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PROFESSIONAL EXPERIENCE

September 2015–Present: **Assistant Professor**; Department of Computer and Information Sciences, University of Delaware, Newark, USA

September 2016–Present: **Affiliated Professor**; The Center for Bioinformatics & Computational Biology (CBCB), Data Science Institute (DSI), University of Delaware, Newark, USA

September 2016–Present: **Adjunct Professor**; Department of Computer Science, University of Houston, Houston, TX, USA

June 2017 – Present: **Director of OpenACC User Adoption**

December 2010–August 2015: **Postdoctoral Researcher**, Department of Computer Science, University of Houston,TX, USA

EDUCATION

Nanyang Technological University (NTU), Singapore, Ph.D., School of Computer Science, Title: Tools and Algorithms for High Level Algorithm Mapping to FPGA, 2012

Anna University, India, Bachelors of Engineering (B.E.), Electrical & Electronics, Final Year Thesis Title: Experimental Studies in Statistical Signal Processing, 2005

RESEARCH INTERESTS

High Performance Computing, Parallel Programming Models, Machine Learning, Validation & Verification Testsuites for OpenMP and OpenACC

Parallelizing and Accelerating Scientific Applications from domains such as Molecular Dynamics, Next Generation Sequencing, Molecular Dynamics, Nuclear Physics, Weather Modeling to Supercomputers

AWARDS

2018 Vertically Integrated Project (VIP) - HPC led undergraduate CIS team won the Best Research Poster award in the Mid Atlantic VIP competition

2016 IEEE TCHPC Award for Excellence for Early Career Researchers in High Performance Computing

NVIDIA GPU Education Center Award, 2016

High Performance Group (HPG) Technical Leadership Award, Standard Performance Evaluation Corporation (SPEC), Jan 2016

Benchmark Project Leadership Recognition Award, Standard Performance Evaluation Corporation (SPEC),

2014

GPU Educators Program, NVIDIA, December 2015

ACADEMIC HARDWARE GIFTS

NVIDIA Professional Partnership Program: 1 TITAN Xp, 1 TITAN V, 2 Tesla K40s, 2 Volta 100s and 2 TITAN X GPUs

RESEARCH MENTORSHIP

Graduate students (PhD)

* Robert Searles (Passed Prelims and Proposals)
* Sanhu Li (Passed Prelims)
* Eric Wright (1st year)
* Maurcio Ferrato (1st year)
* Mayara Gimenes (1st year)

Research Project Adivisor (Summer 2017 - present)
* Jose Monsalve Diaz (ECE)

Graduate students 2016-2017 (Masters)

* Arnov Sinha (Graduated with thesis, currently Parallel Software Engineer at red violet (NASDAQ: RDVT))
* Kshitij Srivatsava (Graduated, currently Software Engineer for Uber's Autonomous Cars)
* Sergio Pena (Graduated, currently a Software Engineer at Cloudreach)

Undergraduate Research Projects: 2018 - Present

* Joshua Davis: Studying the Impact of Power Capping on MapReduce-based, Data-intensive Mini-applications on Intel KNL and KNM Architectures
* Collin Clark: Exploring RISC-V architecture
* Dan Goodman: Cybersecuity
* Hayden Carter: Performing Whole Genome Sequencing Experiments evaluating our Novel Algorithm
* Thomas Huber: Exploring NSF Jet Stream infrastructure and SPEC HPG benchmark
* Christian Munley: Creating Jupiter Notebooks for Scientific Applications

Recent Past Undergraduate Research Students

* 2017 Spring Independent Study: Dai Jue Li, Qichao Hong
* 2016 Summer Scholar Students: Collin Clark, Ryan Beneck, Daniel Liang
* 2016 Summer Independent Study: Suhan Patel
* 2015-2016 Spring Independent Study: Will Weber

Daniel Liang (currently with Google)
Will Weber (currently with Comcast)
Ryan Benenec (currently in Penn State pursuing Ph.D. in Electrical Engg.)

