

Curriculum Vitae

RESEARCH

INTERESTS

Supercomputing for Public Policy Analysis, High Performance Computing, Applications in Computational Sciences, Scalable Algorithms, Mathematical Software.

Recent topics: Molecular Dynamics, Programming Paradigms and Tools for Multi-Core Heterogeneous Processors, Quantum Monte Carlo.

Past topics: Computational Finance, Parallel Random Number Generation, Monte Carlo Linear Algebra, Computational Fluid Dynamics, Image Compression.

EDUCATION

PhD, Computer Science, University of California, Santa Barbara, 1996.

Thesis: Computational Issues in the Solution of Liquid Crystalline Polymer Flow Problems

M.S., Polymer Engineering, University of Akron, 1992.

B.Tech. (Honors), Chemical Engineering, REC Tiruchirapalli, 1987.

HONORS/ AWARDS

Best Paper Award, IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), 2014.

Fulbright Senior Research Scholar, Dec 2011 – May 2012.

Best Paper Award, International Conference on Parallel Processing (ICPP), 2006.

Best Poster Award, International Conference on High Performance Computing (HiPC), 2006.

First Year Assistant Professor award, Florida State University, 2002.

Top user award, NCSA, Dec 1997.

Ralph M. Parsons Fellowship for interdisciplinary research, Sep 1995 – Jul 1996.

SIAM student travel award, SIAM, Oct 1995.

WORK EXPERIENCE

William Nystul Eminent Scholar Chair and Professor, Aug 2018 onwards.

Department of Computer Science, University of West Florida.

Associate Professor, Aug 2007 – Aug 2018.

Department of Computer Science, Florida State University.

Assistant Professor, Aug 2001 – Jul 2007.

Department of Computer Science, Florida State University.

Visiting Assistant Professor, Jul 2000 – Jun 2001.

Department of Computer Science, University of California at Santa Barbara.

Assistant Professor, Jul/Oct 1998 – Jul 2000.

Department of Mathematics, Indian Institute of Technology, Bombay.

Postdoctoral Research Associate, Jul 1996 – Jul 1998.

National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign.

Developed the SPRNG parallel random number software tool for Monte Carlo Applications.

Software Design Engineer, Summer 1994.

Microsoft Corporation.

Worked on what is now Microsoft Outlook, as a summer intern.

Instructor, Introduction to C and Unix, Summer 1993.

Department of Computer Science, University of California at Santa Barbara.

Graduate Student Researcher, Alexandria Digital Library, Jan-Aug 1995.

Department of Computer Science, University of California at Santa Barbara.

Worked on encoding for image compression using wavelets.

Teaching Assistant, Jan 1992 – Dec 1992, Sep 1994 – Jun 1995.

Department of Computer Science, University of California at Santa Barbara.

Distributed Systems, Cryptography, Artificial Intelligence, Scientific Computing, Fortran, etc.

GRANTS Research Funding

Principal Investigator for Development of Cybersecurity Lab Exercises for Mobile Health, Jul 2018 – Dec 2019.

Grant for \$ 65,000 from Florida Center for Cybersecurity.

Co-PIs: Z. Wang, Florida State University and H. Chi, Florida A&M University.

Lead Principal Investigator for Petascale Simulation of Viral Infection Propagation through Air Travel, Sep 2016 – Aug 2018.

PRAC grant for \$ 40,000 + 500,000 hours of computing time on Blue Waters at NCSA from NSF.

Co-PIs: S. Namilae, Embry-Riddle Aeronautical University, A. Mubayi, Arizona State University, R. Pahle, Arizona State University, and M. Scotch, Arizona State University.

Lead Principal Investigator for Simulation-Based Policy Analysis For Reducing Ebola Transmission Risk in Air Travel, Apr 2015 – Dec 2016 (with extension).

RAPID grant for \$ 200,000 from NSF.

Co-PIs: S. Namilae, Embry-Riddle Aeronautical University, R. Pahle, Arizona State University, and M. Scotch, Arizona State University.

Principal Investigator for Computational Techniques For Simulation Based Policy Making, May 2014 – Aug 2014.

CRC COFRS grant for \$ 14,000 from Florida State University.

Co-Principal Investigator for Random Number Generation for High Performance Computing, Dec 2012 – Dec 2014.

STTR Phase II grant for \$750,000 from Army.

PI: R.V. Boppana, UTSA and Silicon Informatics.

Principal Investigator for “Accelerating Quantum Monte Carlo on Emerging Computing Platforms at ORNL”, Apr 2010 – Mar 2013.

Grant for \$ 75,000 from ORAU/ORNL HPC grant program.

Principal Investigator for “Accelerating Quantum Monte Carlo on Emerging Computing Platforms”, Apr 2010 – Mar 2011.

Planning grant for \$ 12,000 from CRC, Florida State University.

Senior Investigator for “Breakthrough Peta-scale Quantum Monte Carlo Calculations “, Oct 2009 – Sep 2012.

Grant #OCI 0940889 from the National Science Foundation for \$ 40,000, to work with the Bluewaters team (PRAC program).

PI: S.W. Zhang, College of William and Mary; Senior personnel: D.M. Ceperley, UIUC, J. Grossman, UC Berkeley, H. Krakauer, College of William and Mary, P. Kent, University of Tennessee, L. Mitas, NCSU, J. Shumway, Arizona State, and C. Umrigar and R. Hennig, Cornell.

Co-Principal Investigator for “A Quantum Monte Carlo Endstation for Petascale Computing”, Jan 2008 – Dec 2009.

Department of Energy grant for \$ 1,883,078.

PI: D.M. Ceperley, UIUC. Co-PIs: J. Kim, UIUC, L. Mitas, NCSU, S.W. Zhang and H. Krakauer, College of William and Mary, C. Umrigar and R. Hennig, Cornell, and P. Kent, University of Tennessee.

Principal Investigator for MSPA-MCS: Data-driven parallelization of time in Molecular Dynamics simulations, 2006 – 2010 (after 1-year extension).

Grant #DMS 0626180 from the National Science Foundation for \$ 392,890.

Co-PIs: Q. Wang, Mathematics, University of South Carolina and N. Chandra, Mechanical Engineering, U. of Nebraska at Lincoln.

Co-Principal Investigator for “CRI: A Linux Cluster for Space-Time Parallel Algorithms in Computational Nanotechnology and Education”, Apr 2006 – Mar 2009.

Grant #CNS 0551472 from the National Science Foundation for \$ 249,620 equipment.

PI: N. Chandra, Mechanical Engineering, U. of Nebraska at Lincoln, Co-PI: U. Chandra, Computer Science, FAMU.

Principal Investigator for “Dynamic Data-Driven Simulation and Measurement in Superplastic Forming”, Apr 2006 – Mar 2007.

Planning grant \$ 10,000 from CRC, Florida State University.

Principal Investigator for NER: Scalable techniques for massively parallel nanomaterial simulations for long-time behavior, 2004 – 2006.

Grant #CMMI 0403746 from the National Science Foundation for \$ 100,000.

PI: N. Chandra, Mechanical Engineering, FSU/U. of Nebraska.

Principal Investigator for “Scalable Techniques for Massively Parallel Nanomaterial Simulation”, Jan 2004 – Dec 2004.

Planning grant \$ 10,000 from CRC, Florida State University.

Co-Principal Investigator for “A laboratory for distributed and grid computing”, Sep 2003 – Aug 2005.
\$ 200,000 DURIP grant for equipment.

PI: Michael Mascagni, Computer Science, FSU.

Principal Investigator for “Improved Techniques for using Monte Carlo in VaR Estimation”, Jul 2000.
National Stock Exchange, Bombay, India.

Co-PI: Ajay Shah, Economics, IGIDR.

Computer Time Grants

Principal Investigator for Simulation-Based Policy Analysis For Reducing Ebola Transmission Risk in Air Travel, Apr 2015 – Mar 2016.

Grant for 650,000 hours of computing time on Bluewaters supercomputer at NCSA.

Principal Investigator for Scaling communication performance for massively parallel applications, Aug 2011 – Dec 2017 (with extensions and renewals).

Grants for 1,100,000 hours of computing time through XSEDE on NSF supercomputers.

Principal Investigator for “Accelerating Quantum Monte Carlo on Massively Parallel Computing Platforms”, Sep 2011 – Sep 2012.

Grant for 300,000 hours of computing time on Jaguar and a few other OLCF supercomputers. Access continued on Titan. (Jaguar and Titan were the fastest supercomputers in the world in some of these time spans.)

Principal Investigator for “Scalable Parallelization of ODEs through Dynamic Iterations”, Dec 2008 – Oct 2010.

Total grants for 80,000 hours of computing time on the TeraGrid and at NCSA.

Virtual Loaner Program, IBM Dallas, 2006, 2007.

Access to the Cell-based blade server at IBM Dallas.

Principal Investigator for “Data-driven parallelization of time in Molecular Dynamics simulations”, Oct 2006 – Sep 2007.

Grant for 30,000 hours of computing time on the TeraGrid.

Principal Investigator for “Parallelization of time in long-time molecular dynamics simulations”, Dec 2005 – May 2007.

Grant ERCAP#81273 from NERSC for 20,000 hours of computing time on 6000-processor IBM SP “Seaborg” machine.

Principal Investigator for “Long-time molecular dynamics simulation of Carbon Nanotubes through time parallelization”, Dec 2004 – Nov 2006.

Grant # CNMS2004-028 from Oak Ridge National Lab for 30,000 hours of computing time on IBM SP and SGI Altix machines.

Principal Investigator for “Testing parallel quasi-random numbers”, Jul 2001 – Jul 2002.

Grant # DMR010005N from NCSA for 8000 hours of computing time on the SGI Origin 2000.

Principal Investigator for “Testing Parallel Random Number Generators”, Jun 1997 – May 1998.

Grant # CCR970004N from NCSA for 31,525 hours of computing time on the SGI Power Challenge Array.

Other Grants

Professor Partnership Program, Nvidia, 2008.

Donation of Tesla and GeForce processors.

SOFTWARE DEVELOPED

SPRNG Scalable Parallel Random Number Generation software.

This software provides libraries of parallel random number generators, a test suite, sample application programs, an extensibility template to enable others to easily write their RNGs in SPRNG format, and also other features such as the ability to checkpoint the state of the generator in a machine independent manner. This software is used by research groups in major institutions in at least fifteen countries around the world. The software was written in C, and can be used by programs written in C, C++, and Fortran. It has been ported to all the major Unix platforms.

Parallel LCP flow code.

This code was developed as a part of my PhD thesis. Some interesting features of the code are: (i) the use of particle methods for mesh-free computations of polymer orientations at a fluid point, (ii) unstructured fully Lagrangian mesh for fluid flow calculations, and (iii) parallelization using MPI. The code was written in C and run on the Meiko CS2 parallel computer.

Encoding for Image Compression.

This software was developed for the Alexandria digital library project at UCSB. It encodes the coefficients obtained from the application of wavelet transforms to images, in order to obtain good compression. A combination of Huffman coding and quadrees was used. It was integrated with a publicly available wavelet code to be used as a complete application for compressing and retrieving images. An interesting feature of the software was that the quadtree provided an automatic indexing mechanism to enable the retrieval of parts of an image, while simultaneously effecting compression. The code was written in C, and some of the computations were parallelized using MPI.

