



## June 2017 Newsletter

### News Highlights

**Intel® PCC Members Only Meeting at ISC17:** Join us for the Intel® PCC members only meeting at ISC17 on June 20, 2017 from 11:30am-1:30pm (CEST) at [Cucina Mediterraneo](#). This event is by invitation only and requires an RSVP to attend, so please respond to the separate email. If you did not received an email please send an email to [IPCC.Program.Office@intel.com](mailto:IPCC.Program.Office@intel.com).

In case you missed it: [IXPUG Software-Defined Visualization Workshop](#) covers methods to maximize opportunity for discovery, ways to incorporate analysis as part of simulation runs, all while data is still resident in memory by directly delivering software-defined visualization capabilities into your simulation.

**Intel® Parallel Studio XE 2018 Beta Program:** Get early access to the latest updates to Parallel Studio XE. The deadline to apply is June 22<sup>nd</sup>, 2017. Learn more about new features and details for registration [HERE](#).

### \*NEW: Case Studies

**The National Energy Research Scientific Computing Center (NERSC)** has found that [roofline analysis](#) helps to optimize applications by giving developers an absolute performance measurement and pick for the best route with many potential optimization directions to attain high performance.

**Boston Children's Hospital: Insight Toolkit (ITK)** application provides segmentation for multi-dimensional data. They reduced the time needed from 48 hours to 15 minutes of calculations by focusing on cache, vectorization, multi-threading, as well as creating more sophisticated imaging and modeling strategies.

**Technical University of Munich: SeisSol** is a software for the numerical simulation of seismic wave phenomena and earthquake dynamics. Applying single node optimization ansatz to dynamic rupture yields strong scaling of 3.8 million elements and a speed-up of 9.3x with global time stepping.

**University of Bristol: Mega-stream** is a memory bound proxy application. They saw a 4.8x improvement in performance by examining cache behavior and paying close attention to alignment and streaming stores resulting in an achievement of 78% of stream triad.

**CERN: GeantV** is a detector simulation for high energy physics. They enhanced their performance by improving scalability through sub-node clustering with multiple propagators, TBB-based tasks, and fast simulation using ML/DL.

**University of Cambridge: GR-Chombo** is a code for numerical general relativity simulations. Through their optimization efforts with explicit vectorization they are showing a 3.2x performance increase.

### Training Opportunities

Join any of the following upcoming parallel programming trainings with hands-on experience.

Date	Location	Event
Jun 8, 2017	Hunan, PRC	<a href="#">Intel Code Modernization Workshop</a>
Jun 8, 2017	Virtual	<a href="#">Remote Access Webinar</a>
Jun 9, 2017	Virtual	<a href="#">Cori KNL Training</a>
Jun 12, 2017	Dublin, Ireland	<a href="#">Intel Code Modernization Workshop</a>
Jun 14, 2017	Virtual	<a href="#">Julia for Machine Learning and Deep Learning</a>
Jun 15, 2017	New York, NY	<a href="#">Developer Training at NYU</a>
Jun 18-30, 2017	Virtual	<a href="#">HOW Series: Deep Dive with Code Modernization Experts</a>
Jun 19, 2017	Frankfurt, Germany	<a href="#">Achieving Performance on Large-Scale Intel Xeon Phi KNL Systems</a>
Jun 22, 2017	Frankfurt, Germany	<a href="#">Experiences on Intel Knights Landing at the One Year Mark</a>
Jul 3-11, 2017	Virtual	<a href="#">Improving Application Performance on the Intel Xeon Phi Processor</a>
Jul 13, 2017	Warrington, UK	<a href="#">Intel® PCC Parallel Software Workshop</a>
Anytime	Virtual	<a href="#">A Tale of Two Codes on KNL</a>
Anytime	Virtual	<a href="#">Grid: Structured Cartesian Mesh Library for QCD</a>

## Access to Intel® Xeon Phi™ Processor

Optimize your applications for multi-node by testing on the following clusters:

### **Texas Advanced Computing Center (TACC) Stampede Cluster:**

- Click [HERE](#) and create a new account (**do not click on PI-eligible**) and follow the email instructions.
- Register account by emailing [ipcc.program.office@intel.com](mailto:ipcc.program.office@intel.com) with username.

## More News...

Catch up on the latest HPC news:

- [High Performance Computing Enhances Oil and Gas Discovery](#)
- [The Parallel Universe](#)
- [F5 Networks Profiles for Success](#)
- [Geniuses Wanted: NASA Challenges Coders to Speed Up Its Supercomputer](#)
- [PC Accelerates Precision Medicine Toward Life-saving Impacts](#)

