ICL NEWSLETTER

MAY 2010

First IESP Workshop for 2010

The 4th IESP workshop was held in Oxford England on April 12-14 at the University of Oxford's e-Research Centre. Led by Jack and ANL's Pete Beckman, this workshop focused on constructing a plan of action to achieve the goals outlined in the IESP Roadmap, which was the culmination of the previous three IESP workshops. For more information about the IESP project, including links to papers, presentations, etc., visit the **IESP Project website**. On a side note, many of the attendees at the Oxford workshop were caught up in the European flight delay/cancellation dilemma that resulted from the Iceland volcano. ICL's own Tracy Rafferty and Teresa Finchum didn't arrive back in Knoxville until more than a week after the workshop.

SAAHPC '10 at UT

On July 13-15, UT is hosting the Symposium on Application Accelerators in High Performance Computing (SAAHPC '10) at the UT Conference Center. The symposium, sponsored by the National Center for Supercomputing Applications (NCSA) among others, will be focusing on several areas of interest that form the core of new hybrid computing in which special purpose processing units, such as GPUs and FPGAs, are being used as computational accelerators in HPC and scientific computing. Keynote speakers are Jeff Vetter from ORNL and Rob Pennington from NSF's Office of Cyberinfrastructure. For more information about the symposium, visit the **SAAHPC website**.

RECENT PAPERS

Bosilca, G., Bouteiller, A., Danalis, A., Herault, T., Lemarinier, P., Dongarra, J. **DAGuE: A generic distributed DAG engine for high performance computing**, *Innovative Computing Laboratory Technical Report*, ICL-UT-10-01, April 11, 2010. **PDF**

Bosilca, G., Bouteiller, A., Danalis, A, Faverge, M., Haidar, H., Herault, T., Kurzak, J., Langou, J., Lemarinier, P., Ltaief, H., Luszczek, P., YarKhan, A., Dongarra, J. **Distributed-Memory Task Execution and Dependence Tracking within DAGuE and the DPLASMA Project**, *Innovative Computing Laboratory Technical Report*, ICL-UT-10-02, 2010, 2010. **PDF**

Ltaief, H., Tomov, S., Nath, R., Du, P., Dongarra, J. A Scalable High Performant Cholesky Factorization for **Multicore with GPU Accelerators**, Accepted for publication at *VECPAR*, Berkeley, CA, June 22-25, 2010. **PDF**

Song, F., Ltaief, H., Hadri, B., Dongarra, J. **Scalable Tile Communication-Avoiding QR Factorization on Multicore Cluster Systems** UT-CS-10-653, April 15, 2010. **PDF**

Agullo, E., Coti, C., Dongarra, J., Herault, T., Langou, J. **QR Factorization of Tall and Skinny Matrices in a Grid Computing Environment**, *24th IEEE International Parallel and Distributed Processing Symposium* (also LAWN 224), Atlanta, GA, April 19-23, 2010. **PDF**

RECENT CONFERENCES

APR 7 Arlington, VA
AACE/Blackjack Characterization Meeting / Anthony, Dave C., and Piotr

APR 13-14 Oxford, UK
IESP Meeting / Jack, Teresa, Terry, and Tracy R.

APR 19-23 Atlanta, GA
HIPS 2010 / Stan **PDF**

APR 19-23 Atlanta, GA
IPDPS 2010 / George and Stan **PDF**

APR 21 Bloomington (Indiana University), IN
Vampir Workshop 2010 / Dave C.

APR 23-24 Bellevue, WA
CRA-W Grad Cohort workshop / Heike

APR 24-25 Champaign-Urbana, IL
Chic Tech 2010 Retreat / Shirley

INTERVIEW

Vince Weaver

Post Doctoral Research Associate

Tell us a bit about yourself (e.g., where you're from, your education, background).