BOOKS

Random Number Generators for Parallel Applications.

A chapter in *Advances in Chemical Physics, Volume 105, Monte Carlo Methods in Chemical Physics*, Editors: D. Ferguson, J.I. Siepmann, D.G. Truhlar, John Wiley and Sons, Inc, 1999, pages 13-36.

A. Srinivasan, D.M. Ceperley, and M. Mascagni.

JOURNAL PUBLICATIONS

Multiscale Model for Pedestrian and Infection Dynamics During Air Travel.

Physical Review E, 95(5), 052320 (2017).

P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Self-Propelled Pedestrian Dynamics Model: Application to Passenger Movement and Infection Propagation in Airplanes.

Physica A: Statistical Mechanics and its Applications, Vol 465 (2017) 248-260.

S. Namilae, A. Srinivasan, A. Mubayi, M. Scotch, and R. Pahle.

Self-Propelled Pedestrian Dynamics Model for Studying Infectious Disease Propagation during Air-Travel.

Journal of Transport & Health, 3(2) (2016) S40.

Reducing Disk IO Bandwidth Bottleneck through Fast Floating Point Compression using Accelerators.

International Journal of Advanced Computer Research, Vol 4 (2014) 134-144.

A. Padyana, C.D. Sudheer, P.K. Baruah, and A. Srinivasan.

Dynamic Load Balancing for Petascale Quantum Monte Carlo Applications: The Alias Method.

Computer Physics Communications, Vol 184 (2013) 284-292.

C.D. Sudheer, S. Krishnan, A. Srinivasan, and P.R.C. Kent.

Dynamic Iterations for the Solution of Initial Value Problems.

Journal of Parallel and Distributed Computing, Vol 71 (2011) 1509-1517.

Y. Yu and A. Srinivasan.

Monte Carlo Linear Solvers with Non-diagonal Splitting.

Mathematics and Computers in Simulation, Vol 80 (2010) 1133-1143.

A. Srinivasan.

Effect of Interface Modification on the Mechanical Behavior of Carbon Nanotube Reinforced Composites Using Parallel Molecular Dynamics Simulations.

Computer Modeling in Engineering and Sciences, Vol 22 (2007) 189-202.

S. Namilae, U. Chandra, A. Srinivasan, and N. Chandra.

Latency Tolerance through Parallelization of Time in Scientific Applications.

Parallel Computing, Vol 31 (2005) 777-796.

A. Srinivasan and N. Chandra.

Parameterizing Parallel Multiplicative Lagged-Fibonacci Generators.

Parallel Computing, Vol 30 (2004) 899-916.

M. Mascagni and A. Srinivasan.

Testing parallel random number generators.

Parallel Computing, Vol 29 (2003) 69-94.

A. Srinivasan, M. Mascagni, and D.M. Ceperley.

SPRNG: A Scalable Library for Pseudorandom Number Generation.

ACM Transactions on Mathematical Software, Vol 26 (2000) 436-461.

M. Mascagni and A. Srinivasan.

Efficient Non-parametric Density Estimation on the Sphere with Applications in Fluid Mechanics.

SIAM Journal on Scientific Computing, Vol 22 (2000) 152-176.

O. Egecioglu and A. Srinivasan.

Image Compression for Fast Wavelet-Based Subregion Retrieval.

Theoretical Computer Science, Vol 240 (2000) 447-469.

A. Poulakidas, A. Srinivasan, O. Egecioglu, O. Ibarra, and T. Yang.

Smoothed Particle Hydrodynamic techniques for the solution of kinetic theory problems. Part 1: Method.

Journal of Non-Newtonian Fluid Mechanics, Vol 70 (1997) 125-154.

C.V. Chaubal, A. Srinivasan, O. Egecioglu, and L.G. Leal.

A Fast Nonparametric Density Estimation Algorithm.

Communications in Numerical Methods in Engineering, Vol 13 (1997) 755-763.

O. Egecioglu and A. Srinivasan.

Optimal parallel prefix on mesh architectures.

Journal of Parallel Algorithms and Applications, Vol 1, (1993) 191-209.

O. Egecioglu and A. Srinivasan.

Self-Oscillations of an elastic plate sliding over a smooth surface.

International Journal of Engineering and Science, Vol 31, (1993) 453-473.

A.I. Leonov and A. Srinivasan.

On the modeling of fluidity loss phenomenon in Couette and Poiseuille flow of elastic liquids.

Rheologica Acta, Vol 30, (1991) 14-22.

A.I. Leonov and A. Srinivasan.

CONFERENCE AND WORKSHOP

PROCEEDINGS

Parallel Low Discrepancy Parameter Sweep for Public Health Policy.

IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2018). 10 pages.
(Acceptance rate: 21%)

S. Chunduri, M. Ghaffari, M.S. Lahijani, A. Srinivasan, and S. Namilae.

Integrating Travel and Epidemic Models for Vector Borne Disease Surveillance.

7th International Conference on Innovations in Travel Modeling (ITIM). National Academies –
Transportation Research Board. 2018.

M. Ghaffari, J. Wang, A. Chari, A. Srinivasan, K. Viswanathan, A. Mubayi, and H. Chi.

Multiscale Pedestrian Movement – Infection Dynamics Model for Transportation Hubs.

Transportation Research Forum Proceedings, (2017).

P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Molecular Dynamics Like Numerical Approach for Studying Infection Propagation.

Twenty Fifth International conference on composites and nano engineering, July (2017).

P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Optimizing Massively Parallel Simulations of Infection Spread Through Air-Travel for Policy Analysis.

IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2016). 10 pages.
(Acceptance rate: 23%)

A. Srinivasan, C.D. Sudheer, and S. Namilae.

Efficient Barrier Implementation on the POWER8 Processor.

IEEE International Conference on High Performance Computing (HiPC) (2015). 9 pages. (Acceptance
rate: 23%)

C.D. Sudheer and A. Srinivasan.

Optimizing MPI Collectives on Intel MIC Through Effective Use of Cache.

IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), (2014). 6 pages.
(Acceptance rate: 23%)

P. Panigrahi, S. Kanchiraju, A. Srinivasan, P.K. Baruah, and C.D. Sudheer.

Best paper award

High Throughput Compression of Floating Point Numbers on Graphical Processing Units.

IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), (2012). 6 pages.
(Acceptance rate: 28%)

A. Padyana, C.D. Sudheer, P.K. Baruah, and A. Srinivasan.

Optimization of the Hop-Byte Metric for Efficient Topology Aware Mapping.

19th IEEE International Conference on High Performance Computing (HiPC) (2012). 10 pages.
(Acceptance rate: 25%)

C.D. Sudheer and A. Srinivasan.

Reuse and Refactoring of GPU Kernels to Design Complex Applications.

10th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA),
(2012). (Acceptance rate: 35%)

S. Sarkar, S. Mitra and A. Srinivasan.

Small Discrete Fourier Transforms on GPUs.

11th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2011).
(Acceptance rate: 29%)

S. Mitra and A. Srinivasan.

Processor Affinity and MPI Performance on SMP-CMP Clusters.

11th IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing
(PDSEC), Proceedings of the 24rd International Parallel and Distributed Processing Symposium, IEEE,
(2010). 8 pages.

C. Zhang, X. Yuan, and A. Srinivasan.

Dynamic Iterations for the Solution of Ordinary Differential Equations on Multicore Processors.

Proceedings of the 23rd International Parallel and Distributed Processing Symposium (IPDPS), (2009).
10 pages. (Acceptance rate: 23%)

Y. Yu and A. Srinivasan.

Optimizing Assignment of Threads to SPEs of the Cell BE Processor.

Tenth IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing
(PDSEC), Proceedings of the 23rd International Parallel and Distributed Processing Symposium, IEEE,
(2009). 8 pages.

C.D. Sudheer, T. Nagaraju, P.K. Baruah, and A. Srinivasan.

Quantum Monte Carlo algorithms for electronic structure at the petascale; the endstation project.
Proceedings of SciDAC 2008, Journal of Physics: Conference Series 125 (2008) 012057 (15 pages).

K.P. Esler, J. Kim, D.M. Ceperley, W. Purwanto, E.J. Walter, H. Krakauer, S. Zhang, P.R.C. Kent, R.G. Hennig, C. Umrigar, M. Bajdich, J. Kolorenc, L. Mitas, and A. Srinivasan.

Optimization of Collective Communication in Intra-Cell MPI.

Proceedings of the 14th IEEE International Conference on High Performance Computing (HiPC),
Lecture Notes in Computer Science 4873 (2007) 488-499. (Acceptance rate: 20.5%)

M.K. Velamati, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

A Synchronous Mode MPI Implementation on the Cell BETM Architecture.

Proceedings of the 5th International Symposium on Parallel and Distributed Processing and
Applications (ISPA-07), Lecture Notes in Computer Science 4742 (2007) 982-991. (Acceptance rate:
34%)

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

Data-Driven Time Parallelization in the AFM Simulation of Proteins.

Sixth IEEE International Workshop on High Performance Computational Biology (HiCOMB),
Proceedings of the 21st International Parallel and Distributed Processing Symposium, IEEE, (2007). 8
pages. (Acceptance rate: 43%)

L. Ji, H. Nymeyer, A. Srinivasan, and Y. Yu.

A Buffered Mode MPI Implementation for the Cell BE Processor.

Proceedings of the International Conference on Computational Science (ICCS), Lecture Notes in
Computer Science 4487 (2007) 603-610. (Acceptance rate: 22% – regular papers)

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

Feasibility Study of MPI Implementation on the Heterogeneous Multi-Core Cell BETM Architecture.

Proceedings of the 19th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA),
(2007) 55-56.

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, R. Sharma, A. Srinivasan, and S. Kapoor.

Scalable Time-Parallelization of Molecular Dynamics Simulations in Nano Mechanics.

Proceedings of the 35th International Conference on Parallel Processing (ICPP), (2006) 119-126.
(Acceptance rate: 32%)

Y. Yu, A. Srinivasan, and N. Chandra.

Best paper award

Application of reduced order modeling to time parallelization.

Proceedings of the 12th International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science, Springer, 3769 (2005) 106-117. (Acceptance rate: 13.6%)

A. Srinivasan, Y. Yu, and N. Chandra.

Parallel simulation of Carbon Nanotube based composites.

Proceedings of the 11th International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science, Vol. 3296, (2004) 211-221, Springer. (Acceptance rate: 22%)

J. Kohle, U. Chandra, S. Namilae, A. Srinivasan, and N. Chandra.

Parallelization of Molecular Dynamics for Modeling Interface Properties of Carbon Nanotube Based Composites.

Proceedings of SECTAM XXII, Developments in Theoretical and Applied Mechanics, editors: Hassan Mahfuz and Mahesh V Hosur, ISBN 0-615-12639-1, (2004) 23-32.

J. Kohle, U. Chandra, S. Namilae, A. Srinivasan, and N. Chandra.

Latency tolerance through parallelization of time in scientific applications.

