



July 2017 Newsletter

Highlights



Intel® HPC Developer Conference November 11-12, 2017 in Denver, Colorado: [Register now](#) and [submit abstract](#) to share best practices and techniques focused on Parallel Programming, High Productivity Languages, Artificial Intelligence, Systems, Enterprise, Visualization Development, and more.



Intel® Xeon Phi™ User Group at ISC 2017: The [Birds of Feather](#) and [Workshop](#) discussed the benefits of using Intel® Xeon Phi™ processors to maximize software efficiency. Congratulations to the recipients of the “Best Paper” award:

- [Performance Evaluation of NWChem Ab-Initio Molecular Dynamics \(AIMD\) Simulations on the Intel Xeon Phi Processor](#)
- [KART - A Runtime Compilation Library for Improving HPC Application Performance](#)



Leverage Stanford's “[Introduction to HPC](#)” Course: This course provides fundamental content (lectures with practical hands-on experience) on what an HPC cluster consists of, and how to take advantage of its full capabilities to solve large scale problems.

Intel® PCC Program Office Request for Information! Please share with us the following information:



- All application location and release date
- All future public trainings featuring Intel® Architecture (including link and date)
- All performance comparison data (Ex: [How to Plot OpenMP* Scaling Results](#))
- All publications associated with project work (include link)

Case Studies

[CSC – IT Center of Science](#) used 32 MPI ranks to reduce the memory usage by 47% on the [Elmfire](#) application, which is used to simulate plasma inside fusion reactors.

[Zuse Institute Berlin](#) has achieved a 2-3x speedup on [VASP](#), a molecular dynamics code, by adopting MPI/OpenMP parallelism to better exploit the increased on-node parallelism, wider vector units, and MCDRAM.

[Leibniz Supercomputing Centre](#) reduced the execution time to less than 5 seconds with vectorization on [Gadget](#), an application that simulates the formation of cosmological megastructures like galaxies, clusters, and star formation.

[Texas Advanced Computing Center](#) optimized [ParaView](#), an analysis and visualization application, by focusing on data and rendering paths for OpenSWR and OSPRay and is now best used on large distributed data, data outside of renderer control, and incoherent ray-intensive sampling.

[Durham University](#) achieved a 17.35x speedup of raw particle interactions on [SWIFT](#), the serial version of a particle-based simulation code by implementing vectorization and structures of arrays.

Training Opportunities

Join any of the following complementary parallel programming trainings with hands-on experience:

Date	Location	Event
Jul 11, 2017	Virtual	Signal Processing in a Physics Experiment Colfax
Jul 13, 2017	Virtual	DAQ - Filtering Data from 1 PB/s to 600 MB/s CERN
Jul 19, 2017	Virtual	Finding the Higgs Boson CERN
Jul 20, 2017	Virtual	From Grids to Clouds CERN
Aug 3, 2017	Chicago, IL	Chicago CM Workshop Colfax
Aug 8, 2017	Virtual	Best practices CERN
Aug 10, 2017	Virtual	Introduction to code optimizations CERN
Nov 11-12, 2017	Denver, CO	Intel® HPC Developer Conference 2017
Anytime	Virtual	Intel® Modern Code

Access to Intel® Xeon Phi™ Processor

You can request remote access to TACC Stampede cluster to test optimizing your applications for multi-node. Click [HERE](#) and create a new account (**do not click on PI-eligible**) and follow the email instructions. Next, register account by emailing ipcc.program.office@intel.com with username.

More News...

Catch up on the latest news:

- [Can CPUs do graphics better than GPUs? The Debate Heats Up](#)
- [AI: Scaling Neural Networks Through Cost-Effective Memory Expansion](#)
- [Supercomputers Use Machine Learning to Gain New Insights into Complex Cellular Processes](#)
- [Knights Landing System Development Targets Dark Matter Study](#)
- [ISC Industrial Day: Bridging Academia and Industrial HPC Users](#)

