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# The Institute for Cyber-Enabled Research

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# Mission

**ICER** is MSU's central research computing facility. The unit provides **high performance computing platforms**, outstanding **user support**, and **consultation** with staff experienced in scientific computing.



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# High performance computing

- 1.75 petaflop supercomputer – 23K+ cores
- 500+ NVidia GPUs
- Experimental hardware: FPGAs, Intel Phi
- Compute nodes with large numbers of CPU cores, large memory (multi-TB)
- 7 PB of high-speed storage space
- Hundreds of software packages
- **Hardware buy-in program**



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# User/PI support

- Training for new users – how to use HPCC
- More advanced training in R, Python, Matlab, bioinformatics programs, etc.
- Letters of support for grants
- Template facilities statements, data management plans, budget justifications
- REU supplement templates (ACRES REU)
- Publicity for computational work done with ICER resources!



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# Consultation

ICER's Research Consultants (RCs) facilitate:

- One-on-one training with your group members
- Identifying research needs
- Optimizing computational workflows
- Installing specialized software
- Help transitioning to larger-scale resources if necessary (e.g., NSF XSEDE)



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# When might you need ICER?

Our goal is to support work you can't do on your own computer in a reasonable time frame:

- Dataset sizes too large to analyze (or analysis is too slow)
- You need to run many permutations of a model/simulation/analysis for statistical or replication purposes
- You need to do large-scale or parallel computation, or need specialized hardware (GPGPUs)



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# Please contact us if:

- You need more computational horsepower than is available on your own computer!
- You suspect that more computing resources might be able to help your research, even if you're not quite sure how.
- You want to purchase HPC hardware for your group's use

Contact us via **[contact.icer.msu.edu](mailto:contact.icer.msu.edu)**, or directly email me: **[oshea@msu.edu](mailto:oshea@msu.edu)**.



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