

# Welcome to the XSEDE OpenMP Workshop

John Urbanic  
Parallel Computing Scientist  
Pittsburgh Supercomputing Center

# Who are we?

*Your hosts:*

Pittsburgh Supercomputing Center

*Our satellite sites:*

Georgia Tech  
Purdue University  
Temple University  
Howard University  
University of Arizona  
Texas Tech University  
University of Michigan  
University of Cincinnati  
University of Delaware  
Georgia State University  
Old Dominion University  
Arizona State University  
Louisiana State University  
Louisiana Tech University  
Oklahoma State University  
Pennsylvania State University  
University of Texas at El Paso  
University of Nebraska-Lincoln  
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

# Who am I?

John Urbanic  
Parallel Computing Scientist  
Pittsburgh Supercomputing Center

Parallelize codes with

- MPI
- OpenMP
- OpenACC
- Hybrid
  
- *Now Big Data!*

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

- Workshops as long as they should be.
- You have real lives...
  - in different time zones...
  - that don't come to a halt.
- Learning is a social process
  - This is not a MOOC
  - This is the **Wide Area Classroom**  
so raise your expectations

# Agenda

Tuesday, January 9<sup>th</sup>

- 11:00 Welcome
- 11:15 Computing Environment
- 11:30 It's a Multi-core World
- 12:00 Intro to OpenMP
- 1:00 Lunch Break
- 2:00 Exercise 1
- 2:45 More OpenMP
- 3:30 Exercise 2
- 4:00 OpenMP Retrospective
- 4:15 OpenMP 4.0 Sneak Peek
- 5:00 Adjourn

# Resources

Your local TAs

Questions from the audience

On-line talks

[bit.ly/XSEDE-Workshop](http://bit.ly/XSEDE-Workshop)

## 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

Extreme Science and Engineering  
Discovery Environment

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