SRIRAM KRISHNAMOORTHY
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Education

2002–2008	The Ohio State University, Columbus, Ohio
	Ph.D., Computer Science and Engineering
	M.S., Computer Science and Engineering
1998–2002	Anna University, Chennai, India
	B.E., Computer Science and Engineering

Appointments

2020–present	Laboratory Fellow. Pacific Northwest National Lab, Richland, WA
2012–2020	Scientist V. Pacific Northwest National Lab, Richland, WA
2019–present	Research Professor. Washington State University, Pullman, WA
July 2014–September 2018	Team lead. Pacific Northwest National Lab, Richland, WA
2017–2019	Adjunct Faculty. Washington State University, Pullman, WA
2012–2015	Adjunct Faculty. Washington State University, Pullman, WA
2008–2011	Scientist IV. Pacific Northwest National Lab, Richland, WA

Research Interests

High-performance computing; Quantum computing; Parallel programming models; Fault tolerance; Runtime systems; Loop transformations

Awards and Accomplishments

2020	Best paper finalist, Supercomputing (SC)
2020	Best student paper finalist, Supercomputing (SC)
2019	Best paper award, International Symposium on Networks-on-Chip (NOCS)
2016	Senior member, Association for Computing Machinery (ACM)
2015	Associate Editor, Journal of Parallel and Distributed Computing
2014	Best paper finalist, Supercomputing (SC)
2014	Best student paper finalist, Supercomputing (SC)
2014	Best student paper award, IEEE Cluster
2013	U.S. Department of Energy (DOE) Early Career award
2013	Ronald L. Brodzinski Award for Early Career Exceptional Achievement award (PNNL)
2013	Senior member, Institute of Electrical and Electronics Engineers (IEEE)
2012	ASCR/ASC Exascale Operating Systems and Runtime (OS/R) Technical Council member
2012	ASCR/ASC Resilience Technical Council member
2008	Outstanding Researcher Award. Ohio State University (Computer Science and Engineering Department)
2007	SC'07 HPC Challenge Award – as part of IBM X10 team
2007	IBM PhD Fellowship
2007	Ohio State University Presidential Fellowship

2006   Travel award, Supercomputing conference (SC)
2004   Best paper award, International Parallel and Distributed Processing Symposium (IPDPS)
2003   Best paper award, International Conference on High Performance Computing (HiPC)
2003   Travel award, International Conference on Cluster Computing (CLUSTER)
2001   Travel award, International Conference on High Performance Computing (HiPC)

Research Funding Grants

- **Co-PI** (PI: David Dean, ORNL): "Quantum science center". National Science Foundation (NSF) Scalable Parallelism in the Extreme (SPX). $2,800,000. Period: 2020 to 2026

- **Co-PI** (PI: P. Sadayappan, U. Utah): "SPX: collaborative research: parallel algorithm by blocks – a data-centric compiler/runtime system for productive programming of scalable parallel systems". National Science Foundation (NSF) Scalable Parallelism in the Extreme (SPX). $598,670. Period: 2019 to 2022

- **Initiative Lead** : "QUASAR: Quantum algorithms, software and architecture". Department of Energy (DOE) Lab Directed Research and Development (LDRD). $1,900,000. Period: 1/1/2019 to 9/30/2020

- **PI** : "Investigation of QIS Algorithms and Software Framework for Electronic Structure Calculations". Department of Energy (DOE) Lab Directed Research and Development (LDRD). $315,000. Period: 10/1/2017 to 9/30/2019

- **Task lead** (PI: Sotiris Xantheas, PNNL): "SPEC: Scalable Predictive methods for Excitation and Correlated phenomena". Department of Energy (DOE) Office of Basic Energy Sciences (BES). $2,465,000. Period: 2017 to 2021

- **Task lead** (PI: Thomas Dunning Jr., PNNL): "NWChemEx: tackling chemical, materials and biomolecular challenges in the exascale era". Department of Energy (DOE) Exascale Computing Program. $4,500,000. Period: 9/1/16 to 8/31/20

- **Co-PI** (PI: Daniel Quinlan, LLNL): "Exascale code generaion toolkit". Department of Energy (DOE) Exascale Computing Program. $465,000. Period: 9/15/16 to 9/14/19

- **PI** : "Whole-program adaptive error detection and mitigation". Department of Energy (DOE) Resilience for Extreme Scale Supercomputing. $3,685,000. Period: 07/01/2015 to 06/30/2018

- **PI** : "Concrete ingredients for flexible programming abstractions on exascale systems". Department of Energy (DOE) Early Career Research Program. $2,500,000. Period: 2013 to 2017

- **Co-PI** (PI: Pete Beckman, Argonne National Lab): "Argo: an exascale operating system and runtime". Department of Energy (DOE). $1,020,000. Period: 2013 to 2016

- **PI** : "Effective representations and optimizations for recursive parallel programming systems". Department of Energy (DOE) Lab Directed Research and Development (LDRD). $100,000. Period: 10/01/2013 to 09/30/2014

- **PI** : "TASCEL: an execution model for task-based optimizations". Department of Energy (DOE) Lab Directed Research and Development (LDRD). $475,000. Period: 10/01/2011 to 09/30/2013

- **Co-PI** (PI: Ronald Minnich, Sandia National Lab): "A fault-oblivious extreme scale execution environment". Department of Energy (DOE) X-Stack Software Research. $480,000. Period: 10/01/2010 to 09/30/2013

- **PI** : "Scalable performance diagnostics for massively parallel computers". Department of Energy (DOE) Lab Directed Research and Development (LDRD). $675,000. Period: 10/01/2008 to 09/30/2011

- **PI** : "Scalable fault tolerance runtime technology for petascale – handling faults in global address space programming models". Department of Energy (DOE) Forum to Address Scalable Technology for runtime and Operating Systems (FASTOS2). $1,080,000. Period: 06/01/2008 to 05/30/2011

Time Allocation Grants

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 304,933 MPP hours. Period: 01/9/2019 to 01/7/2020

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 380,000 MPP hours. Period: 01/9/2018 to 01/7/2019

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 292,000 MPP hours. Period: 01/10/2017 to 01/8/2018

- **PI** : "Design and evaluation of runtime optimizations for task-parallel programs". NERSC Energy Research Computing Allocations Process (ERCAP). 600,000 MPP hours. Period: 01/12/2016 to 01/9/2017

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 190,000 MPP hours. Period: 01/12/2016 to 01/9/2017

- **PI** : "Whole program adaptive error detection and mitigation". PNNL Institutional Computing (PIC). 2 million core hours. Period: 11/6/2015 to 11/5/2016

- **Co-Investigator** (PI: Karol Kowalski, Pacific Northwest National Lab): "Development of efficient implementations of accurate coupled cluster methodologies in NWChem for Nvidia GPU architecture". OLCF Center for Accelerated Application Readiness. Early access to OLCF Summit. Period:

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 300,000 core hours on XT4. Period: 01/13/2015 to 01/11/2016

