

### List of Projects Not Reviewed

Project ID	Project Title	Principal Investigator Name	Organization
PD-004	Distributed Bio-Oil Reforming	Stefan Czernik	National Renewable Energy Laboratory
PD-013	Electrolyzer Development for the Copper-Chlorine Thermochemical Cycle	Michele Lewis	Argonne National Laboratory
PD-016	Oil-Free Centrifugal Hydrogen Compression Technology Demonstration	Hooshang Heshmat	Mohawk Innovative Technology
PD-017	Development of a Centrifugal Hydrogen Pipeline Gas Compressor	Frank Di Bella	Concepts NREC
PD-021	Development of High-Pressure Hydrogen Storage Tank for Storage and Gaseous Truck Delivery	Don Baldwin	Hexagon Lincoln
PD-027	Solar High-Temperature Water Splitting Cycle with Quantum Boost	Robin Taylor	Science Applications International Corporation
PD-030	PEM Electrolyzer Incorporating an Advanced Low-Cost Membrane	Monjid Hamdan	Giner Electrochemical Systems, LLC
PD-031	Renewable Electrolysis Integrated System Development and Testing	Kevin Harrison	National Renewable Energy Laboratory
PD-033	Solar Hydrogen Production by Photoelectrochemical (PEC) Water-Splitting: Advancing Technology Through the Synergistic Activities of the PEC Working Group	Thomas Jaramillo	Stanford University/National Renewable Energy Laboratory
PD-048	Electrochemical Hydrogen Compressor	Ludwig Lipp	FuelCell Energy, Inc.
PD-052	Photoelectrochemical Materials: Theory and Modeling	Muhammad Huda	University of Texas at Arlington
PD-053	Photoelectrochemical Hydrogen Production	Jian Hu	MVSystems/Hawaii Natural Energy Institute
PD-056	Critical Research for Cost-Effective Photoelectrochemical Production of Hydrogen	Liwei Xu	Midwest Optoelectronics, LLC
PD-065	Unitized Design for Home Refueling Appliance for Hydrogen Generation to 5,000 psi	Timothy Norman	Giner Electrochemical Systems, LLC

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PD-067	Hydrogen by Wire Home Fueling System	Luke Dalton	Proton OnSite
PD-071	High-Performance, Low-Cost Hydrogen Generation from Renewable Energy	Katherine Ayers	Proton OnSite
PD-076	Metal Oxide Semiconductor Nanotubular Arrays for Photoelectrochemical Hydrogen Generation	Dev Chidambaram	University of Nevada, Reno
PD-090	Low-Cost, Large-Scale PEM Electrolysis for Renewable Energy Storage	Katherine Ayers	Proton OnSite
PD-091	Bio-Fueled Solid Oxide Fuel Cells	Gokhan Alptekin	TDA Research
PD-093	Polymer and Composite Material Performance in Hydrogen	Chris Moen	Sandia National Laboratories
PD-096	Electrolyzer Component Development for the HyS Thermochemical Cycle	William Summers	Savannah River National Laboratory
PD-097	Photoelectrochemical Material Synthesis at Los Alamos National Laboratory	Todd Williamson	Los Alamos National Laboratory
PD-098	Low-Noble-Metal-Content Catalysts/Electrodes for Hydrogen Production by Water Electrolysis	Katherine Ayers	Proton OnSite
PD-099	Next-Generation Silicon Microwire Array Devices for Unassisted Photoelectrosynthesis	Shane Ardo	California Institute of Technology
ST-014	Hydrogen Sorbent Measurement Qualification and Characterization	Phil Parilla	National Renewable Energy Laboratory
ST-018	Biomimetic Approach to Metal-Organic Frameworks with High Hydrogen Uptake	Joe Zhou	Texas A&M University
ST-034	Aluminum Hydride: the Organometallic Approach	Jim Wegrzyn	Brookhaven National Laboratory
ST-040	Fluid Phase Hydrogen Storage Material Development	Benjamin Davis	Los Alamos National Laboratory
ST-048	Hydrogen Storage Materials for Fuel Cell Powered Vehicles	Andrew Goudy	Delaware State University

