

Invited Technical Talks

2020

- Training and Best Practices to Develop Portable Yet Performant Code, Seattle, February, Society for Industrial and Applied Mathematics, Parallel Processing (SIAM PP), Seattle, USA, Feb 2020 *Competitive. Talks at SIAM are peer-reviewed and accepted for presentation.*

2019

- Running PIconGPU on Summit. CAAR: Preparing PIconGPU for Frontier at ORNL, 4th OpenPOWER Academic and Research Workshop, Denver, USA, Supercomputing Conference (SC), Nov 2019
- OpenMP 4.5 Validation and Verification Testsuite, 4th OpenPOWER Academic and Research Workshop, November, Denver, USA, Supercomputing Conference (SC), Nov 2019

The above two talks were presented at The OpenPOWER Academic and Research Workshop, which is an exclusive workshop. I was one of the 10 speakers invited to share experiences on using Summit, the world's fastest supercomputer at the Oak Ridge National Laboratory for my two projects: CAAR and the validation and the verification testsuite.

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

By-invitation only conference. I was the only invited Computer Science speaker among 30 other domain science speakers spanning applied mathematics, space physics, astrophysics, and geophysics at the conference. I was invited to create an awareness via my talk about the different programming strategies one could employ to achieve a performance portable high-level software solution while migrating a scientific code to large supercomputers.

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

Competitive. Talks at PASC are peer-reviewed and accepted for presentation.

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

Invited Guest Lecture

- OpenACC-Based GPU Acceleration of Chemical Shift Prediction, GPU Technology Conference (GTC), Invited featured speaker, CA, USA, Mar 2019

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

Competitive. The above two talks were accepted and given at GTC. I was one of the 7 invited featured speakers for the High Performance Computing Category (HPC) at the conference. All invited talks

at GTC are peer-reviewed before acceptance.

- Acceleration of Prediction of Chemical Shift Structures, SIAM CSE, Spokane, USA, Feb, 2019
Competitive. Talks at SIAM are peer-reviewed and accepted for presentation.

2018

- Development of a parallel algorithm for whole genome alignment for rapid delivery of personalized genomics.
NSF-funded International workshop Big Data and Extreme-Scale Computing (BDEC) Meeting, Indiana University, Bloomington, USA, Nov, 2018
[Invited to present by Dr. Jack Dongarra \(UT Knoxville\), a pioneer in High Performance Computing.](#)
- 3P to Science using OpenACC: Performance, Productivity, and Portability. NVIDIA Booth at the SC showfloor. Dallas, Nov, SC18

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

[Invited Panelist](#)

- Using the Parallel Programming Model, OpenACC, to do More Science and Less Programming, Bootcamp, Princeton University, NJ, USA, USA, Oct 2018
[Invited instructor at the Princeton University Bootcamp](#)
- HPC-as-a-service to Domain Scientists, PASC Minisymposium, Basel, Switzerland, July, 2018
Competitive. Talks at SIAM are peer-reviewed and accepted for presentation.
- Opportunities and Challenges Migrating Scientific Code to Accelerators, National Center for Atmospheric Research (NCAR), Boulder, USA, June, 2018
[Invited Computational Information Systems Laboratory \(NCAR-CISL\) Seminar Talk](#)
- Achieving Performance While Preserving Portability for NGS Application, Society of Industrial Mathematics, Parallel Processing (SIAM PP), Tokyo, Japan, Mar 2018
Competitive. Talks at SIAM are peer-reviewed and accepted for presentation.
- Adapting Minisweep, a Proxy Application, on Heterogeneous Systems Using OpenACC Directives, Featured Speaker, Graphic Technology Conference (GTC), CA, USA, Mar 2018
Competitive. Talks at GTC are peer-reviewed and accepted for presentation.
- Path forward for softwarization to tackle evolving hardware, SPIE, Orlando, USA, Apr 2018

2017

- Parallelization and Acceleration of the Nuclear Reactor mini-app Minisweep on an OpenPOWER platform, 2nd OpenPOWER Academia Discussion Group Workshop, Supercomputing Conference (SC), Denver, USA, Nov 2017
[Invited to share project experience using Summit, world's fastest supercomputer](#)

- Building Your Academic Professional Network. Grace Hopper Celebrations, Houston, USA, Oct, 2017
- Using OpenACC for NGS Techniques to Create a Portable and Easy-to-Use Code Base. GPU Technology Conference (GTC). CA, USA, Mar 2017
Competitive. Talks at GTC are peer-reviewed and accepted for presentation
- Exploring on-Node Programming Models for Irregular Algorithms. SIAM CSE, Atlanta, USA, Feb, 2017
Competitive. Talks at SIAM are peer-reviewed and accepted for presentation
- Programmer's perspective on evolving hardware, Challenges and Success Stories, RWTH Aachen, Germany, Feb 2017
Invited Guest Lecture

2016

- 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

Prior to the tenure period (before Fall 2015)

- 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, Apr, 2014
- Simplifying Heterogeneous Multicore Programming Using Industry Standards. SIAM PP, Portland, Feb, 2014
- Open Registry for Accelerated Computing, Many-Core and Reconfigurable Supercomputing Conference (MRSC), Bristol, UK, 2011

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