

List of Projects Presented but Not Reviewed

Project ID	Project Title	Principal Investigator Name	Organization
ARPAE01	Dual-Mode Energy Conversion and Storage Flow Battery	Chris Capuano	Proton OnSite
ARPAE02	Precious-Metal-Free Regenerative Hydrogen Electrode	Barr Zulevi	Pajarito Powder
ARPAE03	Low-Temperature NH ₃ Cracking Membrane Reactor for Hydrogen Refueling Stations	Lin-Feng Li	Bettergy Corporation
ARPAE04	Protonic Ceramics for Energy Storage and Electricity Generation with Ammonia	Hossein Ghezel-Ayagh	FuelCell Energy, Inc.
ARPAE05	Electricity from an Energy-Dense Carbon-Neutral Energy Carrier	Trent Molter	Sustainable Innovations
ARPAE06	Low-Cost Intermediate-Temperature Fuel-Flexible Protonic Ceramic Fuel Cell and Stack	Ryan O'Hayre	Colorado School of Mines
ARPAE07	High-Efficiency Ammonia Production from Water and Nitrogen	Hui Xu	Giner, Inc.
ARPAE08	High-Rate Ammonia Synthesis by Intermediate-Temperature Solid-State Alkaline Electrolyzer	Feng Zhao	Storagenergy Technologies, Inc.
ARPAE09	Direct Ammonia Fuel Cells for Transport Applications	Shimshon Gottesfeld	University of Delaware
ARPAE10	Anion-Exchange Membrane Electrolyzers: The Low-Cost Alternative for Renewable Hydrogen Generation?	Rich Masel	Dioxide Materials
FC129	Advanced Catalysts and Membrane Electrode Assemblies for Reversible Alkaline Membrane Fuel Cells	Hui Xu	Giner, Inc.
FC177	Fiscal Year 2017 Small Business Innovation Research I Release 2: Over-Molded Plates for Reduced Cost and Mass of Polymer Electrolyte Membrane Fuel Cells	Daniel O'Connell	American Fuel Cell
FC178	Lab Call Fiscal Year 2018 (Membrane): Spirocyclic Anion Exchange Membranes for Improved Performance and Durability	Bryan Pivovar	National Renewable Energy Laboratory

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FC179	Lab Call Fiscal Year 2018 (Membrane): Stable Alkaline Membrane Based on Proazaphosphatranes Organic Super Base	Gao Liu	Lawrence Berkeley National Laboratory
FC180	Lab Call Fiscal Year 2018 (Membrane): High-Performing and Durable Pyrophosphate-Based Composite Membranes for Intermediate-Temperature Fuel Cells	Cortney Kreller	Los Alamos National Laboratory
FC181	Lab Call Fiscal Year 2018 (Reversible Fuel Cells): Microstructured Electrodes and Diffusion Layers for Enhanced Transport in Reversible Fuel Cells	Jacob Spendelow	Los Alamos National Laboratory
FC182	Lab Call Fiscal Year 2018 (Reversible Fuel Cells): Bipolar Membrane Development to Enable Regenerative Fuel Cells	Todd Deutsch	National Renewable Energy Laboratory
FC183	Lab Call Fiscal Year 2018 (Reversible Fuel Cells): Technology-Enabling Materials, Cell Design for Reversible Polymer Electrolyte Membrane Fuel Cells	Nem Danilovic	Lawrence Berkeley National Laboratory
FC184	New Fluorinated Ionomers for Enhanced Oxygen Transport in Fuel Cell Cathodes	Robert Lousenberg	Compact Membrane Systems
FC185	Novel Fluorinated Ionomer for Polymer Electrolyte Membrane Fuel Cells	Hui Xu	Giner, Inc.
FC186	New Approaches to Improved Polymer Electrolyte Membrane Fuel Cell Catalyst Layer	Earl Wagener	Tetramer Technologies, LLC
FC187	Development of Innovative Gas Diffusion Layers for Polymer Electrolyte Membrane Fuel Cells	Jason Morgan	AvCarb Material Solutions, LLC
FC188	High-Performance Gas Diffusion Layer	Minette Ocampo	pH Matter, LLC
FC189	Gas Diffusion Layer Media Development for Improved Polymer Electrolyte Membrane Fuel Cell Performance	Ashok Damle	Techverse, Inc.
FC190	Advanced Manufacturing of Gas Diffusion Layers with Highly Engineered Porosity	David Driscoll	Glacigen Materials, Inc.
FC191	Controlled Porosity and Surface Coatings for Advanced Gas Diffusion Layers	Christopher Lang	Physical Sciences Inc.

