Department of Energy to Provide $32 Million for Advanced Computational Research in the Sciences

Awards Will Team Physical Scientists with Experts in Advanced Computing

Today, the U.S. Department of Energy (DOE) announced plans to provide up to $32 million to harness DOE supercomputers for advanced research in a wide range of scientific fields, including materials science, condensed matter physics, chemical sciences, geosciences, and energy-related biosciences.

The effort is part of a joint program that brings together experts in key areas of science and energy research with experts in software development, applied mathematics, and computer science to take maximum advantage of high-performance computing resources at the DOE national laboratories.

“DOE’s national laboratories host some of the fastest supercomputers and most advanced mathematics and computational science capabilities in the world,” said Dr. Chris Fall, Director of DOE’s Office of Science. “Harnessing these resources for advanced research in the physical sciences is critical to maintaining U.S. leadership in science and accelerating basic research in energy.”

Under the Scientific Discovery through Advanced Computing (SciDAC) program, national laboratories, universities, and industry will be eligible to apply and selected by peer review. Institutions will be encouraged to come together to form integrated multi-institutional, multidisciplinary teams to tackle challenging scientific questions, with emphasis on quantum phenomena and chemical reactions relevant to energy.

These teams will partner, in turn, with either or both of two SciDAC Institutes, led respectively by Lawrence Berkeley and Argonne National Laboratories, comprising leading experts in software development, applied mathematics, and computer science.

The key to the effort, which is jointly sponsored by the Offices of Advanced Scientific Computing Research (ASCR) and Basic Energy Sciences (BES) within DOE’s Office of Science, is the marriage of scientific and computing expertise to accelerate discovery.

Projects are expected to take full advantage of emerging exascale computing capabilities at
Projects are expected to take full advantage of emerging exascale computing capabilities at Argonne and Oak Ridge National Laboratories along with the advanced computing capabilities at Lawrence Berkeley National Laboratory.

Planned funding is expected to total up to $32 million for projects lasting four years in duration beginning in Fiscal Year 2021. Funding is contingent on congressional appropriations.

The DOE Funding Opportunity Announcement can be found on the funding opportunity pages of ASCR and BES.

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