2011 DOE HYDROGEN and FUEL CELLS PROGRAM and VEHICLE TECHNOLOGIES PROGRAM
ANNUAL MERIT REVIEW and PEER EVALUATION MEETING OVERALL SCHEDULE

	Monday May 9 - Gateway Hotel
1:00	Guest Speakers and Overviews of the Hydrogen and Fuel Cells Program and Vehicle Technologies Program (Salons III and IV)
3:00	Break
3:30	Hydrogen Sub-Program Overviews (Salon III) and Vehicle Technologies Program Sub-Program Overviews (Salon IV)
5:30	Break
5:45	Reviewer Orientation Salon II
6:00	**Poster Session I:** Electrochemical Storage, Vehicle and System Simulation, Fuels Technologies and Fuel Cells

Schedule as of: 6-May-11

Crystal Gateway Marriott Hotel

Salon	Tuesday May 10						Wednesday May 11						Thursday May 12						Friday May 13					
	I	II	III	IV	V	VI	I	II	III	IV	V	VI	I	II	III	IV	V	VI	I	II	III	IV	V	VI
7:15 AM	Continental Breakfast						Continental Breakfast						Continental Breakfast						Continental Breakfast					
7:45 AM	Reviewer Orientation						Reviewer Orientation						Reviewer Orientation						Reviewer Orientation					
8:15 AM	APE	AN		FC	PD	VSS		ST			PD													TV
8:30 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST		FC	PD	TV
9:00 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST		FC	PD	TV
9:30 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST		FC	PD	TV
10:00 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST		FC	PD	TV
10:30 AM	Break						Break						Break						Break					
11:00 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST		FC	PD	TV
11:30 AM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS		ST		FC	PD	TV
12:00 PM	APE	AN	ES	FC	PD	VSS	APE	ST	ES	FC	PD	VSS	LM		ES	FC	PD	VSS		ST		FC		
12:30 PM	Lunch - VT Awards						Lunch - H2 Awards						Lunch											
1:45 PM	APE	AN	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
2:15 PM	APE	AN	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
2:45 PM	APE	AN	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
3:15 PM	APE	AN	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
3:45 PM	Break						Break						Break											
4:15 PM	APE	AN	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
4:45 PM	APE		ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS	LM	ST	ES	FC	PD	VSS						
5:15 PM	APE		ES	FC	PD	VSS	LM		ES	FC	PD	VSS	LM		ES	FC	PD	VSS						
5:45 PM				FC	PD		LM				PD	VSS	LM			FC	PD	VSS						

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

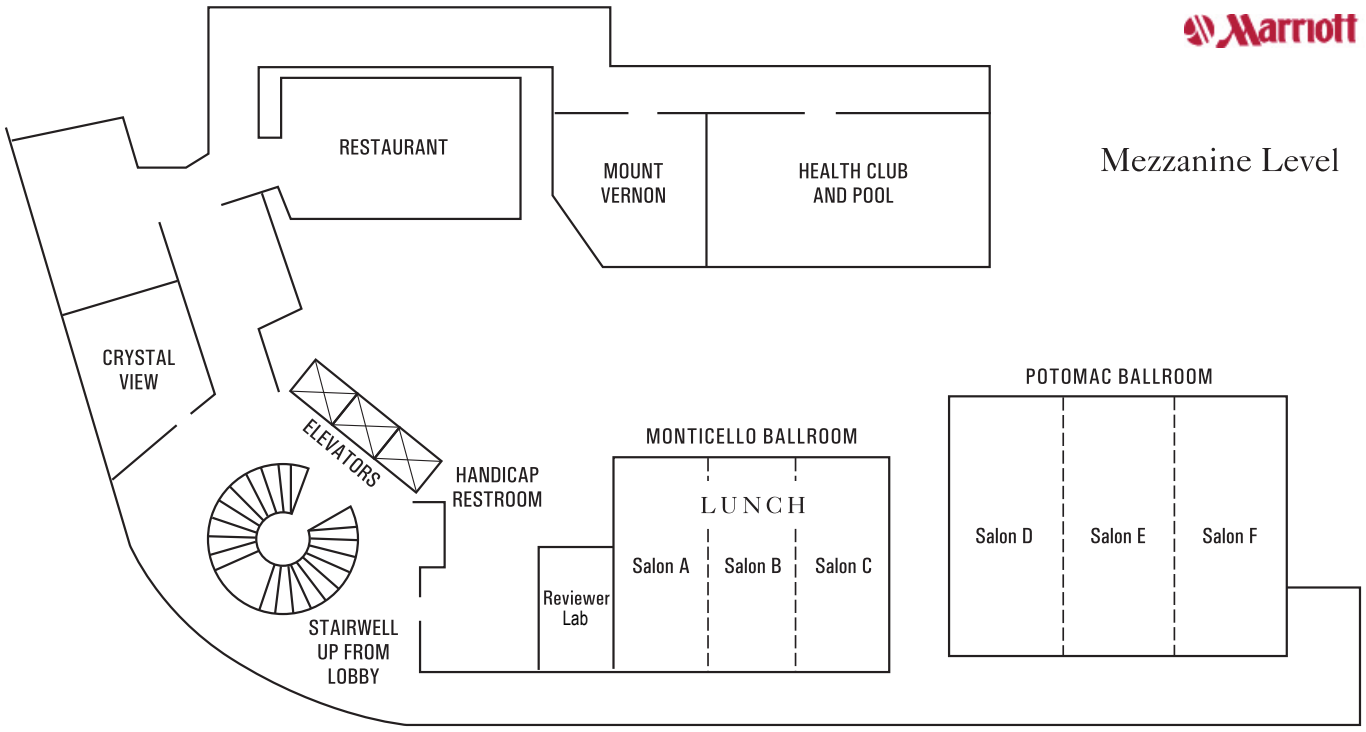
VT Program	
	AC: Advanced Combustion
	ES: Energy Storage
	APE: Adv. Pwr. Electronics
	FT: Fuels Technologies
	PM: Propulsion Materials
	LM: Light-Weight Materials
	TI: Technology Integration
	VSS: Veh.& Sys.Simulation

6:30 PM	**POSTER SESSION II:** Electrochemical Storage, Propulsion Materials, Advanced Power Electronics, Hydrogen Production and Delivery, Fuel Cells, Market Transformation, Systems Analysis, and Safety, Codes & Standards	**POSTER SESSION III:** Electrochemical Storage, Propulsion Materials, Technology Integration, Hydrogen Storage, Basic Energy Sciences (Hydrogen Production) and Manufacturing R&D	**POSTER SESSION IV:** Technology Integration, Technology Validation, Lightweight Materials, and Solid State Energy Conversion
8:30 PM			

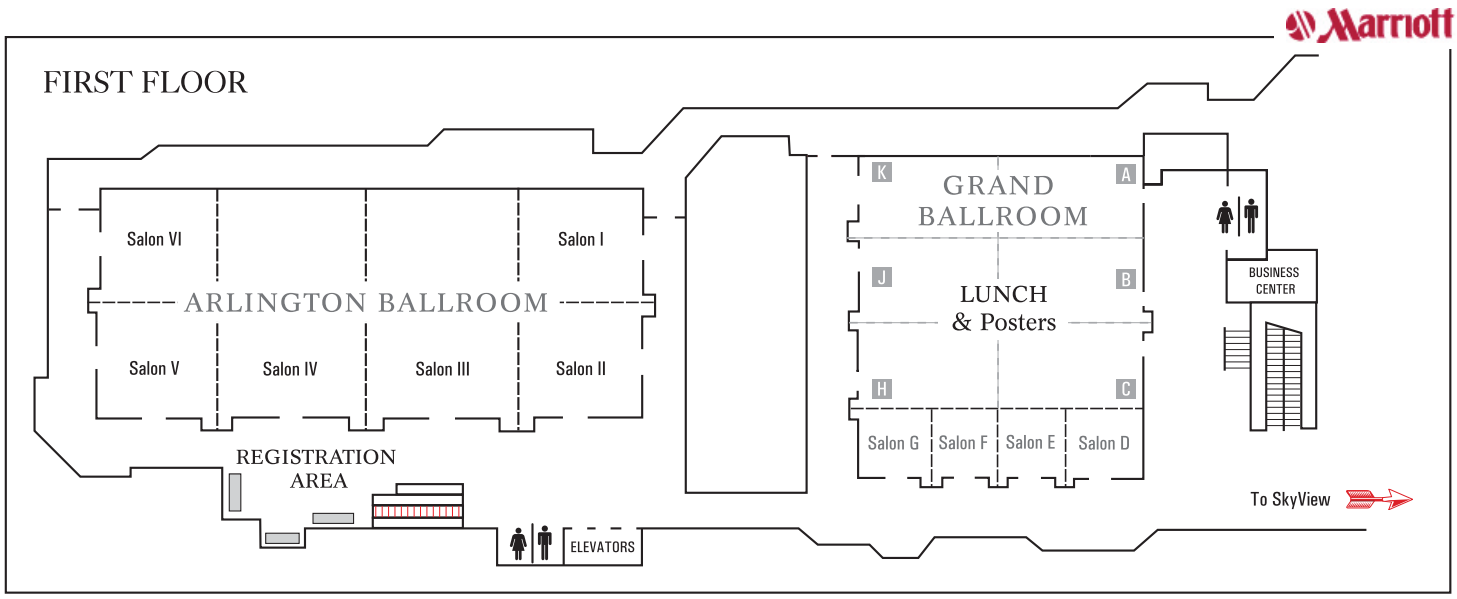
Crystal City Marriott Hotel

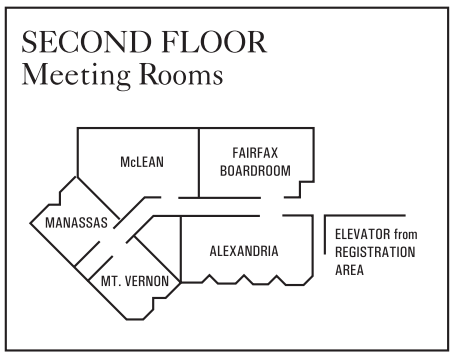
Salon	Tuesday May 10			Wednesday May 11			Thursday May 12			Friday May 13		
	D	E	F	D	E	F	D	E	F	D	E	F
7:15 AM	Continental Breakfast			Continental Breakfast			Continental Breakfast			Continental Breakfast		
7:45 AM	Reviewer Orientation			Reviewer Orientation			Reviewer Orientation			Reviewer Orientation		
8:15 AM	FT	AC	ED	PM		SCS	TI		MN	AC		
8:30 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
9:00 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
9:30 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
10:00 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
10:30 AM	Break			Break			Break			Break		
11:00 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
11:30 AM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	H2RA
12:00 PM	FT	AC	ED	PM	AC	SCS	TI	AC	MN	AC	AC	
12:30 PM	Lunch			Lunch			Lunch					
1:30 PM					AC			AC	H2RA			
1:45 PM	FT	AC	ED	PM	AC	SCS	TI	AC	H2RA			
2:15 PM		AC	ED	PM	AC	SCS	TI	AC	H2RA			
2:30 PM	MT											
2:45 PM	MT	AC	ED	PM	AC	SCS	TI	AC	H2RA			
3:15 PM	MT	AC	ED	PM	AC	SCS	TI	AC	H2RA			
3:45 PM	Break			Break			Break					
4:00 PM								AC				
4:15 PM	MT	AC	ED	PM	AC	SCS	TI	AC	H2RA			
4:45 PM	MT	AC	ED	PM	AC	SCS		AC	H2RA			
5:15 PM	MT	AC	ED	PM	AC	SCS		AC	H2RA			
5:45 PM	MT	AC		PM	AC			AC				

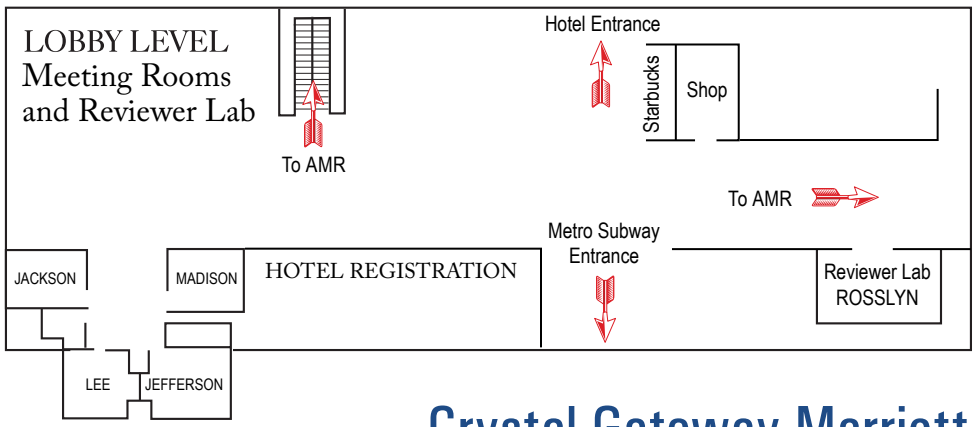
Save the date: the 2012 AMR will be May 14-18