Heterogeneous Computing Workshop (HCW), Proceedings of the 18th International Parallel and Distributed Processing Symposium, IEEE, (2004) 12 pages. (Acceptance rate: 47%)

A. Srinivasan and N. Chandra.

Linking atomistic and continuum mechanics using multi-scale models.

Proceedings of the 8th International Conference on Numerical Methods in Industrial Forming Process, Numiform 2004, AIP Conference Proceedings, Vol. 712 (2004) 1571-1576.

S. Namilae, N. Chandra, and A. Srinivasan.

Stochastic linear solvers.

Proceedings of the SIAM conference on applied linear algebra, (2003) 12 pages.

A. Srinivasan and V. Aggarwal.

Improved Monte Carlo linear solvers through non-diagonal splitting.

Proceedings of the International Conference on Computational Science and its Applications (ICCSA), Lecture Notes in Computer Science, 2669 (2003) 168-177.

A. Srinivasan and V. Aggarwal.

Parallel and distributed computing issues in pricing financial derivatives through Quasi Monte Carlo.

Proceedings of the 16th International Parallel and Distributed Processing Symposium (IPDPS), (2002) 6 pages. (Acceptance rate: 38%)

A. Srinivasan.

Monte Carlo Techniques for Estimating the Fiedler Vector in Graph Applications.

Proceedings of the International Conference on Computational Science (ICCS), Lecture Notes in Computer Science, Springer, 2330 (2002) 635-644.

A. Srinivasan and M. Mascagni.

Parallel Quasi-Monte Carlo methods on a Heterogeneous Cluster.

Proceedings of 4th International Conference on Monte Carlo and Quasi-Monte Carlo, Hong Kong, 27 Nov-1 Dec, 2000, H. Niederreiter et al. editors, Springer-Verlag.

G. Okten and A. Srinivasan.

Classical Monte Carlo with a Fast High-Quality Pseudo Random Number Library in Java.

Proceedings of the 9th SIAM Conference on Parallel Processing for Scientific Computing, March 22-24, 1999, San Antonio, Texas, Mini-symposium on Algorithms and Software for Parallel and Distributed Monte Carlo Calculations.

M.Z. Hydari, D. Ceperley, A. Srinivasan, and M. Mascagni.

A Compact Storage Scheme for Fast Wavelet-Based Subregion Retrieval.

Proceedings of the 3rd Annual International Computing and Combinatorics Conference (COCOON'97) Shanghai, China, Aug 20-22, 1997, T. Jiang and D.T. Li, (Eds.), 1997, pages 353-362.

A. Poulakidas, A. Srinivasan, O. Egecioglu, O. Ibarra, and T. Yang.

Domain Decomposition for Particle Methods on the Sphere.

Lecture Notes in Computer Science # 1117, Editors: A. Ferreira, et al. Proceedings of the 3rd International Workshop on Parallel Algorithms for Irregularly Structured Problems (IRREGULAR'96), Santa Barbara CA, 19-21 Aug (1996) 119-130.

O. Egecioglu and A. Srinivasan.

Experimental Studies on a Compact Storage Scheme for Wavelet-Based Multiresolution Subregion Retrieval.

Proceedings of NASA 1996 Combined Industry, Space and Earth Science Data Compression Workshop, Utah, Apr (1996) 61-70.

A. Poulakidas, A. Srinivasan, O. Egecioglu, O. Ibarra, and T. Yang.

Givens and Householder Reductions for Linear Least Squares on a Cluster of Workstations.

Proceedings of the International Conference on High Performance Computing, New Delhi, India, (1995) 734-739.

O. Egecioglu and A. Srinivasan.

TECHNICAL REPORTS

Improved techniques for using Monte Carlo in VaR estimation.

National Stock Exchange Research Initiative, working paper.

A. Srinivasan and A. Shah.

Application of range searching to fast financial risk estimation.

Technical report TRCS00-23, Dept. of Computer Science, University of California at Santa Barbara.

A. Srinivasan, A. Shah, V. Shah, G. Phanindra, and V. Aggarwal.

CONFERENCE PRESENTATIONS

Excludes those listed under “Conference Proceedings”.

Optimizing Massively Parallel Simulations of Infection Spread Through Air-travel for Policy Analysis.

International Conference on Risk Analysis (ICRA 2017).

Molecular Dynamics Like Numerical Approach for Studying Infection Propagation.

International conference of composites Engineering (ICCE 2017).

With: P. Derjany, S. Namilae, A. Mubayi, and M. Scotch.

Combining Human Movement Models with Phylogeography for Airplane Policy Options During Ebola Outbreaks.

13th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (MEEGID 2016).

With: M. Scotch, R. Beard, R. Pahle, A. Mubayi, and S. Namilae.

Self-Propelled Pedestrian Dynamics Model for Studying Infectious Disease Propagation During Air-Travel.

International Conference on Transport & Health (ICTH), 2016.

With: S. Namilae, C.D. Sudheer, A. Mubayi, R. Pahle, and M. Scotch.

The Spread of the 2014 Ebola Zaire Virus in West Africa.

Pacific Symposium on Biocomputing (PSB) 2016 (poster).

With: M. Scotch, R. Beard, R. Pahle, A. Mubayi, and S. Namilae.

Performance Prediction Model for Applications on GPUs.

GPU Technology Conference (GTC) poster, San Jose, 2014.

With: S. Kanchiraju, P. Panigrahi, and P.K. Baruah.

Exploration of the Potential of the Cell Architecture for MPI Applications.

HiPC 2006 (poster)

With: M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, and R. Sharma.

Best poster award

Data-Driven Time Parallelization.

SC 2006 (poster — acceptance rate: 33%)

With: L. Ji, Y. Yu., H. Nymeyer, and N. Chandra.

Data-Driven Parallelization in the Time Domain: Application to Force-Induced Unfolding of the Ig Domain.

Protein Society 20th Symposium, 2006.

With: H. Nymeyer and L. Ji.

Data-Driven Parallelization in Multiscale Applications.

SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, Feb 2006.

With: Y. Yu.

Application of Dimensionality Reduction Techniques to Time-Parallelization.

SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, Feb 2006.

With: Y. Yu and L. Ji.

Techniques for improving Monte Carlo linear solvers.

Vth IMACS Seminar on Monte Carlo Methods, Tallahassee, FL, May 2005.

Time Parallelization of Molecular Dynamics Computations.

SIAM Conference on Computational Science and Engineering, Orlando, FL, Feb 2005.

With: Y. Yu.

Dynamic load balancing in parallel applications using Monte Carlo linear solvers.

Sixth International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, Juan-les-Pins, France, Jun 2004.

With: V. Aggarwal.

Fault Tolerant Parallelization of Time in Molecular Dynamics Simulations.

Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco 2004.

Influence of splitting and sampling techniques on the effectiveness of quasi-Monte Carlo linear solvers.

IVth IMACS Seminar on Monte Carlo Methods, Berlin 2003.

Monte Carlo Linear Algebra Techniques and their parallelization.

SIAM Conference on Computational Science and Engineering, San Diego, CA, Feb 2003.

Computational Techniques for Efficient Carbon Nanotube Simulation.

SIAM Conference on Computational Science and Engineering, San Diego, CA, Feb 2003.

With: N. Chandra.

Testing Parallel Random Number Generators.

Third International Conference on Monte Carlo and Quasi-Monte Carlo, Claremont, CA, Jun 1998.

With: D.M. Ceperley and M. Mascagni.

SPRNG Parallel Random Number Generator.

Third International Conference on Monte Carlo and Quasi-Monte Carlo, Claremont, CA, Jun 1998.

With: D.M. Ceperley and M. Mascagni.

The SPRNG Parallel Random Number Generator.

SC97: High Performance Networking and Computing San Jose, CA, Nov 15-21, 1997.

(Part of NCSA Research Exhibit.)

A Compact Storage Scheme for Fast Wavelet-Based Subregion Retrieval.

Third Annual International Computing and Combinatorics Conference (COCOON'97) Shanghai, China, Aug 20-22, 1997.

With: O. Egecioglu, O. Ibarra, A. Poulakidas, and T. Yang.

Software for Parallel Pseudo Random Number Generation.

IMACS Seminar on Monte Carlo Methods, Universite Libre de Bruxelles, Brussels, Belgium, Apr 1-3, 1997.

With: D.M. Ceperley, F. Saied, M. Mascagni, and L. Mitas.

Smoothed Particle Hydrodynamics on the surface of a sphere.

Fifth Workshop on Numerical Solutions of Fluid Flow in Spherical Geometry, Breckinridge CO, Jun 12-14, 1996.

With: C.V. Chaubal, O. Egecioglu, and L.G. Leal.

Efficient Nonparametric Estimation of Probability Density Functions.

1995 SIAM Annual Meeting, Charlotte NC, Oct 23-26, 1995.

With: O. Egecioglu.)

Parallel Solutions to Liquid Crystalline Polymer Flow Problems.

1994 SIAM Annual Meeting, San Diego CA, Jul 25-29, 1994.

With: C.V. Chaubal, O. Egecioglu, and A. Szeri.

OTHER TALKS

The Promises and Challenges of Supercomputing (in Tamil).

Bharathi Matriculation Higher Secondary School, Thammampatti, India, Jul 2017

Petascale Simulation of Viral Infection Propagation Through Air Travel.

Sona College of Technology, India, Jul 2017

The Promises and Challenges of Supercomputing.

Sona College of Technology, India, Jul 2017

Path To Exascale.

Sri Sathya Sai Institute of Higher Learning, India, Jun 2017

Scalable Parallel Random Number Generation.

Sri Sathya Sai Institute of Higher Learning, India, Jun 2017

Viral Infection Propagation Through Air Travel.

Blue Waters Symposium, May 2017.

Trends in High Performance Computing.

Sri Sathya Sai Institute of Higher Learning, India, Dec 2016

Simulation-Based Policy Analysis To Reduce Ebola Transmission Risk in Air Travel.

Blue Waters Symposium, May 2016.

Simulation of Viral Infection Propagation Through Air Travel.

Invited talk at International Symposium on Computational Science. Sri Sathya Sai Institute of Higher Learning, India, Dec 2015.

Viral Infection Propagation Through Air Travel.

Presentation at NCSA research exhibit at SC15, Nov 2015.

Approximation Algorithms Using Linear Programming.

Silicon Institute of Technology, Bhubaneswar, Jul 2013.

Parallel Processing Using CPU-GPU Architecture and CUDA Programming.

National Workshop on Parallel and Heterogeneous Computing, C.V. Raman College of Engineering, Bhubaneswar, Jul 2013.

Emerging Trends and Applications in High Performance Computing.

Indian Institute of Technology — Bhubaneshwar, Mar 2012.

Optimizing Complex Applications on GPUs.

International Institute of Information Technology — Hyderabad, Mar 2012.

Emerging Trends and Applications in High Performance Computing.

PES Institute of Technology — Bangalore, Feb 2012.

Accelerating Quantum Monte Carlo on Emerging Computing Platforms.