- **PI** : "Design and evaluation of runtime optimizations for task-parallel programs". NERSC Energy Research Computing Allocations Process (ERCAP). 500,000 core hours on XT4. Period: 01/13/2015 to 01/11/2016

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 300,000 core hours on XT4. Period: 01/01/2014 to 12/31/2014

- **PI** : "Design and evaluation of runtime optimizations for task-parallel programs". NERSC Energy Research Computing Allocations Process (ERCAP). 500,000 core hours on XT4. Period: 01/01/2014 to 12/31/2014

- **PI** : "Studying the impact of locality on work stealing computations". Extreme Science and Engineering Discovery Environment (XSEDE) starter allocation. 30,000 service units (SUs) on Blacklight. Period: 08/03/2013 to 08/02/2014

- **Co-Investigator** (PI: Maya Gokhale, Lawrence Livermore National Lab): "Developing and testing applications and future operating systems for exascale machines". Department of Energy (DOE) Innovative and Novel Computational Impact on Theory and Experiment (INCITE) program. 30 million CPU hours on ALCF Mira system; 20 million CPU hours on ALCF Intrepid system. Period: 01/01/2013 to 12/31/2013

- **PI** : "Fault-oblivious execution environment: development and evaluation". NERSC Energy Research Computing Allocations Process (ERCAP). 1,000,000 core hours on XT4. Period: 01/01/2013 to 12/31/2013

- **Co-PI** (PI: Ananth Kalyanaraman, Washington State University): "Scalable and accurate construction of large protein sequence homology graphs for environmental community data sets". NERSC Energy Research Computing Allocations Process (ERCAP). 300,000 core hours on XT4. Period: 01/01/2013 to 12/31/2013

- **Co-PI** (PI: Karol Kowalski, Pacific Northwest National Lab): "High-level studies of excited states in light harvesting systems and complex emergent phenomena". ASCR Leadership Computing Challenge (ALCC). 5,000,000 core hours on OLCF Titan. Period: 01/01/2012 to 12/31/2012

- **PI** : "Fault-oblivious execution environment: development and evaluation". NERSC Energy Research Computing Allocations Process (ERCAP). 500,000 core hours on XT4. Period: 01/01/2012 to 12/31/2012

- **Co-PI** (PI: Ronald Minnich, Sandia National Lab): "Developing and testing applications and future operating systems for exascale machines". Department of Energy (DOE) Innovative and Novel Computational Impact on Theory and Experiment (INCITE) program. 10 million CPU hours of supercomputing time on ALCF Intrepid system. Period: 01/01/2012 to 12/31/2012

- **PI** : "Fault-oblivious execution environment: development and evaluation". NERSC Energy Research Computing Allocations Process (ERCAP). 700,000 core hours on XT4 (initial allocation: 250,000 core hours). Period: 01/01/2011 to 12/31/2011

Book Chapters

- W. Ma, K. Bhaskaran-Nair, O. Villa, E. Apra, A. Tumeo, S. Krishnamoorthy, K. Kowalski. "Electronic Structure Calculations on Graphics Processing Units: From Quantum Chemistry to Condensed Matter Physics". Chapter on "Perturbative Coupled-Cluster Methods on GPU: Single- and Multi-reference formulations." Wiley.

- S. Krishnamoorthy, J. Daily, A. Vishnu, B. Palmer. "Programming Models for Parallel Computing." Chapter on "Global Arrays". MIT Press.

Meeting Reports

- C. Murray et al. "Basic Research Needs for Microelectronics: Report Of Department Of Energy Office Of Science Workshop,". *October 2018*

- G. Gopalakrishnan, P. Hovland, C. Iancu, S. Krishnamoorthy, I. Laguna, R. Lethin, K. Sen, S. Siegel, and A. Solar-Lezama. "Report of the HPC Correctness Summit, Jan 25–26, 2017". CoRR abs/1705.07478 2017.

- M. Snir, R. W. Wisniewski, J. A. Abraham, S. V. Adve, S. Bagchi, P. Balaji, J. Belak, P. Bose, F. Cappello, B. Carlson, A. A. Chien, P. Coteus, N. A. Debardeleben, P. Diniz, C. Engelmann, M. Erez, S. Fazzari, A. Geist, R. Gupta, F. Johnson. S. Krishnamoorthy, S. Leyffer, D. Liberty, S. Mitra, T. Munson, R. Schreiber, J. Stearley, and E. V. Hensbergen, "Addressing Failures in Exascale Computing – ICiS Workshop Report". Argonne Report ANL/MCS-TM-332, *April 2013*

- P. Beckman, R. Brightwell, B. de Supinski, M. Gokhale, S. Hofmeyr, S. Krishnamoorthy, M. Lang, B. Maccabe, J. Shalf, M. Snir, B. Harrod, T. Hoang, and S. Sachs. "Exascale Operating Systems and Runtime Software Report". *December 2012*

- A. Geist, B. Lucas, M. Snir, S. Borkar, E. Roman, M. Elnozahy, B. Still, A. Chien, R. Clay, J. Wu, C. Engelmann, N. DeBardeleben, R. Ross, L. Kaplan, M. Schulz, M. Heroux, S. Krishnamoorthy, L. Nowell, A. Vishnu, and L. Talley. "U.S. Department of Energy (DOE) Fault Management Workshop Report". *August 2012*

Journal Publications

1 **JCP20**:   E. Apra, E. J. Bylaska, W. A. de Jong, N. Govind, K. Kowalski, T. P. Straatsma, M. Valiev, J. J. van Dam, Y. Alexeev, J. Anchell, V. Anisimov, F. W. Aquino, R. Atta-Fynn, J. Autschbach, N. P. Bauman, J. C. Becca, D. E. Bernholdt, K. Bhaskaran-Nair, S. Bogatko, P. Borowski, J. Boschen, J. Brabec, A. Bruner, E. Cauet, Y. Chen, G. N. Chuev, C. J. Cramer, J. Daily, M. J. O. Deegan, T. H. Dunning, Jr., M. Dupuis, K. G. Dyall, G. I. Fann, S. A. Fischer, A. Fonari, H. Fruchtl, L. Gagliardi, J. Garza, N. Gawande, S. Ghosh, K. Glaesemann, A. W. Gotz, J. Hammond, V. Helms, E. D. Hermes, K. Hirao, S. Hirata, M. Jacquelin, L. Jensen, B. G. Johnson, H. Jonsson, R. A. Kendall, M. Klemm, R. Kobayashi, V. Konkov, S. Krishnamoorthy, M. Krishnan, Z. Lin, R. D. Lins, R. J. Littlefield, A. J. Logsdail, K. Lopata, W. Ma, A. V. Marenich, J. Martin del Campo, D. Mejia-Rodriguez, J. E. Moore, J. M. Mullin, T. Nakajima, D. R. Nascimento, J. A. Nichols, P. J. Nichols, J. Nieplocha, A. Otero de la Roza, B. Palmer, A. Panyala, T. Pirojsirikul, B. Peng, R. Peverati, J. Pittner, L. Pollack, R. M. Richard, P. Sadayappan, G. C. Schatz, W. A. Shelton, D. W. Silverstein, D. M. A. Smith, T. A. Soares, D. Song, M. Swart, H. L. Taylor, G. S. Thomas, V. Tipparaju, D. G. Truhlar, K. Tsemekhman, T. Van Voorhis, A. Vazquez-Mayagoitia, P. Verma, O. Villa, A. Vishnu, K. D. Vogiatzis, D. Wang, J. H. Weare, M. J. Williamson, T. L. Windus, K. Wolinski, A. T. Wong, Q. Wu, C. Yang, Q. Yu, M. Zacharias, Z. Zhang, Y. Zhao, and R. J. Harrison . "NWChem: past, present, and future". *Journal of Chemical Physics vol:152(18)*, April 2020.