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FC192	Nanostructured Carbon-Based Gas Diffusion Layers for Enhanced Fuel Cell Performance	Girish Srinivas	TDA Research, Inc.
FC193	Innovative Bilayer Microporous Layer for Polymer Electrolyte Membrane Fuel Cells	Chao Lei	Giner, Inc.
FE050-p	Development of Agile and Cost-Effective Routes for Manufacturing Reliable Ceramic Components for Solid Oxide Fuel Cell Systems	John Pietras	Saint-Gobain
FE051-p	Mapping of Temperature Profiles of Entire Solid Oxide Fuel Cells with 8 mm Spatial Resolution during 800°C Operations	Kevin P. Chen	University of Pittsburgh
FE052-p	Highly Active Hybrid Catalyst Impregnated Cathode for Proton-Conducting Solid Oxide Fuel Cells	Fanglin (Frank) Chen	University of South Carolina
FE053-p	High-Throughput, In-Line Coating Metrology Development for Solid Oxide Fuel Cell Manufacturing	Sean R. Bishop	Redox Power Systems, LLC
FE054-p	Highly Active and Contaminant-Tolerant Cathodes for Durable Solid Oxide Fuel Cells	Meilin Liu	Georgia Institute of Technology
FE055-p	On-Demand Designing of Cathode Internal Surface Architecture for Dramatic Enhancement of Solid Oxide Fuel Cell Performance and Durability	Xueyan Song	West Virginia University
FE056-p	Effect of Spinel Composition on the Electrical Conductivity and Coefficient of Thermal Expansion in the (Ni,Co,Fe) ₃ O ₄ System	Jiahong Zhu	Tennessee Technological University
FE057-p	Operating Stresses and Their Effects on Degradation of Lanthanum–Strontium–Manganite (LSM)-Based Solid Oxide Fuel Cell Cathodes	Mark R. De Guire	Case Western Reserve University
FE058-p	Degradation and Performance Studies of Atomic-Layer-Deposition-Stabilized Nanocomposite Solid Oxide Fuel Cell Cathodes	Jason D. Nicholas	Michigan State University
FE059-p	Improving Nickel-Based Solid Oxide Fuel Cell Anode Resilience and Durability through Secondary Phase Formation	Robert A. Walker	Montana State University
FE060-p	Carbon-Tolerant Anode for Controlled Hydrocarbon Reformation in Solid Oxide Fuel Cells	Prabhakar Singh	University of Connecticut