APPENDIX D: PROJECTS NOT REVIEWED

Project ID	Project Title	Principal Investigator Name	Organization
ST-067	Neutron Characterization in Support of the Hydrogen Storage Program	Terry Udovic	National Institute of Standards and Technology
ST-095	Low-Cost, Metal Hydride-Based Hydrogen Storage System for Forklift Applications (Phase II)	Daniel Brayton	University of Hawaii
ST-105	Ultra-Lightweight, High-Pressure Hydrogen Fuel Tanks Reinforced with Carbon Nanotubes	Dongsheng Mao	Applied Nanotech, Inc.
ST-109	Low-Cost Integrated Nanoreinforcement for Composite Tanks—"LINCT" (Small Business Innovative Research Phase I)	Terrisa Duenas	NextGen Aeronautics
ST-110	Optimizing the Cost and Performance of Composite Cylinders for Hydrogen Storage using a Graded Construction	Andrea Haight	Composite Technologies Development
FC-028	Transport Studies Enabling Efficiency Optimization of Cost-Competitive Fuel Cell Stacks	Robert Dross/Amedeo Conti	Nuvera Fuel Cells
FC-040	High-Temperature Membrane with Humidification-Independent Cluster Structure	Ludwig Lipp	FuelCell Energy, Inc.
FC-049	Development of Micro-Structural Mitigation Strategies for PEM Fuel Cells: Morphological Simulations and Experimental Approaches	Silvia Wessel	Ballard
FC-079	Improving Fuel Cell Durability and Reliability	Prabhakar Singh	University of Connecticut Global Fuel Cell Center
FC-102	New High Performance Water Vapor Membranes to Improve Fuel Cell Balance of Plant Efficiency and Lower Costs	Earl Wagener	Tetramer Technologies, LLC
FC-105	Low-Cost PEM Fuel Cell Metal Bipolar Plates	C.H. Wang	TreadStone Technologies, Inc.
FC-106	Rationally Designed Catalyst Layers for PEM Fuel Cell Performance Optimization	Deborah Myers	Argonne National Laboratory
FC-107	Non-Precious Metal Fuel Cell Cathodes: Catalyst Development and Electrode Structure Design	Piotr Zelenay	Los Alamos National Laboratory
FC-108	Advanced Ionomers and Membrane Electrode Assemblies for Alkaline Membrane Fuel Cells	Bryan Pivovar	National Renewable Energy Laboratory
MN-005	Adaptive Process Controls and Ultrasonics for High-Temperature PEM Membrane Electrode Assembly Manufacture	Dan Walczyk	Rensselaer Polytechnic Institute

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MN-008	Development of Advanced Manufacturing Technologies for Low-Cost Hydrogen Storage Vessels	Mark Leavitt	Quantum Fuel Systems Technologies Worldwide, Inc.
TV-001	Fuel Cell Electric Vehicle Evaluation	Jennifer Kurtz	National Renewable Energy Laboratory
TV-017	Next Generation Hydrogen Infrastructure Evaluation	Sam Sprik	National Renewable Energy Laboratory
TV-023	Data Collection and Validation of Newport Beach Hydrogen Station Performance	Michael Kashuba	California Air Resources Board
TV-024	California State University, Los Angeles Hydrogen Refueling Facility Performance Evaluation and Optimization	David Blekman	California State University, Los Angeles
TV-025	Performance Evaluation of Delivered Hydrogen Fueling Stations	Michael Tieu	Gas Technology Institute
SCS-015	Hydrogen Emergency Response Training for First Responders	Monte Elmore	Pacific Northwest National Laboratory
SCS-020	International Program for Hydrogen and Fuel Cells in the Economy – Regulations, Codes and Standards Working Group	Jay Keller	U.S. Department of Energy Consultant
H2RA-002	Solid Oxide Fuel Cell Diesel Auxiliary Power Unit Demonstration	Dan Hennessy	Delphi Automotive
H2RA-003	Highly Efficient, 5kW Combined Heat and Power Fuel Cells Demonstrating Durability and Economic Value in Residential and Light Commercial Applications	Jim Petrecky	Plug Power
H2RA-007	Accelerating Acceptance of Fuel Cell Backup Power Systems	Jim Petrecky	Plug Power
H2RA-012	Use of 72-Hour Hydrogen PEM Fuel Cell Systems to Support Emergency Communications	Kevin Kenny	Sprint
BES-001	Computer Simulation of Proton Transport in Fuel Cell Membranes	Gregory Voth	University of Chicago
BES-002	Fluoropolymers, Electrolytes, Composites, and Electrodes	Stephen Creager	Clemson University