I grew up in Joppatowne, Maryland, which is just north-east of Baltimore on I-95. My first exposure to HPC was a job I had in high school at the nearby Army base, writing front-ends to ancient Fortran 77 cloud models. I got my BS in Electrical Engineering from the University of Maryland College Park in 2000. After graduating I went to work for a spinoff of the Number 9 video card company that was making Transmeta-based tablet PCs. That went under 6 months later during the dot-com bust, and I eventually went back to Fortran coding as a contractor for the Army. I started at Cornell University in 2003 and just recently completed my PhD in Electrical and Computer Engineering.

How did you learn about ICL?

I had encountered ICL projects many times without realizing it. I used ATLAS for a class project, and as a sysadmin at Cornell I had many requests to install PAPI on various machines. I didn't really notice ICL as a whole until my thesis research started involving heavy performance counter usage. That's when I really noticed the various people with utk.edu e-mail addresses on the various mailing lists.

What all factored into your decision to want to join the group?

ICL was highly recommended by everyone I talked to, and I enjoyed my interview visit.

What are your research interests and what all are you working on?

I've so far been working with the PAPI group on various projects. I like using actual performance counters to gauge performance, which is much more concrete than the simulation results usually preferred by most computer architects.

What do you like to do in your free time?

My wife and I enjoy hiking, and we've been trying out all of the nearby parks (with our daughter strapped to my back).

In your short tenure at ICL, what are some things about Tennessee or UT that you find interesting/enjoyable/surprising?

The southern friendliness still comes as a shock, after spending so much time in the north. I also am still caught off-guard by the unique color that is Tennessee orange, and how often it appears throughout the area.

PEOPLE

Krerkchai Kusolchu (Jom), a visiting student from Thailand, returned to Suranaree University of Technology at the end of March after working with us for three months.

Ian

Beginning May 1st, ICl will be hosting two interns from the UK through October 15th. The two graduate students, **Adam Scarborough** and **Ian Jones,** will be working with the distributed computing group here at ICL and Christian Englemann at ORNL.

Former ICLer **Emmanuel Agullo** is visiting from INRIA Bordeaux until May 6th. Visiting with Emmanuel is PhD student **Cédric Augonnet**, who is working on a runtime library for HPC called StarPU.

Emmanuel

Cédric

CONGRATULATIONS

Terry

Micah

Martin

REDDnet Wins Annual IDEA Award

The REDDnet project, or the Research and Education Data Depot network, has been named one of four recipients of the 5th Annual IDEA Awards from Internet2. ICL associate director Terry Moore and former ICLers Micah Beck and Martin Swany are collaborators on the REDDNet project, which is an NSF-funded Data Logistics Toolkit and model "...to help manage the logistical factors in moving and staging large amounts of data across the wide area network." For more information about the award, visit the **IDEA Awards website**.

More ICL 20th Photos

Tomo Hiroyasu recently submitted his photos from the ICL 20th Workshop. They are now available on the **ICL 20 Year site**.

UPCOMING CONFERENCES

MAY 3-5 Chicago, IL
MPI Forum / George, Thomas

MAY 7 Paris, France
MIcrowave Data Analysis for petaScale computers (MIDAS) kickoff meeting / Thomas

MAY 30 - JUNE 3 Hamburg, Germany
International Supercomputing Conference / Jakub

RECENT LUNCH TALKS

APR 1 Alexey Lastovetsky, UC Dublin
High Performance Heterogeneous Computing in UCD PDF

APR 9 Trey White, PhD Student
Algorithms for Advection on Hybrid Parallel Computers PDF

APR 16 Tilman Kuestner
High-performance image reconstruction for small animal PET scanners PDF

APR 23 John Levesque, Cray
What are the programming challenges for Exascale computing PDF

APR 30 Micah Beck, UTK EECS
The Case for Lossy Digital Preservation [No Slides]

UPCOMING LUNCH TALKS

MAY 7 Hatem

MAY 14 Dan

MAY 21 TBA

MAY 28 George

DATES TO REMEMBER

MAY 4-7 UT final exams

MAY 10-11 UT final exams

MAY 12-14 UT Commencement ceremonies

MAY 31 Memorial Day [UT closed]

INNOVATIVE COMPUTING LABORATORY
THE UNIVERSITY of TENNESSEE

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