DOE Announces $140 Million for Research on Chemical and Materials Sciences to Advance Clean Energy Technologies and Low-Carbon Manufacturing

Annoucement Number: *DE-FOA-0002676* *List Posted:* *8/25/2022*

Principal Investigator	Title	Institution	City	State	9-digit zip code
Amanchukwu, Chibueze	Enabling energy-dense grid scale batteries with earth abundant materials	University of Chicago	Chicago	IL	60637-5418
Amarasekara, Ananda	Li-Ion Battery Critical Metal Recycling Using Sugars	Prairie View A&M University	Prairie View	TX	77446-7446
Autrey, Thomas	Enabling Reversible Hydrogen Storage and Transfer with Graphene-based Carbon–Boron–Nitrogen Materials	Pacific Northwest National Laboratory (PNNL)	Richland	WA	99352-0999
Bauers, Sage	Design, discovery, and chemical synthesis of earth abundant ferromagnetic nitrides	National Renewable Energy Laboratory (NREL)	Golden	CO	80401-3111
Bertoni, Mariana	Acoustic Modification of Crystallization and Dislocation Dynamics in Energy Materials to Reduce Carbon-Intensity	Arizona State University	Tempe	AZ	85287-6011
Bren, Kara	Living Bio-Nano Systems for Solar Hydrogen Production	University of Rochester	Rochester	NY	14627-0140
Brock, Stephanie	Tunable Platforms for Solar Fuels Generation via Programmable Integration of Colloidal Components	Wayne State University	Detroit	MI	48202-4050
Chen, Chun-Long	Bio-inspired Durable Storage of CO2	Pacific Northwest National Laboratory (PNNL)	Richland	WA	99352-0999
Chen, Donna	Design of New Catalysts for the Generation of Clean H2 from Liquid Organic Hydrogen Carriers: Dehydrogenation of Methylcyclohexane on Bimetallic Catalysts	University of South Carolina	Columbia	SC	29208-0001
Chen, Jingguang	Nitrides of Earth-abundant Metals as Cost-effective Catalysts for Water Electrolysis	Brookhaven National Laboratory (BNL)	Upton	NY	11973-5000
Cheng, Yingwen	Modulating Complex Chemical Conversion with Multi-site Electrocatalyst for Energy Dense Liquids	Northern Illinois University	DeKalb	IL	60115-2864
Conley, Matthew	Heterogeneous Catalysts for the Direct Conversion of Ethylene to Propylene	University of California, Riverside	Riverside	CA	92521-0217
Delaire, Olivier	Dynamic atomistic processes of sodium-ion conduction in solid-state electrolytes	Duke University	Durham	NC	27705-4010
Donahue, James	Molecular Mo Sulfide Clusters for H2-Evolution: Surface Immobilization and Water Solubility, Composition-Function Relationships, and Probes of Mechanism	Tulane University	New Orleans	LA	70118-5665
Finkeldei, Sarah	Advancing clean energy through fundamental insights into defect generation and transport phenomena at grain boundaries in nuclear energy materials	University of California, Irvine	Irvine	CA	92697-7600
Flint, Rebecca	Exploiting the interplay of mixed valence and magnetic anisotropy in rare earths	Ames National Laboratory	Ames	IA	50011-1015
Forbes, Tori	Direct air carbon dioxide separation using a uranyl superoxide catalyst	University of Iowa	Iowa City	IA	52242-1320
Garrett-Roe, Sean	Mechanism of CO2 capture in ionic liquid composite materials	University of Pittsburgh	Pittsburgh	PA	15213-2303
Geiger, Franz	Interfacial Spectromicroscopy of Water Oxidation at Earth Abundant Solar Photoanodes	Northwestern University	Chicago	IL	60611-4579
Hatzell, Kelsey	Liquid-metal electrodes for low-cost and low temperature solid state batteries for long duration energy storage	Princeton University	Princeton	NJ	08544-2020
Hautier, Geoffroy	Understanding and designing phosphide solar absorbers with high carrier lifetime	Dartmouth College	Hanover	NH	03755-1421
Hermans, Ive	Autoxidation Mechanisms and Methods for Plastics Upcycling	University of Wisconsin-Madison	Madison	WI	53715-1218