Crystal City Marriott







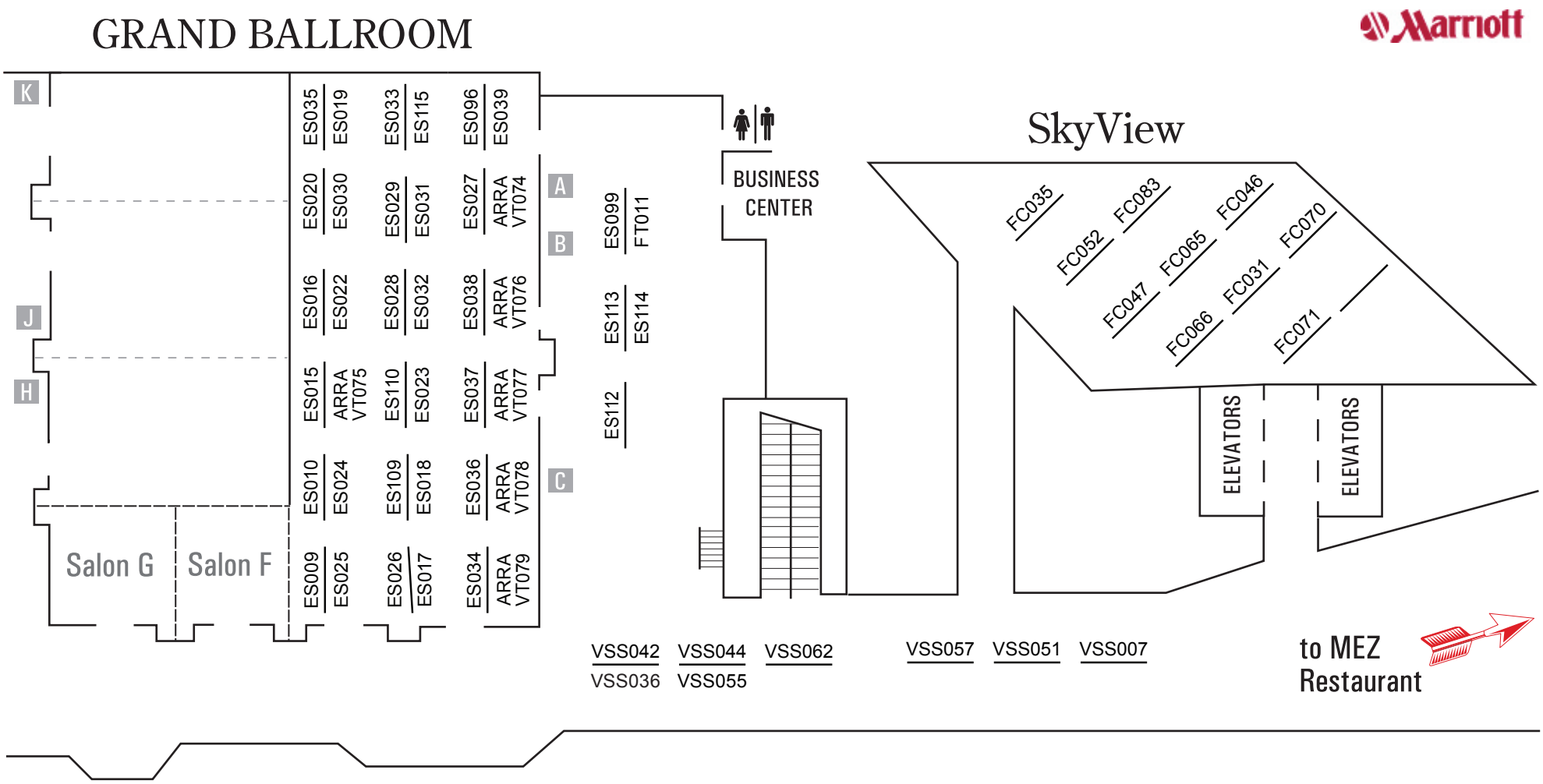
Crystal Gateway Marriott

2011 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Monday, May 9 - Poster Presentations

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

Electrochemical Storage
ES009; Bor Jang, Angstron Materials: Hybrid Nano Carbon Fiber/Graphene Platelet-Based High-Capacity Anodes for Lithium Ion Batteries
ES010; Xiangwu Zhang, NC State/NLE: New High-Energy Nanofiber Anode Materials
ES015; Khalil Amine, ANL : Engineering of High Energy Cathode Materials
ES016; Khalil Amine, ANL: New High Energy Gradient Concentration Cathode Material
ES017; Christopher Johnson, ANL : Design and Evaluation of Novel High Capacity Cathode Materials
ES018; Ilias Belharouak, ANL : Evaluation of Li2MnSiO4 Cathode
ES019; Sun-Ho Kang, ANL : Development of High-Capacity Cathode Materials with Integrated Structures
ES020; Khalil Amine, ANL: Developing High Capacity, Long Life Anodes
ES022; Andrew Jansen, ANL : Develop Improved Methods for Making Intermetallic Anodes
ES023; Dan Abraham, ANL : Novel Electrolytes and Additives
ES024; Richard Jow, Army Research Laboratory : High Voltage Electrolytes for Li-ion Batteries
ES025; Zhengcheng Zhang, ANL: Advanced Electrolyte Additives for PHEV/EV Lithium-ion Battery
ES026; Marshall Smart, JPL: Development of Novel Electrolytes for Use in High Energy Lithium-Ion Batteries with Wide Operating Temperature Range
ES109; Gi-Heon Kim, NREL: Numerical and Experimental Investigation of Internal Short Circuit in a Li-ion Cell
ES110; Kandler Smith, NREL: Battery Thermal Modeling and Testing
ES027; Kevin Gering, INL : Novel Phosphazene Compounds for Enhancing Electrolyte Stability and Safety of Lithium-ion Cells
ES028; Wenquan Lu, ANL : Screening of Electrode Materials & Cell Chemistries and Streamlining Optimization of Electrodes
ES029; Vince Battaglia, LBNL : Scale-up and Testing of Advanced Materials from the BATT Program
ES030; Andrew Jansen, ANL : Fabricate PHEV Cells for Testing & Diagnostics
ES031; Dennis Dees, ANL : Electrochemistry Cell Model
ES032; Dan Abraham, ANL : Diagnostic Studies on Li-Battery Cells and Cell Components
ES033; Robert Kostecki, LBNL : Electrochemistry Diagnostics of Baseline and New Materials
ES034; Xiao-Qing Yang, BNL : Diagnostic Studies to Improve Abuse Tolerance and Life of Li-ion Batteries
ES035; Khalil Amine, ANL : Develop and Evaluate Materials and Additives that Enhance Thermal and Overcharge Abuse
ES036; Chris Orendorff, SNL : Evaluation of Abuse Tolerance Improvements
ES037; Guoying Chen, LBNL : Overcharge Protection for PHEV Batteries
ES038; Patricia Smith, Naval Surface Warfare Center: High Energy Density Ultracapacitors
ES039; Claus Daniel, ORNL: In-situ characterization and diagnostics of mechanical degradation in electrodes
ES096; Kevin Gering, INL : Diagnostic Testing and Analysis Toward Understanding Aging Mechanisms and Related Path Dependence
ARRAVT074; Tim Murphy, INL : New INL High Energy Battery Test Facility
ARRAVT075; Andy Jansen, ANL: Prototype Cell Fabrication Facility
ARRAVT076; Greg Krumdick, ANL: Materials Scale-up Facility
ARRAVT077; Ira Bloom, ANL: Post-Test Facility At Argonne
ARRAVT078; Tom Wunsch, SNL : Progress on ARRA-funded Facility & Capability Upgrades for the Battery Abuse/Safety Laboratory
ARRAVT079; Matthew Keyser , NREL : NREL Battery Thermal and Life Test Facility
ES099; Ahmad Pesaran, NREL : Computer-Aided Engineering for Electric Drive Vehicle Batteries (CAEBAT)
ES112; Khalil Amine, ANL : Mechanism of LTO Gassing and potential solutions
ES113; Khalil Amine, ANL : High Voltage Electrolyte for Lithium Batteries
ES114; Michael Thackeray, ANL : Spherical Carbon Anodes Fabricated by Autogenic Reactions
ES115; Christopher Johnson, ANL : Novel Composite Cathode Structures
Vehicle and Systems Simulation
VSS042; Tony Markel, NREL: Plug-In Electric Vehicle Integration with Renewables
VSS044; Robb Barnitt, NREL: Analysis of Battery Wear and V2G Benefits Using Real-world Drive Cycles and Ambient Data
VSS062; David Smith, ORNL: The ArvinMeritor Dual Mode Hybrid Powertrain (DMHP): Opportunities and Potential for Systems Optimization
VSS051; Jeffrey Gonder, NREL: Advanced HEV/PHEV Concepts
VSS057; Wen Yu, ANL: CRADA with PACCAR Experimental Investigation in Coolant Boiling in a Half-Heated Circular Tube
VSS007; Jeffrey Gonder, NREL: Analyzing Fuel Saving Opportunities through Driver Feedback Mechanisms
VSS036; Michael Kinter-Meyer, PNNL: Analysis of maximizing the Synergy between PHEVs/EVs and PV
VSS055; Krishnan Gowri, PNNL: Testing and Validation of Vehicle to Grid Communication Standards
Fuel Cells
FC035; James Fenton, U of Central Florida: Lead Research and Development Activity for DOE's High Temperature, Low Relative Humidity Membrane Program
FC052; Tommy Rockward, LANL: Technical Assistance to Developers
FC083; Darlene Steward, NREL: Enlarging the Potential Market for Stationary Fuel Cells Through System Design Optimization
FC047; Trent Molter, U of Connecticut: The Effects of Impurities on Fuel Cell Performance and Durability
FC065; Jean St-Pierre, Hawaii Natural Energy Institute: The Effect of Airborne Contaminants on Fuel Cell Performance and Durability
FC046; Hector Colon-Mercado, SRNL: Effects of Impurities on Fuel Cell Performance and Durability
FC066; Zia Mirza, Honeywell: Development of Thermal and Water Management System for PEM Fuel Cell
FC031; Durai Swamy, Intelligent Energy: Development and Demonstration of a New Generation High Efficiency 10kW Stationary PEM Fuel Cell System
FC070; Steven Chuang, U of Akron: Development of Kilowatt-Scale Coal Fuel Cell Technology
FC071; Kenneth Mauritz, U of So. Mississippi: Alternative Fuel Cell Membranes for Energy Independence
Fuels Technologies
FT011; Aaron Williams, NREL: Impact of Biodiesel on Modern Diesel Engine Emissions



POSTER MAP

Monday, May 9

Crystal Gateway Marriott

2011 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Tuesday, May 10 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**I**	**II**	**III**
8:15 AM	APE00A; Susan Rogers, DOE: Advanced Power Electronics and Electric Motors	AN000; Fred Joseck, DOE: Overview of Systems Analysis	
8:30 AM	APE002; Gui-Jia Su, ORNL: Inverter Using Current Source Topology	AN015; David Greene, ORNL: Non-Automotive Fuel Cells: Market Assessment and Analysis of Impacts of Policies	ES000; David Howell, DOE: Overview of Battery R&D Activities
9:00 AM	APE012; Ralph Taylor, Delphi Automotive: Development, Test and Demonstration of a Cost-Effective, Compact, Light-Weight, and Scalable High Temperature Inverter for HEVs, PHEVs, and FCVs	AN018; Marc Melaina, NREL: Hydrogen Infrastructure Market Readiness Analysis	ES001; Brian Barnett, TIAX LLC : PHEV and LEESS Battery Cost Assessment
9:30 AM	APE004; Gui-Jia Su, ORNL: A Segmented Drive Inverter Topology with a Small DC Bus Capacitor	AN001; Brian Bush, NREL: Infrastructure Analysis of Early Market Transition of Fuel Cell Vehicles	ES111; Kevin Gallagher, ANL: PHEV Battery Cost Assessment
10:00 AM	APE007; Madhu Chinthavali, ORNL: Wide Bandgap Materials	AN002; Dave Reichmuth, SNL: Analysis of the Effects of Developing New Energy Infrastructures	ES097; Kent Snyder, Ford Motor Company: Overview and Progress of United States Advanced Battery Research (USABC) Activity
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	APE027; Philip Neudeck, NASA: Development of SiC Large Tapered Crystal Growth	AN013; Amgad Elgowainy, ANL: Emissions Analysis of Electricity Storage with Hydrogen	ES098; Chris Johnson, NETL: Progress of DOE Materials, Manufacturing Process R&D, and ARRA Battery Manufacturing Grants
11:30 AM	APE032; Christopher Whaling, Synthesis Partners: Inverter Cost Analysis and Marketing Intelligence	AN006; Darlene Steward, NREL: Cost and GHG Implications of Hydrogen for Energy Storage	ES014; Peter Faguy, DOE: Overview and Progress of the Applied Battery Research (ABR) Activity
12:00 PM	APE033; Gui-Jia Su, ORNL: Converter Topologies for Wired and Wireless Battery Chargers	AN016; Frances Wood, OnLocation, Inc.: NEMS-H2: Hydrogen's Role in Climate Mitigation and Oil Dependence Reduction	ES108; Tien Duong, DOE: Overview and Progress of the Exploratory Technology Research Activity: Batteries for Advanced
12:30 PM	**LUNCH - VT Awards**	**LUNCH - VT Awards**	**LUNCH - VT Awards**
1:45 PM	APE008; Uthamalingam Balachandran, ANL: High Dialectric Constant Capacitors for Power Electronic Systems	AN012; Michael Wang, ANL: GREET Model Development and Life-Cycle Analysis Applications	ES048; Karim Zaghib, Hydro-Quebec : Low Cost SiOx-Graphite and High Voltage Spinel Cathode
2:15 PM	APE009; Shawn Dirk, SNL: High Temperature Polymer Capacitor Dielectric Films	AN011; Mark Ruth, NREL: Macro-System Model	ES049; Michael Thackeray, ANL : Design and Evaluation of Novel High Capacity Cathode Materials
2:45 PM	APE006; Tim Burress, ORNL: Benchmarking of Competitive Technologies	AN017; Dan Getman, NREL: Developments in the Hydrogen Demand and Resource Assessment (HyDRA) Model: Improvements in Data Interoperability, Availability, and Querying	ES050; M. Stanley Whittingham, SUNY-Binghamton : The Synthesis and Characterization of Substituted Olivines and Layered Manganese Oxides
3:15 PM	APE028; Sreekant Narumanchi, NREL: Thermal Performance and Reliability of Bonded Interfaces	AN014; Clara Smith, LLNL: Energy Informatics: Support for Decision Makers through Energy, Carbon and Water Analysis	ES052; Marca Doeff, LBNL : Olivines and Substituted Layered Materials
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	APE037; Gilbert Moreno, NREL: Two-Phase Cooling Technology for Power Electronics with Novel Coolants	AN010; Dennis Papadias, ANL: Fuel Quality Effects on Stationary Fuel Cell Systems	ES056; Jason Zhang, PNNL: Development of High Energy Cathode Materials
4:45 PM	APE019; Jason Lustbader, NREL: Air Cooling Technology for Power Electronic Thermal Control		ES051; Arumugam Manthiram, U of Texas at Austin : STABILIZED SPINEL AND POLYANION CATHODES
5:15 PM	APE038; John Rugh, NREL: Integrated Vehicle Thermal Management – Combining Fluid Loops in Electric Drive Vehicles		ES054; Gerbrand Ceder, Massachusetts Institute of Technology and Clare Grey, University of Cambridge: First Principles Calculations and NMR Spectroscopy of Electrode Materials