High School Student

Spring 2017 - till date: Noah Rossi

BOOK & BOOK CHAPTERS

Sunita Chandrasekaran, Guido Juckeland. Book on OpenACC for Programmers: Concepts and Strategies, ISBN-13: 978-0134694283, November 2017

Sunita Chandrasekaran, Rengan Xu, Barbara Chapman, Chapter on Using OpenACC for stencil and Feldkamp algorithms, *Book on Parallel Programming with OpenACC*, ISBN-13: 978-0124103979, November 2016

Barbara Chapman, Deepak Eachempati, Sunita Chandrasekaran, Chapter on OpenMP. In the book Programming Models for Parallel Computing Edited by Pavan Balaji, ISBN-13: 978-0262528818, MIT Press, 2015

JOURNALS

Millad Ghane, Sunita Chandrasekaran, and Margaret S. Cheung, pointerchain: Tracing Pointers to Their Roots - A Case Study in Molecular Dynamics Simulations, Under Review, PARCO, 2019.

Robert Searles, Sunita Chandrasekaran, Wayne Joubert, Oscar Hernandez. 2018. MPI + OpenACC: Accelerating Radiation Transport Mini-Application, Minisweep, on Heterogeneous Systems. Journal of Computer Physics Communications (CPC), https://doi.org/10.1016/j.cpc.2018.10.007, 2018.

Michael Wolfe, Jungwon Kim, Xiaonan Tian, Rengan Xu, Barbara Chapman, Sunita Chandrasekaran. The OpenACC Data Model: Preliminary Study on Its Major Challenges and Implementations. Special Issue in the Journal of Parallel Computing (PARCO), Parallel Computing,
https://doi.org/10.1016/j.parco.2018.07.003, 2018.

Sunita Chandrasekaran, Guido Juckeland, Meifeng Lin et. Al., Best Practices in Running Collaborative GPU Hackathons. *In Proceedings of IEEE Computing in Science and Engineering (CiSE) Journal*, 10.1109/MCSE.2018.042781332, NSPEC Accession Number: 17916295, pg. 95-106, 2018.

Robert Searles, Stephen Herbein, Travis Johnston, Michela Taufer, Sunita Chandrasekaran. Creating a Portable, High-Level Graph Analytics Framework for Compute and Data-Intensive Applications. In Proceedings of International Journal of High Performance Computing and Networking (IJHPCN). DOI: 10.1504/IJHPCN.2017.10007922, 2017

Xiaonan Tian, Rengan Xu, Yonghong Yan, Sunita Chandrasekaran, Deepak Eachempati, and Barbara Chapman. Compiler Transformation of Nested Loops for GPGPUs. Concurrency and Computation: Practice and Experience. Special Issue on Programming Models and Applications for Multicores and Manycore, http://dx.doi.org/10.1002/cpe.3648, ISSN: 1532-0634, 2015

Rengan Xu, Sunita Chandrasekaran, Barbara Chapman. Multi-GPU Support on Shared Memory System using Directive-based Programming Model. Scientific Programming, Special Issue on Programming Models, Languages and Compilers for Manycore and Heterogeneous Architectures,
http://dx.doi.org/10.1155/2015/621730, Vol. 2015, Article ID 621730, 2015

Sunita Chandrasekaran, Shilpa Shanbagh, Ramkumar Jayaraman, HuiYan Cheah and Douglas Maskell. C2FPGA: A Dependency-Timing Graph Design Methodolog. Journal of Parallel and Distributed Computing (JPDC): Special Issue on Novel architectures for high-performance computing, Elsevier.
http://dx.doi.org/10.1016/j.jpdc.2012.09.001, 2012

PEER-REVIEWED CONFERENCE AND WORKSHOP PUBLICATIONS

Robert Searles and Sunita Chandrasekaran, Wavebench: A Tool to Address the Wavefront Parallel Pattern,[UNDER REVIEW] *Conference level*

Millad Ghane, Sunita Chandrasekaran, and Margaret S. Cheung. Gecko: Hierarchical Distributed View of Heterogeneous Shared Memory Architectures. *In The 10th International Workshop on Programming Models and Applications for Multicores and Manycores (PMAM19)*, https://doi.org/10.1145/3303084.3309489 NY, 10 pages, 2019.

