Laxmikant V. Kalé

Professor, Department of Computer Science
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A. Education and Training

Institute of Technology, Banaras Hindu U	Electrical Engineering	B.Tech	1977
Indian Institute of Science, Bangalore	Computer Science	M.E.	1979
SUNY at Stony Brook	Computer Science	M.S.	1985
SUNY at Stony Brook	Computer Science	Ph.D.	1985

B. Research and Professional Experience

2000-present   Professor, Computer Science, UIUC
1991-2000   Associate Professor, Computer Science, UIUC
1985- 1991   Assistant Professor, Computer Science, UIUC

C. Publications

1. Harshitha Menon, Lukasz Wesolowski, Gengbin Zheng, Pritish Jetley, Laxmikant Kalé, Thomas Quinn, Fabio Governato, "Adaptive Techniques for Clustered N-Body Cosmological Simulations," Computational Astrophysics and Cosmology, Vol. 2, Issue: 1, March 2015.
2. James C. Phillips, Yanhua Sun, Nikhil Jain, Eric J. Bohm, Laximant V. Kalé, "Mapping to Irregular Torus Topologies and Other Techniques for Petascale Biomolecular Simulation", ACM/IEEE International Conference for High Performance Computing, Network, Storage and Analysis (SC14), November 2014.
3. James Phillips, Klaus Schulten, Abhinav Bhatele, Chao Mei, Yanhua Sun, Eric Bohm, Laxmikant Kale, "Parallel Science and Engineering Applications: The Charm++ Approach: Chapter 4: Scalable Molecular Dynamics with NAMD," Steven A. Gottlieb and Rubin H. Landau, Ed., CRC Press, Taylor & Francis Group, New York, 2013.
4. Yanhua Sun, Gengbin Zheng, Chao Mei, Eric J. Bohm, James C. Phillips, Laxmikant V. Kale´, "Optimizing Fine-grained Communication in a Biomolecular Simulation Application on Cray XK6", ACM/IEEE International Conference for High Performance Computing, Network, Storage and Analysis (SC12), November 2012.
5. Pritish Jetley, Lukasz Wesolowski, Filippo Gioachin, Laxmikant Kalé, Thomas Quinn, "Scaling Hierarchical N-Body Simulations on GPU Clusters", ACM/IEEE International Conference for High Performance Computing, Network, Storage and Analysis (SC10), November 2010.
6. Edgar Solomonik, Laxmikant Kalé, "Highly Scalable Parallel Sorting", IEEE International Parallel and Distributed Processing Symposium (IPDPS 2010), April 2010.
7. Laxmikant V. Kalé, "Some Essential Techniques for Developing Efficient Petascale Applications", Proceedings of SciDAC 2008, July 2008.
8. Abhinav Bhatele, Sameer Kumar, Chao Mei, James C. Phillips, Gengbin Zheng, Laxmikant V. Kalé, "Overcoming Scaling Challenges in Biomolecular Simulations across Multiple Platforms", IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008), April 2008.

9. Klaus Schulten, James C. Phillips, Laxmikant V. Kale, Abhinav Bhatele, "Biomolecular Modeling in the Era of Petascale Computing," *Petascale Computing: Algorithms and Applications,* pp. 165-181, D. Bader, Ed., Chapman & Hall / CRC Press, New York, 2008.
10. J. C. Phillips, G. Zheng, S. Kumar, L. V. Kale. "NAMD: Biomolecular Simulation on Thousands of Processors." *Proceedings of Supercomputing 2002 (SC2002)*, Baltimore, MD, November 2002. Received Gordon Bell Award.

D. Synergistic Activities
- Development of Charm++ & AMPI, parallel programming systems used as research tools in Science & Engineering.
- Development of FEM & Multiblock frameworks, used by several researchers in Engineering.
- Extensive collaborations with Scientists & Engineers across a variety of field including Quantum Mechanical Modeling, Molecular Dynamics, & Computational cosmology.

E. Collaborators and Co-Editors
Mark F. Adams (LBNL), Steven Baker (MITRE), Susanne Balle (HP), Abhinav Bhatele (LLNL), Keith Bisset (VBI), Todd Gamblin (LLNL), Al Geist (ORNL), Filippo Gioachin (Google), Sohrab Ismail-Beigi (Yale), Emmanuel Jeannot (INRIA), Terry Jones (ORNL), Richard Kaufmann (Samsung), Sriram Krishnamoorthy (PNNL), Orion Sky Lawlor (Univ. of Alaska), Bu-Sung Lee (NTU)/(HP), Chee Wai Lee (TAMU), Madhav Marathe (VBI), Glenn Martyna (IBM), Jean-François Mehaut (Univ. of Grenoble), Chao Mei (Google), Dejan Milojicic (HP), Francesco Miniati (ETH), Anshul Mittal (Pinterest), Philippe Navaux (UFRGS), Dimitrios Nikolopoulos (QUB), Jairo Panetta (ITA), François Pellegrini (INRIA), Laercio Pilla (UFSC), Thomas Quinn (UW), Eduardo Rodrigues (IBM), Yogish Sabharwal (IBM), Martin Schulz (LLNL), Bronis Supinski (LLNL), Rasmus Tamstorf (Disney), Ramprasad Venkataraman (Google), Nicholas Wright (LBNL), Jae-Seung Yeom (LLNL)

F. Graduate and Postdoctoral Advisors and Advisees
Anshu Arya (MulticoreWare), Aaron Becker (Google), Abhinav Bhatele (LLNL), Cyril Bordage (Inria), Isaac Dooley (Two Sigma Investments), Filippo Gioachin (Google), Abhishek Gupta (Intel), Gagan Gupta (AT&T), Pritish Jetley (Baarzo), Sameer Kumar (IBM), David Kunzman (Intel), Akhil Langer (Intel), Chao Mei (Google), Esteban Meneses (Univ. of Pittsburgh), Osman Sarood (Yelp), Yanhua Sun (Google), Ehsan Totoni (Intel), Lukasz Wesolowski (Facebook)