Tuesday, May 10 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**IV**	**V**	**VI**
8:15 AM	FC000; Dimitrios Papageorgopoulos, DOE: Overview of Fuel Cells	PD00A; Scott Weil, DOE: Overview of Hydrogen Delivery	VSS000; Lee Slezak, DOE: Overview of Vehicle and Systems Simulation and Testing
8:30 AM	FC001; Mark Debe, 3M: Advanced Cathode Catalysts and Supports for PEM Fuel Cells	PD002; David King, PNNL: Biomass-Derived Liquids Distributed (Aqueous Phase) Reforming	VSS059; Keith Hardy, ANL: Grid Interaction Tech Team
9:00 AM	FC002; Vivek Murthi, UTC Power: Highly Dispersed Alloy Catalyst for Durability	PD004; Stefan Czernik, NREL: Distributed Bio-Oil Reforming	VSS053; Ted Bohn, ANL: Codes and Standards to Support Vehicle Electrification
9:30 AM	FC006; Radoslav Atanasoski, 3M: Durable Catalysts for Fuel Cell Protection During Transient Conditions	PD073; Jerry Y.S. Lin, Arizona State U: Zeolite Membrane Reactor for Water-Gas-Shift Reaction for Hydrogen Production	VSS052; Mike Duoba, ANL: HEV, PHEV, BEV Test Standard Validation
10:00 AM	FC007; Bryan Pivovar, NREL: Extended, Continuous Pt Nanostructures in Thick, Dispersed Electrodes	PD006; Sean Emerson, UTRC: A Novel Slurry Based Biomass Reforming Process	VSS054; Bob Larsen, ANL: Green Racing Initiative: Accelerating the Use of Advanced Technologies & Renewable Fuels
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FC008; Nenad Markovic, ANL: Nanosegregated Cathode Catalysts with Ultra-Low Platinum Loading	PD070; Mike Roberts, Gas Technology Inst.: One Step Biomass Gas Reforming-Shift Separation Membrane Reactor	VSS029; Don Karner, ecoTality North America: ADVANCED VEHICLE TESTING & EVALUATION
11:30 AM	FC009; Radoslav Adzic, BNL: Contiguous Platinum Monolayer Oxygen Reduction Electrocatalysts on High-Stability-Low-Cost Supports	PD025; Brian Somerday, SNL: Hydrogen Embrittlement of Structural Steels	VSS030; Mike Duoba, ANL: Advanced Technology Vehicle Lab Benchmarking - Level 1
12:00 PM	FC010; Fernando Garzon, LANL: The Science and Engineering of Durable Ultralow PGM Catalysts	PD014; Amgad Elgowainy, ANL: Hydrogen Delivery Infrastructure Analysis	VSS031; Erik Rask, ANL: Advanced Technology Vehicle Lab Benchmarking - Level 2 (in-depth)
12:30 PM	**LUNCH - VT Awards**	**LUNCH - VT Awards**	**LUNCH - VT Awards**
1:45 PM	FC011; John Kerr, LBNL: Molecular-scale, Three-dimensional Non-Platinum Group Metal Electrodes for Catalysis of Fuel Cell Reactions	PD088; Wei Zhang, ORNL: Vessel Design and Fabrication Technology for Stationary High-Pressure Hydrogen Storage	VSS009; Aymeric Rousseau, ANL: Autonomie Large Scale Deployment
2:15 PM	FC084; John Turner, NREL: WO3 and HPA Based System for Ultra-High Activity and Stability of Pt Catalysts in PEMFC Cathodes	PD015; Olga Sozinova, NREL: Hydrogen Delivery Analysis	VSS013; Paul Chambon, ORNL: PHEV Engine Control and Energy Management Strategy
2:45 PM	FC085; Vijay Ramani, IIT: Synthesis and Characterization of Mixed-Conducting Corrosion Resistant Oxide Supports	PD020; Andrew Weisberg, LLNL: Inexpensive Delivery of Cold Hydrogen in Glass Fiber Composite Pressure Vessels	VSS046; John Rugh, NREL: Integrated Vehicle Thermal Management – Combining Fluid Loops in Electric Drive Vehicles
3:15 PM	FC086; Sanjeev Mukerjee, Northeastern Univ: Development of Novel Non Pt Group Metal Electrocatalysts for Proton Exchange Membrane Fuel Cell Applications	PD022; Thad Adams, SRNL: Fiber Reinforced Composite Pipelines	VSS043; Robb Barnitt, NREL: Medium- and Heavy-Duty Electric Drive Vehicle Simulation and Analysis
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	FC087; Fred Wagner, GM: High-Activity Dealloyed Catalysts	PD021; Norm Newhouse, Lincoln Composites: Development of High Pressure Hydrogen Storage Tank for Storage and Gaseous Truck Delivery	VSS049; Neeraj Shidore, ANL: Evaluation of Ethanol Blends for PHEVs using Simulation and Engine-in-the-Loop
4:45 PM	FC088; Branko Popov, U of South Carolina: Development of Ultra-Low Platinum Alloy Cathode Catalyst for PEM Fuel Cells	PD017; Frank Di Bella, Concepts NREC: Development of a Centrifugal Hydrogen Pipeline Gas Compressor	VSS050; Forrest Jehlik, ANL: Data Collection for Improved Cold Temperature Thermal Modeling and Strategy Development
5:15 PM	FC044; Eric Brosha, LANL: Engineered Nano-scale Ceramic Supports for PEM Fuel Cells	PD016; Hooshang Heshmat, Mohawk Innovative Technology: Oil-Free Centrifugal Hydrogen Compression Technology Demonstration	VSS061; John Miller, ORNL: Wireless Plug-in Electric Vehicle (PEV) Charging
5:45 PM	FC012; Deborah Myers, ANL: Polymer Electrolyte Fuel Cell Lifetime Limitations: The Role of Electrocatalyst Degradation	PD048; Ludwig Lipp, FuelCell Energy, Inc.: Electrochemical Hydrogen Compressor	

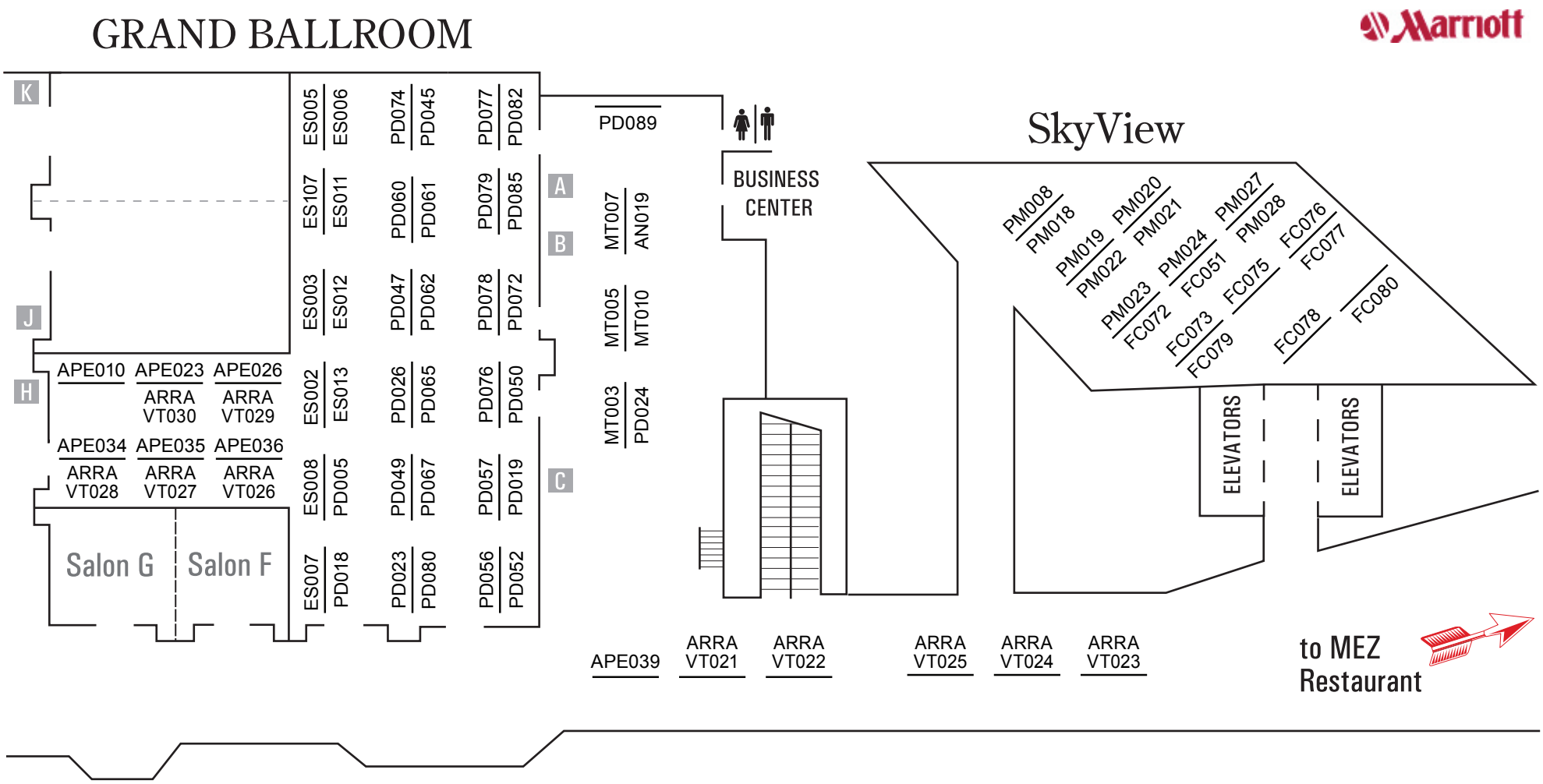
Tuesday, May 10 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**D**	**E**	**F**
8:15 AM	FT000; Kevin Stork, DOE: Fuels & Lubricants R&D	ACE00A; Gurpreet Singh, DOE: Overview of the DOE Advanced Combustion Engine R&D	ED000; Carole Read, DOE: Overview of Education
8:30 AM	FT001; Bruce Bunting, ORNL: Fuel and Lubricant Effects	ACE001; Mark Musculus, SNL: Heavy-Duty Low-Temperature and Diesel Combustion & Heavy-Duty Combustion Modeling	ED012; Joel Rinebold, Connecticut Center for Advanced Technology, Inc.: State and Local Government Partnership
9:00 AM	FT002; Brad Zigler, NREL: Fuels for Advanced Combustion Engines	ACE002; Paul Miles, SNL: Low-Temperature Automotive Diesel Combustion	ED015; Warren Leon, Clean Energy States Alliance: Hydrogen Education State Partnership Program
9:30 AM	FT003; Bob McCormick, NREL: Quality, Performance, and Emission Impacts of Biofuels and Biofuel Blends	ACE004; John Dec, SNL: HCCI and Stratified-Charge CI Engine Combustion Research	ED010; Shannon Baxter-Clemmons, South Carolina Hydrogen and Fuel Cell Alliance: Development of Hydrogen Education Programs
10:00 AM	FT004; Chuck Mueller, SNL: Optical-Engine and Surrogate-Fuels Research for an Improved Understanding of Fuel Effects on Advanced-Combustion Strategies	ACE005; Lyle Pickett, SNL: Spray Combustion Cross-Cut Engine Research	ED011; Alleyn Harned, Commonwealth of Virginia: VA-MD-DC Hydrogen Education for Decision Makers
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FT006; Magnus Sjoberg, SNL: Advanced Lean-Burn DI Spark Ignition Fuels Research	ACE006; Richard Steeper, SNL: Automotive HCCI Engine Research	ED014; Patrick Serfass, Technology Transition Corporation: H2L3: Hydrogen Learning for Local Leaders
11:30 AM	FT007; Scott Sluder, ORNL: Non-Petroleum-Based Fuels: Effects on Emissions Control Technologies	ACE007; Joe Oefelein, SNL: Large Eddy Simulation (LES) Applied to Low-Temperature and Diesel Engine Combustion Research	ED013; Pat Valente, Ohio Fuel Cell Coalition: Raising H2 and Fuel Cell Awareness in Ohio
12:00 PM	FT008; James Szybist, ORNL: Gasoline-like fuel effects on advanced combustion regimes	ACE008; Peter Van Blarigan, SNL: Free-Piston Engine	ED019; Marianne Mintz, ANL: Employment Impacts of Early Markets for Hydrogen and Fuel Cell Technologies
12:30 PM	**LUNCH (VT Awards in Gateway)**	**LUNCH (VT Awards in Gateway)**	**LUNCH (VT Awards in Gateway)**
1:45 PM	FT010; Bill Pitz, LLNL: Chemical Kinetic Modeling of Non-Petroleum Based Fuels	ACE009; Tom Wallner, ANL: Optimization of Direct-Injection H2 Combustion Engine Performance, Efficiency, and Emissions	ED008; Tom Dever, Carolina Tractor & Equipment Co. Inc.: Dedicated to The Continued Education, Training and Demonstration of PEM Fuel Cell Powered Lift Trucks In Real-World Applications
2:15 PM		ACE010; Christopher Powell, ANL: Fuel Injection and Spray Research Using X-Ray Diagnostics	ED003; David Blekhman, Cal State LA U Aux. Services, Inc.: Hydrogen and Fuel Cell Education at California State University, Los Angeles
2:30 PM	MT000; Pete Devlin, DOE: Overview of Market Transformation		
2:45 PM	MT001; Larry Chick, PNNL: Assessment of Solid Oxide Fuel Cell Power System for Greener Commercial Aircraft	ACE011; Steve Ciatti, ANL: Use of Low Cetane Fuel to Enable Low Temperature Combustion	ED004; Richard Engel, Humboldt State U Sponsored Programs Foundation: Hydrogen Energy in Engineering Education (H2E3)
3:15 PM	MT002; Joseph Pratt, SNL: PEM Fuel Cell Systems for Commercial Airplane Systems Power	ACE012; Dan Flowers, LLNL: Computationally Efficient Modeling of High-Efficiency Clean Combustion Engines	ED005; Jason Keith, Michigan Technological U: Hydrogen Education Curriculum Path at Michigan Technological University
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	MT004; Todd Ramsden, NREL: Direct Methanol Fuel Cell Material Handling Equipment Demonstration	ACE013; Bill Pitz, LLNL: Chemical Kinetic Research on HCCI & Diesel Fuels	ED006; David Block, U of Central Florida: Hydrogen and Fuel Cell Technology Education Program (HFCT)
4:45 PM	MT006; Mike Rinker, PNNL: Fuel Cell Combined Heat and Power Industrial Demonstration	ACE014; David Carrington, LANL: 2011 DOE Vehicle Technologies KIVA-Development	ED007; Michael Mann, U of North Dakota: Development of a Renewable Hydrogen Production and Fuel Cell Education Program
5:15 PM	MT009; Susan Schoenung, Longitude 122 West, Inc.: Economic Analysis of Bulk Hydrogen Storage for Renewable Utility	ACE015; Stuart Daw, ORNL: Stretch Efficiency for Combustion Engines: Exploiting New Combustion Regimes	ED017; Mary Spruill, NEED: H2 Educate! Hydrogen Education for Middle Schools
5:45 PM	MT008; Mitch Ewan, Hawaii Natural Energy Institute: Hydrogen Energy Systems as a Grid Management Tool	ACE016; Tom Briggs, ORNL: High Efficiency Clean Combustion in Multi-Cylinder Light-Duty Engines	ED016; Barbara Nagle, Lawrence Hall of Science at UC-Berkeley: Hydrogen Technology and Energy Curriculum (HyTEC)

