

Dr. Klaus Schulten to Keynote ISC'14

Rich Brueckner

Today the [International Supercomputing Conference](#) announced Keynote speakers for ISC'14. [Dr. Klaus Schulten](#), a leading computational biophysicist and professor of physics at the University of Illinois at Urbana-Champaign will discuss *"Large-Scale Computing in Biomedicine and Bioengineering"* as the opening keynote address. ISC'14 will be held June 22-26 in Leipzig, Germany.

In his talk on Monday, June 24, 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 has opened a new era in life sciences. Researchers are now able to investigate living systems made up of millions of atoms involved in cell mechanics, viral infection, medical diagnostics and even the production of second-generation biofuels.



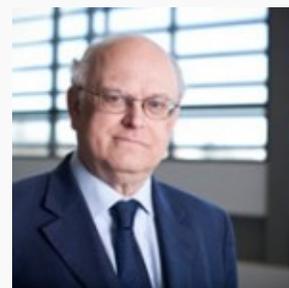
Klaus Schulten

Additional Keynotes Include:

- **Professor Satoshi Matsuoka.** On Tuesday, June 23, one of Japan's leading HPC experts, Professor Satoshi Matsuoka, will deliver a keynote titled *"If You Can't Beat Them, Lead Them – Convergence of Supercomputing and Next Generation 'Extreme' Big Data."* In this thought-provoking talk, Matsuoka will share why he believes that supercomputer architectures will converge with those of big data and serve a crucial technological role for the industry. His assertion will be exemplified with a number of recent Japanese research projects in this area, including the JST-CREST "Extreme Big Data" project. Matsuoka, a professor at the Global Scientific Information and Computing Center of Tokyo Institute of Technology (GSIC), is also the leader of TSUBAME supercomputer series and is currently heading various other projects such as the JST-CREST Ultra Low Power HPC and the JSPS Billion-Scale Supercomputer Resilience.
- **Professor Thomas Sterling.** On Wednesday, June 25, Professor Thomas Sterling, a perennial favorite at ISC, will offer a vibrant summary of the past year in his keynote: *"HPC Achievement & Impact 2014 – A Personal Perspective."* Sterling is set to track the improvements in microprocessor multicore and accelerator components as well as general system capabilities. On the topic of exascale, Sterling will talk about the international programs devoted to leading-edge HPC that will bridge the second half of the decade. His keynote address will end with an early summary of the emerging area of interests in "beyond exascale," including superconducting logic, optical computing, neuromorphic and probabilistic computing. Sterling is professor at the Indiana University's School of Informatics and Computing and serves as chief scientist and associate director at the PTI Center for Research in Extreme Scale Technologies (CREST). He is currently engaged in research associated with the innovative ParalleX execution model for extreme-scale computing.



Satoshi Matsuoka



Thomas Sterling

- **Professor Karlheinz Meier.** In the Thursday, June 26 keynote, Professor Karlheinz Meier, a European leader in neuromorphic computing will deliver a talk titled *“Brain Derived Computing beyond von Neumann – Achievements and Challenges.”* In the keynote, Meier will review the current projects around the world that are focused on neuromorphic computing and introduce the work in this area that will be conducted under the European Commission’s Human Brain Project (HBP). As an HBP co-director, Meier’s mission will be to develop neuromorphic hardware implementations with a very high degree of configurability. Karlheinz Meier is a professor of experimental physics at Heidelberg University’s Kirchhoff Institute of Physics. In his role as the co-director of the European Human Brain Project, Meier leads a research group in neuromorphic computing. Funded by the European Commission, HBP is an ambitious 10-year, €1.19-billion project, with the intention of greatly advancing the understanding of the human brain using cutting-edge computer technologies.



Karlheinz Meier

[Advance registration for ISC'14](#) is now open. By registering until May 15, attendees can save over 25 percent off the onsite registration rates.