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FE061-p	Core–Shell Heterostructures as Solid Oxide Fuel Cell Electrodes	Srikanth Gopalan	Boston University
FE062-p	Improvement in Lifetime of Solid Oxide Fuel Cells, Utilizing Novel, In Situ Methods to Remove Cathodic Chromium Deposits	Uday B. Pal	Boston University
FE063-p	Cost-Effective Stabilization of Nanostructured Cathodes by Atomic Layer Deposition	Raymond J. Gorte	University of Pennsylvania
FE064-p	LG Fuel Cell Systems Solid Oxide Fuel Cell Prototype System Testing	Crispin DeBellis	LG Fuel Cell Systems, Inc.
FE065-p	High-Temperature Oxidation Behavior of 3D-Printed, Hot Isostatically Pressed, and Wrought AFA25 Alloys	Amit Pandey	LG Fuel Cell Systems, Inc.
FE066-p	Ultra-High-Temperature Anode Recycle Blower for Solid Oxide Fuel Cells	Hooshang Heshmat	Mohawk Innovative Technology, Inc
FE067-p	Pressurized Operation of a Planar Solid Oxide Fuel Cell Stack	Louis G. Carreiro	Naval Undersea Warfare Center Division Newport
FE068-p	Fluidized Bed Production of Surface Functionalized Powders for Solid Oxide Fuel Cell Cathodes	Nick M. Sbrockey	Structured Materials Industries, Inc.
FE069-p	Laser 3D Printing of Solid Oxide Fuel Cells	Jian Liu	PolarOnyx, Inc
FE070-p	Hybridization of Freeze Casting with Additive Manufacturing for Simplified Production of High-Performance Solid Oxide Fuel Cells	David R. Driscoll	Glacigen Materials, Inc.
FE071-p	Cold Spray Additive Manufacturing of Thermoelectric Generators	Harry B. Radousky	Lawrence Livermore National Laboratory
FE072-p	Flame-Powered Solid Oxide Fuel Cell Generators	Michael C. Tucker	Lawrence Berkeley National Laboratory
FE073-p	Progress in Metal-Supported Solid Oxide Fuel Cells	Emir Dogdibegovic	Lawrence Berkeley National Laboratory
FE074-p	Electrode Engineering Research and Development Progress at the National Energy Technology Laboratory	Gregory Hackett	National Energy Technology Laboratory

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FE075-p	Cell and Stack Degradation Evaluation and Modeling Progress at the National Energy Technology Laboratory	Gregory Hackett	National Energy Technology Laboratory
FE076-p	Advanced Reduced Order Model Prediction and Error Quantification Framework for Solid Oxide Fuel Cell Stacks	Brian Koeppel	Pacific Northwest National Laboratory
FE077-p	Optimal Operating Conditions for Performance and Reliability of Solid Oxide Fuel Cells	Kurtis P. Recknagle	Pacific Northwest National Laboratory
FE078-p	Small-Scale Test Platform for Solid Oxide Fuel Cell Stacks	Jeffrey Stevenson	Pacific Northwest National Laboratory
FE079-p	Composite Approach to Tailoring Thermal Expansion of LSCo-based Ceramic Cathode Contact for Solid Oxide Fuel Cell Applications	Matt Chou	Pacific Northwest National Laboratory
FE080-p	Chromium Mitigation by Lanthanum–Strontium–Cobalt–Ferrite (LSCF)-Based Materials for Solid Oxide Fuel Cells	Matt Chou	Pacific Northwest National Laboratory
FE081-p	Long-Term Stability Tests of Low-Temperature and Standard Reactive Air Aluminization Process	Jung Pyung Choi	Pacific Northwest National Laboratory
FE082-p	Lanthanum–Strontium–Manganite (LSM)/Yttria-Stabilized Zirconia (YSZ) Button Cell Tests in Cathode Air with Measured Chromium Concentrations	John S. Hardy	Pacific Northwest National Laboratory
FE083-p	Air Braze Optimization for Markets Targeted by Aegis Technology, Inc.	John S. Hardy	Pacific Northwest National Laboratory
FE084-p	Atomic-Layer-Deposition-Produced Interconnect Barriers for Improved Glass Seal Performance	Jeffrey F. Roeder	Sonata LLC
FE085-p	Surface Modification of Lanthanum–Strontium–Cobalt–Ferrite (LSCF) Cathode Powders by Atomic Layer Deposition	Jeffrey F. Roeder	Sonata LLC
FE086-p	Application of Computational Thermodynamics in Solid Oxide Fuel Cells	Yu (Michael) Zhong	Worcester Polytechnic Institute
FE1	Solid Oxide Fuel Cell Development Update at FuelCell Energy	Hossein Ghezel-Ayagh	FuelCell Energy, Inc.