2 **JCP20**: B. Peng, K. Kowalski, A. Panyala, and S. Krishnamoorthy. "Green's function coupled cluster simulation of the near-valence ionizations of DNA-fragments". *Journal of Chemical Physics vol:152(1) article no: 011101*, January 2020.

3 **TACO20**: A. Das, S. Krishnamoorthy, I. Briggs, G. Gopalakrishnan, and R. Tipireddy. "FPDetect: efficient reasoning about stencil programs using selective direct evaluation". *ACM Transactions on Architecture and Code Optimization (to appear)*, .

4 **TACO20**: A. Sabet, J. Qiu, Z. Zhao, and S. Krishnamoorthy. "Reliability analysis for unreliable FSM computations". *ACM Transactions on Architecture and Code Optimization (to appear)*, .

5 **TACO19**: I. Briggs, A. Das, V. Sharma, M. Baranowski, S. Krishnamoorthy, Z. Rakamaric, and G. Gopalakrishnan. "FailAmp: relativization transformation for soft error detection in structured address generation". *ACM Transactions on Architecture and Code Optimization vol:16(4) article no: 50*, December 2019.

6 **TOPC19**: B. Ren, S. Balakrishna, Y. Jo, S. Krishnamoorthy, K. Agrawal, and M. Kulkarni. "Extracting SIMD parallelism from recursive task-parallel programs". *ACM Transactions on Parallel Computing vol:6(4) article no: 24*, December 2019.

7 **JCP19**: N. Bauman, E. Bylaska, S. Krishnamoorthy, G. Hao Low, N. Wiebe, C. Granade, M. Roettler, M. Troyer, and K. Kowalski. "Downfolding of many-body Hamiltonians using active-space models: extension of the sub-system embedding sub-algebras approach to unitary coupled cluster formalisms". *Journal of Chemical Physics vol:151(1) article no: 014107*, 2019.

8 **TACO18**: P. Roy, S. Song, S. Krishnamoorthy, A. Vishnu, D. Sengupta, and X. Liu. "NUMA-Caffe: NUMA-aware deep learning neural networks". *ACM Transactions on Architecture and Code Optimization vol:15(2) pp:24:1-24:26*, June 2018.

9 **SUSCOM18**: O. Subasi, L. Bautista-Gomez, P. Balaprakash, O. Unsal, S. Krishnamoorthy, F. Cappello, A. Cristal, S. Di, and J. Labarta. "Exploring the capabilities of support vector machines in detecting silent data corruptions". *Sustainable Computing: Informatics and Systems vol:19 pp:277-290*, September 2018.

10 **TPDS18**: S. Seo, A. Amer , P. Balaji, C. Bordage, A. Brooks, A. Castello, D. Genet, T. Herault, G. Bosilca, P. Jindal, H. Lu, Laxmikant V. Kale, S. Krishnamoorthy, J. Lifflander, E. Meneses, M. Snir, Y. Sun, and P. Beckman. "Argobots: a lightweight low-level threading and tasking framework". *IEEE Transactions on Parallel and Distributed Systems vol:29(3) pp:512–526*, March 2018.

11 **TACO16**: M. Kurt, S. Krishnamoorthy, G. Agrawal, and B. Ren. "User-assisted store recycling for dynamic task graph schedulers". *ACM Transactions on Architecture and Code Optimization vol:13(4): pp:55:1-55:24*, December 2016.

12 **TACO16**: W. Bao, C. Hong, S. Krishnamoorthy, C. D. Sudheer, L.N. Pouchet, F. Rastello, and P. Sadayappan. "Static and dynamic frequency scaling on multicore CPUs". *ACM Transactions on Architecture and Code Optimization vol:13(4) pp: 51:1-21:26*, December 2016.

13   **CCPE16**: H. Arafat, J. Dinan, S. Krishnamoorthy, P. Balaji, and P. Sadayappan. "Work stealing for GPU-accelerated parallel programs in a global address space framework". *Concurrency and Computation: Practice and Experience vol:28(13) pp:3637-3654*, 2016.

14   **JPDC15**: J. Daily, A. Kalyanaraman, S. Krishnamoorthy, and A. Vishnu. "A work stealing based approach for enabling scalable optimal sequence homology detection". *Journal of Parallel and Distributed Computing vol:79-80, pp:132-142*, May 2015.

15   **ParCo15**: D. Miranda, A. Panyala, W. Ma, A. Prantl, and S. Krishnamoorthy. "Global transformations for legacy parallel applications via structural analysis and rewriting". *Parallel Computing vol:43, pp:1-26*, March 2015.

16   **IJHPCA14**: M. Snir, R. Wisniewski, J. Abraham, S. Adve, S. Bagchi, P. Balaji, J. Belak, P. Bose, F. Cappello, B. Carlson, A. Chien, P. Coteus, N. Debardeleben, P. Diniz, C. Engelmann, M. Erez, S. Fazzari, A. Geist, R. Gupta, F. Johnson, S. Krishnamoorthy, S. Leyffer, D. Liberty, S. Mitra, T. Munson, R. Schreiber, J. Stearley, and E. Van Hensbergen. "Addressing failures in exascale computing". *International Journal of High Performance Computing Applications vol:28(2), pp:127-171*, May 2014.

17   **IJPP13**: N. Ali, S. Krishnamoorthy, M. Halappanavar, and J. Daily. "Multi-fault tolerance for Cartesian data distributions". *International Journal of Parallel Programming, Special Issue: Computing Frontiers, 2011 Best Papers vol:41(3), pp:469-493*, June 2013.

18   **ParCo13**: M. Hermanns, S. Krishnamoorthy, and F. Wolf. "A scalable infrastructure for the performance analysis of passive target synchronization". *Parallel Computing vol:39(3), pp:132-145*, March 2013.

19   **JCTC13**: K. Bhaskaran-Nair, W. Ma, S. Krishnamoorthy, O. Villa, H. van Dam, E. Apra, and K. Kowalski. "Non-iterative multireference Coupled Cluster methods on heterogeneous CPU-GPU systems". *Journal of Chemical Theory and Computation vol:9(4), pp:1949-1957*, March 2013.