Tuesday, May 10 - Poster Presentations

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

Electrochemical Storage
ES007; Ron Smith, Celgard: USABC Battery Separator Development
ES008; Richard Pekala, Entek: Multifunctional, Inorganic-Filled Separators for Large Format, Li-ion Batteries
ES002; Mohamed Alamgir, LG Chem, Michigan: A High-Performance PHEV Battery Pack
ES003; Steven Yoon, A123Systems : USABC HEV and PHEV Programs
ES107; Mary Patterson, Enerdel : Perfluoro Aryl Boronic Esters as Chemical Shuttle Additives
ES005; Scott Engstrom, Johnson Controls-Saft : JCS PHEV System Development-USABC
ES006; Jamie Gardner, 3M: Advanced Cathode Material Development for PHEV Lithium Ion Batteries
ES011; Marina Yakovleva, FMC: Stabilized Lithium Metal Powder, Enabling Material and Revolutionary Technology for High Energy Li-ion Batteries
ES012; Yuriy Mikhaylik, Sion Power: Protection of Li Anodes Using Dual Phase Electrolytes
ES013; Anthony Thurston, BASF: Process for Low Cost Domestic Production of LIB Cathode Materials
Propulsion Materials
PM008; Jules Routbort, ANL : Erosion of Radiator Materials by Nanofluids
PM018; Govindarajan Muralidharan, ORNL: Materials for HCCI Engines
PM019; Kyle Alvine, PNNL: Hydrogen Materials Compatibility for the H-ICE
PM020; Tim Theiss, ORNL: Materials-Enabled High-Efficiency Diesel Engines
PM021; Peter Blau, ORNL: Materials for High Pressure Fuel Injection Systems
PM022; Phil Maziasz, ORNL: Materials for Advanced Engine Valve Train
PM023; Dileep Singh, ANL: Compact Potentiometric NOx Sensor
PM024; Jiangang Sun, ORNL: NDE DEVELOPMENT FOR ACERT ENGINE COMPONENTS
PM027; Ali Erdemir, ANL: Ultra-Fast Chemical Conversion Surfaces
PM028; Thomas Watkins, ORNL: Catalyst Characterization
Advanced Power Electronics
APE010; Michael Lanagan, Penn State U: Glass Ceramic Dielectrics for DC Bus Capacitors
APE023; Zhenxian Liang, ORNL: Power Device Packaging
APE026; Allen Hefner, NIST: Electro-thermal-mechanical Simulation and Reliability for Plug-in Vehicle Converters and Inverters
APE034; John Hsu, ORNL: Integration of Novel Flux Coupling Motor and Current Source Inverter
APE035; John Miller, ORNL: Motor Packaging with Consideration of Electromagnetic and Material Characteristics
APE036; Doug DeVoto, NREL: Physics of Failure of Electrical Interconnects
APE039; Sreekant Narumanchi, NREL: Compact, Light-Weight, Single-Phase, Liquid-Cooled Cold Plate
ARRAVT021; Judith Gieseking, General Motors: US Electric Drive Manufacturing Center
ARRAVT022; Gary Cameron, Delphi Automotive Systems, LLC: Low-Cost U.S. Manufacturing of Power Electronics for Electric Drive Vehicles
ARRAVT023; Laurie Tuttle, Allison Transmission, Inc.: Electric Drive Component Manufacturing Facilities
ARRAVT024; Kevin Poet, Ford Motor: U.S. Based HEV and PHEV Transaxle Program
ARRAVT025; Dane Carter, Remy, Inc.: Providing Vehicle OEMs Flexible Scale to Accelerate Adoption of Electric Drive Vehicles
ARRAVT026; Jon Lutz, UQM Technologies, Inc.: Electric Drive Component Manufacturing Facilities
ARRAVT027; Jason Wolkove, Magna E-Car Systems of America, Inc.: Electric Drive Component Manufacturing: Magna E-Car Systems of America, Inc.
ARRAVT028; Johnny Boan, KEMET Corporation: DC Bus Capacitor Manufacturing Facility for Electric Drive Vehicles
ARRAVT029; Ed Sawyer, SBE, Inc.: Construction, Qualification, and Low Rate Production Start - up of a DC Bus Capacitor High Volume Manufacturing Facility with Capacity to S
ARRAVT030; Michael Johnson, Powerex, Inc.: Electric Drive Semiconductor Manufacturing (EDSM) Center
Hydrogen Production and Delivery
PD005; Ashok Damle, Pall Corp.: High-Performance, Durable, Palladium Alloy Membrane for Hydrogen Separation and Purification
PD018; Joe Schwartz, Praxair: Advanced Hydrogen Liquefaction Process
PD023; Mohsen Dadfarnia, U of Illinois: A Combined Materials Science/Mechanics Approach to the Study of Hydrogen Embrittlement of Pipeline Steels
PD024; Barton Smith, ORNL: Composite Technology for Hydrogen Pipelines
PD026; Vadim Zykin, Gas Equipment Engineering Corp.: Innovative Hydrogen Liquefaction Cycle
PD047; Doug Stalheim, Secat, Inc.: Materials Solutions for Hydrogen Delivery in Pipelines
PD060; Hooshang Heshmat, Mohawk Innovative Technology: Advanced Sealing Technology for Hydrogen Compressors
PD074; Salvador Aceves, LLNL: Rapid Low Loss Cryogenic H2 Refueling
PD049; Wei Zhang, ORNL: Integrity of Steel Welds in High-Pressure Hydrogen Environment
PD045; Balu Balachandran, ANL: Distributed Reforming of Renewable Liquids Using Oxygen Transport Membranes
PD062; Rikard Wind, Synkera Technologies Inc.: Nanotube Array Photoelectrochemical Hydrogen Production
PD065; Timothy Norman, Giner Electrochemical Systems, LLC: Unitized Design for Home Refueling Appliance for Hydrogen Generation to 5,000 psi
PD067; Luke Dalton, Proton Energy Systems: Hydrogen by Wire - Home Fueling System
PD080; Richard Billo, U of Texas, Arlington: Value-Added Hydrogen Generation with CO2 Conversion
PD056; Liwei Xu, Midwest Optoelectronics, LLC: Critical Research for Cost-Effective Photoelectrochemical Production of Hydrogen
PD057; Malay Mazumder, U Arkansas Little Rock: PEC Based Hydrogen Production by Using Self-Cleaning Optical Windows
PD076; Mano Misra, U of Nevada Reno: Photo-electrochemical Hydrogen Generation from Water Using TiSi2 –TiO2 Nanotube Core-Shell Structure
PD078; James Hoefelmeyer, U of South Dakota: USD Catalysis Group for Alternative Energy
PD079; Renat Sabirianov, U of Nebraska - Omaha: Novel Photocatalytic Metal Oxides
PD077; Ravi Subramanian, U of Nevada Reno: Solar Thermal Hydrogen Production
PD052; Wan-Jian Yin, NREL: PEC Materials: Theory and Modeling
PD082; Glenn Eisman, H2 Pump LLC: Process Intensification of Hydrogen Unit Operations Using an Electrochemical Device
PD085; Genevieve Saur, NREL: Hour-by-Hour Cost Modeling of Optimized Central Wind-Based Water Electrolysis Production
PD072; Paul Liu, Media and Process Technology Inc.: Development of Hydrogen Selective Membranes/Modules as Reactors/Separators for Distributed Hydrogen Production
PD050; Robert Erck, ANL: Coatings for Centrifugal Compression
PD019; John Barclay, Prometheus Energy: Active Magnetic Regenerative Liquefier
PD089; Darlene Steward, NREL: H2A Production Model Updates
Fuel Cells
FC051; Ira Bloom, ANL: Fuel Cell Testing at the Argonne Fuel Cell Test Facility: A Comparison of US and EU Test Protocols
FC072; Anant Upadhyayula, Rolls-Royce Fuel Cell Systems (US) Inc.: Extended Durability Testing of an External Fuel Processor for SOFC
FC073; Kenneth Reifsnider, U of South Carolina: Hydrogen Fuel Cell Development in Columbia (SC)
FC075; Vern Sproat, Stark State College: Fuel Cell Balance of Plant Reliability Testbed
FC076; Neal Sullivan, Colorado School of Mines: Biomass Fuel Cell Systems
FC077; Satish Mohapatra, Dynalene: Fuel Cell Coolant Optimization and Scale-up
FC078; Joel Berry, Kettering U: 21st Century Renewable Fuels, Energy, and Materials Initiative
FC079; Prabhakar Singh, University of Connecticut Global Fuel Cell Center: Improving Fuel Cell Durability and Reliability
FC080; Greg Rush, Rolls-Royce Fuel Cell Systems (US) Inc.: Solid Oxide Fuel Cell Systems Print Verification Line (PVL) Pilot Line
Market Transformation
MT003; John Lewis, NREL: Green Communities
MT005; Bob Glass, LLNL: Incorporation of Two Ford H2 ICE Buses into the Shuttle Bus Fleet
MT007; Russ Keller, South Carolina Hydrogen and Fuel Cell Alliance: Landfill Gas – to – Hydrogen
MT010; Lennie Klebanoff, SNL: Fuel Cell Mobile Lighting
Systems Analysis
AN019; Marc Melaina, NREL: Rethinking U.S. Hydrogen Infrastructure Transition Scenarios: What comes next?



POSTER MAP

Tuesday, May 10

Crystal Gateway Marriott

2011 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Wednesday, May 11 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**I**	**II**	**III**
8:15 AM		ST000; Ned Stetson, DOE: Overview of Hydrogen Storage	
8:30 AM	APE013; Ayman El-Refaie, General Electric Global: Scalable, Low-Cost, High Performance IPM Motor for Hybrid Vehicles	ST001; Rajesh Ahluwalia, ANL: System Level Analysis of Hydrogen Storage Options	ES070; Jordi Cabana, LBNL: Investigation of critical parameters in Li-ion battery electrodes
9:00 AM	APE005; John Hsu, ORNL: Novel Flux Coupling Machine without Permanent Magnets	ST002; Jeff Rosenfeld, TIAX, LLC: Cost Analyses of Hydrogen Storage Materials and On-Board Systems	ES059; Xiao-Qing Yang, BNL : In situ Characterizations of New Battery Materials and the Studies of High Energy Density Li-Air Batteries
9:30 AM	APE020; Tim Burress, ORNL: A New Class of Switched Reluctance Motors without Permanent Magnets	ST004; Don Anton, SRNL: Hydrogen Storage Engineering Center of Excellence	ES069; Guoying Chen, LBNL: Studies on Oxide Cathode Crystals
10:00 AM	APE015; Iver Anderson, Ames: Permanent Magnet Development for Automotive Traction Motors	ST008; Matthew Thornton, NREL: System Design, Analysis, Modeling, and Media Engineering Properties for Hydrogen Energy Storage	ES081; Vince Battaglia, LBNL : Fundamental Approach to Electrode Fabrication and Failure Analysis
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	APE030; Kevin Bennion, NREL: Electric Motor Thermal Management	ST007; Troy Semelsberger, LANL: Chemical Hydride Rate Modeling, Validation, and System Demonstration	ES071; Yet-Ming Chiang, Massachusetts Institute of Technology: New Electrode Designs for Ultrahigh Energy Density
11:30 AM	APE024; Fei Wang, ORNL: High Power Density Integrated Traction Machine Drive	ST045; Joseph Reiter, NASA JPL: Key Technologies, Thermal Management, and Prototype Testing for Advanced Solid-State Hydrogen Storage Systems	ES082; Ann Marie Sastry, U of Michigan : Modeling-Thermo-electrochemistry, Capacity Degradation and Mechanics with SEI Layer
12:00 PM	APE014; Greg Smith, General Motors: Advanced Integrated Electric Traction System	ST044; Ted Motyka, SRNL: SRNL Technical Work Scope for the Hydrogen Storage Engineering Center of Excellence: Design and Testing of Metal Hydride and Adsorbent Systems	ES091; Kristin Persson, LBNL: ATOMISTIC MODELING OF ELECTRODE MATERIALS
12:30 PM	**LUNCH - H2 Awards**	**LUNCH - H2 Awards**	**LUNCH - H2 Awards**
1:45 PM		ST005; Jamie Holladay, PNNL: Systems Engineering of Chemical Hydride, Pressure Vessel, and Balance of Plant for On-Board Hydrogen Storage	ES100; Austen Angell, Arizona State University: Electrolytes and Separators for High Voltage Li Ion Cells
2:00 PM	LM000; Carol Schutte, DOE: Overview of Lightweight Materials		
2:15 PM	LM001; Sujit Das, ORNL: Technical Cost Modeling - Life Cycle Analysis Basis for Program Focus	ST006; Bart van Hassel, UTRC: Advancement of Systems Designs and Key Engineering Technologies for Materials Based Hydrogen Storage	ES068; Daniel Scherson, Case Westerm Reserve U: Bifunctional Electrolytes for Lithium-ion Batteries
2:45 PM	LM026; Tom Wenzel, LBNL: Analyzing Casualty Risk using State Data on Police-Reported Crashes	ST009; Darsh Kumar, General Motors: Optimization of Heat Exchangers and System Simulation of On-Board Storage Systems	ES066; Khalil Amine, ANL: Electrolytes - Advanced Electrolyte and Electrolyte Additives
3:15 PM	LM002; Dave Warren, ORNL: Low Cost Carbon Fiber Overview	ST010; Andrea Sudik, Ford Motor: Ford/BASF-SE/UM Activities in Support of the Hydrogen Storage Engineering Center of Excellence	ES067; Brett Lucht, U of Rhode Island: Development of Electrolytes for Lithium-ion Batteries
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	LM003; Cliff Eberle, ORNL: Carbon Fiber Technology Facility	ST046; Kevin Drost, Oregon State U: Microscale Enhancement of Heat and Mass Transfer for Hydrogen Energy Storage	ES057; Wesley Henderson, North Carolina State U: Inexpensive, Nonfluorinated (or Partially Fluorinated) Anions for Lithium Salts and Ionic Liquids for Lithium Battery Electrolytes
4:45 PM	LM004; Dave Warren, ORNL: Lower Cost Carbon Fiber Precursors	ST047; Norman Newhouse, Lincoln Composites: Development of Improved Composite Pressure Vessels for Hydrogen Storage	ES089; John Kerr, LBNL : Electrolytes - R&D for Advanced Lithium Batteries. Interfacial Behavior of Electrolytes
5:15 PM	LM006; Felix Paulauskas, ORNL: Advanced Oxidation & Stabilization of PAN-Based Carbon Precursor Fibers		ES058; Grant Smith, U of Utah : Molecular dynamics simulation and ab intio studies of electrolytes and electrolyte/electrode interfaces
5:45 PM	LM027; Andrew Payzant, ORNL: Materials Characterization Capabilities at the High Temperature Materials Laboratory: Focus on Carbon Fiber and Composites		

