

# Iowa High Performance Computing (IHPC) Summer School

May 20-22, 2013

University of Iowa

Applications are invited for the fifth annual **Iowa High Performance Computing (IHPC) Summer School**, to be held at the University of Iowa. This three-day summer school, funded by the National Science Foundation and hosted by the University of Iowa, is intended to teach graduate students the fundamentals of high performance computing for modern research in all fields of study.

## Application requirements:

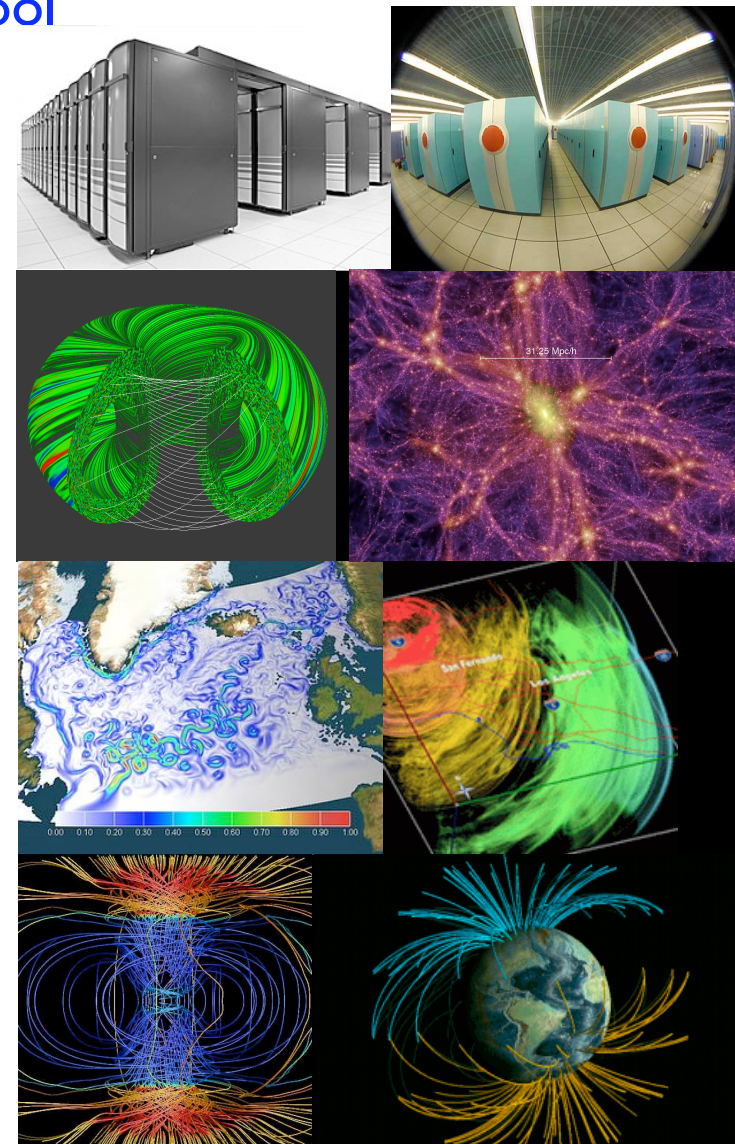
- Applicants must be enrolled as a graduate student at any Big 10 University in any field of study, with preference given to those planning to employ high performance computing as an element of their graduate research.
- Competency in scientific computer programming in a version of either Fortran or C is a prerequisite for this school, but familiarity with parallel programming is not required.

## Summer School Topics:

IHPC 2013 Faculty will teach courses on:

- The Basics of Designing High Performance Computing Algorithms
- Parallelization using the Message Passing Interface (MPI) Library
- Multi-threading using the OpenMP Library
- GPU Computing and CUDA programming
- Optimization of Parallel Performance
- Management of a High Performance Computing Research Program

The intensive, three-day course consists of lectures on high performance computing and hands-on exercises, taught by the IHPC 2013 Faculty. This course will give students hands-on experience creating and running parallel algorithms, both locally on a shared high performance computing cluster at the University of Iowa, and remotely on resources at a national supercomputing center.



For more information, please contact Professor Gregory Howes, [gregory-howes@uiowa.edu](mailto:gregory-howes@uiowa.edu)

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Faculty: The course has been designed and is run by Professor Gregory Howes, from the Department of Physics and Astronomy at the University of Iowa. Lectures and oversight of hands-on exercises are provided by a team of faculty members from the University of Iowa and other institutions. Previous external IHPC faculty have come from the University of Maryland, the California Institute of Technology, and the Perimeter Institute for Theoretical Physics.

Date, Time, and Location:

**IHPC 2013 Summer School**

Monday, May 20th through Wednesday, May 22nd, 2013, 8:30am-5:30pm  
Information Technology Services - Research Services  
2523 UCC Training Room, University Capital Center  
University of Iowa  
Iowa City, IA 52242

Support:

Sixteen graduate students will be accepted for participation in this program. For students from outside the University of Iowa, travel support up to \$500 and shared lodging will be provided.

To apply:

1) Please send an e-mail to Christine Stevens, [christine-stevens@uiowa.edu](mailto:christine-stevens@uiowa.edu) with the subject line: IHPC 2013 Application Request to obtain application materials.

2) A completed application consists of:

- Completed application form with applicant information
- One-page statement explaining how this course will directly benefit applicant's thesis research.
- Letter of recommendation from the applicant's faculty advisor

Applications must be received by **Friday, April 5th, 2013**. Accepted students will be notified by Monday, April 22nd, 2013.

Previous Students: Previous IHPC students have come from a wide range of fields:

- Biochemical Engineering
- Biomedical Engineering
- Capital Management
- Chemical Engineering
- Chemistry
- Civil and Environmental Engineering
- Computer Science
- Economics
- Electrical Engineering
- Geography
- Industrial Engineering
- Management Sciences
- Mathematics
- Mechanical Engineering
- Physics and Astronomy
- Psychiatry
- Radiation Oncology
- Statistics and Actuarial Science



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