EPSCOR Workshop on Modeling Advanced Materials, Systems Biology and Alternative Energy: Building Capabilities and Collaborations over Cyber-Enabled Discovery, National Institute for Computational Science, Knoxville, Oct 2011.

Dynamic Iterations for the Solution of Ordinary Differential Equations on Multicore Processors.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2009.

Data-Driven Parallelization of the Time Domain in Scientific Applications.

International Institute of Information Technology — Bangalore, Jun 2009.

High Performance Computing Trends.

Invited talk at Sri Sathya Sai University, Prasanthi Nilayam, India, Jun 2009.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Invited talk at the workshop on High Performance Computing and Societal Applications, Sri Sathya Sai University, Prasanthi Nilayam, India, Jun 2008.

Long-Time Molecular Dynamics Simulations through Parallelization of the Time Domain.

Amrita Vishwa Vidyapeetham University, Computer Science Colloquium, Jan 2008.

Parallel Random Number Generation.

San Diego Supercomputer Center Summer Institute, University of California at San Diego, Jul 2007.

Optimization of Collective Communication in Intra-Cell MPI.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2007.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

University of Nebraska-Lincoln, Computer Science Colloquium, Apr 2007.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Oak Ridge National Lab Colloquium, Aug 2006.

Data-Driven Parallelization of the Time Domain in Scientific Applications.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2006.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

NCSA Colloquium, University of Illinois at Urbana-Champaign, May 2006.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Computational Science Seminar Series, San Diego Supercomputer Center, University of California at San Diego, Feb 2006.

Long-Time Molecular Dynamics Simulations through Parallelization of the Time Domain.

Physical Chemistry Colloquium, Florida State University, Nov 2005.

Monte Carlo linear solvers.

Computer Science Colloquium, Rensselaer Polytechnic Institute, Mar 2005.

Monte Carlo linear solvers, with applications to dynamic load balancing.

Mathematics and Computer Science, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, India, Dec 2004.

Domain decomposition in parallel computing.

Invited talk at High Performance Computing Workshop, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, India, Jul 2003.

Computational issues in Carbon nanotube simulation.

Computer Science, Regional Engineering College, Tiruchirapalli, India, Dec 2002.

SPRNG Scalable Parallel Random Number Generators.

Invited talk at Workshop on High Performance Monte Carlo Tools, Stennis Space Center, Mississippi, April 23-24, 1998.

PROFESSIONAL ACTIVITIES

Organizing Committee Member

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Bangalore, India, 2018.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2015.

Member, International Symposium on Computational Science (ISCS), Sri Sathya Sai Institute of Higher Learning, India, 2015.

Vice-Chair, Scholarships at IEEE – International Conference on High Performance Computing (HiPC), Hyderabad, India, 2013.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Pune, India, 2012.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Member, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Member, Workshop on High Performance Monte Carlo Tools, Stennis Space Center, Mississippi, April 23-24, 1998.

Technical Program Committees

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Bangalore, India, 2018.

Member, IEEE International Conference on High Performance Computing and Communication (HPCC), Bangkok, Thailand, 2017.

Member, Software track, IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Member, Software track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Orlando, 2017.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Colombia, 2016.

Member, Software track, IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Shenzhen, China, 2015.

Member, Applications track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Hyderabad, India, 2015.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2015.

Member, Applications track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Phoenix, 2014.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Chicago, 2014.

Member, Scientific Applications track, Winter Simulation Conference (WSC), Savannah, GA, 2014.

Member, Student Research Symposium at International Conference on High Performance Computing (HiPC), Goa, India, 2014.

Vice-Chair, IEEE International Conference on High Performance Computing and Applications (ICHPCA), Bhubaneswar, India, 2014.

Vice-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2013.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Chicago, 2012.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Pune, India, 2012.

Member, Parallel and Distributed Computing track, International Conference on Frontier of Computer Science and Technology (FCST), Suzhou, China, 2012.

Member, Algorithms and Applications track, IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA), Madrid, Spain, 2012.

Vice-Chair, Parallel/Multicore and Distributed Algorithms and Applications track, International Conference on High Performance Computing and Communications (HPCC), Banff, Canada, 2011.

Member, Algorithms track, International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Knoxville, 2011.

Member, Parallel and Distributed Computing track, International Conference on Frontier of Computer Science and Technology (FCST), Changsha, China, 2011.

Member, Systems track, 3rd International Conference on Contemporary Computing (IC3), India, 2011.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2011.

Member, Applications track, International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Knoxville, 2010.

Member, International Workshop on Scientific Computing, Prasanthi Nilayam, India, 2010.

Member, 3rd International Conference on Contemporary Computing (IC3), India, 2010.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Atlanta, 2010.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2010.

Member, Applications track, SC09, Portland OR, 2009.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Rome, Italy, 2009.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Urbana-Champaign, 2009.

Member, 2nd Minisymposium on Cell/B.E. Technologies at PPAM 2009 Conference, Wroclaw, Poland, 2009.

Member, 2nd International Conference on Contemporary Computing (IC3), New Delhi, India, 2009.

Member, Parallel and Distributed Computing and Networks (PDCN), 2009.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Member, International Conference on Parallel Processing (ICPP), 2008.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Miami, 2008.

Member, 21st IEEE International Conference on Advanced Information Networking and Applications (AINA), 2008.

Member, The 16th International Conference on Advanced Computing and Communication (ADCOM), Chennai, India, 2008.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2008.

Member, 21st IEEE International Conference on Advanced Information Networking and Applications (AINA), Ontario, 2007.

Member, 20th IEEE International Conference on Advanced Information Networking and Applications (AINA), Vienna, 2006.

Chair, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Organized

Birds-of-Feather session on Unleashing the Power of the Cell Broadband Engine Processor for HPC at SC08, Austin TX, Nov 2008.

Minisymposium on High Performance Computing on the Cell Processor at the SIAM Conference on Parallel Processing for Scientific Computing, Atlanta GA, Feb 2008.

Birds-of-Feather session on Unleashing the Power of the Cell Broadband Engine Processor for HPC at SC07, Reno NV, Nov 2007.

Minisymposium on Data-Aware Parallel Computing at the SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2006.

Minisymposium on Critical issues in the application of multi-scale techniques to computational nanotechnology at the SIAM Conference on Computational Science and Engineering, Orlando FL, Feb 2005.

Minisymposium on Fault-Tolerant Parallel Computing at the Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2004.

Florida State University research exhibit at SC2004, Pittsburgh PA, Nov 6-12, 2004.

Florida State University research exhibit at SC2003, Phoenix AZ, Nov 15-21, 2003.

Florida State University research exhibit at SC2002, Baltimore MD, Nov 18-22, 2002.

Coordinated Florida State University's presentation at the Computational Science and Advanced Computing Workshop at Oak Ridge National Lab, May 2002.

Advisory Committee Member

Next Generation Information Technologies for Societal Advancement and Integration, Prasanthi Nilayam, India, 2006.

Session chair

Cloud Environment, IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), Washington D.C., 2018.

Memory and IO, IEEE – International Conference on High Performance Computing (HiPC), Hyderabad, India, 2016.

Life on a US Campus, Indian Fulbright Orientation, Hyderabad, India, 2012.

GPU and Many-Core Simulations, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Memory and Tiling, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

International Workshop on Scientific Computing, Prasanthi Nilayam, India, 2010.

Applications, IEEE – International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Algorithms and Applications, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

High Performance Computing on the Cell Processor at the SIAM Conference on Parallel Processing for Scientific Computing, Atlanta GA, Feb 2008.

Software and Languages at International Symposium on Parallel and Distributed Processing and Applications (ISPA-07), Niagara Falls, Canada, Aug 2007.

Replication at the International Conference on Parallel Processing, Columbus OH, Aug 2006.

Data-Aware Parallel Computing at the SIAM Conference on Parallel Processing for Scientific Computing, San Fransisco CA, Feb 2006.

Architecture, IEEE – International Conference on High Performance Computing (HiPC), Goa, India, 2005.

Linear Algebra, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Physical applications 3, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Critical issues in the application of multi-scale techniques to computational nanotechnology, SIAM Conference on Computational Science and Engineering, Orlando FL, Feb 2005.

High-performance scientific applications, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, Dec 2004.

Fault-Tolerant Parallel Computing, Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Fransisco CA, Feb 2004.

Methods for Particle Simulations, SIAM Conference on Computational Science and Engineering, San Diego CA, 10-13 Feb 2003.

Review panels

National Science Foundation, 2018.

National Academies, 2017.

National Science Foundation, 2017.

National Science Foundation, mail review, 2017.

National Science Foundation, 2016.

Fulbright program, 2016.

Fulbright program, 2015.

National Academies, 2015.

Fulbright program, 2014.

Department of Energy, mail review, 2014.

National Science Foundation, mail review, 2010.

National Science Foundation, 2009.

National Science Foundation, mail review, 2007.

National Science Foundation, mail review, 2006.

National Science Foundation, 2005.

National Institutes for Health, 2004.

Reviewed for

Journal of parallel and distributed computing, Parallel algorithms and applications, International Parallel Processing Symposium, Supercomputing (SC) 2001, Computer Physics Communications, International Conference on Computational Science (2002), NCSA Small Allocations Committee, International Workshop on Parallel Algorithms for Irregularly Structured Problems, International Conference on Parallel and Distributed Computing and Systems, Information Processing Letters, McGraw-Hill (book, 2002), International Journal of Foundations of Computer Science (2003), IISc

Journal (2003), Princeton University Press (book, 2002/2003), Computing (2003), Journal of Computational Physics (2004), Pattern Recognition Letters (2004), Parallel Computing (2004-2005, 2009), IEEE International Conference on Advanced Information Networking and Applications (AINA) (2006, 2007), IEEE International Symposium on Circuits and Systems (2006), Parallel and Distributed Computing and Networks (2007), Thomson Course Technology (book, 2007), Addison-Wesley (book, 2007), Mathematics and Computers in Simulation (2007), Lecture Notes in Computer Science — special issue on the Cell processor (2008), Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS (2008, 2009), IEEE HiPC (2008), IBM Journal of Research and Development (2008), IEEE Transactions on Computers (2008), ALENEX (2009), Journal of Parallel and Distributed Computing (2008, 2009), SC08, IEEE Transactions on Parallel and Distributed Systems (2009), ADCOM (2009), Cluster Computing (2009), International Conference on Supercomputing — ICS (2010), Concurrency and Computation: Practice and Experience (2010), ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2011), IEEE Transactions on Signal Processing (2012), CRC Press (book, 2014), ACM Transactions on Parallel Computing (2015), Prospect Press (book proposal, 2015), Concurrency and Computation: Practice and Experience (2016), Journal of Parallel and Distributed Computing (2016)), SIAM-ACM Symposium on Discrete Algorithms – SODA (2017), Parallel Processing Letters (2017).

Other activities

Departmental service at various times: Admissions and Financial Aid director, Chair Search, Equipment, Faculty Evaluation, Faculty Recruitment, Graduate Curriculum, PhD Portfolio Review, and Undergraduate Curriculum committees; Faculty evaluation committee chair; Equipment committee chair; Undergraduate honors liaison, ABET accreditation visit coordinator (2013).