Robert Searles, Sunita Chandrasekaran, Oscar Hernandez, Wayne Joubert, Abstractions and Directives for Adapting Wavefront Algorithms to Future Architectures, *5th Proceedings of the Platform for Advanced Scientific Computing Conference (PASC18)*, https://doi.org/10.1145/3218176.3218228 Basel, July 2-4, 2018.

Millad Ghane, Sunita Chandrasekaran, Robert Searles, Margaret Cheung, Oscar Hernandez, Path forward for softwarization to tackle evolving hardware, *Proceedings Volume 10652, Disruptive Technologies in Information Sciences; 106520O (2018)*, Orlando, https://doi.org/10.1117/12.2304813, April 18, 2018.

Jose Monsalve Diaz, Swaroop Pophale, Oscar Hernandez, David E. Bernholdt, Sunita Chandrasekaran. OpenMP 4.5 Validation and Verification Suite for Device Offload, *In Proceedings of the International Workshop on OpenMP (IWOMP)*, Volume 11128, pages 82, 2018.

Jose Monsalve Diaz, Swaroop Pophale, Kyle Friedline, Oscar Hernandez, David E. Bernholdt, Sunita Chandrasekaran. Evaluating Support for OpenMP Offload Features, *Workshop on P2S2 co-located with ICPP 2018*, DOI, 10.1145/3229710.3229717, pages 31, 2018.

Kyle Friedline, Sunita Chandrasekaran, Graham Lopex, Oscar Hernandez. OpenACC 2.5 Validation Testsuite targeting multiple architectures. *In LNCS Proceedings of 2nd International Workshop on Performance Portable Programming Models for Accelerators, LNCS*, Volume 10524, pp 557-575, 2017.

Sergio Pena, Sunita Chandrasekaran, Lori Pollock. Exploring translation of OpenMP to OpenACC 2.5: Lessons Learned. *In Proceedings of 7th International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) co-located with IPDPS 2017*, pp. 673- 682, 2017.

Michael Wolfe, Seyong Lee, Jungwon Kim, Xiaonan Tian, Rengan Xu, Sunita Chandrasekaran and Barbara Chapman. Implementing the OpenACC Data Model. *In Proceedings of 7th International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) co-located with IPDPS 2017*, 662-672, 2017.

Cheng Wang, Sunita Chandrasekaran, and Barbara Chapman, CusFFT: A High-Performance Sparse Fast Fourier Transform Algorithm on GPUs, *30th, IEEE International Parallel & Distributed Processing Symposium (IPDPS)*, Chicago, pp. 963-972, May 23-27, 2016,

Robert Searles, Stephen Herbein, Sunita Chandrasekaran. A portable, high-level graph analytics framework targeting distributed, heterogeneous systems. In Proceedings of the Third International Workshop on Accelerator Programming Using Directives (WACCPD) co-located with SC16, pp. 79-88, 2016, DOI 10.1109/WACCPD.2016.012, USA

Rengan Xu, Sunita Chandrasekaran, and Barbara Chapman, An Analytical Model-based Auto-tuning Framework for Locality-aware Loop Scheduling, *International Supercomputing Conference (ISC)*, Frankfurt, pp. 3-20, June 19-23, 2016.

Kyle Friedline, Sunita Chandrasekaran, Graham Lopez, and Oscar Hernandez, OpenACC 2.5 Validation Testsuite Targeting Multiple Architectures, *International Supercomputing Conference (ISC)*, pp. 557-575, 2016

Peng Sun, Sunita Chandrasekaran, and Barbara Chapman, Deploying OpenMP Task Parallelism on Multicore Embedded Systems with MCA Task APIs, *IEEE High Performance Computing and Communications (HPCC)*, pp. 843-847, 2015.