Wednesday, May 11 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**IV**	**V**	**VI**
8:15 AM		PD000; Eric Miller, DOE: Overview of Hydrogen Production	
8:30 AM	FC013; Rod Borup, LANL: Durability Improvements Through Degradation Mechanism Studies	PD030; Monjid Hamdan, Giner Electrochemical Systems, LLC: PEM Electrolyzer Incorporating an Advanced Low Cost Membrane	VSS021; Jim Francfort, INL: Idaho National Laboratory Testing of Advanced Technology Vehicles
9:00 AM	FC049; Silvia Wessel, Ballard: Development of Micro-Structural Mitigation Strategies for PEM Fuel Cells: Morphological Simulations and Experimental Approaches	PD071; Katherine Ayers, Proton Energy Systems: High Performance, Low Cost Hydrogen Generation from Renewable Energy	VSS060; Perry Jones, ORNL: Dynamometer Testing of USPS EV Conversions
9:30 AM	FC014; Olga Polevaya, Nuvera Fuel Cells: Durability of Low Pt Fuel Cells Operating at High Power Density	PD029; Paul Dunn, Avalence LLC: High-Capacity, High Pressure Electrolysis System with Renewable Power Sources	VSS033; Barney Carl\eson, INL: Electric Drive and Advanced Battery and Components Testbed (EDAB)
10:00 AM	FC015; Timothy Patterson, UTC Power: Improved Accelerated Stress Tests Based on FCV Data	PD031; Kevin Harrison, NREL: Renewable Electrolysis Integrated System Development and Testing	VSS063; Abdullah Bazzi, Chrysler LLC: Advancing Plug In Hybrid Technology and Flex Fuel Application on a Chrysler Mini-Van PHEV
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FC016; Rangachary Mukundan, LANL: Accelerated Testing Validation	PD037; Maria Ghirardi, NREL: Biological Systems for Hydrogen Photoproduction	VSS018; Greg Cesiel, General Motors : Plug-in Hybrid (PHEV) Vehicle Technology Advancement and Demonstration Activity
11:30 AM	FC023; Conghua Wang, TreadStone: Low Cost PEM Fuel Cell Metal Bipolar Plates	PD038; Pin-Ching Maness, NREL: Fermentation and Electrohydrogenic Approaches to Hydrogen Production	VSS019; Julie D'Annunzio, Ford: Ford Plug-In Project: Bringing PHEVs to Market
12:00 PM	FC024; Jennifer Mawdsley, ANL: Metallic Bipolar Plates with Composite Coatings	PD039; Phil Weyman, J Craig Venter Inst.: Hydrogen from Water in a Novel Recombinant Oxygen-Tolerant Cyanobacterial System	VSS023; Colin Casey, Navistar, Inc.: Development and Deployment of Generation 3 Plug-In Hybrid Electric School Buses
12:30 PM	**LUNCH - H2 Awards**	**LUNCH - H2 Awards**	**LUNCH - H2 Awards**
1:45 PM	FC034; Steven Hamrock, 3M: Membranes and MEA's for Dry, Hot Operating Conditions	PD036; Tasios Melis, UC Berkeley: Maximizing Light Utilization Efficiency and Hydrogen Production in Microalgal Cultures	VSS045; Lawrence Chaney, NREL: LDV HVAC Model Development and Validation
2:15 PM	FC036; Cortney Mittelsteadt, Giner Electrochemical Systems, LLC: Dimensionally Stable Membranes	BES001; Jim Swartz, Stanford University: Using in vitro Maturation and Cell-free Evolution to Understand [Fe-Fe]hydrogenase Activation and Active Site Constraints	VSS047; Jeffrey Gonder, NREL: Real-World PHEV Fuel Economy Prediction
2:45 PM	FC037; Morton Litt, Case Western Reserve U: Rigid Rod Polyelectrolytes: Effect on Physical Properties: Frozen-in Free Volume: High Conductivity at Low RH	BES002; Caroline Harwood, University of Washington: Biohydrogen Production by a Photosynthetic Bacterium	VSS041; Stuart Daw, ORNL: Advanced PHEV Engine Systems and Emissions Control Modeling and Analysis
3:15 PM	FC038; Peter Pintauro, Vanderbilt U: NanoCapillary Network Proton Conducting Membranes for High Temperature Hydrogen/Air Fuel Cells	BES003; Michael Adams, University of Georgia: Hypothermophilic Multiprotein Complexes and Pathways for Energy Conservation and Catalysis: Fundamental Studies of Recombinant Hydrogenases	VSS048; Phil Sharer, ANL: Evaluation of Powertrain Options and Component Sizing for MD and HD Applications on Real World Drive Cycles
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	FC039; Andrew Herring, Colorado School of Mines: Novel Approaches to Immobilized Heteropoly Acid (HPA) Systems for High Temperature, Low Relative Humidity Polymer-Type Membranes	BES004; Oleg Prezhdo, University of Rochester: Excited State Dynamics in Semiconductor Quantum Dots	VSS003; Oyelayo Ajayi, ANL: Boundary Layer Lubrication Mechanisms
4:45 PM	FC040; Ludwig Lipp, FuelCell Energy, Inc.: High Temperature Membrane with Humidification-Independent Cluster Structure	BES005; Annabella Selloni, Princeton University: Bio-Inspired Catalyst/Electrode System for Electrocatalystic H2 Production from Water	VSS005; George Fenske, ANL: DOE/DOD Parasitic Energy Loss Collaboration
5:15 PM	FC090; Stephen Grot, Ion Power: Corrugated Membrane Fuel Cell Structures	BES006; Karen Brewer, Virginia Polytechnic Institute and State University: Photoinitiated Electron Collection in Mixed-Metal Supramolecular Complexes: Development of Photocatalysts for Hydrogen Production	VSS058; Oyelayo Ajayi, ANL: Development of High Power Density Driveline for Vehicles
5:45 PM	FC043; Yu Seung Kim, LANL: Resonance-Stabilized Anion Exchange Polymer Electrolytes	BES007; Art Nozik, NREL: Efficient H2 Production via Novel Molecular Chromophores and Nanostructures	VSS006; Kambiz Salari, LLNL: DOE's Effort to Reduce Truck Aerodynamic Drag through Joint Experiments and Computations

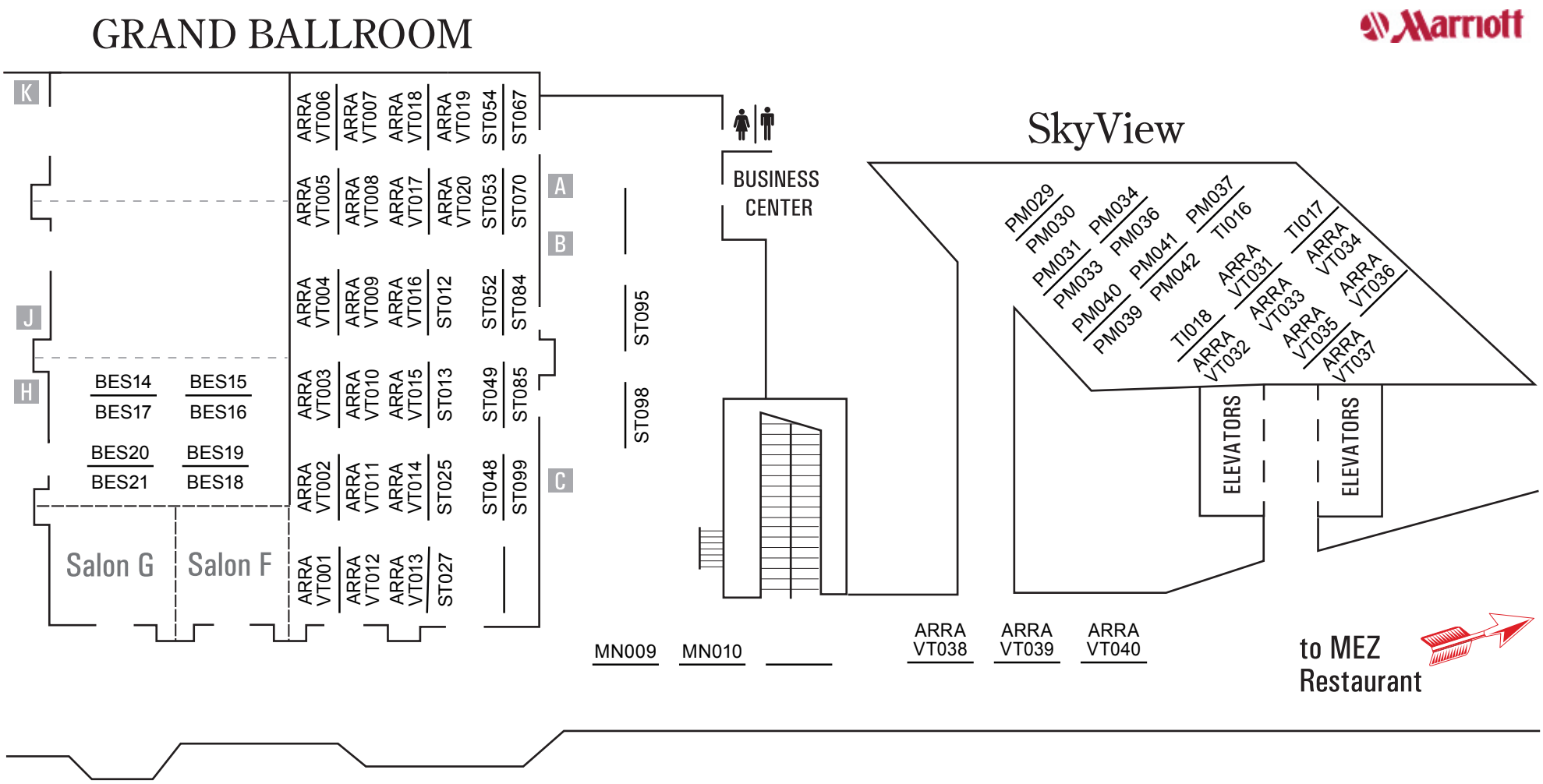
Wednesday, May 11 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**D**	**E**	**F**
8:15 AM	PM000; Jerry Gibbs, DOE: Overview of Propulsion Materials		SCS000; Antonio Ruiz, DOE: Overview of Safety, Codes & Standards
8:30 AM	PM001; Huay-Tay Lin, ORNL : Design Optimization of Piezoceramic Multilayer Actuators for Heavy Duty Diesel Engine Fuel Injectors	ACE017; Tom Briggs, ORNL: High Efficiency Engine Systems Development and Evaluation	SCS010; Daniel Dedrick, SNL: Research and Development Program for Safety, Codes & Standards
9:00 AM	PM002; Mark Smith, PNNL : Fatigue Enhancements by Shock Peening	ACE019; Dennis Assanis, U of Michigan: A University Consortium on Efficient and Clean High-Pressure, Lean Burn (HPLB) Engines	SCS011; Jeffrey LaChance, SNL: Risk-Informed Safety Requirements for H2 Facilities
9:30 AM	PM003; George Fenske, ANL : Fuel Injector Holes	ACE020; Rolf Reitz, U of Wisconsin: Optimization of Advanced Diesel Engine Combustion Strategies	SCS002; Robert Burgess, NREL: Component Standard Research & Development
10:00 AM	PM004; Glenn Grant, PNNL : Tailored Materials for Advanced CIDI Engines	ACE021; Gouming Zhu, Michigan State U: Flex Fuel Optimized SI and HCCI Engine	SCS005; Brian Somerday, SNL: Materials and Components Compatibility
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	PM005; Leta Woo, LLNL: NOx Sensor Development	ACE052; Todd Toops, ORNL: Neutron Imaging of Advanced Engine Technologies	SCS012; Chris San Marchi, SNL: Lift-Truck Tank Testing and Analysis
11:30 AM	PM006; Curt Lavender, PNNL : Low Cost Titanium – Propulsion Applications	ACE053; James Szybist, ORNL: Expanding Robust HCCI Operation (Delphi CRADA)	SCS001; Carl Rivkin, NREL: National Codes and Standards Coordination
12:00 PM	PM007; Peter Blau, ORNL : Friction and Wear Enhancement of Titanium Alloy Engine Components	ACE054; Sreenath Gupta, ANL: Rapid Compression Machine – A Key Experimental Device to Effectively Collaborate with Basic Energy Sciences	SCS003; Carl Rivkin, NREL: Codes and Standards Outreach for Emerging Fuel Cell Technologies
12:30 PM	**LUNCH (H2 Awards in Gateway)**	**LUNCH (H2 Awards in Gateway)**	**LUNCH (H2 Awards in Gateway)**
1:30 PM		ACE00B; Ken Howden, DOE: Overview of DOE Emission Control R&D	
1:45 PM	PM035; Michael Mcguire, ORNL: Non-Rare Earth magnetic materials	ACE022; Jae-Soon Choi, ORNL: CLEERS Coordination & Joint Development of Benchmark Kinetics for LNT & SCR	SCS004; Eric Brosha, LANL: Hydrogen Safety, Codes and Standards: Sensors
2:15 PM	PM009; Michael Lance, ORNL: Materials Issues Associated with EGR Systems	ACE023; Jong Lee, PNNL: CLEERS Aftertreatment Modeling and Analysis	SCS007; Tommy Rockward, LANL: Hydrogen Fuel Quality
2:45 PM	PM010; Thomas Watkins, ORNL: Durability of Diesel Engine Particulate Filters	ACE024; Kyeong Lee, ANL: Development of Advanced Diesel Particulate Filtration (DPF) Systems	SCS008; Steven Weiner, PNNL: Hydrogen Safety Panel
3:15 PM	PM011; Chaitanya K. Narula, ORNL: Catalysts via First Principles	ACE025; Ken Rappe, PNNL: Combination and Integration of DPF-SCR Aftertreatment Technologies	SCS006; Linda Fassbender, PNNL: Hydrogen Safety Knowledge Tools
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	PM012; Andrew Wereszczak, ORNL: Thermoelectric Mechanical Reliability	ACE026; Chuck Peden, PNNL: Enhanced High Temperature Performance of NOx Storage/Reduction (NSR) Materials	SCS015; Monte Elmore, PNNL: Hydrogen Emergency Response Training for First Responders
4:45 PM	PM013; David J. Singh, ORNL: Thermoelectrics Theory and Structure	ACE027; Chuck Peden, PNNL: Degradation Mechanisms of Urea Selective Catalytic Reduction Technology	SCS017; Salvador Aceves, LLNL: Hydrogen Safety Training for Researchers and Technical Personnel
5:15 PM	PM014; Terry Hendricks, PNNL : Proactive Strategies for Designing Thermoelectric Materials for Power Generation	ACE028; John Johnson, Michigan Technological U: Experimental Studies for DPF and SCR Model, Control System, and OBD Development for Engines Using Diesel and Biodiesel Fuels	SCS014; Robert Lieberman, Intelligent Optical Systems, Inc.: Safe Detector System for Hydrogen Leaks
5:45 PM	PM038; Phil Maziasz, ORNL: Materials for Advanced Turbocharger Designs	ACE029; Michael Harold, U of Houston: Development of Optimal Catalyst Designs and Operating Strategies for Lean NOx Reduction in Coupled LNT-SCR Systems	

