

# **Argonne's supercomputer named world's fastest for open science, third overall**

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The U.S. Department of Energy's (DOE) Argonne National Laboratory's IBM Blue Gene/P high-performance computing system is now the fastest supercomputer in the world for open science, according to the semiannual Top500 List of the world's fastest computers.

The Top500 List was announced today during the International Supercomputing Conference in Dresden, Germany.

The Blue Gene/P – known as Intrepid and located at the Argonne Leadership Computing Facility (ALCF) – also ranked third fastest overall. Both rankings represent the first time an Argonne-based supercomputing system has ranked in the top five of the industry's definitive list of supercomputers.

The Blue Gene/P has a peak-performance of 557 Teraflops (put in other terms, 557 million calculations per second). Intrepid achieved a speed of 450.3 Teraflops on the Linpack application used to measure speed for the Top500 rankings.

"Intrepid's speed and power reflect the DOE Office of Science's determined effort to provide the research and development community with powerful tools that enable them to make innovative and high-impact science and engineering breakthroughs," said Rick Stevens, associate laboratory director for computing, environmental and life sciences at Argonne.

"The ALCF and Intrepid have only just begun to have a meaningful impact on scientific research," Stevens said. "In addition, continued expansion of ALCF computing resources will not only be instrumental in addressing critical scientific research challenges related to climate change, energy, health and our basic understanding of the world, but in the future will transform and advance how science research and engineering experiments are conducted and attract social sciences research projects, as well."

"Scientists and society are already benefiting from ALCF resources," said Peter Beckman, ALCF acting director. "For example, ALCF's Blue Gene resources have allowed researchers to make major strides in evaluating the molecular and environmental features that may lead to the clinical diagnosis of Parkinson's disease and Lewy body dementia, as well as to simulate materials and designs that are important to the safe and reliable use of nuclear energy plants."

Eighty percent of Intrepid's computing time has been set aside for open science research through the DOE Office of Science's (SC) highly select Innovative and Novel Computational Impact on Theory and Experiment (INCITE) program. There are currently 20 INCITE projects at the ALCF that will use 111 million hours of computing time this year. SC's Office of Advanced Scientific Computing Research provides high-level computer power focused on large-scale installation used by scientists and engineers in many disciplines.

Source: DOE/Argonne National Laboratory

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