Suyang Zhu, Sunita Chandrasekaran, Peng Sun, Barbara Chapman, Tobias Schuele, Marcus Winter, Exploring Task Parallelism for Heterogeneous Systems Using Multicore Task Management API, *4th Workshop on Runtime and Operating Systems for the Many-core Era co-located with Europar*, pp. 607-708, 2016

Guido Juckeland, William Brantley, Sunita Chandrasekaran, et al. SPEC ACCEL - A Standard Application Suite for Measuring Hardware Accelerator Performance. *In International Workshop on Performance s Modeling, Benchmarking and Simulation of High Performance Computer Systems (PMBS) co-located with SC14*, Volume 8966 of the series Lecture Notes in Computer Science, Springer Verlag, pp. 46-67, New Orleans, USA, 2014.

Peng Sun, Sunita Chandrasekaran, and Barbara Chapman. OpenMP-MCA: Leveraging Multiprocessor Embedded Systems using industry standards. *In Proceedings of the 2015 IEEE International Parallel & Distributed Processing Symposium Workshops, (PLC) co-located with IPDPS*, 10.1109/IPDPSW.2015.13, pp. 679-688, Hyderabad, India, 2015

Rengan Xu, Maxime Hugues, Henri Calandra, Sunita Chandrasekaran and Barbara Chapman. Accelerating Kirchhoff Migration on GPU using Directives. *In Proceedings of ACM SIGHPC, The first Workshop on Accelerator Programming using Directives (WACCPD 2014) co-located with SC14*, pp. 37-46, New Orleans, USA, 2014

Rengan Xu*, Cheng Wang*, Sunita Chandrasekaran, Barbara Chapman. An OpenACC 1.0 Validation Suite. *In Proceedings of the 2014 IEEE Workshop on Multi-threaded Architectures and Applications(MTAAP) co-located with IPDPS*, pp. 1407-1416, Phoenix, USA, 2014

Rengan Xu*, Xiaonan Tian*, Yonghong Yan, Sunita Chandrasekaran, Barbara M. Chapman. Reduction Operations in Parallel Loops for GPGPUs. *In Proceedings of ACM, Programming Models and Applications on Multicores and Manycores (PMAM) co-located with PPoPP*, pp. 10:10–10:20, Orlando, USA, 2014

Rengan Xu*, Xiaonan Tian*, Sunita Chandrasekaran, Yonghong Yan and Barbara Chapman. NAS Parallel Benchmarks on GPGPUs using a Directive-based Programming Model. *In Proceedings of Springer Verlag, The 27th International Workshop on Languages and Compilers for Parallel Computing (LCPC)*, pp. 67-81, Oregon, USA, 2014

Cheng Wang, Sunita Chandrasekaran, Barbara Chapman, Jim Holt. Portable Mapping of OpenMP to Multicore Embedded Systems Using MCA APIs. *In Proceedings of the 14th ACM SIGPLAN/SIGBED conference on Languages, compilers and tools for embedded systems (LCTES)*, pp. 153?162, Seattle, US, 2013

Cheng Wang, Mauricio Araya, Sunita Chandrasekaran, Barbara Chapman, Detlef Hohl. Parallel Sparse FFT. *In Proceedings of ACM, The 3rd Workshop on Irregular Applications: Architectures and Algorithms (IA3), co-located with SC 2013*, pp. 10:1–10:8, Colorado, USA, 2013

Xiaonan Tian*, Rengan Xu*, Yonghong Yan, Zhifeng Yun, Sunita Chandrasekaran, and Barbara Chapman. Compiling A High-Level Directive-based Programming Model for Accelerators. *In Proceedings of Springer Verlag, 26th International Workshop on Languages and Compilers for High Performance Computing (LCPC)*, pp. 105-120, San Jose, USA, 2013

Sayan Ghosh, Sunita Chandrasekaran, Barbara Chapman. Statistical Modeling of Power/Energy of Scientific Kernels on a Multi-GPU system. *In Proceedings of IEEE, Third International Workshop on Power Measurement and Profiling (PMP) co-located with IGCC*, pp.1-6, Virginia, USA, 2013