20   **CC13**: W. Ma, S. Krishnamoorthy, O. Villa, and K. Kowalski. "Optimizing tensor contraction expressions for hybrid CPU-GPU execution". *Cluster Computing Special Issue vol:16(1), pp:131-155*, March 2013.

21   **JPDC12**: Q. Lu, X. Gao, S. Krishnamoorthy, G. Baumgartner, J. Ramanujam, and P. Sadayappan. "Empirical performance model-driven data layout optimization and library call selection". *Journal of Parallel and Distributed Computing vol:72(3), pp:338-352*, March 2012.

22   **CCPE12**: J. Hammond, S. Krishnamoorthy, S. Shende, N. Romero, and A. Malony. "Performance characterization of global address space applications: a case study with NWChem". *Concurrency and Computation: Practice and Experience vol:24(2), pp:135-154*, February 2012.

23   **CPL11**: J. Brabec, S. Krishnamoorthy, H. van Dam, K. Kowalski, and J. Pittner. "Massively parallel implementation of the multi-reference Brillouin-Wigner CCSD method". *Chemical Physics Letters vol:514(4-6), pp:347-351*, October 2011.

24   **JCTC11**: K. Kowalski, R. Olson, S. Krishnamoorthy, V. Tipparaju, and E. Apra. "The role of many-body effects in describing low-lying excited states of π-conjugated chromophores: high-level equation-of-motion coupled-cluster studies of fused porphyrin systems". *Journal of Chemical Theory and Computation vol:7(7) pp:2200-2208*, May 2011.

25   **JCTC11**: W. Ma, S. Krishnamoorthy, O. Villa, and K. Kowalski. "GPU-based implementations of the non-iterative regularized-CCSD(T) corrections: applications to strongly correlated systems". *Journal of Chemical Theory and Computation vol:7(5) pp:1316-1327*, April 2011.

26   **JPC10**: K. Glaesemann, N. Govind, S. Krishnamoorthy, and K. Kowalski. "EOMCC, MRPT, and TDDFT studies of charge transfer processes in mixed-valence compounds: application to the Spiro molecule". *Journal of Physical Chemistry A vol:114(33) pp:8764-8771*, June 2010.

27   **JCP10**: K. Kowalski, S. Krishnamoorthy, O. Villa, and J. Hammond. "Active-space completely-renormalized equation-of-motion Coupled-Cluster formalism: excited-state studies of green fluorescent protein, free-base porphyrin, and oligoporphyrin dimer". *Journal of Chemical Physics vol:132(154103)*, April 2010.

28   **TPDS09**: N. Vydyanathan, S. Krishnamoorthy, G. Sabin, U. Catalyurek, T. Kurc, P. Sadayappan, and J. Saltz. "An integrated approach to locality-conscious processor allocation and scheduling of mixed-parallel applications". *IEEE Transactions on Parallel Distributed Systems vol:20(8) pp:1158-1172*, August 2009.

6

29 **JPC09**: Q. Lu, A. Hartono, T. Henretty, S. Krishnamoorthy, H. Zhang, G. Baumgartner, D. Bernholdt, M. Nooijen, R. Pitzer, J. Ramanujam, and P. Sadayappan. "Performance optimization of tensor contraction expressions for many body methods in quantum chemistry". *The Journal of Physical Chemistry A vol:113(45), pp:12715-12723*, November 2009.

30 **CCPE07**: X. Gao, S. Krishnamoorthy, S. Sahoo, C. Lam, G. Baumgartner, J. Ramanujam, and P. Sadayappan. "Efficient search-space pruning for integrated fusion and tiling transformations". *Concurrency and Computation: Practice and Experience vol:19(18) pp:2425-2443*, December 2007.

31 **JSc06**: S. Krishnamoorthy, G. Baumgartner, C. Lam, J. Nieplocha, and P. Sadayappan. "Layout transformation support for the disk resident arrays framework". *Journal of Supercomputing vol:36(2) pp:153-170*, May 2006.

32 **JPDC06**: S. Krishnan, S. Krishnamoorthy, G. Baumgartner, C. Lam, J. Ramanujam, P. Sadayappan, and V. Choppella. "Efficient synthesis of out-of-core algorithms using a nonlinear optimization solver". *Journal of Parallel and Distributed Computing (IPDPS Special Issue) vol:66(5) pp:659-673*, May 2006.

33 **MolPhy06**: A. Auer, G. Baumgartner, D. Bernholdt, A. Bibireata, V. Choppella, D. Cociorva, X. Gao, R. Harrison, S. Krishnamoorthy, S. Krishnan, C. Lam, M. Nooijen, R. Pitzer, J. Ramanujam, P. Sadayappan, and A. Sibiryakov. "Automatic code generation for many-body electronic structure methods: the Tensor Contraction Engine". *Molecular Physics vol:104(2), pp:211-228*, August 2006.

34 **ProcIEEE**: G. Baumgartner, A. Auer, D. Bernholdt, A. Bibireata, V. Choppella, D. Cociorva, X. Gao, R. Harrison, S. Hirata, S. Krishnamoorthy, S. Krishnan, C. Lam, Q. Lu, M. Nooijen, R. Pitzer, J. Ramanujam, P. Sadayappan, and A. Sibiryakov. "Synthesis of high-performance parallel programs for a class of ab initio quantum chemistry models". *Proceedings of the IEEE (Special Issue on Program Generation, Optimization, and Adaptation) vol:93(2) pp:276-292*, February 2005.

35 **IJHPCN04**: S. Krishnamoorthy, G. Baumgartner, D. Cociorva, C. Lam, and P. Sadayappan. "Efficient parallel out-of-core matrix transposition". *International Journal of High Performance Computing and Networking vol:2(2–4) pp:110-119*, March 2004.

Refereed Conference Publications

36 **SC20**: A. Li, O. Subasi, X. Yang, and S. Krishnamoorthy. "Density matrix quantum circuit simulation via the BSP machine on modern GPU clusters". *Supercomputing (SC)*, November 2020 **(Best Paper Finalist)**.

37 **SC20**: A. Das, I. Briggs, G. Gopalakrishnan, S. Krishnamoorthy, and P. Panchekha. "Scalable yet Rigorous Floating-Point Error Analysis". *Supercomputing (SC)*, November 2020 **(Best Student Paper Finalist)**.

38 **SC20**: J. Kim, A. Panyala, B.Peng, K. Kowalski, P. Sadayappan, and S. Krishnamoorthy. "Scalable heterogeneous execution of a coupled-cluster model with triples". *Supercomputing (SC)*, November 2020.

39 **HiPC19**: A. Khan, M. Halappanavar, T. Hagge, K. Kowalski, A. Pothen, and S. Krishnamoorthy. "Mapping arbitrarily sparse two-body interactions on one-dimensional quantum circuits". *International Conference on High Performance Computing, Data, and Analytics*, December 2019.

