International Supercomputing Community to Gather in Leipzig

ISC

Leipzig, Germany – In less than 10 days, around 2,500 attendees and 156 exhibitors will converge on Leipzig to take part in ISC'14 [1], the year's most compelling high performance computing forum. The five-day conference and three-day exhibition offers an exciting program and the organizers would like to draw the attendees' attention to some particularly engaging sessions that will enrich their experience at this year's event.

ISC'14 Opening Session

The 29th ISC will be officially opened by the conference co-chairs, Martin and Thomas Meuer, in the morning, followed by the announcement of the PRACE [2] ISC and GAUSS [3] Award winners. The actual awarding will take place in the afternoon, during the research paper session.

The new TOP500 list [4] in its 43rd edition will be announced during the opening ceremony, followed by the awarding of top system vendors and users. Project co-founder Erich Strohmaier will offer a presentation focusing on the highlights of the 43rd list.

ISC founder, the late Hans Werner Meuer, will be remembered in a deserving speech by his long-time friend and ISC Executive Consultant, Dr. Horst Gietl.

The highlight of the first day will be the opening keynote delivered by Dr. Klaus Schulten, a leading computational biophysicist and professor of physics at the University of Illinois at Urbana-Champaign. In his talk, titled "Large-Scale Computing in Biomedicine and Bioengineering [5]," Professor Schulten will discuss how the atomic perspective of living cells has assumed center stage through advances in

microscopy, nanotechnology and computing. Schulten will share how decades of refinements of in silico, in vitro and in vivo technologies have opened a new era in life sciences.

Here is a preview of some other can't-miss sessions:

ISC Young & Bright HPC Researchers [6]

Chaired by Michael Resch of the High Performance Computing Center Stuttgart (HLRS), this session highlights the work of three young scientists from three continents. Their talks will provide a refreshing view of some issues that are of growing importance in the supercomputing community. Attendees will hear a European, an Asian, and a US point of view providing three interesting approaches to solving current and future problems in HPC.

HPC Startups: Innovation Brought to Life [7]

The high performance computing business area presents unique challenges for startup companies, given the specialized needs of the HPC users and their applications. The focus of this session is to present the business model and investment strategy of five companies at various stages in the startup phase. The company reps will be given just eight minutes to present their experiences of navigating the challenges in making their businesses self-sustaining. A must-see for would-be HPC entrepreneurs.

Jet Enginees Take Off in the Cloud [8]

Chaired by Wolfgang Gentzsch, this panel brings together four panelists, two cloud service providers and two clients from the engineering sector, to examine the current HPC cloud environment. Together the panelists have taken a complex application involving the analysis of the compressor assembly in a jet engine into the cloud and performed several large-scale simulations on it. In this panel, they will discuss the major benefits, roadblocks, and solutions to cloud computing, as well as some lessons learned.

Industry Innovation through HPC [9]

Even though businesses increasingly report they are able to boost their productivity and competitiveness in the global market by deploying simulation and digital modeling technologies, many commercial users remain hesitant. The principle challenge is the lack of knowledge and expertise necessary to leverage these quickly evolving technologies. To help address this situation, the organizers have designed a two-day track to give engineers, manufacturers and designers the right set of tools and methods they will need for acquiring and operating HPC systems.

Who Controls the Future of Supercomputing? [10]

The panel consists of moderator, NAG's Andrew Jones, and his four panelists – Eng Lim Goh of SGI, Bill Kramer representing NCSA, Simon McIntosh-Smith from Bristol

University and Isabella Weger of the ECMWF. They will consider the question of whether the HPC community drives the future of HPC, or if we just react to the market of available technologies, users, political support, and so on. Will our vision of exascale computing compel the future of HPC or will it be driven by the needs of the commercial users? Look forward to a candid discussion about how this very special ecosystem is set to evolve.

The Future of IBM's x86 Server Business [11]

ISC attendees will have the chance to participate in a 45-minute panel by IBM and Lenovo, as well as their partners and clients, about the transition of IBM's x86 server business to Lenovo. This is your opportunity to ask IBM, Lenovo, and some key HPC visionaries about what they see next in the always-changing HPC landscape.

Extreme Computing aka Exascale

On Sunday, June 22, HPC leaders from across the globe will come together for a full-day workshop on International Cooperation For Extreme-Scale Computing [12]. Please note that this workshop requires a separate registration at a nominal fee.

The same topic will be addressed in a session [13] chaired by Thomas Sterling on Tuesday, June 24, who will moderate a cadre of distinguished speakers (Satoshi Matsuoka, from the Tokyo Institute of Technology, William Harrod, representing the US Department of Energy, and Thomas Schulthess, from CSCS in Switzerland). They will describe the work they are doing at their respective organizations to advance the cause of exascale computing.

Other Events

Here are a handful of other sessions and meetings at ISC that might pique your interest:

1. HPC Advisory Council European Conference (Sunday, June 22). Please note that this event requires separate registration.
2. Intel's Special Session: Accelerating Insights in the Technical Computing Transformation (Monday, June 23)
3. ISC Welcome Party (Monday, June 23)
4. IDC Breakfast Briefing (Tuesday, June 24)
5. The New OpenPOWER consortium (Tuesday, June 24)
6. ISC Distinguished Speaker Series (Tuesday, June 24 and Wednesday, June 25)
7. EOFS Breakfast Meeting (Wednesday, June 25)
8. ISC BBQ, co-sponsored by Intersect360 Research (Wednesday, June 25)
9. HPC in Asia sessions (Thursday, June 26)

For the complete agenda, including information about the speakers, click here [14].

**Please note that conference passes also include free public transportation within*

Leipzig during the duration of the conference.

About ISC'14 [15]

Now in its 29th year, ISC is the world's oldest and Europe's most important conference and networking event for the HPC community, offering a strong five-day technical program focusing on HPC technological development and its application in scientific fields, as well as its adoption in an industrial environment.

Over 300 hand-picked expert speakers and 170 exhibitors, consisting of leading research centers and vendors, will greet this year's attendees to ISC. A number of events complement the technical program including Tutorials, the TOP500 Announcement, Research Paper Sessions, Birds-of-a-Feather (BoF) Sessions, the Research Poster Session, Exhibitor Forums, and Workshops.

ISC'14 is open to engineers, IT specialists, systems developers, vendors, end users, scientists, researchers, students and other members of the HPC global community.

The ISC exhibition attracts decision-makers from automotive, defense, aeronautical, gas & oil, banking and other industries, as well as analysts, solution providers, data storage suppliers, distributors, hardware and software manufacturers, the media, scientists, and universities. By attending, they will to learn firsthand about new products, applications and the latest technological advances in the supercomputing industry.

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