Department of Energy Announces $87 Million for Research on Advanced Scientific Computing

Principal Investigator	Title	Topics	Institution	City	State	ZIP Code
Borders, Tammie	SCI-NE3WS - Scientific Computing Interface for Novel Energy-Efficient, Extreme-Speed Wafer-Scale Engine	Basic research on Wafer Scale Engine Architecture and Integration, understanding how the next-generation AI architecture can be leveraged for physical modeling and simulation workloads and hybrid AI workloads.	National Energy Technology Laboratory (NETL)	Albany	OR	97321-2198
Hagberg, Aric	Foundations for High-Productivity, High-Confidence, High-Fidelity Simulations	Basic research topics including: Data-driven reduced order modeling; Multiphysics model- and scale-bridging; and Multiscale and Multiphysics mathematical methods.	Los Alamos National Laboratory (LANL)	Los Alamos	NM	87544-0600
Hittinger, Jeffrey	Foundations for Decision Support Through Cognitive Simulation	Basic research topics including: Next-Generation Methods for PDEs; and Foundations for Next-Generation Decision Support.	Lawrence Livermore National Laboratory (LLNL)	Livermore	CA	94551-0808
Parks, Michael	MAGNET: MAthematics, ComputinG, and NETworking for Resource-Efficient Computational Science	Basic research topics including: Foundations of Learning: Graphs, Linear Algebra, Stats; Performance Portability on Extremely Heterogeneous Architectures (PPEHA); and AI-GREEC: Artificial Intelligence and Knowledge Graphs to Accelerate Energy- Efficient Computing.	Oak Ridge National Laboratory (ORNL)	Oak Ridge	TN	37831-6118
Rallo, Robert	End-to-end co-design for performance, energy efficiency, and security in AI-enabled computational science (ENCODE)	Basic research topics including: Intelligent and Scalable Hardware Design Automation; and Advanced Architecture Testbeds.	Pacific Northwest National Laboratory (PNNL)	Richland	WA	99352-1793
Stewart, James	ASCEND: Applied mathematics and Scientific Computing Ecosystem for the New Digital era	Basic research topics including: Advanced Discretizations and Linear Solvers; Multiscale and Multiphysics mathematical methods; Optimization; Randomized Algorithms and Tensors; Uncertainty Quantification; and AI-GREEC: Artificial Intelligence and Knowledge Graphs to Accelerate Energy-Efficient Computing.	Sandia National Laboratories, New Mexico (SNL-NM)	Albuquerque	NM	87185-0100
Taylor, Valerie	Energy Efficient Computing: A Holistic Methodology	Basic research topics including: Automatic Differentiation; Efficient Data-Driven HPC Modeling and Simulation for Energy; Energy-Efficient Composable Solvers; Energy-Efficient Optimization under Uncertainty for Multicomponent, Multiscale, Multiphysics Systems; Foundations of Surrogate Models and UQ; and Algorithm-Driven Codesign of Specialized Architectures for Energy-Efficient HPC.	Argonne National Laboratory (ANL)	Lemont	IL	60439-4803
Wild, Stefan	Advancing the Foundations of Scientific Computing Research	Basic research topics including: Energy-Efficient Composable Solvers; Foundations of Learning: Graphs, Linear Algebra, Stats; Frontiers in Computational Physics: New Mathematics for Fluids, Interfaces, and Materials; Next-Generation Methods for PDEs; and Algorithm-Driven Codesign of Specialized Architectures for Energy-Efficient HPC.	Lawrence Berkeley National Laboratory (LBNL)	Berkeley	CA	94720-8099