40 **HiPC19**: B. Mutlu, G. Kestor, A. Cristal, O. Unsal, and S. Krishnamoorthy. "Ground-truth prediction to accelerate soft-error impact analysis for iterative methods". *International Conference on High Performance Computing, Data, and Analytics*, December 2019.

41 **SC19**: I. Nisa, J. Li, A. Sukumaran-Rajan, P. Rawat, S. Krishnamoorthy, and P. Sadayappan. "An efficient mixed-mode representation of sparse tensors". *Supercomputing (SC)*, November 2019.

42 **NOCS19**: B. Joardar, P. Ghosh, P. Pande, A. Kalyanaraman, and S. Krishnamoorthy. "NoC-enabled software/hardware co-design framework for accelerating k-mer counting". *IEEE/ACM International Symposium on Networks-on-Chip*, October 2019 **(Best Paper)**.

43 **ICPP19**: S.Kumar, L. Eyraud-Dubois, and S.Krishnamoorthy. "Performance models for data transfers: a case study with molecular chemistry kernels". *International Conference on Parallel Processing*, August 2019.

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154 A. Hartono, M. Baskaran, C. Bastoul, A. Cohen, S. Krishnamoorthy, B. Norris, J. Ramanujam, and P. Sadayappan. "Primetile: A parametric multi-level tiler for imperfect loop nests". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CISRC-2/09-TR04, Feb 2009*

155 M. Baskaran, U. Bondhugula, S. Krishnamoorthy, J. Ramanujam, A. Rountev, and P. Sadayappan. "Automatic data movement and computation mapping for multi-level parallel architectures with explicitly managed memories". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CISRC-2/08-TR05, Feb 2008*

156 U. Bondhugula, M. Baskaran, S. Krishnamoorthy, J. Ramanujam, A. Rountev, and P. Sadayappan. "Affine transformations for communication minimal parallelization and locality optimization of arbitrarily nested loop sequences". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CIRSC-5/07-TR43, May 2007*

157 M. Baskaran, U. Bondhugula, S. Krishnamoorthy, J. Ramanujam, A. Rountev, and P. Sadayappan. "A compiler framework for optimization of affine loop nests for general purpose computations on GPUs". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CISRC-12/07-TR78, Dec 2007*

158 N. Vydyanathan, S. Krishnamoorthy, G. Sabin, U. Catalyurek, T. Kurc, P. Sadayappan, and J. Saltz. "An integrated approach for processor allocation and scheduling of mixed-parallel applications". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CIRSC-2/06-TR20, Feb 2006*

159 S. Krishnamoorthy, G. Baumgartner, D. Cociorva, C. Lam, and P. Sadayappan. "On efficient out-of-core matrix transposition". *Department of Computer and Information Science, Ohio State University. Technical Report OSU-CIRSC-9/03-TR52, Sep 2003*

Other Publications

160 **MTAGS15**: K. van Dam, E. Stephan, B. Raju, I. Altintas, T. Elsethagen, and S. Krishnamoorthy. "Enabling structured exploration of workflow performance variability in extreme-scale environments". *Workshop on Many-Task Computing on Clouds, Grids, and Supercomputers*, November 2015.

161 **CHIUW14**: D. Chavarria, S. Krishnamoorthy, J. Manzano, and A. Vishnu. "Evaluating next generation PGAS languages for computational chemistry". *Chapel Implementers and Users Workshop*, May 2014.

162 **EXAOSR12**: R. Gioiosa and S. Krishnamoorthy. "Operating system support for fine-grained task migration". *Position Paper, DOE ASCR Workshop on Exascale Operating Systems and Runtime Software, Washington, DC*, October 2012.

163 **ASCR12**: S. Krishnamoorthy. "Execution model choices for sustainable application design". *Position Paper, DOE ASCR Exascale Research Conference, Portland, OR*, April 2012.

164 **CUG09**: O. Villa, D. Chavarria, A. Marquez, V. Gurumoorthi, and S. Krishnamoorthy. "Effects of floating-point non-associativity on numerical computations on massively multithreaded systems". *Cray User's Group, Atlanta, GA*, May 2009.

165 **CPC09**: U. Bondhugula, M. Baskaran, A. Hartono, S. Krishnamoorthy, J. Ramanujam, A. Rountev, and P. Sadayappan. "A polyhedral framework for automatic parallelization and locality optimization". *Workshop on Compilers for Parallel Computing (CPC'09)*, January 2009.

166 **NGS08**: U. Bondhugula, M. Baskaran, A. Hartono, S. Krishnamoorthy, J. Ramanujam, A. Rountev and P. Sadayappan. "Towards effective automatic parallelization for multicore systems". *IPDPS Workshop on Next Generation Software (NSF-NGS)*, April 2008.

167 **NGS07**: S. Krishnamoorthy, U. Catalyurek, J. Nieplocha, A. Rountev, and P. Sadayappan. "A global address space framework for locality aware scheduling of block-sparse computations". *IPDPS Workshop on Next Generation Software*, April 2007.

168 **NGS06**: S. Krishnamoorthy, U. Catalyurek, J. Nieplocha, A. Rountev, and P. Sadayappan. "An extensible global address space framework with decoupled task and data abstractions". *IPDPS Workshop on Next Generation Software*, April 2006.

169 **patHPC05**: S. Krishnamoorthy, P. Sadayappan, J. Nieplocha, and M. Krishnan. "Locality-aware load balancing for dynamic and irregular computations". *Workshop on Patterns in High Performance Computing*, May 2005.

170 **LACSI04**: S. Krishnamoorthy, G. Baumgartner, C. Lam, J. Nieplocha, and P. Sadayappan. "Layout transformation support for the disk resident arrays framework". *Los Alamos Computer Science Institute Fifth Annual Symposium*, October 2004.

Posters

171 **PPoPP18**: C. Hong, A. Sukumaran-Rajam, J. Kim, P. Rawat, S. Krishnamoorthy, L. Pouchet, F. Rastello, and P. Sadayappan. "Performance modeling for GPUs using abstract kernel emulation". *ACM SIGPLAN Annual Symposium on Principles and Practices of Parallel Programming*, February 2018.

172 **PPoPP16**: M. Kurt, B. Ren, S. Krishnamoorthy, and G. Agrawal. "User-assisted storage reuse determination for dynamic task graphs". *ACM SIGPLAN Annual Symposium on Principles and Practices of Parallel Programming*, February 2016.

173 **SC11**: R. Minnich, C. Janssen, S. Krishnamoorthy, A. Marquez, W. Ma, M. Gokhale, P. Sadayappan, E. Van Hensbergen, J. Appavoo, and J. Mckie. "FOX: a fault-oblivious extreme scale execution environment". *IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, November 2011.

174 **SC11**: J. Dinan, P. Balaji, J. Hammond, S. Krishnamoorthy, and V. Tipparaju. "High-level, one-sided programming models on MPI: a case study with Global Arrays and NWChem". *IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, November 2011.