Holewinski, Adam	Electrochemically-assisted dehydrogenation reactions for dual-electrode hydrogen evolution	University of Colorado	Boulder	CO	80303-1058
Horne, Gregory	Understand and Predict Radiation-Induced Iodine Speciation, Chemistry, and Transport in High-Temperature Molten Salts	Idaho National Laboratory (INL)	Idaho Falls	ID	83415-0000
Hu, Liangbing	Programmable Non-Equilibrium Electrified Ammonia Synthesis for Efficient Hydrogen Storage	University of Maryland	College Park	MD	20742-5141
Jaramillo, Thomas	Understanding interfacial phenomena for solar H2 production and N2 reduction	SLAC National Accelerator Laboratory	Menlo Park	CA	94025-7015
Ji, Xiulei	Understanding the Interfaces for High-Energy Batteries Using Anions as Charge Carriers	Oregon State University	Corvallis	OR	97331-2140
Jun, Young-Shin	Geochemical Processes Controlling the Fate of Critical Elements during Carbonation of Mafic and Ultramafic Minerals	Washington University	St. Louis	MO	63130-4862
Kempler, Paul	Direct Reduction of Metal Oxides to Metals for Electrowinning and Energy Storage	University of Oregon	Eugene	OR	97403-5219
Knope, Karah	Transforming Critical Materials Separations through Metal-Oxo Cluster Chemistry	Georgetown University	Washington	DC	20057-1168
Kumar, Manish	Transport and Molecular Discrimination in Biomimetic Artificial Water Channels for Lanthanide Separations	University of Texas at Austin	Austin	TX	78759-5316
Liu, Chong	Electric field driven precision material synthesis	University of Chicago	Chicago	IL	60637-5418
Liu, Qun	Transformative Biohybrid Diiron Catalysts for C-H Bond Functionalization	Brookhaven National Laboratory (BNL)	Upton	NY	11973-5000
Marschilok, Amy	Harnessing the catalytic promise of molybdenum chalcogenides to enable aqueous zinc sulfur batteries	Brookhaven National Laboratory (BNL)	Upton	NY	11973-5000
McKone, James	From Molecules to Materials: Understanding Hydrogen Activation and Transfer in Metal Oxides	University of Pittsburgh	Pittsburgh	PA	15213-2303
Mulfort, Karen	Molecularly Defined Multi-Metal Clusters for Solar Energy Conversion	Argonne National Laboratory (ANL)	Lemont	IL	60439-4842
Naskar, Amit	Targeted, Scalable Synthesis of Multidimensional Macromolecules to Transform Additive Manufacturing	Oak Ridge National Laboratory (ORNL)	Oak Ridge	TN	37831-6110
Personick, Michelle	An Integrated Electrochemical Approach to the Precision Synthesis of Sustainable Catalyst Materials	Wesleyan University	Middletown	CT	06459-6459
Saouma, Caroline	Electric Fields to Modulate Catalyst Thermochemical Properties for Multi-Electron/Multi-Proton Redox Reactions	University of Utah	Salt Lake City	UT	84102-9023
Schwartz, Craig	Probing Interfacial Electron Dynamics (PIED) - A Multimodal Study to Advance Solar Photochemistry	University of Nevada, Las Vegas	Las Vegas	NV	89154-1055
Stefik, Morgan	Understanding the Role of Defects to Accelerate Wadsley-Roth Niobates for Long-Duration Energy Storage	University of South Carolina	Columbia	SC	29208-0001
Tackett, Brian	Low-Temperature Electrocatalytic Manufacturing of Essential Chemical Building Blocks	Purdue University	West Lafayette	IN	47906-1332
Teets, Thomas	Long-Lived Charge Separation in Panchromatic Copper Photosensitizers	University of Houston	Houston	TX	77204-2015
Tsapatsis, Michael	Membrane-Catalyst Co-Design for Transformative Manufacturing	Johns Hopkins University	Baltimore	MD	21218-2686
Wade, Jennifer	Molecular mechanisms of moisture-driven DAC within charged polymers (MissionDAC))	Northern Arizona University	Flagstaff	AZ	86011-4130
Wang, Bin	Computational Design of Heterogeneous Catalysts for Coupling CO2 and Ethylene to Manufacture Acrylic Acid Derivatives	University of Oklahoma	Norman	OK	73019-9705
Ward, Patrick	Molecular Insights for Fine-Tuned Hydrogen Interaction Control: MXenes as a Model System	Savannah River National Laboratory (SRNL),	Aiken	SC	29808-0001
Weber, Juliane	Fundamental Mechanisms Driving Efficiency of CO2 Capture Using Mineral Looping	Oak Ridge National Laboratory (ORNL)	Oak Ridge	TN	37831-6110
White, Claire	Electric field-controlled solid sorbent for direct air capture	Princeton University	Princeton	NJ	08544-2020
Whittaker, Michael	MINES: The Science of Direct MINeral to Energy Storage Synthesis	Lawrence Berkeley National Laboratory (LBNL)	Berkeley	CA	94720-0000
Yang, Ping	Autonomous Discovery of Selective Separation of f-Elements for Clean Energy	Los Alamos National Laboratory (LANL)	Los Alamos	NM	87545-0001
Yano, Junko	Light-controlled multi-electron catalysis coordinated across time and space	Lawrence Berkeley National Laboratory (LBNL)	Berkeley	CA	94720-0000
Zhang, Sen	Fundamental Studies of Catalytic Sites and Catalyst/Membrane Integrations for Advanced Hydroxide Exchange Membrane Electrolyzers	University of Virginia	Charlottesville	VA	22904-4195