Cheng Wang, Sunita Chandrasekaran, Barbara Chapman, Jim Holt. libEOMP: a portable OpenMP runtime library based on MCA APIs for embedded systems. *In Proceedings of ACM, International Workshop on Programming Models and Applications for Multicores and Manycore (PMAM) co- located with PPoPP*, pp 83-92, New Orleans, USA, 2013

Cheng Wang, Sunita Chandrasekaran, Barbara Chapman. An OpenMP3.1 Validation testsuite. *In Proceedings of IWOMP 2012, LNCS*, Volume 7312/2012,p.237-249, Rome, Italy, 2012

Rengan Xu, Sunita Chandrasekaran, Barbara Chapman, Christoph F. Eick. Directive-based Programming Models for Scientific Applications - A Comparison. *In Proceedings of IEEE, Second International Workshop on Domain-Specific Languages and High-Level Frameworks for High Performance Computing (Wolfhpc) co-located with Supercomputing (SC)*, pp 1 ? 9, Salt Lake City, USA, 2012

Lei Huang, Eric Stotzer, Hangjun Yi, Barbara Chapman, Sunita Chandrasekaran. Parallelizing Ultrasound Image Processing using OpenMP on Multicore Embedded Systems. *In Proceedings of 2012 IEEE Global High Tech Congress on Electronics (GHTCE)*, 131-138, DOI: 10.1109/GHTCE.2012.6490139, Shenzen, China, 2012

Sayan Ghosh, Sunita Chandrasekaran, Barbara Chapman. Energy Analysis of Parallel Scientific Kernels on Multiple GPUs. *In Proceedings of IEEE Symposium on Application Accelerators in High Performance Computing (SAAHPC)*, p.54-63, Chicago , July 2012

Sunita Chandrasekaran, Shilpa Shanbagh, Douglas. L. Maskell. A Dependency Graph based Methodology for Parallelizing HLL Applications on FPGA. *In Proceedings of the 18th ACM/SIGDA International Symposium on Field-Programmable Gate Arrays Proceedings (FPGA)*, Monterey, USA, 2010

Kevin A. Huck, Oscar Hernandez, Van Bui, Sunita Chandrasekaran, Barbara Chapman, Allen D. Malony, Lois Curfman McInnes, Boyana Norris. Capturing Performance Knowledge for Automated Analysis. *IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, pp. 1-10, Austin, 2008

Sunita Chandrasekaran, Oscar Hernandez, Douglas Maskell, Barbara Chapman, Van Bui. Compilation and Parallelization Techniques with Tool Support to realize Sequence Alignment Algorithm on FPGA and Multicore. *IEEE Int. Conf. on High Performance Computing (HiPC)*, Goa, India, 2007

TECHNICAL INVITED WHITE PAPERS

Thomas Huber, Robert Henschel, Junjie Li, Sunita Chandrasekaran. Impact of Virtualization and Containers on Application Performance and Energy Consumption. https://creativecommons.org/licenses/by-nd/4.0/ PEARC, July 2018

Sunita Chandrasekaran. Extreme Heterogeneity for Sn Transport Codes. https://bit.ly/2ULFbsW Big Data and Extreme-Scale Computing (BDEC) Meeting, Indiana University, November, 2018

Sunita Chandrasekaran. Development of a parallel algorithm for whole genome alignment for rapid delivery of personalized genomics. https://https://bit.ly/2HW62AR Big Data and Extreme-Scale Computing (BDEC) Meeting, Indiana University, November, 2018

NON-PROCEEDINGS POSTERS

Robert Searles, Sunita Chandrasekaran, Abstractions and Directives for Adapting Wavefront Algorithms to Future Architectures, GTC 2019

Eric Wright and Mauricio Ferrato, Sunita Chandrasekaran, Accelerating Chemical Shift Prediction for LArge-scale Biomolecular Modeling. GTC 2019