175   **PACT11**: W. Ma, S. Krishnamoorthy, and G. Agrawal. "Parameterized micro-benchmarking: an auto-tuning approach for complex applications". *Twentieth International Conference on Parallel Architectures and Compilation Techniques*, October 2011.

176   **SC10**: N. Ali, S. Krishnamoorthy, N. Govind, O. Villa, J. Dinan, and R. Harrison. "Scalable fault tolerance in PGAS programming models". *International Conference for High Performance Computing, Networking, Storage, and Analysis (SC)*, November 2010.

177   **PGAS06**: S. Krishnamoorthy, B. Larkins, A. Rountev, P. Sadayappan, J. Nieplocha, and R. Harrison. "Parallel global address space framework with multiple inter-operable abstractions". *The Second conference on Partitioned Global Address Space Programming Models*, October 2006.

178   **HiPC01**: N. Melchizedec, S. Krishnamoorthy, V. Vivekananthamoorthy, and A. Siromoney. "Web service pipelining". *The 8th International Conference on High Performance Computing*, December 2001.

Presentations

Invited Talks

Microsoft19	"Developing quantum chemistry applications with Q# and NWChem". Microsoft Startup Summit, Redmond, WA, February 2019.
SC18	"Collaborative investigation of quantum chemistry on quantum computers". SC18 DOE booth, November 2018.
xSIG 2018	"Runtime Support for Scalable Task-parallel Programs". xSIG workshop, Tokyo, Japan, May 2018.
X10-16	"Tracking and Constraining Work Stealing Schedulers". X10 Workshop at PLDI16, Santa Barbara, CA, June 2016.
SC15-BoF	"Tasks and lightweight threads in Cilk & TASCEL". Towards Standardized, Portable and Lightweight User-Level Threads and Tasks, Birds of a feather at Supercomputing, Austin, TX, November 2015.
Utah15	"Making task parallelism work for scientific applications". University of Utah, Salt Lake City, UT, May 2015.
NWChem14	"Making task parallelism work for scientific applications". New and Future Directions in Atomistic Simulation & Modeling Workshop, Seattle, WA, October 2014.
SICM2	"Writing tomorrow's computational chemistry codes today". (SICM)2 Parallel Computing Workshop, New York, NY, April 2014.
IISc13	"Concrete ingredients for flexible programming abstractions: making task parallelism work". Indian Institute of Science, Bangalore, India, October 2013.
SC12-BoF	"Runtime requirements for Unistack". Unistack: Interoperable Community Runtime Environment for Exascale Systems, Birds of a feather at Supercomputing, Salt Lake City, WA, November 2012.
ASCR12	"Scalable resilience for finer-grained concurrency". Exascale Research Conference, Arlington, VA, October 2012.
ASCR12	"Effective realization of task parallel programming abstractions". Exascale Research Conference, Arlington, VA, October 2012.
PPME12	"TASCEL: concrete ingredients for flexible programming abstractions". Workshop on Productive Programming Models for Exascale, Portland, OR, August 2012.
Charm12	"TASCEL: a task parallel runtime system for non-SPMD programs". 10th Annual Workshop on Charm++ and its Applications, Urbana-Champaign, IL, May 2012.
ESCMA12	"NWChem: optimizing tensor contraction expressions for hybrid CPU-GPU execution". Electronic Structure Calculation Methods on Accelerators Workshop, Oak Ridge, TN, February 2012.
SC11-BoF	"TASCEL: task scheduling library for load balancing and fault tolerance". Puctuated Equilibrium at Exascale, Birds-of-a-feather at Supercomputing, Seattle, WA, November 2011.
FallCreek11	"Unified and interoperable programming models". 2011 Fall Creek Falls Conference, Gatlinburg, TN, September 2011

ASCR11 "(De)composable abstractions for a changing architectural landscape". DOE ASCR Workshop on Exascale Programming Challenges, Marina Del Ray, CA, July 2011

FASTOS09 "Handling faults in a global address space programming model". Forum to Address Scalable Technology for runtime and Operating Systems (FASTOS2) workshop (co-located with ICS'09), Yorktown Heights, NY, June 2009

Teragrid09 "Handling faults in a global address space programming model". NSF TeraGrid workshop on fault tolerance, Albuquerque, NM, March 2009

Selected Conference/Workshop Talks

HiPC19 "Mapping arbitrarily sparse two-body interactions on one-dimensional quantum circuits", International Conference on High Performance Computing, Data, and Analytics. Hederabad, India. December, 2019

HiPC19 "Ground-truth prediction to accelerate soft-error impact analysis for iterative methods", International Conference on High Performance Computing, Data, and Analytics. Hyberabad, India. December, 2019

SIAM19 "Model-driven auto-tuning for optimizing tensor contractions." SIAM CSE, Spokane, WA, February 2019.

SIAM19 "Graph algorithms in scalable implementations of computational chemistry methods." SIAM CSE 2019, Spokane, WA. February 2019.

HiPC18 "Quantification, trade-off analysis, and optimal checkpoint placement for reliability and availability". International Conference on High Performance Computing, Data, and Analytics. Bengaluru, India. December, 2018

HiPC18 "Characterization of the impact of soft errors on iterative methods". International Conference on High Performance Computing, Data, and Analytics. Bengaluru, India. December, 2018

HiPC18 "Synchronization-Avoiding Graph Algorithms". International Conference on High Performance Computing, Data, and Analytics. Bengaluru, India. December, 2018

HiPC18 "Adaptive Runtime Features For Distributed Graph Algorithms". International Conference on High Performance Computing, Data, and Analytics. Bengaluru, India. December, 2018

HiPC16 "PRESAGE: protecting structured address generation against soft errors". International Conference on High Performance Computing, Data, and Analytics. Hyderabad, India. December, 2016

PLDI14 "Compiler-assisted detection of transient memory errors". ACM SIGPLAN Conference on Programming Language Design and Implementation, Edinburgh, UK, June 2014

Salishan14 "Palm – Tool for analytical model generation". Salishan High Speed Computing Conference, Gleneden Beach, OR, April 2014

WHIST12 "MODA: a framework for memory centric performance characterization". International Workshop on High-performance Infrastructure for Scalable Tools, Venice, Italy, June 2012

ICS12 "Data-driven fault tolerance for work stealing computations". International Conference on Supercomputing, Venice, Italy, June 2012

HPDC12 "Work stealing and persistence-based load balancers for iterative overdecomposed applications". ACM Symposium on High-Performance Parallel and Distributed Computing, Delft, the Netherlands, June 2012

ASCR12 "Execution models for sustainable application design". DOE ASCR Exascale Research Conference, Position Paper, Portland, OR, April 2012

ROSS11 "Fault oblivious exascale whitepaper". International Workshop on Runtime and Operating Systems for Supercomputers, Tucson, AZ, May 2011

CCGrid10 "Scalable communication trace compression". International Symposium on Cluster, Cloud and Grid Computing, Melbourne, Australia, May 2010