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FE10	Development and Understanding of Highly Active and Durable Oxygen Electrodes for Solid Oxide Fuel Cells	Xiao-Dong Zhou	University of Louisiana at Lafayette
FE11	Self-Regulating Surface Chemistry for More Robust Highly Durable Solid Oxide Fuel Cell Cathodes	Clement Nicollet	Massachusetts Institute of Technology
FE12	Scalable and Cost-Effective Barrier Layer Coating to Improve Performance and Stability of Solid Oxide Fuel Cell Cathode	Xingbo Liu	West Virginia University Research Corporation
FE13	Development of a Thermal-Spray, Redox-Stable Ceramic Anode for Metal-Supported Solid Oxide Fuel Cells	Richard Hart	General Electric Company
FE14	Metal-Supported Ceria Electrolyte-Based Solid Oxide Fuel Cell Stack for Scalable, Low-Cost, High-Efficiency, and Robust Stationary Power Systems	Charles Vesely and Bal Dosanjh	Cummins Power Generation/Ceres Power
FE15	Innovative, Versatile, and Cost-Effective Solid Oxide Fuel Cell Stack Concept	Nguyen Minh	University of California, San Diego
FE16	Intermediate-Temperature Solid Oxide Fuel Cells: Overview of Stack Size Scaling Efforts and Redox Robust All-Ceramic-Anode-Cell-Based Stacks	Sean Bishop and Bryan Blackburn	Redox Power Systems
FE17	Performance and Reliability Advancements in a Durable Low-Temperature Tubular Solid Oxide Fuel Cell	Praveen Cheeatamarla	Atrex Energy, Inc.
FE18	Mitigation of Chromium Impurity Effects and Degradation in Solid Oxide Fuel Cells: Role of Thermodynamics and Transport	Srikanth Gopalan	Boston University
FE19	Materials and Approaches for the Mitigation of Solid Oxide Fuel Cell Cathode Degradation in Solid Oxide Fuel Cell Power Systems	Prabhakar Singh	University of Connecticut
FE2	LG Fuel Cell Systems Solid Oxide Fuel Cell Power System Development	Cris DeBellis	LG Fuel Cell Systems, Inc.
FE20	Chromium Sensor for Monitoring Solid Oxide Fuel Cell Systems	Jeffrey Fergus	Auburn University
FE21	Highly Selective and Stable Multivariable Gas Sensors for Enhanced Robustness and Reliability of Solid Oxide Fuel Cell Operation	Radislav Potyrailo	General Electric Company

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FE22	System Analysis of Fuel Cell Plant Configurations	Gregory Hackett	National Energy Technology Laboratory
FE23	Durable, Impermeable Solid Oxide Fuel Cell Brazes	Jason Nicholas	Michigan State University
FE24	Development of Chromium and Sulfur Getter for Solid Oxide Fuel Cell Systems	Prabhakar Singh	University of Connecticut
FE25	Effects of Composition and Operating Conditions on the Microstructure and Performance of Lanthanum–Strontium–Manganite (LSM)-Based Solid Oxide Fuel Cell Cathodes	Mark DeGuire	Case Western Reserve University
FE26	High-Temperature Anode Recycle Blower for Solid Oxide Fuel Cells	Jose Luis Cordova	Mohawk Innovative Technology, Inc.
FE27	Minimizing Chromium Evaporation from Balance-of-Plant Components by Utilizing Cost-Effective Alumina-Forming Austenitic Steels	Xingbo Liu	West Virginia University Research Corporation
FE3	National Energy Technology Laboratory Research and Development: Solid Oxide Fuel Cell Materials Development and Degradation Modeling	Gregory Hackett	National Energy Technology Laboratory
FE4	Solid Oxide Fuel Cell Development at Pacific Northwest National Laboratory: Overview	Jeff Stevenson	Pacific Northwest National Laboratory
FE5	Durability and Reliability of Materials and Components for Solid Oxide Fuel Cells	Edgar Lara-Curzio	Oak Ridge National Laboratory
FE6	Evaluation of Cathode Materials for Solid Oxide Fuel Cell Performance Reliability	Brian Ingram	Argonne National Laboratory
FE7	Degradation and Reliability Advancements in Tubular Solid Oxide Fuel Cells	Wensheng Wang	Atrex Energy, Inc.
FE8	Deposition of Nickel Nanoparticles in Solid Oxide Fuel Cell Anodes to Improve Performance	Soumendra N. Basu	Boston University
FE9	Scalable Nano-Scaffold Architecture on the Internal Surface of Solid Oxide Fuel Cell Anodes for Direct Hydrocarbon Utilization	Xueyan Song	West Virginia University Research Corporation