Joel Bricker, Sunita Chandrasekaran, OpenACC Enabled Benchmark Suite on Intel Ivy Bridge. GTC 2016

TUTORIALS AND TRAINING

Towards Comprehensive System Comparison: Using the SPEC HPG Benchmarks for Better Analysis, Evaluation, and Procurement of Next-Generation HPC Systems
* Half-day Tutorial at ICS 2019: International Conference on Supercomputing, (ICS18), Arizona, USA, 2019
* Half-day Tutorial at ISC 2019: International Supercomputing Conference (ISC), Frankfurt, Germany, 2018
* Half-day Tutorial at The International Conference for High Performance Computing, Networking, Storage, and Analysis, (SC15), Austin, USA, 2015

2017, 2018: GPU Programming Hackathon Training at Brookhaven National Laboratory in collaboration with Oak Ridge National Laboratory, June 2017
2016: OLCF GPU Hackathons and Workshops-based training in collaboration with Oak Ridge National Lab and NVIDIA/PGI
2014: Hands-on training. Introduction to GPGPU Architecture and OpenACC. Center for Advanced Computing and Data Systems (CACDS), University of Houston, April 2014

INVITED TALKS

2019
Applying directives to port MURaM code to heterogeneous systems, ASTRONUM, Paris, France, July, 2019

Development of a parallel algorithm for WGS alignment for rapid delivery of personalized genomics, PASC Minisymposium, Zurich, Switzerland, June 2019

Impact of parallel programming models on interdisciplinary scientific research, Guest Lecture, University of Basel, Switzerland, June 2019

Directives for Life Sciences, Nuclear Physics, Climate & Weather Forecast, NGS, Guest Lecture, University of Bristol, UK, June 2019

Porting MURaM (Max Planck University of Chicago Radiative MHD) to GPUs Using OpenACC, GPU Technology Conference, Invited featured speaker, CA, USA, March 2019

OpenACC-Based GPU Acceleration of Chemical Shift Prediction, GPU Technology Conference, Invited featured speaker, CA, USA, March 2019

Acceleration of Prediction of Chemical Shift Structures, SIAM CSE, Spokane, USA, February, 2019

2018
Sunita Chandrasekaran. Development of a parallel algorithm for whole genome alignment for rapid delivery of personalized genomics. https://https://bit.ly/2HW62AR Big Data and Extreme-Scale Computing (BDEC) Meeting, Indiana University, USA, November, 2018

Using the Parallel Programming Model, OpenACC, to do More Science and Less Programming, Princeton Bootcamp, USA, October 2018

HPC-as-a-service to Domain Scientists, PASC Minisymposium, Basel, Switzerland, July, 2018

Opportunities and Challenges Migrating Scientific Code to Accelerators, NCAR, Boulder, USA, June, 2018

Path forward for softwarization to tackle evolving hardware, SPIE, Orlando, USA, April 2018

Achieving Performance While Preserving Portability for NGS Application, SIAM PP, Tokyo, Japan, March 2018

Adapting Minisweep, a Proxy Application, on Heterogeneous Systems Using OpenACC Directives, Featured Speaker, Graphic Technology Conference (GTC), CA, USA, March 2018

HPC-as-a-Service to Domain Scientists, Platform for Advanced Scientific Computing (PASC), Congress Center Basel, Switzerland, July 2018

2017

Parallelization and Acceleration of the Nuclear Reactor mini-app Minisweep on an OpenPOWER platform, 2nd OpenPOWER Academia Discussion Group Workshop at SC17, Denver, USA, November 2017

Building Your Academic Professional Network. Grace Hopper Celebrations, Houston, USA, October, 2017

Using OpenACC for NGS Techniques to Create a Portable and Easy-to-Use Code Base. GPU Technology Conference. CA, USA, March 2017

Exploring on-Node Programming Models for Irregular Algorithms. SIAM CSE, Atlanta, USA, February, 2017

Programmer's perspective on evolving hardware, Challenges and Success Stories, RWTH Aachen, Germany, Feb 2017