Resilience10 "Selective recovery from failures in a task parallel programming model". Resilience workshop (co-located with International Symposium on Cluster, Cloud and Grid Computing), Melbourne, Australia, May 2010

PLDI07 "Effective parallelization of stencil computations". ACM SIGPLAN Conference on Programming Language Design and Implementation, San Diego, CA, June 2007

http://hpc.pnl.gov/people/sriram

SC06	"Hypergraph partitioning for automatic memory hierarchy management". International Conference for High Performance Computing, Networking, Storage and Analysis, Tampa, FL, November 2006
POHLL06	"An approach to locality-conscious load balancing and transparent memory hierarchy management with a global-address-space parallel programming model". IPDPS Workshop on Performance Optimization for High-Level Languages and Libraries, Rhodos, Greece, April 2006
patHPC05	"Locality-aware load balancing for dynamic and irregular computations". Workshop on Patterns in High Performance Computing, Urbana-Champaign, IL, May 2005
HiPC04	"Efficient layout-transformation support for disk-based multidimensional arrays". International Conference on High Performance Computing, Bangalore, India, December 2004
IPDPS04	"Efficient synthesis of out-of-core algorithms using a nonlinear optimization solver". International Parallel and Distributed Processing Symposium, Santa Fe, NM, USA, April 2004
HiPC03	"Data locality optimization for synthesis of efficient out-of-core algorithms". International Conference on High Performance Computing, Hyderabad, India, December 2003
Cluster03	"Efficient parallel out-of-core matrix transposition". International Conference on Cluster Computing, Hong Kong, December 2003

Panel Presentations

XSTACK14	"Resilience Panel". DOE ASCR X-Stack PI meeting, Cambridge, MA, May 2014
XSTACK13	"Runtime research in DOE ASCR X-Stack Program". DOE ASCR X-Stack PI meeting, Berkeley, CA, March 2013
XSTACK13	"Resilience research in DOE ASCR X-Stack Program". DOE ASCR X-Stack PI meeting, Berkeley, CA, March 2013
EXAOSR12	"OS/R support for novel programming models". Workshop on Exascale Operating Systems and Runtime Software, Washington, D.C., October 2012

Tutorials

- B. Palmer, J. Daily, D. Chavarria, A. Vishnu, S. Krishnamoorthy. "The Global Arrays toolkit – a comprehensive, production-level, application-tested parallel programming environment". SC12, November 2012.

- B. Palmer, S. Krishnamoorthy, D. Chavarria. "Parallel programming using the Global Arrays toolkit: now and into the future". University of Washington, November 2011.

- M. Krishnan, S. Krishnamoorthy, J. Daily, P. Sadayappan, D. Hudak. "Building scalable parallel applications with the Global Arrays toolkit". Ohio Supercomputer Center, March 2011

- B. Palmer, M. Krishnan, S. Krishnamoorthy, and P. Sadayappan. "Introduction to the Global Arrays toolkit and ARMCI runtime". Partitioned Global Address Space Conference (PGAS), New York, NY, October 2010

- B. Palmer, M, Krishnan, S. Krishnamoorthy, and P. Sadayappan. "Parallel programming using the Global Arrays toolkit". IEEE Cluster, New Orleans, LA, August 2009

Professional Activities

Organization

- PNNL TechFest Panel: "Quantum computing: promises and pitfalls". February 2019.

- Track Chair (Emerging Technologies): International Supercomputing Conference (ISC) 2020

- Track Co-Chair (Programming Systems): IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2019

- Session Chair: IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2019

- Track Vice-Chair (Systems Software): IEEE International Conference on High Performance Computing (HiPC)
- Session Chair: IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2018
- Session Chair: IEEE International Conference on Cluster Computing (Cluster) 2017
- Session Chair: IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2016
- Session Chair: Fourth International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) 2015
- Session Chair: IEEE International Parallel and Distributed Processing Symposium (IPDPS) 2015
- Program Co-Chair: International Workshop on High-level Parallel Programming Models and Supportive Environments (HIPS) 2015
- Program Co-Chair: International Workshop on Domain-Specific Languages and High-Level Frameworks for High Performance Computing (WOLFHPC) 2015, 2014, 2013, 2012, 2011
- Guest Editor: Special Issue of Journal of Parallel and Distributed Computing (JPDC): Domain-Specific Languages and High-Level Frameworks for High-Performance Computing 2013
- Session Chair: IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2013
- Panel Moderator: Workshop on Exascale Operating Systems and Runtime Software (EXAOSR) 2012
- Session Chair: Workshop on Exascale Operating Systems and Runtime Software (EXAOSR) 2012
- Organizing Committee: Productive Programming Models for Exascale (PPME) 2012
- Session Chair: Productive Programming Models for Exascale (PPME) 2012
- Proceedings Chair: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP) 2012
- Publicity Chair: International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) 2012
- Session Chair: International Workshop on High-performance Infrastructure for Scalable Tools (WHIST) 2011
- Session Chair: International Workshop on Characterizing Applications for Heterogeneous Exascale Systems (CACHES) 2011

Technical Program Committees

2021
  IEEE International Conference on Cluster Computing (Cluster)

2020
  ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)
  ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)
  International Workshop on Polyhedral Compilation Techniques (IMPACT)
  IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)
  International Conference on Parallel Processing (ICPP)

2019
  Workshop on Latest Advances in Scalable Algorithms for Large-Scale Systems (Scala@SC)
  International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
  Platform for Advanced Scientific Computing (PASC) Conference: Minisymposia and Posters
  International Workshop on Software Correctness for HPC Applications (Correctness)
  IEEE International Conference on Rebooting Computing (ICRC)
  Workshop on Latest Advances in Scalable Algorithms for Large-Scale Systems (Scala)
  Special Session CADO (Compiler Architecture, Design and Optimization) (part of HPCS)
  24th International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS)

Primary PC member, IEEE International Parallel and Distributed Processing Symposium (IPDPS)
International Conference on Compiler Construction (CC)
International Conference on Parallel Processing (ICPP)

2018

IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)
Workshop on Latest Advances in Scalable Algorithms for Large-Scale Systems (ScalA@SC)
International Workshop on Software Correctness for HPC Applications (Correctness)
Fourth International Workshop on Extreme Scale Programming Models and Middleware (ESPM2)
IEEE International Conference on Cluster Computing (Cluster)
International Conference on Parallel Processing (ICPP)
External review committee: ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)
IEEE International Parallel and Distributed Processing Symposium (IPDPS)
Workshop on Silicon Errors in Logic – System Effects (SELSE)
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids

2017

International Workshop on Software Correctness for HPC Applications (Correctness)
IEEE International Conference on High Performance Computing (HiPC)
International Conference on Parallel Processing (ICPP)
IEEE International Conference on High Performance Computing and Communications (HPCC)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids
IEEE International Conference on Cluster Computing (Cluster)
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
International Conference on Compiler Construction (CC)
IEEE International Parallel and Distributed Processing Symposium (IPDPS)