Resource person, Indian Fulbright Orientation, Hyderabad, India, May 2012. (Gave talks on performing research in the US and on making effective use of a post-doctoral position.)

Panelist, US Fulbright Students and Scholars to India web panels on Teaching and on Research, Jul 2012.

Organized the HiPC Pre-Conference Writing Skills Workshop, Bangalore, India, Jul 2011.

Represented the CS department in the College Board's Curriculum Study, 2011.

Co-Chair, Publicity, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Judge, IBM Cell B.E. Challenge, 2007.

Member, Florida Course Numbering System, Fall 2006.

Judge, Computer Science, Regional Science Fair, 2006.

FSU mentor, Godby high school, 2002.

Member

ACM, IEEE-Computer Society. Curriculum Vitae

RESEARCH INTERESTS

Supercomputing for Public Policy Analysis, High Performance Computing, Applications in Computational Sciences, Scalable Algorithms, Mathematical Software.

Recent topics: Molecular Dynamics, Programming Paradigms and Tools for Multi-Core Heterogeneous Processors, Quantum Monte Carlo.

Past topics: Computational Finance, Parallel Random Number Generation, Monte Carlo Linear Algebra, Computational Fluid Dynamics, Image Compression.

EDUCATION

PhD, Computer Science, University of California, Santa Barbara, 1996.

Thesis: Computational Issues in the Solution of Liquid Crystalline Polymer Flow Problems

M.S., Polymer Engineering, University of Akron, 1992.

B.Tech. (Honors), Chemical Engineering, REC Tiruchirapalli, 1987.

HONORS/AWARDS

Best Paper Award, IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), 2014.

Fulbright Senior Research Scholar, Dec 2011 – May 2012.

Best Paper Award, International Conference on Parallel Processing (ICPP), 2006.

Best Poster Award, International Conference on High Performance Computing (HiPC), 2006.

First Year Assistant Professor award, Florida State University, 2002.

Top user award, NCSA, Dec 1997.

Ralph M. Parsons Fellowship for interdisciplinary research, Sep 1995 – Jul 1996.

SIAM student travel award, SIAM, Oct 1995.

WORK EXPERIENCE

William Nystul Eminent Scholar Chair and Professor, Aug 2018 onwards.

Department of Computer Science, University of West Florida.

Associate Professor, Aug 2007 – Aug 2018.

Department of Computer Science, Florida State University.

Assistant Professor, Aug 2001 – Jul 2007.

Department of Computer Science, Florida State University.

Visiting Assistant Professor, Jul 2000 – Jun 2001.

Department of Computer Science, University of California at Santa Barbara.

Assistant Professor, Jul/Oct 1998 – Jul 2000.

Department of Mathematics, Indian Institute of Technology, Bombay.

Postdoctoral Research Associate, Jul 1996 – Jul 1998.

National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign.

Developed the SPRNG parallel random number software tool for Monte Carlo Applications.

Software Design Engineer, Summer 1994.

Microsoft Corporation.

Worked on what is now Microsoft Outlook, as a summer intern.

Instructor, Introduction to C and Unix, Summer 1993.

Department of Computer Science, University of California at Santa Barbara.

Graduate Student Researcher, Alexandria Digital Library, Jan-Aug 1995.

Department of Computer Science, University of California at Santa Barbara.

Worked on encoding for image compression using wavelets.

Teaching Assistant, Jan 1992 – Dec 1992, Sep 1994 – Jun 1995.

Department of Computer Science, University of California at Santa Barbara.

Distributed Systems, Cryptography, Artificial Intelligence, Scientific Computing, Fortran, etc.

GRANTS Research Funding

Principal Investigator for Development of Cybersecurity Lab Exercises for Mobile Health, Jul 2018 – Dec 2019.

Grant for \$ 65,000 from Florida Center for Cybersecurity.

Co-PIs: Z. Wang, Florida State University and H. Chi, Florida A&M University.

Lead Principal Investigator for Petascale Simulation of Viral Infection Propagation through Air Travel, Sep 2016 – Aug 2018.

PRAC grant for \$ 40,000 + 500,000 hours of computing time on Blue Waters at NCSA from NSF.

Co-PIs: S. Namilae, Embry-Riddle Aeronautical University, A. Mubayi, Arizona State University, R. Pahle, Arizona State University, and M. Scotch, Arizona State University.

Lead Principal Investigator for Simulation-Based Policy Analysis For Reducing Ebola Transmission Risk in Air Travel, Apr 2015 – Dec 2016 (with extension).

RAPID grant for \$ 200,000 from NSF.

Co-PIs: S. Namilae, Embry-Riddle Aeronautical University, R. Pahle, Arizona State University, and M. Scotch, Arizona State University.

Principal Investigator for Computational Techniques For Simulation Based Policy Making, May 2014 – Aug 2014.

CRC COFRS grant for \$ 14,000 from Florida State University.

Co-Principal Investigator for Random Number Generation for High Performance Computing, Dec 2012 – Dec 2014.

STTR Phase II grant for \$750,000 from Army.

PI: R.V. Boppana, UTSA and Silicon Informatics.

Principal Investigator for “Accelerating Quantum Monte Carlo on Emerging Computing Platforms at ORNL”, Apr 2010 – Mar 2013.

Grant for \$ 75,000 from ORAU/ORNL HPC grant program.

Principal Investigator for “Accelerating Quantum Monte Carlo on Emerging Computing Platforms”, Apr 2010 – Mar 2011.

Planning grant for \$ 12,000 from CRC, Florida State University.

Senior Investigator for “Breakthrough Peta-scale Quantum Monte Carlo Calculations”, Oct 2009 – Sep 2012.

Grant #OCI 0940889 from the National Science Foundation for \$ 40,000, to work with the Bluewaters team (PRAC program).

PI: S.W. Zhang, College of William and Mary; Senior personnel: D.M. Ceperley, UIUC, J. Grossman, UC Berkeley, H. Krakauer, College of William and Mary, P. Kent, University of Tennessee, L. Mitas, NCSU, J. Shumway, Arizona State, and C. Umrigar and R. Hennig, Cornell.

Co-Principal Investigator for “A Quantum Monte Carlo Endstation for Petascale Computing”, Jan 2008 – Dec 2009.

Department of Energy grant for \$ 1,883,078.

PI: D.M. Ceperley, UIUC. Co-PIs: J. Kim, UIUC, L. Mitas, NCSU, S.W. Zhang and H. Krakauer, College of William and Mary, C. Umrigar and R. Hennig, Cornell, and P. Kent, University of Tennessee.

Principal Investigator for MSPA-MCS: Data-driven parallelization of time in Molecular Dynamics simulations, 2006 – 2010 (after 1-year extension).

Grant #DMS 0626180 from the National Science Foundation for \$ 392,890.

Co-PIs: Q. Wang, Mathematics, University of South Carolina and N. Chandra, Mechanical Engineering, U. of Nebraska at Lincoln.

Co-Principal Investigator for “CRI: A Linux Cluster for Space-Time Parallel Algorithms in Computational Nanotechnology and Education”, Apr 2006 – Mar 2009.

Grant #CNS 0551472 from the National Science Foundation for \$ 249,620 equipment.

PI: N. Chandra, Mechanical Engineering, U. of Nebraska at Lincoln, Co-PI: U. Chandra, Computer Science, FAMU.

Principal Investigator for “Dynamic Data-Driven Simulation and Measurement in Superplastic Forming”, Apr 2006 – Mar 2007.

Planning grant \$ 10,000 from CRC, Florida State University.

Principal Investigator for NER: Scalable techniques for massively parallel nanomaterial simulations for long-time behavior, 2004 – 2006.

Grant #CMMI 0403746 from the National Science Foundation for \$ 100,000.

PI: N. Chandra, Mechanical Engineering, FSU/U. of Nebraska.

Principal Investigator for “Scalable Techniques for Massively Parallel Nanomaterial Simulation”, Jan 2004 – Dec 2004.

Planning grant \$ 10,000 from CRC, Florida State University.

Co-Principal Investigator for “A laboratory for distributed and grid computing”, Sep 2003 – Aug 2005.

\$ 200,000 DURIP grant for equipment.

PI: Michael Mascagni, Computer Science, FSU.

Principal Investigator for “Improved Techniques for using Monte Carlo in VaR Estimation”, Jul 2000.

National Stock Exchange, Bombay, India.

Co-PI: Ajay Shah, Economics, IGIDR.

Computer Time Grants

Principal Investigator for Simulation-Based Policy Analysis For Reducing Ebola Transmission Risk in Air Travel, Apr 2015 – Mar 2016.

Grant for 650,000 hours of computing time on Bluewaters supercomputer at NCSA.

Principal Investigator for Scaling communication performance for massively parallel applications, Aug 2011 – Dec 2017 (with extensions and renewals).

Grants for 1,100,000 hours of computing time through XSEDE on NSF supercomputers.

Principal Investigator for “Accelerating Quantum Monte Carlo on Massively Parallel Computing Platforms”, Sep 2011 – Sep 2012.

Grant for 300,000 hours of computing time on Jaguar and a few other OLCF supercomputers. Access continued on Titan. (Jaguar and Titan were the fastest supercomputers in the world in some of these time spans.)

Principal Investigator for “Scalable Parallelization of ODEs through Dynamic Iterations”, Dec 2008 – Oct 2010.

Total grants for 80,000 hours of computing time on the TeraGrid and at NCSA.

Virtual Loaner Program, IBM Dallas, 2006, 2007.

Access to the Cell-based blade server at IBM Dallas.

Principal Investigator for “Data-driven parallelization of time in Molecular Dynamics simulations”, Oct 2006 – Sep 2007.

Grant for 30,000 hours of computing time on the TeraGrid.

Principal Investigator for “Parallelization of time in long-time molecular dynamics simulations”, Dec 2005 – May 2007.

Grant ERCAP#81273 from NERSC for 20,000 hours of computing time on 6000-processor IBM SP “Seaborg” machine.

Principal Investigator for “Long-time molecular dynamics simulation of Carbon Nanotubes through time parallelization”, Dec 2004 – Nov 2006.

Grant # CNMS2004-028 from Oak Ridge National Lab for 30,000 hours of computing time on IBM SP and SGI Altix machines.

Principal Investigator for “Testing parallel quasi-random numbers”, Jul 2001 – Jul 2002.

Grant # DMR010005N from NCSA for 8000 hours of computing time on the SGI Origin 2000.

Principal Investigator for “Testing Parallel Random Number Generators”, Jun 1997 – May 1998.

Grant # CCR970004N from NCSA for 31,525 hours of computing time on the SGI Power Challenge Array.

Other Grants

Professor Partnership Program, Nvidia, 2008.

Donation of Tesla and GeForce processors.

SOFTWARE DEVELOPED

SPRNG Scalable Parallel Random Number Generation software.

This software provides libraries of parallel random number generators, a test suite, sample application programs, an extensibility template to enable others to easily write their RNGs in SPRNG format, and also other features such as the ability to checkpoint the state of the generator in a machine independent manner. This software is used by research groups in major institutions in at least fifteen countries around the world. The software was written in C, and can be used by programs written in C, C++, and Fortran. It has been ported to all the major Unix platforms.

