

Putting the 'super' in supercomputing at ISC'14

This week, [International Science Grid This Week \(iSGTW\)](#) is attending the [International Supercomputing Conference \(ISC'14\)](#) in Leipzig, Germany. The event features a range of speakers representing a wide variety of research domains. This includes a fascinating keynote talk given on Monday morning by Klaus Schulten, director of [the theoretical and computational biophysics group at the University of Illinois at Urbana-Champaign, US](#), on the topic of large-scale computing in biomedicine and bioengineering.

A number of high-profile prizes were also awarded on Monday. The ISC award for the best research poster went to Truong Vinh Truong Duy of [the Japan Advanced Institute of Science and Technology](#) and [the University of Tokyo, Japan](#). He presented work on [OpenFFT](#), which is an open-source parallel library for computing [three-dimensional 'fast Fourier transforms' \(3-D FFTs\)](#).

Meanwhile, both [the Partnership for Advanced Computing in Europe \(PRACE\)](#) and [Germany's Gauss Centre for Supercomputing](#) awarded prizes for the best research papers. The PRACE award went to a team from [the Technical University of Munich](#) and [the Ludwig Maximilian University of Munich](#), Germany, for its work optimizing software used to simulate seismic activity in realistic three-dimensional Earth models. Meanwhile, the GAUSS award went to a team from [IBM Research](#) and [the Delft University of Technology in the Netherlands](#) for their analysis of the compute, memory, and bandwidth requirements for the key algorithms to be used in [the Square Kilometre Array radio telescope \(SKA\)](#), which is set to begin the first phase of its construction in 2018.

Another source of competition at the event is the announcement of [the new TOP500 list](#) of the world's fastest supercomputers. The new list held little in the way of surprises, with China's Tianhe-2 remaining the fastest supercomputer in the world by a significant margin. [Titan](#) at [Oak Ridge National Laboratory in Tennessee, US](#), and [Sequoia](#) at [Lawrence Livermore National Laboratory in California, US](#), remain the second and third fastest systems in the world. [The Swiss National Computing Centre's Piz Daint](#) is once again Europe's fastest supercomputer and is also the most energy efficient in the top ten. Perhaps the most interesting aspect of Monday's announcement, however, is the fact that for the second consecutive list, the overall growth rate of all the systems is at a historical low.

Read more in our full feature article in [iSGTW](#) next week.



Image courtesy Tim Krieger/ISC Events.