2016

IEEE International Conference on Parallel and Distributed Systems (ICPADS)
International Workshop on Fault Tolerant Systems (FTS)
IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)
International Conference on Parallel Processing (ICPP)
ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC)
International Conference on Supercomputing (ICS)
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
Workshop on Silicon Errors in Logic – System Effects (SELSE)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids

2015

International Conference on Parallel Architectures and Compilation Techniques (PACT)
IEEE International Parallel and Distributed Processing Symposium (IPDPS)
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)
IFIP International Conference on Network and Parallel Computing (NPC)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids
Supercomputing Birds-of-a-feather Resilience Committee

2014

ACM SIGPLAN Workshop on Memory Systems Performance and Correctness (MSPC)
IEEE International Parallel and Distributed Processing Symposium (IPDPS)
Conference on Partitioned Global Address Space Programming Models (PGAS)
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES)
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)

http://hpc.pnl.gov/people/sriram

IFIP International Conference on Network and Parallel Computing (NPC)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids

2013

IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)
IFIP International Conference on Network and Parallel Computing (NPC)
Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids

2012

IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)
IEEE International Conference on Scalable Computing and Communications (ScalCom)
International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD)
ACM International Conference on Computing Frontiers (CF)
ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)
IEEE International Conference on Parallel and Distributed Systems (ICPADS)

2011

International Workshop on Characterizing Applications for Heterogeneous Exascale Systems (CACHES)

−2010

IEEE International Conference on High Performance Computing and Communications (HPCC'10)
International Workshop on Parallel Programming Models and Systems Software for High-end Computing (P2S2'09)
IEEE International Conference on High Performance Computing (HiPC'09,HiPC'08)

Technical Referee for Journals

- SIAM Journal of Scientific Computing: 2019

- IEEE Access: 2019

- Transactions on Architecture and Code Optimization (TACO): 2020, 2019, 2018, 2017

- ACM Transactions on Mathematical Software (TOMS): 2017, 2016

- Very Large Data Bases Journal (VLDBJ): 2016

- Information Processing Letters: 2015

- Theoretical Computer Science: 2015

- IEEE Transactions on Computers: 2020, 2014

- ACM Transactions on Parallel Computing (TOPC): 2017, 2015, 2013

- ACM Transactions on Reconfigurable Technology and Systems (TRETS): 2011

- Applied Mathematics and Computation (AMC): 2013

- Concurrency and Computation: Practice and Experience (CCPE): 2014, 2013, 2012

- IEEE Transactions on Parallel and Distributed Systems (TPDS): 2017, 2016, 2015, 2014, 2013

- IEEE Transactions on Visualization and Computer Graphics (TVCG): 2013

- Future Generation Computer Systems (FGCS): 2012

- International Journal of High Performance Computing Applications (IJHPCA): 2014, 2012, 2011

- International Journal of Parallel Programming (IJPP): 2014, 2013

- Journal of Computational Chemistry: 2013

- Journal of Parallel and Distributed Computing (JPDC): 2017, 2016, 2014, 2011, 2008

- Parallel Computing (PARCO): 2013, 2010

External Reviewer for Conferences/Workshops

- IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC): 2014, 2012, 2011, 2010, 2008
- International Conference on Parallel Architectures and Compilation Techniques (PACT): 2012, 2011, 2008
- Euro-Par: 2011
- IEEE International Conference on Cluster Computing (Cluster): 2010
- ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP): 2014, 2007
- IEEE International Parallel and Distributed Processing Symposium (IPDPS): 2006
- Workshop on Languages and Compilers for Parallel Computing (LCPC): 2005
- Workshop on Performance Optimization for High-Level Languages and Libraries (POHLL): 2006

Technical Poster Committees

- International Conference on Parallel Processing (ICPP): 2012

Advisorships

Post-doctoral Advisees

- Priyanka Ghosh, Ph.D., Washington State University
- Suraj Kumar, Ph.D., Inria Bordeaux, University of Bordeaux
- Erdal Mutlu, Ph.D., Koc University, Turkey
- Omer Subasi, Ph.D., University of Polytechnico Catalunya, Spain
- Ajay Panyala, Ph.D., Louisiana State University
- Bin Ren, Ph.D., Ohio State University
- Nawab Ali, Ph.D., Ohio State University
- Wenjing Ma, Ph.D., Ohio State University

Internship/Student Advisees

- Chris Kang, University of Washington (Summer 2019 & Summer 2020)
- Bo Fang, University of British Columbia (Summer 2018)
- Chris Wright, Purdue University (Summer 2018)
- Arnab Das, University of Utah (Summer 2017)
- Burcu Mutlu, University of Polytechnico Catalunya (2017–Fall 2018)
- Priyanka Ghosh, Washington State University (Summer 2016 & Summer 2017)
- Jinsung Kim, Ohio State University (Summer 2016)
- Probir Roy, College of William & Mary (Summer 2016)
- Zhijia Zhao, College of William & Mary (Summer 2015)
- Jordyn Maglalang, Washington University in St. Louis (Summer 2015)
- Jesmin Jahan Tithi, Stonybrook University (Summer 2015)
- Wenlei Bao, Ohio State University (Summer 2014 & Summer 2015)
- Mehmet Can Kurt, Ohio State University (Summer 2013 & Winter/Summer 2014)

- Shaizeen Aga, University of Michigan (Summer 2012)

- Xin Huo, Ohio State University (Spring & Summer 2012)

- Humayun Arafat, Ohio State University (Fall 2011)

- Jonathan Lifflander, University of Illinois Urbana-Champaign (Summer/Fall 2011 & Winter/Summer 2014)

- S.M. Faisal, Ohio State University (Summer 2011)

- Pai-Wei Lai, Ohio State University (Summer 2011 & Summer 2012)

- Wenjing Ma, Ohio State University (Winter & Spring 2010)

- Long Chen, University of Delaware (Summer & Fall 2009)

- Mahesh Ravishankar, Ohio State University (Summer 2009)

- James Dinan, Ohio State University (Winter 2009)

Thesis Committee Membership

- Arnab Das, "Effective numerical analysis for HPC software safety." University of Utah, Ph.D., 2020

- Wenlei Bao, "Compiler Techniques for Transformation Verification, Energy Efficiency and Cache Modeling," Ohio State University, Ph.D., 2018.

- Jordyn Maglalang, "Locality-conscious concurrency platforms," Washington University St. Louis, Ph.D., 2017.

- Priyanka Ghosh, "Scalable methods for genome assembly," Washington State University.

- Vishal Sharma, "Towards building efficient error detectors for improving system resilience," University of Utah, Ph.D., 2016.

- Jonathan Lifflander, "Optimizing work stealing algorithms with scheduling constraints," University of Illinois at Urbana-Champaign, Ph.D., 2016.

- Jeff Daily, "Scalable methods for biological sequence homology detection," Washington State University, Ph.D., 2015.

- Rajkiran Panuganti, "A high productivity framework for parallel data intensive computing in MATLAB," Ohio State University, Ph.D., 2009.