2016 and past

Hackathons, Best Practices in HPC Training, Workshop co-located at SC16, Salt Lake City, USA, November, 2016

OpenACC status and feedback, Birds of a Feather (BoF): GPU Technology Conference (GTC), San Jose, USA, May, 2016

Industry Standards for Programming Multicore Systems: Way to go!, Multicore Devcon Conference (MDC), California, Santa Clara, May, 2014

Exascale will soon be here, how prepared are we, Argonne National Lab, Chicago, USA, April, 2014

Simplifying Heterogeneous Multicore Programming Using Industry Standards. SIAM PP, Portland, February, 2014

Open Registry for Accelerated Computing, Many-Core and Reconfigurable Supercomputing Conference (MRSC), Bristol, UK, 2011

OTHER TECHNICAL PRESENTATIONS

Achieving portability, performance and producitivity using OpenACC. SUSE Booth, Dallas, November, SC18

OpenMP 4.5 Validation and Verification Testsuite. OpenMP Booth, Dallas, November, SC18

3P to Science using OpenACC: Performance, Productivity, and Portability. NVIDIA Booth. Dallas, November, SC18

Swiss Army Programming: Performance and Portability from Modern Tools. Panel. Dallas, November, SC18

OpenACC API: User Experience, Vendor Reaction, Relevance, and Roadmap. Birds of Feather Speaker at SC16, Salt Lake City, November, 2016

Effective Programming Strategies for Multicore Embedded Systems. Speaker at the Semiconductor Research Corporation (SRC), Annual Review Meeting, Savannah, February, 2014

PROFESSIONAL ACTIVITIES

External Scientific Advisory Board (2018 - 2020)

European H2020 project: EPEEC (European joint Effort toward a Highly Productive Programming Environment for Heterogeneous Exascale Computing) Scientific-Industrial Advisory Board (SAIB), Barcelona Supercomputing Center, Spain

Invited Proposal Panels

Natural Sciences and Engineering Research Council of Canada, Canada, Review Panel, 2017
DFG (German Research Foundation), Germany, Review Panel, 2017
NSF Review Panel, 2016, 2017, 2018

Technical Specification and Book Reviewer

Multicore Association (MCA)' Task Management Standard API (MTAPI) and Software-hardware Interface for multi-many-core,(SHIM)
OpenACC Programming Standard Specification
Computer Systems: An Embedded Approach, Textbook by Ian McLoughlin

Journal Guest Co-Editors

BMC Bioinformatics,Computational Approaches for Cancer at SC17, https://doi.org/10.1186/s12859-018-2502-x, 19(Suppl 18):487, 2018

Elsevier Parallel Computing (PARCO), Special Issue on Applications for the Heterogeneous Computing Era, Volume 77,
https://doi.org/10.1016/j.parco.2018.06.002, 2018

Elsevier Parallel Computing (PARCO), Special Issue on Special Issue on Topics on Heterogeneous Computing, Volume 68,
https://doi.org/10.1016/j.parco.2017.08.001, 2017

Special Issue in Inderscience Publishers on Novel Strategies for Programming Accelerators
http://www.inderscience.com/info/ingeneral/cfp.php?id=3437, December 2017

Special Issue in Inderscience Publishers on High-level Programming Approaches for Accelerators
http://www.inderscience.com/info/ingeneral/cfp.php?id=3438, December 2017

Scientific Programming, Programming Models, Languages, and Compilers for Manycore and Heterogeneous Architectures, Volume 2015, Article ID 376317, http://dx.doi.org/10.1155/2015/376317, 2015

