VTO Lab Call Selections
October 27, 2021

Lead National Laboratory	Partners	Project Title
AOI 1: Battery500 Research Consortium		
PNNL (Richland, WA)	BNL, INL, SLAC, General Motors and 8 universities	Battery500 Phase 2
AOI 2: Solid State Electrolytes for Lithium Metal		
Focus: Multiple solid electrolytes		
LBNL (Berkeley, CA)		Solid state batteries with long cycle life and high energy density through materials design and integration
NREL (Golden, CO)		Low-Pressure All Solid State Cells
Focus: Ceramic solid electrolytes		
LLNL (Livermore, CA)		3D Printing of All-Solid-State Lithium Batteries
LLNL (Livermore, CA)		Integrated Multiscale Model for Design of Robust 3-D Solid-state Lithium Batteries
Focus: Sulfide solid electrolytes		
PNNL (Richland, WA)		Stable Solid-State Electrolyte and Interface for High-Energy All-Solid-State Lithium-Sulfur Battery
ORNL (Oak Ridge, TN)		Substituted Argyrodite Solid Electrolytes and High Capacity Conversion Cathodes for All-Solid-State Batteries
ANL (Lemont, IL)		Multifunctional Gradient Coatings for Scalable, High Energy Density Sulfide-Based Solid-State Batteries
ANL (Lemont, IL)		Thick Selenium-Sulfur Cathode Supported Ultra-thin Sulfides Electrolytes for High-energy All-solid-state Lithium Metal Batteries
SLAC (Menlo Park, CA)		High-Conductivity and Electrochemically Stable Lithium Thioborate Solid-State Electrolytes for Practical All-Solid-State Batteries
Focus: Composite solid electrolytes		
ANL (Lemont, IL)		Synthesis of Composite Electrolytes with Integrated Interface Design
ORNL (Oak Ridge, TN)		Polymer Electrolytes for Stable Low Impedance Solid State Battery Interfaces
BNL (Upton, NY)		Inorganic-Polymer-Composite Electrolyte with Architecture Design for Lithium Metal Solid State Batteries
LBNL (Berkeley, CA)		Ion conductive high Li+ transference number polymer composites for solid-state batteries
Focus: Other solid electrolytes		
ORNL (Oak Ridge, TN)		Precision control of the Li surface for solid state batteries
ORNL (Oak Ridge, TN)		Lithium Halide-Based Superionic Solid Electrolytes and High Voltage Cathode Interfaces
LBNL (Berkeley, CA)		Polyester-Based Block Copolymer Electrolytes for Lithium Metal Batteries
ANL (Lemont, IL)		Development of All Solid-State Battery using Anti-Perovskite Electrolytes
AOI 3: Extreme Fast Charging (Xcel) of Batteries		
ANL (Lemont, IL)	NREL-INL-LBNL	Core Research on Extreme Fast Charge Cell Evaluation of Lithium-ion Batteries (XCEL)
NREL (Golden, CO)	INL-Ford	Electrochemical/Thermal-Optimized Solutions for Extreme Fast Charge
LBNL (Berkeley, CA)	NREL	Innovative Solutions for Enabling Extreme Fast Charging

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SLAC (Menlo Park, CA)		Enabling and Understanding Battery Fast Charging at Cell and Materials Levels
ORNL (Oak Ridge, TN)		Integrated electrolyte development and electrode engineering to enable fast charging of high energy density Li-ion cells
AOI 4: EVs@Scale Lab Consortium		
NREL (Golden, CO),	ANL, INL, ORNL, PNNL, SNL	EVs@Scale Lab Consortium addressing technical barriers to wide-scale EV adoption and integration with the grid
AOI 5: Advancing Driving Automation through Connectivity		
ORNL (Oak Ridge, TN)		A Cooperative Driving Automation (CDA) Framework for Developing Communication Requirements of Energy Centric CDA Applications
LBNL (Berkeley, CA)		Optimization of Cooperative Driving Automation For Trucks, Passenger Cars, and Infrastructure in Mixed Traffic Scenarios