Parallel LCP flow code.

This code was developed as a part of my PhD thesis. Some interesting features of the code are: (i) the use of particle methods for mesh-free computations of polymer orientations at a fluid point, (ii) unstructured fully Lagrangian mesh for fluid flow calculations, and (iii) parallelization using MPI. The code was written in C and run on the Meiko CS2 parallel computer.

Encoding for Image Compression.

This software was developed for the Alexandria digital library project at UCSB. It encodes the coefficients obtained from the application of wavelet transforms to images, in order to obtain good compression. A combination of Huffman coding and quadrees was used. It was integrated with a publicly available wavelet code to be used as a complete application for compressing and retrieving images. An interesting feature of the software was that the quadtree provided an automatic indexing mechanism to enable the retrieval of parts of an image, while simultaneously effecting compression. The code was written in C, and some of the computations were parallelized using MPI.

BOOKS

Random Number Generators for Parallel Applications.

A chapter in *Advances in Chemical Physics, Volume 105, Monte Carlo Methods in Chemical Physics*, Editors: D. Ferguson, J.I. Siepmann, D.G. Truhlar, John Wiley and Sons, Inc, 1999, pages 13-36.

A. Srinivasan, D.M. Ceperley, and M. Mascagni.

JOURNAL PUBLICATIONS

Multiscale Model for Pedestrian and Infection Dynamics During Air Travel.

Physical Review E, 95(5), 052320 (2017).

P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Self-Propelled Pedestrian Dynamics Model: Application to Passenger Movement and Infection Propagation in Airplanes.

Physica A: Statistical Mechanics and its Applications, Vol 465 (2017) 248-260.

S. Namilae, A. Srinivasan, A. Mubayi, M. Scotch, and R. Pahle.

Self-Propelled Pedestrian Dynamics Model for Studying Infectious Disease Propagation during Air-Travel.

Journal of Transport & Health, 3(2) (2016) S40.

Reducing Disk IO Bandwidth Bottleneck through Fast Floating Point Compression using Accelerators.

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A. Padyana, C.D. Sudheer, P.K. Baruah, and A. Srinivasan.

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C.D. Sudheer, S. Krishnan, A. Srinivasan, and P.R.C. Kent.

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Y. Yu and A. Srinivasan.

Monte Carlo Linear Solvers with Non-diagonal Splitting.

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A. Srinivasan.

Effect of Interface Modification on the Mechanical Behavior of Carbon Nanotube Reinforced Composites Using Parallel Molecular Dynamics Simulations.

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S. Namilae, U. Chandra, A. Srinivasan, and N. Chandra.

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A. Srinivasan and N. Chandra.

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M. Mascagni and A. Srinivasan.

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A. Srinivasan, M. Mascagni, and D.M. Ceperley.

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M. Mascagni and A. Srinivasan.

Efficient Non-parametric Density Estimation on the Sphere with Applications in Fluid Mechanics.
SIAM Journal on Scientific Computing, Vol 22 (2000) 152-176.
O. Egecioglu and A. Srinivasan.

Image Compression for Fast Wavelet-Based Subregion Retrieval.
Theoretical Computer Science, Vol 240 (2000) 447-469.
A. Poulakidas, A. Srinivasan, O. Egecioglu, O. Ibarra, and T. Yang.

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C.V. Chaubal, A. Srinivasan, O. Egecioglu, and L.G. Leal.

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Communications in Numerical Methods in Engineering, Vol 13 (1997) 755-763.
O. Egecioglu and A. Srinivasan.

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Journal of Parallel Algorithms and Applications, Vol 1, (1993) 191-209.
O. Egecioglu and A. Srinivasan.

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International Journal of Engineering and Science, Vol 31, (1993) 453-473.
A.I. Leonov and A. Srinivasan.

On the modeling of fluidity loss phenomenon in Couette and Poiseuille flow of elastic liquids.
Rheologica Acta, Vol 30, (1991) 14-22.
A.I. Leonov and A. Srinivasan.

CONFERENCE AND WORKSHOP PROCEEDINGS

Parallel Low Discrepancy Parameter Sweep for Public Health Policy.

IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2018). 10 pages.
(Acceptance rate: 21%)

S. Chunduri , M. Ghaffari, M.S. Lahijani, A. Srinivasan, and S. Namilae.

Integrating Travel and Epidemic Models for Vector Borne Disease Surveillance.

7th International Conference on Innovations in Travel Modeling (ITIM). National Academies –
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M. Ghaffari, J. Wang, A. Chari, A. Srinivasan, K. Viswanathan, A. Mubayi, and H. Chi.

Multiscale Pedestrian Movement – Infection Dynamics Model for Transportation Hubs.

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P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Molecular Dynamics Like Numerical Approach for Studying Infection Propagation.

Twenty Fifth International conference on composites and nano engineering, July (2017).

P. Derjany, S. Namilae, A. Mubayi, M. Scotch, and A. Srinivasan.

Optimizing Massively Parallel Simulations of Infection Spread Through Air-Travel for Policy Analysis.

IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2016). 10 pages.
(Acceptance rate: 23%)

A. Srinivasan, C.D. Sudheer, and S. Namilae.

Efficient Barrier Implementation on the POWER8 Processor.

IEEE International Conference on High Performance Computing (HiPC) (2015). 9 pages. (Acceptance rate:
23%)

C.D. Sudheer and A. Srinivasan.

Optimizing MPI Collectives on Intel MIC Through Effective Use of Cache.

IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), (2014). 6 pages.
(Acceptance rate: 23%)

P. Panigrahi, S. Kanchiraju, A. Srinivasan, P.K. Baruah, and C.D. Sudheer.

Best paper award

High Throughput Compression of Floating Point Numbers on Graphical Processing Units.

IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC), (2012). 6 pages.
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A. Padyana, C.D. Sudheer, P.K. Baruah, and A. Srinivasan.

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C.D. Sudheer and A. Srinivasan.

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10th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA), (2012). (Acceptance rate: 35%)

S. Sarkar, S. Mitra and A. Srinivasan.

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11th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2011).
(Acceptance rate: 29%)

S. Mitra and A. Srinivasan.

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11th IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC), Proceedings of the 24rd International Parallel and Distributed Processing Symposium, IEEE, (2010). 8 pages.

C. Zhang, X. Yuan, and A. Srinivasan.

Dynamic Iterations for the Solution of Ordinary Differential Equations on Multicore Processors.

Proceedings of the 23rd International Parallel and Distributed Processing Symposium (IPDPS), (2009). 10 pages. (Acceptance rate: 23%)

Y. Yu and A. Srinivasan.

Optimizing Assignment of Threads to SPEs of the Cell BE Processor.

Tenth IEEE International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC), Proceedings of the 23rd International Parallel and Distributed Processing Symposium, IEEE, (2009). 8 pages.

C.D. Sudheer, T. Nagaraju, P.K. Baruah, and A. Srinivasan.

Quantum Monte Carlo algorithms for electronic structure at the petascale; the endstation project.

Proceedings of SciDAC 2008, Journal of Physics: Conference Series 125 (2008) 012057 (15 pages).

K.P. Esler, J. Kim, D.M. Ceperley, W. Purwanto, E.J. Walter, H. Krakauer, S. Zhang, P.R.C. Kent, R.G. Hennig, C. Umrigar, M. Bajdich, J. Kolorenc, L. Mitas, and A. Srinivasan.

Optimization of Collective Communication in Intra-Cell MPI.

Proceedings of the 14th IEEE International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science 4873 (2007) 488-499. (Acceptance rate: 20.5%)

M.K. Velamati, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

A Synchronous Mode MPI Implementation on the Cell BETM Architecture.

Proceedings of the 5th International Symposium on Parallel and Distributed Processing and Applications (ISPA-07), Lecture Notes in Computer Science 4742 (2007) 982-991. (Acceptance rate: 34%)

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

Data-Driven Time Parallelization in the AFM Simulation of Proteins.

Sixth IEEE International Workshop on High Performance Computational Biology (HiCOMB), Proceedings of the 21st International Parallel and Distributed Processing Symposium, IEEE, (2007). 8 pages. (Acceptance rate: 43%)

L. Ji, H. Nymeyer, A. Srinivasan, and Y. Yu.

A Buffered Mode MPI Implementation for the Cell BE Processor.

Proceedings of the International Conference on Computational Science (ICCS), Lecture Notes in Computer Science 4487 (2007) 603-610. (Acceptance rate: 22% – regular papers)

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, R. Sharma, and A. Srinivasan.

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Proceedings of the 19th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), (2007) 55-56.

M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, R. Sharma, A. Srinivasan, and S. Kapoor.

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Y. Yu, A. Srinivasan, and N. Chandra.

Best paper award

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Proceedings of the 12th International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science, Springer, 3769 (2005) 106-117. (Acceptance rate: 13.6%)

A. Srinivasan, Y. Yu, and N. Chandra.

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Proceedings of the 11th International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science, Vol. 3296, (2004) 211-221, Springer. (Acceptance rate: 22%)

J. Kohle, U. Chandra, S. Namilae, A. Srinivasan, and N. Chandra.

Parallelization of Molecular Dynamics for Modeling Interface Properties of Carbon Nanotube Based Composites.

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J. Kohle, U. Chandra, S. Namilae, A. Srinivasan, and N. Chandra.

Latency tolerance through parallelization of time in scientific applications.

Heterogeneous Computing Workshop (HCW), Proceedings of the 18th International Parallel and Distributed Processing Symposium, IEEE, (2004) 12 pages. (Acceptance rate: 47%)

A. Srinivasan and N. Chandra.

Linking atomistic and continuum mechanics using multi-scale models.

Proceedings of the 8th International Conference on Numerical Methods in Industrial Forming Process, Numiform 2004, AIP Conference Proceedings, Vol. 712 (2004) 1571-1576.

S. Namilae, N. Chandra, and A. Srinivasan.

Stochastic linear solvers.

Proceedings of the SIAM conference on applied linear algebra, (2003) 12 pages.

A. Srinivasan and V. Aggarwal.

Improved Monte Carlo linear solvers through non-diagonal splitting.

Proceedings of the International Conference on Computational Science and its Applications (ICCSA), Lecture Notes in Computer Science, 2669 (2003) 168-177.

A. Srinivasan and V. Aggarwal.

Parallel and distributed computing issues in pricing financial derivatives through Quasi Monte Carlo.

Proceedings of the 16th International Parallel and Distributed Processing Symposium (IPDPS), (2002) 6 pages. (Acceptance rate: 38%)

A. Srinivasan.

Monte Carlo Techniques for Estimating the Fiedler Vector in Graph Applications.

Proceedings of the International Conference on Computational Science (ICCS), Lecture Notes in Computer Science, Springer, 2330 (2002) 635-644.

A. Srinivasan and M. Mascagni.

Parallel Quasi-Monte Carlo methods on a Heterogeneous Cluster.

Proceedings of 4th International Conference on Monte Carlo and Quasi-Monte Carlo, Hong Kong, 27 Nov-1 Dec, 2000, H. Niederreiter et al. editors, Springer-Verlag.

