

Two Engineering at Illinois professors receive 2012 IEEE Computer Society Sidney Fernbach Award

Two Illinois professors--Laxmikant "Sanjay" Kale and Klaus Schulten--have been named the recipients of the 2012 IEEE Computer Society Sidney Fernbach Award, "for outstanding contributions to the development of widely used parallel software for large biomolecular systems simulation."

Established in 1992 in memory of high-performance computing pioneer Sidney Fernbach, the [Fernbach Award](#) recognizes outstanding contributions in the application of high-performance computers using innovative approaches.

Laxmikant Kale

Laxmikant Kale

Kale is a professor of [computer science](#), director of the Parallel Programming Laboratory, and a senior investigator for the [Blue Waters project](#) at the [National Center for Supercomputing Applications](#). His parallel computing work focuses on enhancing performance and productivity via adaptive runtime systems, with research on programming abstractions, dynamic load balancing, fault tolerance, and power management. These research results are embodied in Charm++, a widely distributed parallel programming system.



He has collaboratively developed applications for biomolecular modeling (NAMD), computational cosmology, quantum chemistry, rocket simulation, and unstructured meshes. He is a co-winner of the 2002 Gordon Bell award. Kale and his team won the HPC Challenge Best Performance award at Supercomputing 2011 for their entry based on Charm++.

An IEEE Fellow, Kale holds a bachelor's degree in electronics engineering from Benares Hindu University, a master's degree in computer science from the Indian Institute of Science, and a PhD in computer science from State University of New York, Stony Brook. He worked as a scientist at the Tata Institute of Fundamental Research from 1979 to 1981, and joined the Illinois faculty in 1985.

Klaus Schulten

Klaus Schulten

[Schulten](#) is a Swanlund Professor of Physics, directs the Center for Biomolecular Modeling at the [Beckman Institute](#), and co-directs the Center for the [Physics of Living Cells](#) in the [Department of Physics](#). His research, focused on molecular assembly and cooperation in biological cells, requires large scale computing. He was the first to demonstrate that parallel computers can be practically employed to solve the classical many-body problem in biomolecular modeling. Thousands of researchers worldwide use his group's software in molecular graphics (VMD) and modeling (NAMD) on personal computers as well as at the world's leading supercomputing centers.



Presently his group is developing a new computational method that assists biologists in solving the structures of the very large macromolecular complexes forming the

machinery of living cells.

Schulten holds a Diplom degree in physics from the University of Muenster, Germany, and a PhD in chemical physics from Harvard University. He was junior group leader at the Max-Planck-Institut for Biophysical Chemistry from 1974 to 1980, and professor of theoretical physics at the Technical University of Munich from 1980 to 1988, before joining UIUC.

Kale and Schulten are scheduled to accept the award at the keynote session at [SC12](#) in Salt Lake City on November 13.

Previous Sidney Fernbach Award recipients include Marsha Berger (2004), Roberto Car (2009) Jack J. Dongarra (2003), William Gropp (2008), David Keyes (2007), Cleve Moler (2011), Michele Parrinello (2009), and Edward Seidel (2006).

Contact: [Laxmikant “Sanjay” Kale](#), Department of Computer Science, 217/244-0094.

[Klaus Schulten](#), Department of Physics, 217/244-1604.

[Margo McCall](#), corporate communications manager, IEEE Computer Society, 714/816-2182.

If you have any questions about the College of Engineering, or other story ideas, contact [Rick Kubetz](#), editor, Engineering Communications Office, University of Illinois at Urbana-Champaign, 217/244-7716.