

Welcome to the XSEDE OpenACC Workshop

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Who are we?

Your hosts:

Pittsburgh Supercomputing Center

Our satellite sites:

Tufts University

Pomona College

Purdue University

Stanford University

New York University

University of Delaware

University of Cincinnati

Northwestern University

Arizona State University

East Carolina University

Carnegie Mellon University

Ohio Supercomputer Center

University of South Carolina

Pennsylvania State University

Georgia Institute of Technology

University of Houston - Clear Lake

University of California, Los Angeles

National Center for Atmospheric Research

National Center for Supercomputing Applications

University of Tennessee, Knoxville - National Institute for Computational Sciences

XSEDE

Extreme Science and Engineering
Discovery Environment

Who am I?

John Urbanic
Parallel Computing Scientist
Pittsburgh Supercomputing Center

Parallelize codes with

- MPI
- OpenMP
- OpenACC
- Hybrid
- Big Data & Machine Learning

Mostly for XSEDE platforms. Mostly to extreme scalability.

XSEDE HPC Monthly Workshop Schedule

- September 3-4 *HPC Monthly Workshop: MPI*
- October 1-2 *HPC Monthly Workshop: Big Data*
- November 5 *HPC Monthly Workshop: OpenMP*
- December 3-4 *HPC Monthly Workshop: Big Data*
- January 21 *HPC Monthly Workshop: OpenMP*
- February 19-20 *HPC Monthly Workshop: Big Data*
- **March 3** ***HPC Monthly Workshop: OpenACC***
- April 7-8 *HPC Monthly Workshop: Big Data*
- May 5-6 *HPC Monthly Workshop: MPI*
- June 2-5 **Summer Boot Camp**
- August 4-5 *HPC Monthly Workshop: Big Data*
- September 1-2 *HPC Monthly Workshop: MPI*
- October 6-7 *HPC Monthly Workshop: Big Data*
- November 3 *HPC Monthly Workshop: OpenMP*
- December 1-2 *HPC Monthly Workshop: Big Data*

HPC Monthly Workshop Philosophy

- Workshops as long as they should be.
- You have real lives...
 - in different time zones...
 - that don't come to a halt.
- General Agenda
 - As much hands on as we can fit...
 - but now 2 weeks of follow on accounts
- Learning is a social process
 - This is not a MOOC
 - This is the **Wide Area Classroom**
 - so raise your expectations

Agenda

Tuesday, March 3rd

- 11:00 Welcome
- 11:15 Computing Environment
- 11:45 Parallel Computing and Accelerators
- 12:15 Introduction to OpenACC
- 1:00 Lunch Break
- 2:00 Introduction to OpenACC and exercises
- 4:00 Using OpenACC with CUDA Libraries
- 4:30 Advanced OpenACC and OpenMP 4.0
- 5:00 Final Notes and Adjourn

Resources

Your local TAs

Questions from the audience

On-line talks

bit.ly/XSEDEWorkshop

Copying code from PDFs is very error prone. Subtle things like substituting “-” for “-” are maddening. I have provided online copies of the codes in a directory that we shall shortly visit. I strongly suggest you copy from there if you are in a cut/paste mood.

The YouTube Channel Has Arrived!

Due to overwhelming demand, and a lot of editing, we have begun to post workshop videos on the XSEDE Monthly Workshop Training Channel:

XSEDETraining

They will be incrementally appearing in the coming months. Subscribe and give us feedback.

Getting Time on XSEDE

XSEDE

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<https://portal.xsede.org/web/guest/allocations>

even simpler:

<https://psc.edu/apply-for-an-xsede-startup-grant>

Code of Conduct

XSEDE has an external code of conduct which represents our commitment to providing an inclusive and harassment-free environment in all interactions regardless of race, age, ethnicity, national origin, language, gender, gender identity, sexual orientation, disability, physical appearance, political views, military service, health status, or religion. The code of conduct extends to all XSEDE-sponsored events, services, and interactions.

Code of Conduct: <https://www.xsede.org/codeofconduct>

Contact:

- Event organizer: Tom Maiden (tmaiden@psc.edu)
- XSEDE ombudspersons:
 - Linda Akli, Southeastern Universities Research Association (akli@sura.org)
 - Lizanne Destefano, Georgia Tech (lizanne.destefano@ceismc.gatech.edu)
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- Anonymous reporting form available at <https://www.xsede.org/codeofconduct>.

Earn an XSEDE OpenACC Digital Badge



- Test yourself on what you learn from this workshop and earn a digital badge!
- Go to: <http://www.hpc-training.org/xsede/moodle/>
- Go to the course titled “XSEDE OpenACC Workshop” listed under ‘Available Courses.’



Check your email now for the post-event survey.

Surveys are conducted by an external evaluation team. XSEDE staff will not know who said what. If you have questions regarding the evaluation please contact:
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