G. Okten and A. Srinivasan.

Classical Monte Carlo with a Fast High-Quality Pseudo Random Number Library in Java.

Proceedings of the 9th SIAM Conference on Parallel Processing for Scientific Computing, March 22-24, 1999, San Antonio, Texas, Mini-symposium on Algorithms and Software for Parallel and Distributed Monte Carlo Calculations.

M.Z. Hydari, D. Ceperley, A. Srinivasan, and M. Mascagni.

A Compact Storage Scheme for Fast Wavelet-Based Subregion Retrieval.

Proceedings of the 3rd Annual International Computing and Combinatorics Conference (COCOON'97) Shanghai, China, Aug 20-22, 1997, T. Jiang and D.T. Li, (Eds.), 1997, pages 353-362.

A. Poulakidas, A. Srinivasan, O. Egencioglu, O. Ibarra, and T. Yang.

Domain Decomposition for Particle Methods on the Sphere.

Lecture Notes in Computer Science # 1117, Editors: A. Ferreira, et al. Proceedings of the 3rd International Workshop on Parallel Algorithms for Irregularly Structured Problems (IRREGULAR'96), Santa Barbara CA, 19-21 Aug (1996) 119-130.

O. Egencioglu and A. Srinivasan.

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Proceedings of NASA 1996 Combined Industry, Space and Earth Science Data Compression Workshop, Utah, Apr (1996) 61-70.

A. Poulakidas, A. Srinivasan, O. Egencioglu, O. Ibarra, and T. Yang.

Givens and Householder Reductions for Linear Least Squares on a Cluster of Workstations.

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O. Egencioglu and A. Srinivasan.

TECHNICAL REPORTS

Improved techniques for using Monte Carlo in VaR estimation.

National Stock Exchange Research Initiative, working paper.

A. Srinivasan and A. Shah.

Application of range searching to fast financial risk estimation.

Technical report TRCS00-23, Dept. of Computer Science, University of California at Santa Barbara.
A. Srinivasan, A. Shah, V. Shah, G. Phanindra, and V. Aggarwal.

CONFERENCE PRESENTATIONS

Excludes those listed under "Conference Proceedings".

Optimizing Massively Parallel Simulations of Infection Spread Through Air-travel for Policy Analysis.
International Conference on Risk Analysis (ICRA 2017).

Molecular Dynamics Like Numerical Approach for Studying Infection Propagation.

International conference of composites Engineering (ICCE 2017).

With: P. Derjany, S. Namilae, A. Mubayi, and M. Scotch.

Combining Human Movement Models with Phylogeography for Airplane Policy Options During Ebola Outbreaks.

13th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (MEEGID 2016).

With: M. Scotch, R. Beard, R. Pahle, A. Mubayi, and S. Namilae.

Self-Propelled Pedestrian Dynamics Model for Studying Infectious Disease Propagation During Air-Travel.

International Conference on Transport & Health (ICTH), 2016.

With: S. Namilae, C.D. Sudheer, A. Mubayi, R. Pahle, and M. Scotch.

The Spread of the 2014 Ebola Zaire Virus in West Africa.

Pacific Symposium on Biocomputing (PSB) 2016 (poster).

With: M. Scotch, R. Beard, R. Pahle, A. Mubayi, and S. Namilae.

Performance Prediction Model for Applications on GPUs.

GPU Technology Conference (GTC) poster, San Jose, 2014.

With: S. Kanchiraju, P. Panigrahi, and P.K. Baruah.

Exploration of the Potential of the Cell Architecture for MPI Applications.

HiPC 2006 (poster)

With: M. Krishna, A. Kumar, N. Jayam, G. Senthilkumar, P.K. Baruah, S. Kapoor, and R. Sharma.

Best poster award

Data-Driven Time Parallelization.

SC 2006 (poster — acceptance rate: 33%)

With: L. Ji, Y. Yu., H. Nymeyer, and N. Chandra.

Data-Driven Parallelization in the Time Domain: Application to Force-Induced Unfolding of the Ig Domain.

Protein Society 20th Symposium, 2006.

With: H. Nymeyer and L. Ji.

Data-Driven Parallelization in Multiscale Applications.

SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, Feb 2006.

With: Y. Yu.

Application of Dimensionality Reduction Techniques to Time-Parallelization.

SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, Feb 2006.

With: Y. Yu and L. Ji.

Techniques for improving Monte Carlo linear solvers.

Vth IMACS Seminar on Monte Carlo Methods, Tallahassee, FL, May 2005.

Time Parallelization of Molecular Dynamics Computations.

SIAM Conference on Computational Science and Engineering, Orlando, FL, Feb 2005.

With: Y. Yu.

Dynamic load balancing in parallel applications using Monte Carlo linear solvers.

Sixth International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, Juan-les-Pins, France, Jun 2004.

With: V. Aggarwal.

Fault Tolerant Parallelization of Time in Molecular Dynamics Simulations.

Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco 2004.

Influence of splitting and sampling techniques on the effectiveness of quasi-Monte Carlo linear solvers.

IVth IMACS Seminar on Monte Carlo Methods, Berlin 2003.

Monte Carlo Linear Algebra Techniques and their parallelization.

SIAM Conference on Computational Science and Engineering, San Diego, CA, Feb 2003.

Computational Techniques for Efficient Carbon Nanotube Simulation.

SIAM Conference on Computational Science and Engineering, San Diego, CA, Feb 2003.

With: N. Chandra.

Testing Parallel Random Number Generators.

Third International Conference on Monte Carlo and Quasi-Monte Carlo, Claremont, CA, Jun 1998.

With: D.M. Ceperley and M. Mascagni.

SPRNG Parallel Random Number Generator.

Third International Conference on Monte Carlo and Quasi-Monte Carlo, Claremont, CA, Jun 1998.

With: D.M. Ceperley and M. Mascagni.

The SPRNG Parallel Random Number Generator.

SC97: High Performance Networking and Computing San Jose, CA, Nov 15-21, 1997.

(Part of NCSA Research Exhibit.)

A Compact Storage Scheme for Fast Wavelet-Based Subregion Retrieval.

Third Annual International Computing and Combinatorics Conference (COCOON'97) Shanghai, China, Aug 20-22, 1997.

With: O. Egecioglu, O. Ibarra, A. Poulakidas, and T. Yang.

Software for Parallel Pseudo Random Number Generation.

IMACS Seminar on Monte Carlo Methods, Universite Libre de Bruxelles, Brussels, Belgium, Apr 1-3, 1997.

With: D.M. Ceperley, F. Saied, M. Mascagni, and L. Mitas.

Smoothed Particle Hydrodynamics on the surface of a sphere.

Fifth Workshop on Numerical Solutions of Fluid Flow in Spherical Geometry, Breckinridge CO, Jun 12-14, 1996.

With: C.V. Chaubal, O. Egecioglu, and L.G. Leal.

Efficient Nonparametric Estimation of Probability Density Functions.

1995 SIAM Annual Meeting, Charlotte NC, Oct 23-26, 1995.

With: O. Egecioglu.)

Parallel Solutions to Liquid Crystalline Polymer Flow Problems.

1994 SIAM Annual Meeting, San Diego CA, Jul 25-29, 1994.

With: C.V. Chaubal, O. Egecioglu, and A. Szeri.

OTHER TALKS

The Promises and Challenges of Supercomputing (in Tamil).

Bharathi Matriculation Higher Secondary School, Thammampatti, India, Jul 2017

Petascale Simulation of Viral Infection Propagation Through Air Travel.

Sona College of Technology, India, Jul 2017

The Promises and Challenges of Supercomputing.

Sona College of Technology, India, Jul 2017

Path To Exascale.

Sri Sathya Sai Institute of Higher Learning, India, Jun 2017

Scalable Parallel Random Number Generation.

Sri Sathya Sai Institute of Higher Learning, India, Jun 2017

Viral Infection Propagation Through Air Travel.

Blue Waters Symposium, May 2017.

Trends in High Performance Computing.

Sri Sathya Sai Institute of Higher Learning, India, Dec 2016

Simulation-Based Policy Analysis To Reduce Ebola Transmission Risk in Air Travel.

Blue Waters Symposium, May 2016.

Simulation of Viral Infection Propagation Through Air Travel.

Invited talk at International Symposium on Computational Science. Sri Sathya Sai Institute of Higher Learning, India, Dec 2015.

Viral Infection Propagation Through Air Travel.

Presentation at NCSA research exhibit at SC15, Nov 2015.

Approximation Algorithms Using Linear Programming.

Silicon Institute of Technology, Bhubaneswar, Jul 2013.

Parallel Processing Using CPU-GPU Architecture and CUDA Programming.

National Workshop on Parallel and Heterogeneous Computing, C.V. Raman College of Engineering, Bhubaneswar, Jul 2013.

Emerging Trends and Applications in High Performance Computing.

Indian Institute of Technology — Bhubaneshwar, Mar 2012.

Optimizing Complex Applications on GPUs.

International Institute of Information Technology — Hyderabad, Mar 2012.

Emerging Trends and Applications in High Performance Computing.

PES Institute of Technology — Bangalore, Feb 2012.

Accelerating Quantum Monte Carlo on Emerging Computing Platforms.

EPSCOR Workshop on Modeling Advanced Materials, Systems Biology and Alternative Energy: Building Capabilities and Collaborations over Cyber-Enabled Discovery, National Institute for Computational Science, Knoxville, Oct 2011.

Dynamic Iterations for the Solution of Ordinary Differential Equations on Multicore Processors.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2009.

Data-Driven Parallelization of the Time Domain in Scientific Applications.

International Institute of Information Technology — Bangalore, Jun 2009.

High Performance Computing Trends.

Invited talk at Sri Sathya Sai University, Prasanthi Nilayam, India, Jun 2009.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Invited talk at the workshop on High Performance Computing and Societal Applications, Sri Sathya Sai University, Prasanthi Nilayam, India, Jun 2008.

Long-Time Molecular Dynamics Simulations through Parallelization of the Time Domain.

Amrita Vishwa Vidyapeetham University, Computer Science Colloquium, Jan 2008.

Parallel Random Number Generation.

San Diego Supercomputer Center Summer Institute, University of California at San Diego, Jul 2007.

Optimization of Collective Communication in Intra-Cell MPI.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2007.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

University of Nebraska-Lincoln, Computer Science Colloquium, Apr 2007.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Oak Ridge National Lab Colloquium, Aug 2006.

Data-Driven Parallelization of the Time Domain in Scientific Applications.

Supercomputing Education and Research Center Colloquium, Indian Institute of Science, Jun 2006.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

NCSA Colloquium, University of Illinois at Urbana-Champaign, May 2006.

Long-Time Molecular Dynamics Simulations in Nano-mechanics through Parallelization of the Time Domain.

Computational Science Seminar Series, San Diego Supercomputer Center, University of California at San Diego, Feb 2006.

Long-Time Molecular Dynamics Simulations through Parallelization of the Time Domain.

Physical Chemistry Colloquium, Florida State University, Nov 2005.