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BES-003	Gas Transport Across Hyperthin Membranes	Steven Regen	Lehigh University
BES-004	Theory-Guided Design of Nanoscale Multimetallic Nanocatalysts for Fuel Cells	Perla Balbuena	University of Texas
BES-005	Structure-Property Relationship in Metal Carbides and Bimetallic Alloys	Jingguang Chen	Columbia University
BES-006	Nanostructured Catalysts for Hydrogen Generation from Renewable Feedstocks	Abhaya Datye	University of New Mexico
BES-007	Fundamental Structure/Property Studies of Gas Separation Membrane Polymers	Benny Freeman	University of Texas-Austin
BES-008	Precisely Tunable High Performance Carbon Molecular Sieve Membranes for Energy Intensive Separations	William Koros	Georgia Tech
BES-009	Nanoporous Membranes for Hydrogen Production: Experimental Studies and Molecular Simulations	Muhammad Sahimi	University of Southern California
BES-010	Structure/Composition/Function Relationships in Supported Nanoscale Catalysts for Hydrogen	Peter Stair	Argonne National Laboratory
BES-011	Metal and Metal Oxide-Supported Platinum Monolayer Electrocatalysts for Oxygen Reduction	Radoslav Adzic	Brookhaven National Laboratory
BES-012	Active Sites and Mechanism for the Water-Gas Shift Reaction on Metal and Metal/Oxide Catalysts	Jose Rodriguez	Brookhaven National Laboratory
BES-013	Fundamentals of Catalysis and Chemical Transformations	Steve Overbury	Oak Ridge National Laboratory
BES-014	Activation of Small Molecules with Bi-Functional Ambiphilic Catalyst Complexes	Thomas Autrey	Pacific Northwest National Laboratory
BES-016	Bio-Inspired Molecular Catalysts for Oxidation of Hydrogen and Production of Hydrogen: Cheap Metals for Noble Tasks	Morris Bullock	Pacific Northwest National Laboratory
BES-017	Platinum Group Metal Substituted Complex Oxide Catalysts	Ram Seshadri	University of California-Santa Barbara
BES-018	Porous Transition Metal Oxides: Synthesis, Characterization, and Catalytic Activity	Steven Suib	University of Connecticut

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BES-019	Understanding the Effects of Surface Chemistry and Microstructure on the Activity and Stability of Pt Electrocatalysts on Non-Carbon Supports	William Mustain	University of Connecticut
BES-020	In Situ NMR/Infrared/Raman and AB Initio DFT Investigations of Pt-Based Mono- and Bi-Metallic Nanoscale Electrocatalysts: From Sulfur-Poisoning to Polymer Promoters to Surface Activity Indexes	YuYe Tong	Georgetown University
BES-021	Investigation of the Nature of Active Sites on Heteroatom-Containing Carbon Nano-Structures for Oxygen Reduction Reaction	Umit Ozkan	The Ohio State University
BES-022	Oxide-Metal Interactions Studied on M@Oxide, Core-Shell Catalysts	Raymond Gorte	University of Pennsylvania
BES-023	Fundamental Studies of the Steam Reforming of Alcohols on PdZnO and Co/ZnO Catalysts	John Vohs	University of Pennsylvania
BES-024	Theoretically Relating the Surface Composition of the Pt Alloys to their Performance as the Electrocatalysts of Low-Temperature Fuel Cells	Guofeng Wang	University of Pittsburgh
BES-025	Nanoscale Surface Chemistry and Electrochemistry of Clean and Metal-Covered Faceted Substrates: Structure, Reactivity and Electronic Properties	Robert Bartynski	Rutgers University
BES-026	Correlation of Theory and Function in Well-Defined Bimetallic Electrocatalysts	Richard Crooks	University of Texas
BES-027	Metal-Ion Sites on Oxide Supports as Catalysts for the Water-Gas Shift and Methanol Steam Reforming Reactions	Maria Flytzani-Stephanopoulos	Tufts University
BES-028	Hydrocarbon Oxidation, Dehydrogenation and Coupling over Model Metal Oxide Surfaces	David Cox	Virginia Tech
BES-029	Atomic Level Studies of Advanced Catalysts for Hydrodeoxygenation	S. Ted Oyama	Virginia Tech
BES-030	Atomic-Scale Design of Metal and Alloy Catalysts: A Combined Theoretical and Experimental Approach	Manos Mavrikakis	University of Wisconsin