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H2000	H2@Scale Overview	Bryan Pivovar and Mark Ruth	National Renewable Energy Laboratory
H2001	Scalable Electrolytic Systems for Renewable Hydrogen Production	Guido Bender	National Renewable Energy Laboratory
H2004	Tatsuno Coriolis Flow Meter Development Testing in High-Pressure Hydrogen	Rob Burgess	National Renewable Energy Laboratory
H2006	Membrane Electrode Assembly Manufacturing Automation Technology for the Electrochemical Compression of Hydrogen	Michael Ulsh	National Renewable Energy Laboratory
H2007	Megawatt-Scale Polymer-Electrolyte-Membrane-Based Electrolyzers for Renewable Energy System Applications	Kevin Harrison	National Renewable Energy Laboratory
H2011	Risk Analysis and Modeling to Improve Hydrogen Fuel Cell Vehicle Repair Garages	Chris LaFleur	Sandia National Laboratories
H2012	Evaluate High-Temperature Steam Electrolysis Coupled to Pressurized PWR/MCFR/TWR for Hydrogen Production and Energy Storage	Jamie Holladay	Pacific Northwest National Laboratory
H2013	Development, Validation, and Benchmarking of Quantitative Risk Assessment Tools for Hydrogen Refueling Stations	Chris LaFleur	Sandia National Laboratories
H2021	Hydrogen-Component Performance Diagnostic Testing	Danny Terlip	National Renewable Energy Laboratory
H2022	Develop a Tool to Estimate the Benefits of Tube-Trailer Consolidation Scheme for Station Builders	Amgad Algowainy	Argonne National Laboratory
H2025	Optimizing an Integrated Renewable-Electrolysis System	Josh Eichman	National Renewable Energy Laboratory
H2026	Hybrid Electrical/Thermal Hydrogen Production Process Integrated with a Molten Salt Reactor Nuclear Power Plant	Donald Anton	Savannah River National Laboratory
H2030	Hydrogen Materials Compatibility of Low-Cost, High-Pressure, Polymer Hydrogen Dispensing Hoses	Kevin Simmons	Pacific Northwest National Laboratory