Wednesday, May 11 - Poster Presentations

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

Electrochemical Storage
ARRAVT001; Sehan Benjamin Kwon, LG Chem, Michigan: Li-Ion Battery Cell Manufacturing
ARRAVT002; Rick Greenly, East Penn Manufacturing Co.: Advanced Battery Manufacturing Facilities and Equipment Program
ARRAVT003; James Butler, Enerdel : Recovery Act Expanding the First Significant U.S. – Based Manufacturing
ARRAVT004; Larry Atkins, Exide Technologies: Accelerating the Electrification of U.S. Drive Trains: Ready and Affordable Technology Solutions for Domestically Manufactured Advanced Batteries
ARRAVT005; Linda Trumm, General Motors: GM Li-Ion Battery Pack Manufacturing
ARRAVT006; John Pham, KD ABG MI, LLC (Dow Kokam): Dow Kokam Lithium Ion Battery Production Facilities
ARRAVT007; Karen Conner, Saft America, Inc.: Saft Factory of the Future
ARRAVT008; Joseph Dicarlo, BASF Catalysts LLC: Construction of a Li Ion Battery (LIB) Cathode Production Plant in Elyria, Ohio
ARRAVT009; Gerry Rumierz, Celgard: Celgard US Manufacturing Facilities Initiative for Lithium-ion Battery Separator
ARRAVT010; John Groves, Chemetall Foote Corp: Expansion of Domestic Production of Lithium Carbonate and Lithium Hydroxide to Supply US Battery Industry
ARRAVT011; Chris Wheaton, EnerG2 Inc.: Recovery Act:Nanoengineered Ultracapacitor Material Surpasses the $/kW Threshold for Use in EDVs
ARRAVT012; Gary McChesney, FutureFuel Chemical Company: Establish and Expand Commercial Production of Graphite Anode Materials for High Performance Lithium-ion Batteries
ARRAVT013; Dan Moffa, H&T Waterbury: Manufacture of Advanced Battery Metal Containers & Components
ARRAVT014; Brian O'Leary, Honeywell: High-Volume Manufacturing of LiPF6, A Critical Lithium-ion Battery Material
ARRAVT015; Ralph Wise, Novolyte Technologies Inc: Expansion of Novolyte Capacity for Lithium Ion Electrolyte Production
ARRAVT016; Michael Sekedat, Pyrotek Inc.: Pyrotek Graphitization Facility Expansion Project
ARRAVT017; David Han, Toda America, Inc.: Toda Material/Component Production Facilities
ARRAVT018; Jesus Alvarez, A123Systems : Vertically Integrated Mass Production of Automotive Class Lithium Ion Batteries
ARRAVT019; Eric Ellerman, Johnson Controls, Inc: Johnson Controls Inc. Domestic Advanced Battery Industry Creation Project
ARRAVT020; Todd Coy, TOXCO Inc.: Recycling Hybrid and Elecectric Vehicle Batteries
Propulsion Materials
PM029; Larry Allard, ORNL: Ultra-High Resolution Electron Microscopy for Catalyst Characterization
PM030; Ali Erdemir, ANL: Low-Friction Hard Coatings
PM031; Dileep Singh, ANL: Residual Stress Measurements in Thin Coatings
PM033; Hua-Tay Lin, ORNL: Durability of ACERT Engine Components
PM034; Sujit Das, ORNL: Life Cycle Modeling of Propulsion Materials
PM036; Hua-Tay Lin, ORNL: Low-Cost Direct Bonded Aluminum (DBA) Substrates
PM037; Andy Wereszczak, ORNL: Improved Organics for Power Electronics and Electric Motors
PM039; Dane Wilson, ORNL: Engine Materials Compatibility with Alternate Fuels
PM040; Michael Lance, ORNL: Biofuels Impact on DPF Durability
PM041; Michael Lance, ORNL: Electrically-Assisted Diesel Particulate Filter Regeneration
PM042; Jules Routbort, ANL : Assessment of Nanofluids for HEV Cooling Applications
Technology Integration
TI016; Robert White, Renewable Fuels Association: Alternative Fuel Trade Alliance Clean Cities Education
TI017; Al Ebron, West Virginia U: National Alternative Fuels Training Consortium (NAFTC) Clean Cities Learning Program
TI018; Anne Tazewell, North Carolina State U: Clean Transportation Education Project
ARRAVT031; Al Ebron, West Virginia U: Advanced Electric Drive Vehicle Education Program
ARRAVT032; James Caruthers, Purdue U: Indiana Advanced Electric Vehicle Training and Education Consortium (I-AEVtec)
ARRAVT033; Gary Caille, Colorado State U: Advanced Electric Drive Vehicle Education Program: CSU Ventures
ARRAVT034; Mehdi Ferdowsi, Missouri U of Science and Technology: Advanced Electric Drive Vehicles – A Comprehensive Education, Training, and Outreach Program
ARRAVT035; Ka Yuen Simon Ng, Wayne State U: Development and Implementation of Degree Programs in Electric Drive Vehicle Technology
ARRAVT036; Andrew Klock, National Fire Protection Association: Electric Vehicle Safety Training for Emergency Responders
ARRAVT037; Carl Anderson, Michigan Technological U: Recovery Act – An Interdisciplinary Program for Education and Outreach in Transportation Electrification
ARRAVT038; Huei Peng, U of Michigan : Recovery Act—Transportation Electrification Education Partnership for Green Jobs and Sustainable Mobility
ARRAVT039; Lawrence Schwendeman, J. Sargeant Reynolds Community College: Advanced Electric Drive Vehicles
ARRAVT040; Gerald Bernstein, City College of San Francisco: Electric Vehicle Service Personnel Training Program
Hydrogen Storage
ST012; John Khalil, UTRC: Quantifying and Addressing the DOE Material Reactivity Requirements with Analysis and Testing of Hydrogen Storage Materials and Systems
ST013; Daniel Dedrick, SNL: Composite Materials for Hazard Mitigation of Reactive Metal Hydrides
ST025; Israel Cabasso, State U of New York: Polymer-Based Activated Carbon Nanostructures for H2 Storage
ST027; Mark Allendorf, SNL: Tunable Thermodynamics and Kinetics for Hydrogen Storage: Nanoparticle Synthesis Using Ordered Polymer Templates
ST048; Andrew Goudy, Delaware State U: Hydrogen Storage Materials for Fuel Cell Powered Vehicles
ST049; Omar Yaghi, UCLA: Hydrogen Storage in Metal-Organic Frameworks
ST052; Karl Gross, H2 Technology Consulting LLC: Best Practices for Characterizing Engineering Properties of Hydrogen Storage Materials
ST053; Barton Smith, ORNL: Lifecycle Verification of Polymeric Storage Liners
ST054; Michael Miller, Southwest Research Inst.: Standardized Testing Program for Solid-State Hydrogen Storage Technologies
ST067; Terry Udovic, NIST: Neutron Characterization in Support of the DOE Hydrogen Storage Program
ST070; Don Anton, SRNL: Amide and Combined Amide/Borohydride Investigations
ST084; Jay Gore, Purdue U: Purdue Hydrogen Systems Laboratory
ST085; Kristina Lipinska-Kalita, U of Nevada Las Vegas: HGMS: Glasses and Nanocomposites for Hydrogen Storage
ST099; Felix Paulauskas, ORNL: Development of Low-Cost, High Strength Commercial Textile Precursor (PAN-MA)
ST095; Craig Jensen, U of Hawaii: Low Cost, Metal Hydride Hydrogen Storage System for Forklift Applications
ST098; Craig Jensen, Hawaii Hydrogen Carriers, LLC: Development of a Practical Hydrogen Storage System based on Liquid Organic Hydrogen Carriers and a Homogeneous Catalyst
Hydrogen Production and Delivery
BES014; Jin Zhang, University of California, Santa Cruz: Hydrogen Generation Using Integrated Photovoltaic and Photoelectrochemical Cells
BES015; Les Dutton, University of Pennsylvania: Modular Designed Protein Constructions for Solar Generated H2 from Water
BES016; Arunava Gupta, University of Alabama - Tuscaloosa: Protein-Templated Synthesis and Assembly of Visible-Light-Driven Semiconductor Nano-Architectures for Efficient Hydrogen Production
BES017; John Leigh, University of Washington: Prospects for Hydrogen Production from Formate by Methanococcus maripaludis
BES018; Maria Ghirardi, NREL: Structural, Functional, and Integration Studies of Solar-Driven, Biohybrid H2-Producing Systems
BES019; Lee Krumholz, University of Oklahoma: Genes Needed For H2 Production by Sulfate Reducing Bacteria
BES020; Judy Wall, University of Missouri: Genetics and Molecular Biology of Hydrogen Metabolism in Sulfate-reducing Bacteria
BES021; Maria Ghirardi, NREL: Regulation of H2 and CO2 Metabolism: Factors Involved in Partitioning of Photosynthetic Reductant in Chlamydomonas reinhardtii
Manufacturing R&D
MN009; Peter Rieke, PNNL: MEA Manufacturing R&D Using Drop-on-Demand Technology
MN010; Heather McCrabb, Faraday Technology, Inc.: Electrodeposited Mn-Co Alloy Coatings for SOFC Interconnects



POSTER MAP

Wednesday, May 11

Crystal Gateway Marriott

2011 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Thursday, May 12 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**I**	**II**	**III**
8:15 AM			
8:30 AM	LM047; Jim Stike, Materials Innovation Tech: Low Cost Carbon Fiber Composites for Lightweight Vehicle Parts	ST028; Christopher Wolverton, Northwestern U: Design of Novel Multi-Component Metal Hydride-Based Mixtures for Hydrogen Storage	ES088; Nitash Balsara, LBNL : Polymers For Advanced Lithium Batteries
9:00 AM	LM046; Libby Berger, USAMP/ACC: Advanced Materials and Processing of Composites for High Volume Applications (ACC932)	ST031; Craig Jensen, U of Hawaii: Advanced, High-Capacity Reversible Metal Hydrides	ES084; Yang Shao-Horn, Massachusetts Institute of Technology: The Role of Surface Chemistry and Bulk Properties on the Cycling and Rate Capability of Lithium Positive Electrode Materials
9:30 AM	LM029; David Wagner, USAMP/NDE Ford: Multi-Materials Vehicle R&D Initiative Lightweight 7+ Passenger Vehicle	ST032; J.-C. Zhao, Ohio State U: Lightweight Metal Hydrides for Hydrogen Storage	ES085; Robert Kostecki, LBNL : Interfacial Processes - Diagnostics
10:00 AM	LM008; Alan Luo, USAMP/AMD: Magnesium Front End Development (AMD 603/604/904)	ST035; Ian Robertson, U of Illinois: Reversible Hydrogen Storage Materials - Structure, Chemistry, and Electronic Structure	ES086; Venkat Srinivasan, LBNL : Performance and Degradation Modeling of Batteries
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	LM012; Mei Li, USAMP/AMD: Integrated Computational Materials Engineering (ICME)	ST034; Jason Graetz, BNL: Aluminum Hydride	ES090; Gao Liu, LBNL: Advanced Binder for Electrode Materials
11:30 AM	LM037; Paul Wang, Mississippi St Univ: Southern Regional Center for Lightweight Innovative Design (SRCLID)	ST063; Ragaiy Zidan, SRNL: Electrochemical Reversible Formation of Alane	ES060; John Goodenough, U of Texas at Austin : SOLID ELECTROLYTE BATTERIES
12:00 PM	LM032; Srdjan Simunovic, ORNL: High Strain-Rate Characterization of Mg Alloys		ES101; Prashant Kumta, U of Pittsburgh: Novel Lithium Ion Anode Structures: Overview of New DOE BATT Anode Projects
12:30 PM	**LUNCH**	**LUNCH**	**LUNCH**
1:45 PM	LM036; Nagraj Kulkarni, ORNL: Diffusion Databases for ICME	ST018; Joe Zhou, Texas A&M U: A Biomimetic Approach to Metal-Organic Frameworks with High H2 Uptake	ES102; Jordi Cabana, LBNL: Integrated Lab/Industry Research Project at LBNL
2:15 PM	LM038; Kim Ferris, PNNL: Materials Informatics for the ICME CyberInfrastructure	ST022; Omar Yaghi, UCLA: A Joint Theory and Experimental Project in the Synthesis and Testing of Porous COFs/ZIFs for On-Board Vehicular Hydrogen Storage	ES103; Jack Vaughey, ANL: Integrated Lab/Industry Research Project
2:45 PM	LM035; Steve Derezinski, MOxST: Solid Oxide Membrane (SOM) Electrolysis of Magnesium: Scale-Up Research and Engineering for Light-Weight Vehicles	ST019; Peter Pfeifer, U of Missouri: Multiply Surface-Functionalized Nanoporous Carbon for Vehicular Hydrogen Storage	ES093; Claus Daniel, ORNL: Intercalation Kinetics and Ion Mobility in Electrode Materials
3:15 PM	LM033; Rich Davies, PNNL: Pulse-Pressure Forming of Lightweight Metals	ST023; Randy Snurr, Northwestern U: New Carbon-Based Porous Materials with Increased Heats of Adsorption for Hydrogen Storage	ES095; Ray Unocic, ORNL: In-Situ Electron Microscopy of Electrical Energy Storage Materials
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	LM040; Alan Lou, USAMP/AMD: AMD 405: Improved Automotive Suspension Components Cast with B206 Alloy	ST050; D.J. Liu, ANL: Hydrogen Storage through Nanostructured Porous Organic Polymers (POPs)	ES104; Sheng Dai, ORNL: Hard Carbon Materials for High-Capacity Li-ion Battery Anodes
4:45 PM	LM017; Zhili Feng, ORNL: Fundamental study of the relationship of austenite-ferrite transformation details to austenite retention in carbon steels	ST024; Angela Lueking, Penn State U: Hydrogen Trapping through Designer Hydrogen Spillover Molecules with Reversible Temperature and Pressure-Induced Switching	ES105; Chengdu Liang, ORNL: Carbon/Sulfur Nanocomposites and Additives for High-Energy Lithium Sulfur Batteries
5:15 PM	LM041; Cedric Xia, USAMP/ASP: AHSS Stamping Project – A/SP 050; Nonlinear Strain Paths Project – A/SP 061	ST021; Thomas Gennett, NREL: Weak Chemisorption Validation	ES106; Jagjit Nanda, ORNL: Studies on the Local State of Charge (SOC) and Underlying Structures in Lithium Battery Electrodes
5:45 PM	LM039; Thomas Watkins, ORNL/HTML: Materials Characterization Capabilities at the High Temperature Materials Laboratory: Focus Lightweighting, Magnesium		

