Michigan State University’s Institute for Cyber-Enabled Research (ICER) provides MSU researchers with free access to state-of-the-art computational hardware, user training, advanced user support (application and programming), grant-writing support and popular software packages.

General access is available to all MSU researchers. Additional storage and priority access to compute resources is available via a buy-in program that allows faculty to purchase hardware at cost, which ICER provisions and maintains at no extra cost.

---

**GRANT WRITING SUPPORT**
- Letters of support
- Template facilities statements, data management plans and budget justifications (NSF and NIH)

**TRAINING & RESEARCH**
- Offer/Request HPC workshops
  contact: icer.msu.edu/training
- Undergraduate Computational & Data Science REU (ACRES)
  icer-acres.msu.edu
- REU Supplement templates (NSF and NIH)
- Graduate Computational & Data Science IRES (ASSURE)
  ires-assure.msu.edu

Please contact the ICER director, Dr. Brian O’Shea (oshea@msu.edu), for more information.

---

**HARDWARE BUY-IN**

Every two years, the Office of the Senior Vice President for Research and Innovation purchases computational hardware for the MSU community. In addition, individual researchers can purchase hardware for their use. It’s possible to buy in “out of cycle” as well.

You pay the price of the compute hardware (“nodes”) only. Users in your group have unlimited access to the purchased nodes.

ICER provides system administration, data center space, networking, software, technical support, etc. for your nodes.

In return for this support, ICER makes your nodes available to other MSU researchers for short jobs when you are not using them.

For more information, see https://icer.msu.edu/users/buy-options
ICER provides a variety of software packages. We also assist researchers with installing new software. We can install both open source and licensed software upon request.

### hardwood
- Cores: 23,126
- Nodes: 789
- GPUs: 518
- Memory (TB): 150
- Storage (PB): 7
- Theoretical peak performance (PFLOP): 1.75

### software
- **Domain Specific Tools**
  - NetCDF, Amber, Schrodinger, Abaqus, and more
  - TotalView, Valgrind, and more
  - MATLAB, Mathematica, Ansys, Stata, and more
- **Compilers**
  - Intel, GNU, PGI, CUDA, OpenCL, and more
- **Profiling Tools**
  - LAPACK/ScaLAPACK, MKL, PETSc, and more
- **Licensed Software**
  - OpenMPI, IMPI, MVAPICH, and more
- **Libraries**
  - 1255 Software Titles and Versions
- **MPI**

### Contact Us
INSTITUTE FOR CYBER-ENABLED RESEARCH
Biomedical & Physical Sciences Building
567 Wilson Rd., Room 1440
PH: 517-353-9309 | FX: 517-353-7248
icer.msu.edu | contact.icer.msu.edu
Director: Brian O’Shea, oshea@msu.edu