External Professional Research Leadership Activities

Research Posters Chair, ISC 2019
Workshops Chair, SC19

Technical Program Co-Chair, PASC 2019
Research Posters Vice-Chair, ISC 2018
ACM Intel Leadership fellows, SC 2018
DOE Leadership Computing | INCITE Program, 2018
Workshop Co-chair for the 1st to 4th International Workshop on Performance Portable Programming Models for Accelerators (P$\hat{3}$MA) co-located with ISC, 2016 - 2019
Workshop Co-Chair of the 1st - 5th Workshop on Accelerator Programming Using Directives (WAACPD), co-located with SC conference, 2014-2018
General Chair for the 7th and 8th International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) co-located with IPDPS, 2017, 2018
Workshop Co-Chair of the 1 - 3th HPC Applications in Precision Medicine co-located with ISC, 2017-2019
Doctoral Showcase Chair, SC17
Workshop Co-chair for the 4th-6th International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) co-located with International Parallel & Distributed Processing Symposium (IPDPS), 2014-2016
Vice-Chair of Software Track, International Parallel & Distributed Processing Symposium (IPDPS), 2017
Track-Chair of Programming Models and Systems Software, International Supercomputing Conference (ISC), 2017
Poster and Research Demo Chair for the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, (CCGrid), 2015
Workshop Chair for Programming Models, Languages and Compilers Workshop for Manycore and Heterogeneous Architectures (PLC), co-located with , International Parallel & Distributed Processing Symposium (IPDPS), 2015
Workshop Chair for the First and Second Workshop on Directives and Tools for Accelerators: A Seismic Programming Shift, 2014-2015

Steering Committee Roles

Women in HPC, SC 2016-2018, ISC 2016-2018
International Workshop on Accelerators and Hybrid Exascale Systems (AsHES) co-located with IPDPS, 2018, 2019

Technical Program Committee

International Supercomputing Conference (ISC), 2019
Workshops for IPDPS 2019
i SC Conference, 2018
International Parallel & Distributed Processing Symposium (IPDPS), 2018
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, (CCGrid),2018
International Workshop on FPGAs for Software Programmers, 2018
3rd Workshop on Open Source Supercomputing, 2018
Doctoral Showcase Chair, SC17
International Conference on Parallel Processing (ICPP), 2017
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, (CCGrid) (Track: "Programming Models and Runtime Systems"), 2017
SC conference 2016
Doctoral Showcase, Birds of Feather (Algorithms Track), Workshop on Computing and Cancer, Workshops on Energy Efficient Supercomputing (E2SC)
International Workshop on FPGAs for Software Programmers (FSP), 2016
International European Conference on Parallel and Distributed Computing (Euro-Par), 2016
International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), 2016
International Conference on Network and Parallel Computing, 2016
International Conference on Parallel Processing (ICPP), 2016
DOD Workshop on Mission-Critial big data analytics, 2016
First International Workshop on Open POWER for HPC (IWOPH) co-located with ISC, 2016

IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, (CCGrid), 2014-2016
30th IEEE International Parallel & Distributed Processing Symposium, PhD Panel on research and career planning and PhD Poster Judging Committee, 2015
SC conference, 2015
Doctoral Showcase Committee, Technical Program Committee (Performance Track), 2016
IEEE Cluster, 2014
8th Workshop on General Purpose Processing using GPUs (GPGPU-8), 2014
22nd European Signal Processing Conference (EUROSIP), 2014
International Symposium on Integrated Circuits (ISIC), 2014
Workshop on Multicore and GPU Programming Models, Languages and Compilers, PLC, co-located with IPDPS, 2013- 2014
International Joint Conference on Neural Networks (IJCNN), 2015
The International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2012, 2013
ACM Student Research Competition, Poster Committee
50th Design Automation Conference (DAC) (External Reviewer), 2012

Reviewer for Journals

Journal of Parallel and Distributed Computing (JPDC)
IEEE Transactions on Cloud Computing (TCC)
International Journal of Parallel Programming (IJPP)
Transactions on Architecture and Code Optimization (TACO)
Elsevier Parallel Computing (PARCO)
Journal of Supercomputing (SUPE)
Transactions on Software Engineering (TSE)
IEEE Transactions on Parallel Distributed Systems (TPDS)
Concurrency and Computation: Practice and Experience (CCPE)
Elsevier Future Generation Computer Systems (FGCS)
IEEE/ACM Transactions on Computational Biology and Bioinformatics(TCBB)