Welcome to the XSEDE OpenACC Workshop

John Urbanic
Parallel Computing Scientist
Pittsburgh Supercomputing Center

Who are we?

Your hosts:
Pittsburgh Supercomputing Center

Our satellite sites:
Tufts University
Purdue University
Stanford University
Clarkson University
University of Oregon
University of Arizona
University of Michigan
Texas Tech University
University of Delaware
Wayne State University
Old Dominion University
Arizona State University
Oregon State University
George Mason University
University of Notre Dame
Ohio Supercomputer Center
University of South Carolina
Pennsylvania State University
University of Texas at El Paso
University of Houston - Clear Lake
Lawrence Berkeley National Laboratory
National Center for Supercomputing Applications
University of Tennessee, Knoxville - National Institute for Computational Sciences

XSEDE
Extreme Science and Engineering
Discovery Environment

PITTSBURGH
SUPERCOMPUTING
CENTER

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

- June 6-9   *Summer Boot Camp*
- August 15   *HPC Monthly Workshop*: OpenMP
- September 12-13   *HPC Monthly Workshop*: Big Data
- October 3-4   *HPC Monthly Workshop*: MPI
- November 7   *HPC Monthly Workshop*: OpenACC
- December 5-6   *HPC Monthly Workshop*: Big Data
- January 9   *HPC Monthly Workshop*: OpenMP
- February 7-8   *HPC Monthly Workshop*: Big Data
- **March 6**   ***HPC Monthly Workshop*: OpenACC**
- April 3-4   *HPC Monthly Workshop*: MPI
- May 1-2   *HPC Monthly Workshop*: Big Data
- June 4-7   *Summer Boot Camp*
- August 7   *HPC Monthly Workshop*: OpenMP
- September 5-6   *HPC Monthly Workshop*: Big Data
- October 2-3   *HPC Monthly Workshop*: MPI
- November 6   *HPC Monthly Workshop*: OpenACC
- December 4-5   *HPC Monthly Workshop*: Big Data

HPC Monthly Workshop Philosophy

o   **Workshops as long as they _should_ be.**

o   **You have real lives…**
   in different time zones…
      that don't come to a halt.

o   **General Agenda**

   o **As much hands on as we can fit…**

   o **but now 2 weeks of follow on accounts**

o **Learning is a social process**

   o **This is not a MOOC**

   o **This is the Wide Area Classroom**

      o   so raise your expectations

Agenda

Tuesday, March 6

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

Getting Time on XSEDE

XSEDE
Extreme Science and Engineering
Discovery Environment

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

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: Lorna Rivera, lirivera@Illinois.edu, or Lizanne DeStefano, ldestefano6@gatech.edu

PITTSBURGH
SUPERCOMPUTING
CENTER