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H2035	Region-Specific Merchant Hydrogen Market Assessment and Techno-Economic Assessment of Electrolytic Hydrogen Generation	Richard Boardman	Idaho National Laboratory
H2036	Validating an Electrolysis System with High Output Pressure	Michael Peters	National Renewable Energy Laboratory
H2039	Turboexpander: Alternative Fueling Concept for Fuel Cell Electric Vehicle Fast Fill	Rob Burgess	National Renewable Energy Laboratory
H2041	California Hydrogen Infrastructure Research Consortium	Jennifer Kurtz	National Renewable Energy Laboratory
H2045	Methane Pyrolysis for Base-Grown Carbon Nanotubes and Carbon-Dioxide-Free Hydrogen over Transition-Metal Catalysts	Robert Dagle	Pacific Northwest National Laboratory
H2049	Valuation of Hydrogen Technology on the Electric Grid Using Production Cost Modeling	Josh Eichman	National Renewable Energy Laboratory
H2050	Holistic Fuel Cell Electric Vehicle/Hydrogen Station Optimization Model	Michael Peters	National Renewable Energy Laboratory
H2052	Merchant Hydrogen at Scale: A Technical-Economic Case Study of the Potential for Nuclear Hydrogen Production	Richard Boardman	Idaho National Laboratory
IA003	Hydrogen Fuel Cells for Powered Industrial Vehicles	Carroll Burgess	United States Postal Service
IA004	Fuel Cell Development for Tactical Vehicles	Kari Drotleff	United States Army Tank Automotive Research, Development and Engineering Center
IA005	Fuel Cell Unmanned Aerial Vehicle Development	Richard Stroman	Naval Research Laboratory
IA006	State- and Federal-Supported Hydrogen Research, Development, and Demonstration in Hawaii	Dave Molinaro	Hawaii Center For Advanced Transportation Technologies
IA007	Federal-Railroad-Administration-Sponsored Locomotive Project	Jack Brouwer	University of California, Irvine

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IA008	National Fuel Cell Bus Program	Sean Ricketson	Federal Transit Administration
IA009	Fuel Cell Research and Development for Earth and Space Applications	Ian Jakupca	The National Aeronautics and Space Administration
IA010	The Brentwood Station Experience	Robin Nixon	National Park Service
IA011	Alternative Fuel Corridor Program	Diane Turchetta	Federal Highway Administration
IA012	Hydrogen-Related Activities at the United States Environmental Protection Agency	Susan Burke	United States Environmental Protection Agency
IA014	Basic Science Underpinning Hydrogen and Fuel Cells at the United States Department of Energy	Viviane Schwartz	United States Department of Energy Office of Basic Energy Sciences
IA015	National-Science-Foundation-Sponsored Hydrogen- and Fuel Cell-Related Research and Development	Carole Read	National Science Foundation
IA016	Neutron Imaging Study of the Water Transport in Operating Fuel Cells	David Jacobson	National Institute of Standards and Technology
IA017	Hydrogen from Wastewater Biogas	Nick Josefik	United States Army Corps of Engineers
IA018	Operational Energy from Seawater	Heather Willauer	United States Naval Research Laboratory
IA019	Designing a Fuel Cell Watercraft	Dana Wilkes	National Oceanic and Atmospheric Administration
IA020	The United States Department of Energy Advanced Manufacturing Office: What We Do	Kenneth Kort	United States Department of Energy Advanced Manufacturing Office
IA021	Chemical Catalysis for Bioenergy (ChemCatBio): Accelerating Research and Development in Catalytic Conversion of Biomass for Biofuels, Bioproducts, and Biopower	Nichole Fitzgerald and Robert Natelson	United States Department of Energy Bioenergy Technologies Office

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IA022	Conversion of Methane to Hydrogen and Carbon via Catalytic Methane Decomposition	Ranjani Siriwardane	United States Department of Energy; National Energy Technology Laboratory
MN012	Integrated Regional Technical-Exchange Centers	Patrick Valente	Ohio Fuel Cells Coalition
MN013	Hydrogen Fuel Cell Nexus Business-to-Business Website	Alleyn Harned	Virginia Clean Cities at James Madison University
MN019	Material-Process-Performance Relationships in Polymer Electrolyte Membrane Catalyst Inks and Coated Layers	Michael Ulsh	National Renewable Energy Laboratory
PD038	Biomass to Hydrogen (B2H ₂)	Pin-Ching Maness	National Renewable Energy Laboratory
PD102	Analysis of Advanced Hydrogen Production Pathways	Brian James	Strategic Analysis, Inc.
PD114	Flowing Particle Bed Solar-Thermal Oxidation-Reduction Reaction (RedOx) Process to Split Water	Alan Weimer	University of Colorado Boulder
PD116	Wide-Bandgap Chalcopyrite Photoelectrodes for Direct Solar Water Splitting	Nicolas Gaillard	University of Hawaii
PD125	Tandem Particle-Slurry Batch Reactors for Solar Water Splitting	Shane Ardo	University of California, Irvine
PD129	Novel Hybrid Microbial Electrochemical System for Efficient Hydrogen Generation from Biomass	Hong Liu	Oregon State University
PD170	Benchmarking Advanced Water-Splitting Technologies: Best Practices in Materials Characterization	Kathy Ayers	Proton OnSite
PD172	Low-Cost Magnetocaloric Materials Discovery	Robin Ihnfeldt	General Engineering and Research
PD173	Novel Membranes for Electrochemical Hydrogen Compression Enabling Increased Pressure Capability and Higher Pumping Efficiency	Zhefei Li	Xergy, Inc.

