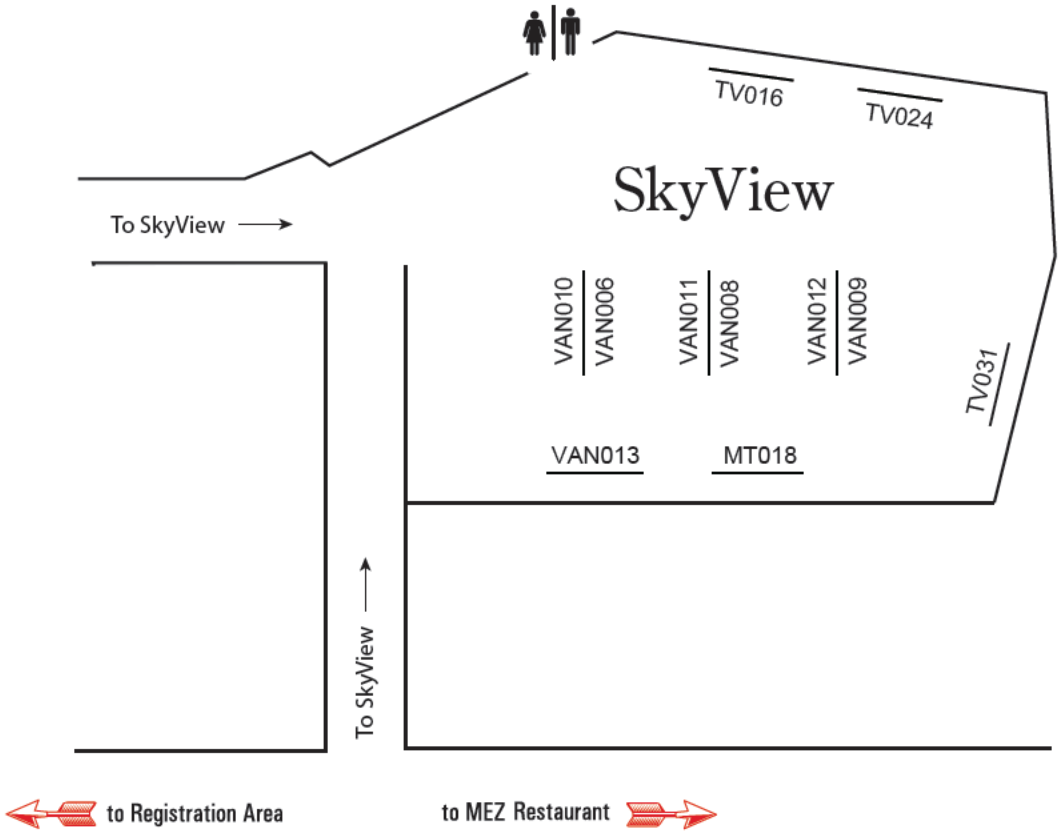

POSTER MAP

Thursday, June 11

Crystal Gateway Marriott

2015 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Friday, June 12 - Oral Presentations

Hotel	Gateway	Crystal City	
Salon	**Salons G&F**	**Salon E**	
8:00 AM	LM097; Adrian Sabau, ORNL: Laser-Assisted Joining Process of Aluminum and Carbon Fiber Components		
8:30 AM	LM086; Glenn Daehn, Ohio State University: Collision Welding of Dissimilar Materials by Vaporizing Foil Actuator	ACE061; Michael Ruth, Cummins: ATP-LD; Cummins Next Generation Tier 2 Bin 2 Diesel Engine	
9:00 AM	LM098; Tim Weihs, John Hopkins University: Brazing Dissimilar Metals with a Novel Composite Foil	ACE087; Mike Bunce, MAHLE Powertrain LLC: Next-generation Ultra-Lean Burn Powertrain	
9:30 AM	LM074; Elizabeth Stephens, PNNL: SPR Process Simulation, Analyses, and Development for Magnesium Joints	ACE092; Charles Mendler, Envera LLC: High Efficiency VCR Engine with Variable Valve Actuation and New Supercharging Technology	
10:00 AM	LM099; Yuri Hovanski, PNNL: High Strength, Dissimilar Alloy Aluminum Tailor-Welded Blanks	ACE057; David Koeberlein, Cummins: Cummins SuperTruck Program Technology and System Level Demonstration of Highly Efficient and Clean, Diesel Powered Class 8 Trucks	
10:30 AM	**BREAK**	**BREAK**	
11:00 AM	LM087; Mahmood Haq, Michigan State University: Active, Tailorable Adhesives for Dissimilar Material Bonding, Repair and Assembly	ACE058; Sandeep Singh, Detroit Diesel: SuperTruck Program: Engine Project Review	
11:30 AM	LM100; Steve Logan, Fiat Chrysler Automobiles US LLC: Upset Protrusion Joining Techniques For Joining Dissimilar Metals	ACE060; John Gibble, Volvo: Volvo SuperTruck - Powertrain Technologies for Efficiency Improvement	
12:00 PM		ACE059; Russ Zukouski, Navistar International Corp.: SuperTruck – Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer, Engine Systems	

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