Monte Carlo linear solvers.

Computer Science Colloquium, Rensselaer Polytechnic Institute, Mar 2005.

Monte Carlo linear solvers, with applications to dynamic load balancing.

Mathematics and Computer Science, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, India, Dec 2004.

Domain decomposition in parallel computing.

Invited talk at High Performance Computing Workshop, Sri Sathya Sai Institute of Higher Learning, Prasanthi Nilayam, India, Jul 2003.

Computational issues in Carbon nanotube simulation.

Computer Science, Regional Engineering College, Tiruchirapalli, India, Dec 2002.

SPRNG Scalable Parallel Random Number Generators.

Invited talk at Workshop on High Performance Monte Carlo Tools, Stennis Space Center, Mississippi, April 23-24, 1998.

PROFESSIONAL ACTIVITIES

Organizing Committee Member

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Bangalore, India, 2018.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2015.

Member, International Symposium on Computational Science (ISCS), Sri Sathya Sai Institute of Higher Learning, India, 2015.

Vice-Chair, Scholarships at IEEE – International Conference on High Performance Computing (HiPC), Hyderabad, India, 2013.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Pune, India, 2012.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Member, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Member, Workshop on High Performance Monte Carlo Tools, Stennis Space Center, Mississippi, April 23-24, 1998.

Technical Program Committees

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Bangalore, India, 2018.

Member, IEEE International Conference on High Performance Computing and Communication (HPCC), Bangkok, Thailand, 2017.

Member, Software track, IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Jaipur, India, 2017.

Member, Software track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Orlando, 2017.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Colombia, 2016.

Member, Software track, IEEE International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing, Data, and Analytics (HiPC), Hyderabad, India, 2016.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Shenzhen, China, 2015.

Member, Applications track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Hyderabad, India, 2015.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2015.

Member, Applications track, IEEE International Parallel and Distributed Processing Symposium (IPDPS), Phoenix, 2014.

Member, Applications track, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Chicago, 2014.

Member, Scientific Applications track, Winter Simulation Conference (WSC), Savannah, GA, 2014.

Member, Student Research Symposium at International Conference on High Performance Computing (HiPC), Goa, India, 2014.

Vice-Chair, IEEE International Conference on High Performance Computing and Applications (ICHPCA), Bhubaneswar, India, 2014.

Vice-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2013.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Chicago, 2012.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Pune, India, 2012.

Member, Parallel and Distributed Computing track, International Conference on Frontier of Computer Science and Technology (FCST), Suzhou, China, 2012.

Member, Algorithms and Applications track, IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA), Madrid, Spain, 2012.

Vice-Chair, Parallel/Multicore and Distributed Algorithms and Applications track, International Conference on High Performance Computing and Communications (HPCC), Banff, Canada, 2011.

Member, Algorithms track, International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Knoxville, 2011.

Member, Parallel and Distributed Computing track, International Conference on Frontier of Computer Science and Technology (FCST), Changsha, China, 2011.

Member, Systems track, 3rd International Conference on Contemporary Computing (IC3), India, 2011.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2011.

Member, Applications track, International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Goa, India, 2010.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Knoxville, 2010.

Member, International Workshop on Scientific Computing, Prasanthi Nilayam, India, 2010.

Member, 3rd International Conference on Contemporary Computing (IC3), India, 2010.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Atlanta, 2010.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2010.

Member, Applications track, SC09, Portland OR, 2009.

Co-Chair, Student Research Symposium at International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Rome, Italy, 2009.

Member, Symposium on Application Accelerators in High-Performance Computing (SAAHPC), Urbana-Champaign, 2009.

Member, 2nd Minisymposium on Cell/B.E. Technologies at PPAM 2009 Conference, Wroclaw, Poland, 2009.

Member, 2nd International Conference on Contemporary Computing (IC3), New Delhi, India, 2009.

Member, Parallel and Distributed Computing and Networks (PDCN), 2009.

Co-Chair, Student Research Symposium at IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Member, International Conference on Parallel Processing (ICPP), 2008.

Member, Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS, Miami, 2008.

Member, 21st IEEE International Conference on Advanced Information Networking and Applications (AINA), 2008.

Member, The 16th International Conference on Advanced Computing and Communication (ADCOM), Chennai, India, 2008.

Member, Parallel and Distributed Computing and Networks (PDCN), Austria, 2008.

Member, 21st IEEE International Conference on Advanced Information Networking and Applications (AINA), Ontario, 2007.

Member, 20th IEEE International Conference on Advanced Information Networking and Applications (AINA), Vienna, 2006.

Chair, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Organized

Birds-of-Feather session on Unleashing the Power of the Cell Broadband Engine Processor for HPC at SC08, Austin TX, Nov 2008.

Minisymposium on High Performance Computing on the Cell Processor at the SIAM Conference on Parallel Processing for Scientific Computing, Atlanta GA, Feb 2008.

Birds-of-Feather session on Unleashing the Power of the Cell Broadband Engine Processor for HPC at SC07, Reno NV, Nov 2007.

Minisymposium on Data-Aware Parallel Computing at the SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2006.

Minisymposium on Critical issues in the application of multi-scale techniques to computational nanotechnology at the SIAM Conference on Computational Science and Engineering, Orlando FL, Feb 2005.

Minisymposium on Fault-Tolerant Parallel Computing at the Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2004.

Florida State University research exhibit at SC2004, Pittsburgh PA, Nov 6-12, 2004.

Florida State University research exhibit at SC2003, Phoenix AZ, Nov 15-21, 2003.

Florida State University research exhibit at SC2002, Baltimore MD, Nov 18-22, 2002.

Coordinated Florida State University's presentation at the Computational Science and Advanced Computing Workshop at Oak Ridge National Lab, May 2002.

Advisory Committee Member

Next Generation Information Technologies for Societal Advancement and Integration, Prasanthi Nilayam, India, 2006.

Session chair

Cloud Environment, IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), Washington D.C., 2018.

Memory and IO, IEEE – International Conference on High Performance Computing (HiPC), Hyderabad, India, 2016.

Life on a US Campus, Indian Fulbright Orientation, Hyderabad, India, 2012.

GPU and Many-Core Simulations, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

Memory and Tiling, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2011.

International Workshop on Scientific Computing, Prasanthi Nilayam, India, 2010.

Applications, IEEE – International Conference on High Performance Computing (HiPC), Kochi, India, 2009.

Algorithms and Applications, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

High Performance Computing on the Cell Processor at the SIAM Conference on Parallel Processing for Scientific Computing, Atlanta GA, Feb 2008.

Software and Languages at International Symposium on Parallel and Distributed Processing and Applications (ISPA-07), Niagara Falls, Canada, Aug 2007.

Replication at the International Conference on Parallel Processing, Columbus OH, Aug 2006.

Data-Aware Parallel Computing at the SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2006.

Architecture, IEEE – International Conference on High Performance Computing (HiPC), Goa, India, 2005.

Linear Algebra, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Physical applications 3, IMACS – Monte Carlo Methods, Tallahassee, 2005.

Critical issues in the application of multi-scale techniques to computational nanotechnology, SIAM Conference on Computational Science and Engineering, Orlando FL, Feb 2005.

High-performance scientific applications, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, Dec 2004.

Fault-Tolerant Parallel Computing, Eleventh SIAM Conference on Parallel Processing for Scientific Computing, San Francisco CA, Feb 2004.

Methods for Particle Simulations, SIAM Conference on Computational Science and Engineering, San Diego CA, 10-13 Feb 2003.

Review panels

National Science Foundation, 2018.

National Academies, 2017.

National Science Foundation, 2017.

National Science Foundation, mail review, 2017.

National Science Foundation, 2016.

Fulbright program, 2016.

Fulbright program, 2015.

National Academies, 2015.

Fulbright program, 2014.

Department of Energy, mail review, 2014.

National Science Foundation, mail review, 2010.

National Science Foundation, 2009.

National Science Foundation, mail review, 2007.

National Science Foundation, mail review, 2006.

National Science Foundation, 2005.

National Institutes for Health, 2004.

Reviewed for

Journal of parallel and distributed computing, Parallel algorithms and applications, International Parallel Processing Symposium, Supercomputing (SC) 2001, Computer Physics Communications, International Conference on Computational Science (2002), NCSA Small Allocations Committee, International Workshop on Parallel Algorithms for Irregularly Structured Problems, International Conference on Parallel and Distributed Computing and Systems, Information Processing Letters, McGraw-Hill (book, 2002), International Journal of Foundations of Computer Science (2003), IISc Journal (2003), Princeton University Press (book, 2002/2003), Computing (2003), Journal of Computational Physics (2004), Pattern Recognition Letters (2004), Parallel Computing (2004-2005, 2009), IEEE International Conference on Advanced Information Networking and Applications (AINA) (2006, 2007), IEEE International Symposium on Circuits and Systems (2006), Parallel and Distributed Computing and Networks (2007), Thomson Course Technology (book, 2007), Addison-Wesley (book, 2007), Mathematics and Computers in Simulation (2007), Lecture Notes in Computer Science — special issue on the Cell processor (2008), Workshop on Parallel and Distributed Computing in Finance (PDCoF) at IPDPS (2008, 2009), IEEE HiPC (2008), IBM Journal of Research and Development (2008), IEEE Transactions on Computers (2008), ALENEX (2009), Journal of Parallel and Distributed Computing (2008, 2009), SC08, IEEE Transactions on Parallel and Distributed Systems (2009), ADCOM (2009), Cluster Computing (2009), International Conference on Supercomputing — ICS (2010), Concurrency and Computation: Practice and Experience (2010), ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2011), IEEE Transactions on Signal Processing (2012), CRC Press (book, 2014), ACM Transactions on Parallel Computing (2015), Prospect Press (book proposal, 2015), Concurrency and Computation: Practice and Experience (2016), Journal of Parallel and Distributed Computing (2016)), SIAM-ACM Symposium on Discrete Algorithms – SODA (2017), Parallel Processing Letters (2017).

Other activities

Departmental service at various times: Admissions and Financial Aid director, Chair Search, Equipment, Faculty Evaluation, Faculty Recruitment, Graduate Curriculum, PhD Portfolio Review, and Undergraduate Curriculum committees; Faculty evaluation committee chair; Equipment committee chair; Undergraduate honors liaison, ABET accreditation visit coordinator (2013).

Resource person, Indian Fulbright Orientation, Hyderabad, India, May 2012. (Gave talks on performing research in the US and on making effective use of a post-doctoral position.)

Panelist, US Fulbright Students and Scholars to India web panels on Teaching and on Research, Jul 2012.

Organized the HiPC Pre-Conference Writing Skills Workshop, Bangalore, India, Jul 2011.

Represented the CS department in the College Board's Curriculum Study, 2011.

Co-Chair, Publicity, IEEE – International Conference on High Performance Computing (HiPC), Bangalore, India, 2008.

Judge, IBM Cell B.E. Challenge, 2007.

Member, Florida Course Numbering System, Fall 2006.

Judge, Computer Science, Regional Science Fair, 2006.

FSU mentor, Godby high school, 2002.

Member

ACM, IEEE-Computer Society.