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PD174	Novel Sulfonated Block Copolymers for Efficient Electrochemical Hydrogen Compression	Trent Molter	Sustainable Innovations
SLAC	Reduced-Temperature Thermochemical Redox Reactions	William Chueh	SLAC National Accelerator Laboratory; Stanford University
ST014	Hydrogen Sorbent Measurement Qualification and Characterization	Phil Parilla	National Renewable Energy Laboratory
ST119	High-Capacity Hydrogen Storage Systems via Mechanochemistry	Vitalij Pecharsky	Ames Laboratory
ST120	Design and Synthesis of Materials with High Capacities for Hydrogen Physisorption	Brent Fultz	California Institute of Technology
ST134	Investigation of Solid-State Hydrides for Autonomous Fuel Cell Vehicles	Patrick Ward	Savannah River National Laboratory
ST135	HySCORE: Technical Activities at the National Institute of Standards and Technology	Thomas Gennett	National Renewable Energy Laboratory
ST136	HyMARC Seedling: "Graphene-Wrapped" Complex Hydrides as High-Capacity, Regenerable Hydrogen Storage Materials	Di Jia Liu	Argonne National Laboratory
ST137	HyMARC Seedling: Electrolyte-Assisted Hydrogen Storage Reactions	Channing Ahn	Liox Power, Inc.
ST140	Emergency Hydrogen Refueler for Individual Consumer Fuel Cell Vehicles	Michael Kimble	Skyhaven Systems, LLC
ST142	HyMARC Seedling: Fluorinated Covalent-Organic Frameworks: A Novel Pathway to Enhance Hydrogen Sorption and Control Isothermic Heats of Adsorption	Justin Johnson	National Renewable Energy Laboratory
ST143	HyMARC Seedling: Atomic Layer Deposition Synthesis of Novel Nanostructured Metal Borohydrides	Steven Christensen	National Renewable Energy Laboratory
ST144	HyMARC Seedling: Optimized Hydrogen Adsorbents via Machine Learning and Crystal Engineering	Don Siegel	University of Michigan

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ST145	HyMARC Seedling: Super-Metallated Frameworks as Hydrogen Sponges	Omar Yaghi	University of California, Berkeley
ST146	Precursor Processing Development for Low-Cost, High-Strength Carbon Fiber for Composite Overwrapped Pressure Vessel Applications	Matthew Weisenberger	University of Kentucky
ST147	Developing a New Polyolefin Precursor for Low-Cost, High-Strength Carbon Fiber	Mike Chung	Penn State University
ST148	Novel Plasticized Melt-Spinning Process of Polyacrylonitrile (PAN) Fibers Based on Task-Specific Ionic Liquids	Sheng Dai	Oak Ridge National Laboratory
ST149	General Techniques for Increasing Packing Density of Metal-Organic Frameworks for Enhanced Volumetric Storage of Hydrogen	William Morris	NuMat Technologies, Inc.
ST150	High Density Hydrogen Storage in Space-Filling Polyhedral Sorbents	Lawrence Dubois	NextGen Battery Technologies, LLC
ST151	Development of Novel Compaction Regimes for Hydrogen Storage Materials	Bryan Ennis	E&G Associates, Inc.