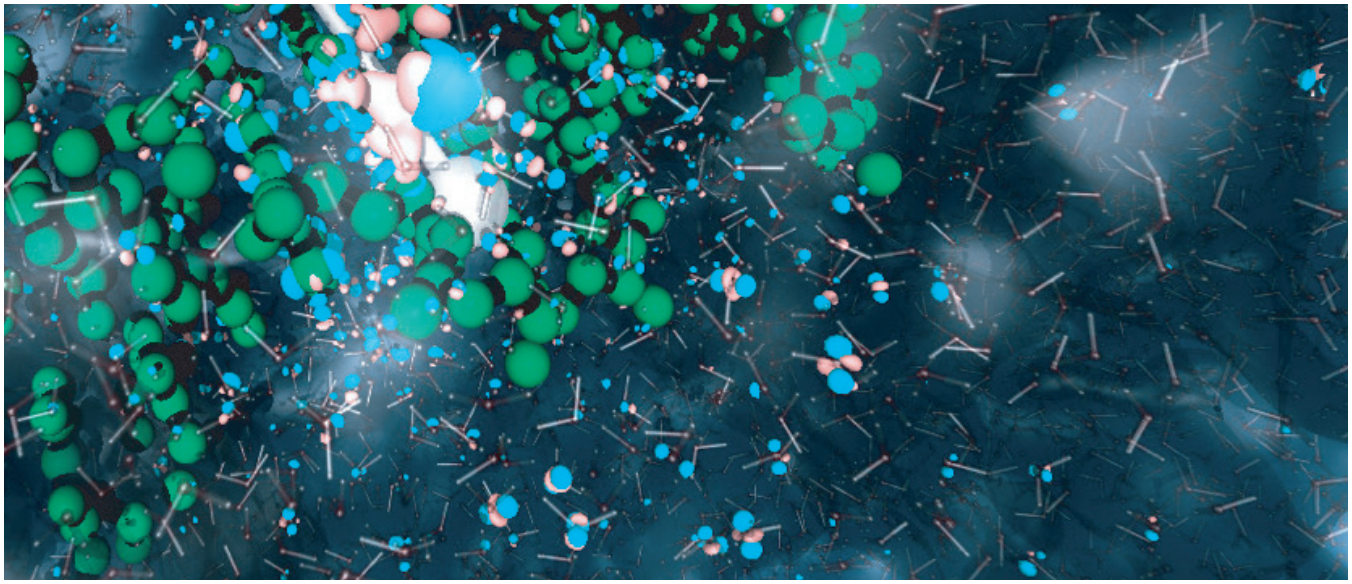
Argonne NATIONAL LABORATORY

Argonne Leadership Computing Facility

Accelerating the pace of discovery and innovation



The Argonne Leadership Computing Facility (ALCF), a U.S. Department of Energy (DOE) Office of Science User Facility, provides supercomputing and AI resources to the scientific and engineering community to accelerate the pace of discovery and innovation in a broad range of disciplines.

Breakthrough Science and Engineering

The ALCF's unparalleled combination of resources and staff expertise helps scientists and engineers advance their research in many fields, enabling high-impact scientific discoveries and transformative technologies.

World-Class Supercomputing

Supported by the DOE's Advanced Scientific Computing Research (ASCR) program, the ALCF operates leadership-class supercomputing resources that are orders of magnitude more powerful than the systems typically used for open scientific research.

Scientific Domains

- Biological Sciences
- Chemistry
- Computer Science
- Earth Science
- Energy Technologies
- Engineering
- Materials Science
- Physics

ALCF by the Numbers

Node-hours of compute time

35.7M

Active Projects

417

Facility Users

1,624

Publications

240

U.S. DEPARTMENT OF ENERGY

Argonne National Laboratory is a U.S. Department of Energy laboratory managed by UChicago Argonne, LLC.

July 2024

Polaris is an HPE supercomputer equipped with NVIDIA GPUs and AMD CPUs.

Tools for Scientists and Engineers

At over 34 petaflops, the ALCF's supercomputer Polaris is a powerful NVIDIA GPU-accerlerated platform. The facility's high-performance storage and networking infrastructure is designed to efficiently handle massive amounts of data. To further expedite scientific discovery, the ALCF also hosts an AI Testbed comprised of cutting-edge accelerators to enable researchers to explore machine learning applications and workloads to advance AI for science.

Exascale Era

The ALCF's Aurora system is one of the nation's first exascale supercomputers. Designed in collaboration with Intel and HPE, Aurora will help ensure continued U.S. leadership in high-end computing for scientific research, while also cementing the nation's position as a global leader in the development of next-generation exascale computing systems. Aurora will be available to the research community in 2025.

Accessing ALCF Resources

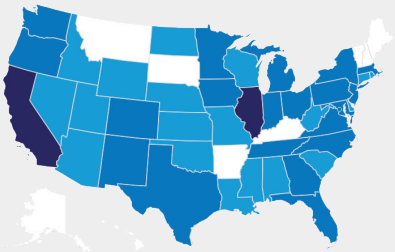
The ALCF is available to researchers across the world with large-scale computing problems. Researchers gain access to ALCF systems through competitive, peer-reviewed allocation programs supported by DOE and Argonne National Laboratory, and publish their findings in high-impact journals and publications.

Expertise and Support

The ALCF's team of computational scientists, performance engineers, visualization experts, and support staff has the skills and expertise to ensure users get the most out of the facility's high-performance computing systems.

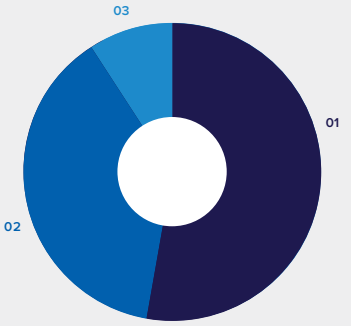
- Multidisciplinary Scientific Expertise
- Innovative Computational Methods
- Code Porting, Tuning, And Scaling
- Data Sciences
- Visualization And Data Analysis
- HPC Systems Administration
- Technical Support
- User Training

2023 U.S. ALCF Users by State



- 100+ Users
- 11–100 Users
- 01–10 Users

2023 ALCF Users by Affiliation



01	Academia	857
02	Government	620
03	Industry	147

Contact

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