Thursday, May 12 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**IV**	**V**	**VI**
8:15 AM			
8:30 AM	FC067; Will Johnson, W.L. Gore: Materials and Modules for Low-Cost, High Performance Fuel Cell Humidifiers	PD027; Roger Davenport, SAIC: Solar High-Temperature Water Splitting Cycle with Quantum Boost	VSS001; Kevin Walkowicz, NREL: Medium and Heavy-Duty Vehicle Field Evaluations
9:00 AM	FC025; Dave Hancock, Plug Power, Inc.: Air Cooled Stack Freeze Tolerance	PD013; Michelle Lewis, ANL: Membrane/Electrolyzer Development in the Cu-Cl Thermochemical Cycle	VSS002; Tim LaClair, ORNL: Truck Duty Cycle and Performance Data Collection and Analysis Program
9:30 AM	FC027; Ken Chen, SNL: Development and Validation of a Two-phase, Three-dimensional Model for PEM Fuel Cells	PD081; Nathan Siegel, SNL: Solar Hydrogen Production with a Metal Oxide Based Thermochemical Cycle	VSS037; Jason Lustbader, NREL: CoolCab Test and Evaluation
10:00 AM	FC028; Robert Dross, Nuvera Fuel Cells: Transport Studies Enabling Efficiency Optimization of Cost-Competitive Fuel Cell Stacks	PD028; Al Weimer, U of Colorado: Solar-Thermal ALD Ferrite-Based Water Splitting Cycles	VSS035; David Smith, ORNL: Vehicle Systems Integration (VSI) Research Laboratory at ORNL
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FC030; Vernon Cole, CFD Research Corp.: Water Transport in PEM Fuel Cells: Advanced Modeling, Material Selection, Testing, and Design Optimization	PD033; Thomas Jaramillo, Stanford U/NREL: Nano-Architectures for 3rd Generation PEC Devices: A Study of MoS2, Fundamental Investigations and Applied Research	ARRAVT080; Derek Rotz, DTNA: Class 8 Truck Freight Efficiency Improvement Project
11:30 AM	FC054; Cortney Mittelsteadt, Giner Electrochemical Systems, LLC: Transport in PEMFC Stacks	BES008; Etsuko Fujita, Brookhaven National Laboratory: Catalyzed Water Oxidation by Solar Irradiation of Band-Gap-Narrowed Semiconductors	ARRAVT081; Scott Newhouse, Peterbilt: Technology and System Level Demonstration of Highly Efficient and Clean, Diesel Powered Class 8 Trucks
12:00 PM	FC092; Jon Owejan, GM: Investigation of Micro- and Macro-Scale Transport Processes for Improved Fuel Cell Performance	BES009; Philip Allen, Stony Brook University: Quantum Theory of Semiconductor Photo-Catalysis and Solar Water Splitting	VSS064; Dennis Jadin, Navistar: SuperTruck – Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer
12:30 PM	**LUNCH**	**LUNCH**	**LUNCH**
1:45 PM	FC026; Adam Weber, LBNL: Fuel-Cell Fundamentals at Low and Subzero Temperatures	PD035; Todd Deutsch, NREL: Semiconductor Materials for Photoelectrolysis	ARRAVT067; Abdullah Bazzi, Chrysler LLC: Advancing Transportation Through Vehicle Electrification - PHEV
2:15 PM	FC081; Jennifer Kurtz, NREL: Fuel Cell Technology Status - Voltage Degradation	PD058; Brandon Wood, LLNL/NREL: Characterization and Optimization of Photoelectrode Surfaces for Solar-to-Chemical Fuel Conversion	ARRAVT068; Matt Miyasato, South Coast Air Quality Management District: Plug-In Hybrid Electric Medium Duty Commercial Fleet Demonstration and Evaluation
2:45 PM	FC018; Brian James, Directed Technologies, Inc.: Manufacturing Cost Analysis of Fuel Cell Systems	PD051; Clemens Heske, U of Nevada Las Vegas: Characterization of Materials for Photoelectrochemical Hydrogen Production (PEC)	ARRAVT069; Dion Van Leeve, Navistar, Inc.: Advanced Vehicle Electrification
3:15 PM	FC017; Rajesh Ahluwalia, ANL: Fuel Cells Systems Analysis	PD053; Jian Hu, MVSystems/HNEI: Photoelectrochemical Hydrogen Production	ARRAVT070; Sandor Lau, Cascade Sierra Solutions: Interstate Grid Electrification Improvement Project
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:15 PM	FC020; Karren More, ORNL: Characterization of Fuel Cell Materials	BES010; Neal Armstrong, University of Arizona: Formation and Characterization of Semiconductor Nanorod/Oxide Nanoparticle Hybrid Materials: Toward Vectoral Electron	ARRAVT071; Greg Cesiel, General Motors : Advanced Vehicle Electrification and Transportation Sector Electrification
4:45 PM	FC021; David Jacobson, NIST: Neutron Imaging Study of the Water Transport in Operating Fuel Cells	BES011; Bruce Parkinson, University of Wyoming: Discovery and Optimization of Oxide Semiconductors for Solar Water Splitting	ARRAVT072; Robin Mackie, Smith Electric Vehicles: Smith Electric Vehicles: Advanced Vehicle Electrification + Transportation Sector Electrification
5:15 PM	FC032; Norman Bessette, Acumentrics Corporation: Development of a Low Cost 3-10kW Tubular SOFC Power System	BES012; John Golbeck, Pennsylvania State University: A Hybrid Biological-Organic Half-Cell for Generating Dihydrogen	ARRAVT066; Don Karner, Electric Transportation Engineering Corp.: Electric Drive Vehicle Demonstration and Vehicle
5:45 PM	FC042; Randy Petri, Versa Power: Advanced Materials for RSOFC Dual Mode Operation with Low Degradation	BES013; Nathan Lewis, California Institute of Technology: Catalyst-Bound Silicon Microwire Array Photocathodes for Sunlight-Driven Hydrogen Production	ARRAVT073; Marc Carleson, Coulomb: Electric Drive Vehicle Infrastructure Deployment

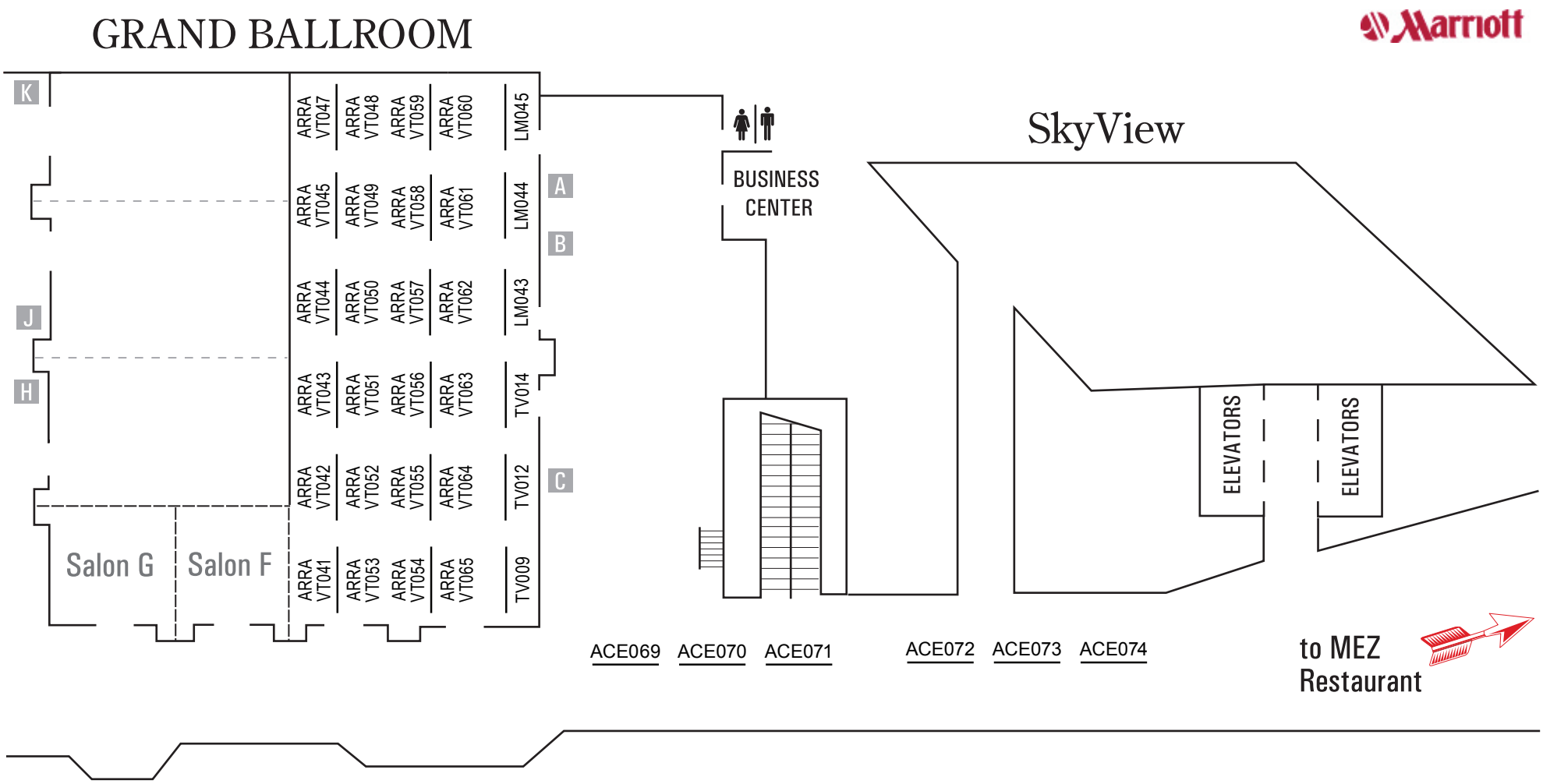
Thursday, May 12 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**D**	**E**	**F**
8:15 AM	TI000; Dennis Smith, DOE: Technology Integration Overview		MN000; Nancy Garland, DOE: Overview of Fuel Cells Manufacturing
8:30 AM	TI003; Margo Melendez, NREL/ORNL: Clean Cities Tools and Resources	ACE030; Puxian Gao, U of Connecticut: Three-Dimensional Composite Nanostructures for Lean NOx Emission Control	MN001; Michael Ulsh, NREL: Fuel Cell MEA Manufacturing R&D
9:00 AM	TI004; Michael Scarpino, NETL: Clean Cities 2009 Petroleum Displacement Awards	ACE031; Jim Parks, ORNL: Efficient Emissions Control for Multi-Mode Lean DI Engines	MN002; Jason Morgan, Ballard Material Products: Reduction in Fabrication Costs of Gas Diffusion Layers
9:30 AM	TI014; Dana O'Hara, U.S. Department of Energy: Merit Review: EPAct State and Alternative Fuel Provider Fleets	ACE032; Bill Partridge, ORNL: Cummins/ORNL-FEERC CRADA: NOx Control & Measurement Technology for Heavy-Duty Diesel Engines	MN003; Hugh McCabe, UltraCell Corp.: Modular, High-Volume Fuel Cell Leak-Test Suite and Process
10:00 AM	TI006; Joel Anstrom, Pennsylvania State University: Penn State DOE Graduate Automotive Technology Education (Gate) Program for In-Vehicle, High-Power Energy Storage Systems	ACE033; Todd Toops, ORNL: Emissions Control for Lean Gasoline Engines	MN004; Colin Busby, W.L. Gore: Manufacturing of Low-Cost, Durable Membrane Electrode Assemblies Engineered for Rapid Conditioning
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	TI007; Paul Erickson, University of California-Davis: UC Davis Fuel Cell, Hydrogen, and Hybrid Vehicle (FCH2V) GATE Center of Excellence	ACE035; Richard Larson, SNL: Development of Chemical Kinetic Models for Lean NOx Traps	MN005; Raymond Puffer, Rensselaer Polytechnic Institute : Adaptive Process Controls and Ultrasonics for High Temperature PEM MEA Manufacture
11:30 AM	TI008; David Irick, University of Tennessee: The University of Tennessee's GATE Center for Hybrid Systems	ACE055; Chuck Peden, PNNL: Deactivation Mechanisms for selective catalytic reduction (SCR) of NOx with urea and development of HC Adsorber Materials	MN006; Eric Stanfield, NIST: Metrology for Fuel Cell Manufacturing
12:00 PM	TI009; Chia-fon Lee, University of Illinois at Urbana-Champaign: University of Illinois at Urbana-Champaign's GATE Center for	ACE056; Mark Stewart, PNNL: Fuel-Neutral Studies of Particulate Matter Transport Emissions	MN007; Emory De Castro, BASF: High Speed, Low Cost Fabrication of Gas Diffusion Electrodes for Membrane Electrode Assemblies
12:30 PM	**LUNCH**	**LUNCH**	**LUNCH**
1:30 PM		ACE00D; James Eberhardt, DOE: Overview of the DOE Health Impacts Research	H2RA000; Sara Dillich, DOE: Overview of Hydrogen ARRA Projects
1:45 PM	TI010; P.K. Mallick, University of Michigan-Dearborn: Center for Lightweighting Automotive Materials and Processing	ACE044; Dan Greenbaum, Health Effects Institute: Advanced Collaborative Emissions Study (ACES)	H2RA001; Chuck Carlstrom, MTI Micro Fuel Cells Inc.: Commercialization of 1 Watt Consumer Electronics Power Pack
2:15 PM	TI011; Doug Nelson, Virginia Tech: GATE Center for Automotive Fuel Cell Systems at Virginia Tech	ACE045; John Storey, ORNL: Measurement and Characterization of Unregulated Emissions from Advanced Technologies	H2RA005; Ken Vaughn, Jadoo Power: Jadoo Power Fuel Cell Demonstration
2:45 PM	TI012; Uday Vaidya, The University of Alabama at Birmingham: GATE Center of Excellence at UAB in Lightweight Materials for Automotive Applications	ACE046; Doug Lawson, NREL: Collaborative Lubricating Oil Study on Emissions (CLOSE Project)	H2RA004; Jim Fletcher, U of North Florida: Advanced Direct Methanol Fuel Cell for Mobile Computing
3:15 PM	TI015; Yann Guezennec, Ohio State Univ: 2006-2011 GATE program at the Ohio State University		H2RA002; Dan Hennessy, Delphi Automotive: Solid Oxide Fuel Cell Diesel Auxiliary Power Unit Demonstration
3:45 PM	**BREAK**	**BREAK**	**BREAK**
4:00 PM		ACE00C; Roland Gravel, DOE: Overview of the DOE High Efficiency Engine Technologies R&D	
4:15 PM	TI013; Kristen De La Rosa, ANL: EcoCAR the Next Generation	ACE037; Harold Sun, Ford Motor Company: Advanced Boost System Development for Diesel HCCI/LTC Application	H2RA012; Kevin Kenny, Sprint: Use of 72-Hour Hydrogen PEM Fuel Cell Systems to Support Emergency Communications
4:45 PM		ACE057; Donald Stanton, Cummins: Cummins SuperTruck Program - Technology and System Level Demonstration of Highly Efficient and Clean, Diesel Powered Class 8 Trucks	H2RA006; Mark Cohen, ReliOn Inc.: PEM Fuel Cell Systems Providing Backup Power to Commercial Cellular Towers and an Electric Utility Communications Network
5:15 PM		ACE058; Kevin Sisken, Detroit Diesel: Supertruck - Improving Transportation Efficiency through Integrated Vehicle, Engine and Powertrain Research	H2RA013; Jennifer Kurtz, NREL: Analysis Results for ARRA Projects: Enabling Fuel Cell Market Transformation
5:45 PM		ACE059; Dennis Jadin, Navistar International Corp.: Supertruck - Development and Demonstration of a Fuel-Efficient Class 8 Tractor & Trailer	

Thursday, May 12 - Poster Presentations

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

Technology Integration
ARRAVT041; Beth Baird, Idaho Petroleum Reduction Leadership Project: Idaho Petroleum Reduction Leadership Project
ARRAVT042; Stephanie Meyn, Puget Sound Clean Air Agency: Puget Sound Clean Cities Petroleum Reduction Project
ARRAVT043; Robin Erickson, Utah Clean Cities Coalition: Utah Clean Cities Transportation Sector Petroleum Reduction Technologies Program
ARRAVT044; Marla Modell, San Bernardino Associated Governments: SANBAG - Ryder Natural Gas Vehicle Project
ARRAVT045; Vicki White, South Coast Air Quality Management District: Heavy-Duty Natural Gas Drayage Truck Replacement Program
ARRAVT047; Dean Saito, South Coast Air Quality Management District: UPS Ontario - Las Vegas LNG Corridor Extension Project: Bridging the Gap
ARRAVT048; Maria Redmond, State of Wisconsin: Wisconsin Clean Transportation Program
ARRAVT049; Carla York, Connecticut Clean Cities Future Fuels Project: Connecticut Clean Cities Future Fuels Project
ARRAVT050; Patrick Flynn, State of Indiana: State of Indiana/Greater IN Clean Cities Alternative Fuels Implementation Plan
ARRAVT051; Chuck Feinberg, New Jersey Clean Cities Coalition: NJ Compressed Natural Gas Refuse Trucks, Shuttle Buses and Infrastructure
ARRAVT052; Rita Ebert, Greater Long Island Clean Cities Coalition: Promoting a Green Economy through Clean Transportation Alternatives
ARRAVT053; Patrick Bolton, New York State Energy Research and Development Authority: New York State-wide Alternative Fuel Vehicle Program for Vehicles and Fueling Stations
ARRAVT054; Cynthia Maves, Clean Fuels Ohio: The Ohio Advanced Transportation Partnership (OATP)
ARRAVT055; Sean Reed, Clean Energy Coalition : RECOVERY ACT -- CLEAN ENERGY COALITION MICHIGAN GREEN FLEETS
ARRAVT056; Kelly Gilbert, Metropolitan Energy Information Center: Midwest Region Alternative Fuels Project
ARRAVT057; Carrie Reese, North Central Texas Council of Governments: North Central Texas Alternative Fuel and Advanced Technology Investments
ARRAVT058; Heather Ball, Railroad Commission of Texas: Texas Propane Vehicle Pilot Project
ARRAVT059; Todd Ewing, Texas State Technical College: Development of National Liquid Propane (Autogas) Refueling Network, Clean School Bus/Vehicle Incentive & Green Jobs Outreach Program
ARRAVT060; Don Francis, DeKalb County: DeKalb County/Metropolitan Atlanta Alternative Fuel and Advanced Technology Vehicle Project
ARRAVT061; Samantha Bingham, City of Chicago, Department of Environment: Chicago Area Alternative Fuels Deployment Project (CAAFDP)
ARRAVT062; Leah Settle, Kentucky Clean Fuels Coalition: Kentucky Hybrid Electric School Bus Program
ARRAVT063; Christopher Rice, Maryland Energy Administration: Maryland Hybrid Truck Goods Movement Initiative
ARRAVT064; Kathy Boyer, Triangle J Council of Government: Carolina Blue Skies & Green Jobs Initiative
ARRAVT065; Al Christopher, Virginia Department of Mines, Minerals and Energy: Southeast Propane AutoGas Development Program
Technology Validation
TV009; Richard Rocheleau, Hawaii Natural Energy Inst.: Hawaii Hydrogen Power Park
TV012; David Block, U of Central Florida: Florida Hydrogen Initiative (FHI)
TV014; David Blekhman, Cal State LA U Aux. Services, Inc.: Sustainable Hydrogen Fueling Station, California State University, Los Angeles
Lightweight Materials
LM043; Lawrence Allard, Jr., ORNL/HTML: Nanostructure, Chemistry and Crystallography of Iron Nitride Magnetic Materials by Ultra-High-Resolution Electron Microscopy and Related Methods
LM044; Hsin Wang, ORNL/HTML: Characterization of Li-ion Batteries using Neutron Diffraction and Infrared Imaging Techniques
LM045; Thomas Watkins, ORNL/HTML: Surface/Sub-surface dislocation density analysis of flow forming samples using transmission electron microscopy
Solid-State Energy Conversion
ACE069; Yongho Ju, UCLA: Integration of Advanced Materials and Interfaces for Durable Thermoelectric Automobile Exhaust Waste Heat Harvesting Devices
ACE070; Ali Shakouri, UC Santa Cruz: Mg2Si Composites with Embedded Si Nanoparticles for Energy Recovery of Waste Exhaust Heat
ACE071; Sreeram Vaddiraju, Texas A&M Univ. : NSF/DOE Thermoelectric Partnership: Inorganic-Organic Hybrid Thermoelectrics
ACE072; Scott Huxtable, VPI & SU: An integrated approach towards efficient, scalable, and low cost thermoelectric waste heat recovery devices for vehicles
ACE073; Li Shi, Univ of Texas, Austin: NSF/DOE Thermoelectric Partnership: High-Performance Thermoelectric Devices Based on Abundant Silicide Materials for Vehicle Waste Heat Recovery
ACE074; Xianfan Xu, Purdue Univ: Thermoelectrics for Automotive Waste Heat Recovery



POSTER MAP

Thursday, May 12

Crystal Gateway Marriott

2011 DOE ANNUAL MERIT REVIEW AND PEER EVALUATION MEETING

Friday, May 13 - Oral Presentations

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**I**	**II**	**III**
8:15 AM			
8:30 AM	LM034; Mark Smith, PNNL: Ultra-Fine Grain Foils and Sheets by Large-Strain Extrusion Machining	ST038; Shih-Yuan Liu, U of Oregon: Hydrogen Storage by Novel CBN Heterocycle Materials	
9:00 AM	LM025; Zhili Feng, ORNL: Dynamic Characterization of Spot Welds for AHSS	ST040; Anthony Burrell, LANL: Liquid Hydrogen Storage Materials	
9:30 AM	LM031; Zhili Feng, ORNL: FSW & USW Solid State Joining of Magnesium to Steel	ST093; Felix Paulauskas, ORNL: Melt Processable PAN Precursor for High Strength, Low-Cost Carbon Fibers	
10:00 AM	LM030; Yuri Hovanski, PNNL: Friction Stir Spot Welding of Advanced High Strength Steels II	MN008; Mark Leavitt, Quantum Fuel Systems Technologies Worldwide, Inc.: Development of Advanced Manufacturing Technologies for Low Cost Hydrogen Storage Vessels	
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	LM028; Edgar Lara-Curzio, ORNL/HTML: Materials Characterization Capabilities at the High Temperature Materials Laboratory and HTML User Program Success Stories	ST096; Lennie Klebanoff, SNL: Analysis of H2 Storage Needs for Early Market Non-motive Fuel Cell Applications	
11:30 AM		ST097; Jennifer Kurtz, NREL: Analysis of Storage Needs for Early Motive Fuel Cell Markets	
12:00 PM			

Hotel	Crystal Gateway	Crystal Gateway	Crystal Gateway
Salon	**IV**	**V**	**VI**
8:15 AM			TV000; John Garbak, DOE: Overview of Technology Validation
8:30 AM	FC041; Thomas Gennett, NREL: Novel Approach to Advanced Direct Methanol Fuel Cell Anode Catalysts	PD084; Joseph Schwartz, Praxair: Advanced Hydrogen Transport Membranes for Coal Gasification	TV001; Keith Wipke, NREL: Controlled Hydrogen Fleet and Infrastructure Analysis
9:00 AM	FC063; Chris Roger, Arkema: Novel Materials for High Efficiency Direct Methanol Fuel Cells	PD008; Bryan Morreale, NETL-Office of Research and Development: Development of Robust Hydrogen Separation Membranes	TV005; Gary Stottler, General Motors: Hydrogen Vehicle and Infrastructure Demonstration and Validation
9:30 AM	FC064; Jim Fletcher, U of North Florida: New MEA Materials for Improved DMFC Performance, Durability, and Cost	PD009; Carl Evenson, Eltron Research & Development Inc.: Scale-Up of Hydrogen Transport Membranes for IGCC and FutureGen Plants	TV004; Ron Grasman, Daimler: Hydrogen to the Highways
10:00 AM	FC091; Piotr Zelenay, LANL: Advanced Materials and Concepts for Portable Power Fuel Cells	PD011; Sean Emerson, UTRC: Advanced Palladium Membrane Scale-up for Hydrogen Separation	TV006; Carolyn Caporuscio, Air Products: Validation of an Integrated Hydrogen Energy Station
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	FC089; Randy Perry, Dupont: Analysis of Durability of MEAs in Automotive PEMFC Applications	PD007; Yi Hua (Ed) Ma, Worcester Polytechnic Inst.: Composite Pd and Alloy Porous Stainless Steel Membranes for Hydrogen Production and Process Intensification	TV008; Leslie Eudy, NREL: Technology Validation: Fuel Cell Bus Evaluations
11:30 AM	FC048; Huyen Dinh, NREL: Effect of System and Air Contaminants on PEMFC Performance and Durability	PD086; Thomas Barton, Western Research Institute : Pilot Water Gas Shift – Membrane Device for Hydrogen from Coal	TV007; Carolyn Caporuscio, Air Products: California Hydrogen Infrastructure Project
12:00 PM			

Friday, May 13 - Oral Presentations

Hotel	Crystal City	Crystal City	Crystal City
Salon	**D**	**E**	**F**
8:15 AM	ACE00E; John Fairbanks, DOE: Thermoelectrics: The New Green Automotive		
8:30 AM	ACE047; Clay Maranville, Ford Motor Company: Thermoelectric HVAC for Light-Duty Vehicle Applications	ACE060; John Gibble, Volvo: High Fuel Economy Heavy-Duty Truck Engine	H2RA008; Gus Block, Nuvera Fuel Cells: H-E-B Grocery Total Power Solution for Fuel Cell Powered Material Handling Equipment
9:00 AM	ACE048; Jeffrey Bozeman, General Motors: Improving Energy Efficiency by Developing Components for Distributed Cooling and Heating Based on Thermal Comfort Modeling	ACE061; Michael Ruth, Cummins: ATP-LD; Cummins Next Generation Tier 2 Bin 2 Diesel Engine	H2RA009; John King, FedEx Freight: Fuel Cell-Powered Lift Truck FedEx Freight Fleet Deployment
9:30 AM	ACE049; Harold Schock, Michigan State U: Thermoelectric Conversion of Waste Heat to Electricity in an IC Engine Powered Vehicle	ACE062; Ron Reese, Chrysler: A MultiAir / MultiFuel Approach to Enhancing Engine System Efficiency	H2RA010; Scott Kliever, Sysco of Houston: Fuel Cell-Powered Lift Truck Sysco Houston Fleet Deployment
10:00 AM	ACE050; Greg Meisner, General Motors: Develop Thermoelectric Technology for Automotive Waste Heat Recovery	ACE063; Stuart Smith, General Motors: Lean Gasoline System Development for Fuel Efficient Small Car	H2RA011; Bob Simon, GENCO: GENCO Fuel Cell Powered Lift Truck Fleet Deployment
10:30 AM	**BREAK**	**BREAK**	**BREAK**
11:00 AM	ACE051; John LaGrandeur, BSST: Automotive Waste Heat Conversion to Power Program	ACE064; Keith Confer, Delphi Automotive Systems: Gasoline Ultra Fuel Efficient Vehicle	H2RA003; Donald Rohr, Plug Power Inc.: Highly Efficient, 5kW CHP Fuel Cells Demonstrating Durability and Economic Value
11:30 AM	ACE067; Kenneth Goodson, Stanford Univ: Thermoelectrics Partnership: Automotive Thermoelectric Modules with Scalable Thermo- and Electro-Mechanical Interfaces	ACE065; Corey Weaver, Ford Motor Company: Advanced Gasoline Turbocharged Direct Injection (GTDI) Engine Development	H2RA007; Donald Rohr, Plug Power Inc.: Accelerating Acceptance of Fuel Cell Backup Power Systems
12:00 PM	ACE068; Mercouri Kanatzidis, Northwestern Univ: DOE/NSF Thermoelectric Partnership Project SEEBECK Saving Energy Effectively By Engaging in Collaborative research and sharing Knowledge	ACE066; Hakan Yilmaz, Robert Bosch: Advanced Combustion Concepts - Enabling Systems and Solutions (ACCESS) for High Efficiency Light Duty Vehicles	