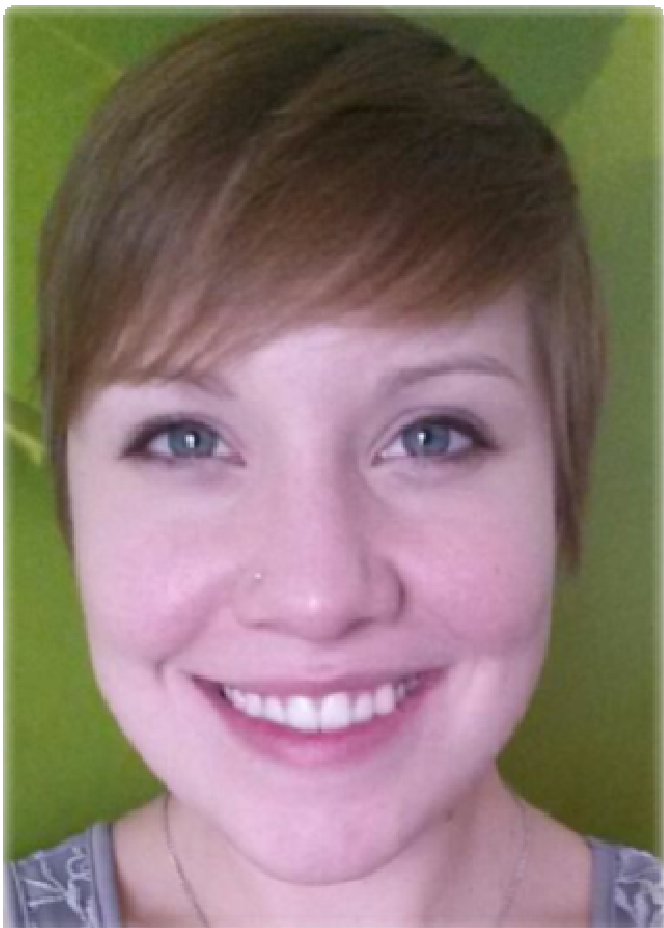# PURDUE UNIVERSITY

University of Colorado Boulder

Team Members

Brandon Stewart is a freshman in Computer Science at Purdue. In his free time he enjoys reading about technology, programming, debating politics, and hiking. He has been programming since the start of high school. Other clubs he is part of at Purdue are the IEEE Remotely Operated Underwater Vehicle club and ITASCA.

Samm Elliott is a senior studying applied mathematics with an emphasis in computational physics at CU. He is also conducting performance analysis and optimization of the Weather Research and Forecasting model (WRF) at the National Center for Atmospheric Research (NCAR). In the past he has also worked on hydrological analysis of dynamical downscaling WRF simulations in atmospheric river events at the US National Atmospheric and Oceanic Administration (NOAA). After graduation Samm intends to attend graduate school and further his education in HPC and related fields.

Austyn Cousins is a Freshman at Purdue from Cleveland, Ohio in the US. He is currently an Honors First-Year Engineering student, and will be going into Computer Engineering following this year. In addition to his academic curriculum, Austyn is a member of the Purdue IEEE Computer Society and a trumpet player in Purdue's "All-American" Marching Band. In his minute amount of free time, Austyn enjoys performing in Purdue athletic pep bands as well as participating in Nerf wars held by the Boiler League of Tag.

Danny Brill is a junior pursuing a degree in Computer Science at the University of Colorado at Boulder. He has held the position of security engineer at Silent Circle in Washington D.C. since the summer of '15 and has been a member of Boulder's cluster team from the fall of 2014 onward. During his time at CU thus far Danny has worked on Project Lighthouse, a framework for applying HPC to matrix algebra computations. In his spare time he enjoys snowboarding, fishing, and climbing.

Emma Wynne is the youngest of 5 siblings from Indianapolis, Indiana in the US. Her father is a self taught programmer and is the reason she is now a Computer Science senior studying software engineering at Purdue. She most enjoys the creative aspects of software programming, but have spent plenty of time with the hardware and systems, working as a Student Systems Administrator at Purdue's Research Computing. Her favorite hobbies outside
of Computer Science are dropping everything to spend time with her dogs and singing with her guitar.

Kaleb Bodisch is a Senior at the University of Colorado Boulder where he is studying astrophysics and computer Science. He currently works on campus at the Laboratory for Atmospheric and Space Physics where he studies the composition of Jupiter's magnetosphere. When he is not programming or working on physics he enjoys going for hikes, snowboarding and the occasional downhill mountain biking session.

ISC High Performance

MATRIX INTEGRATION

Our System
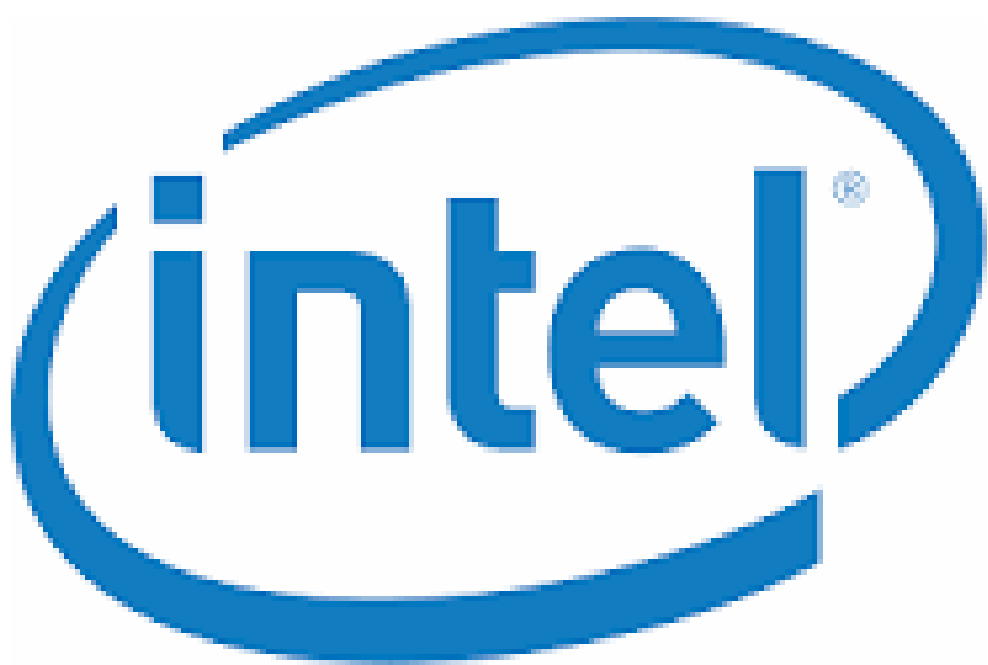
HP ProLiant XL230a Gen9 in HP Apollo 6000 chassis (10 nodes)
- Intel E5-2698v3 (Haswell) 2.3GHz w/40M cache
- 64gigabytes of DDR4 RAM per node (Head node has 256gigabytes)
- HPE Mellanox ConnectX-4 (36-port switch, cards and cables)
- 9 x 240 GB SSD, 1 x 1 TB SSD
Software Stack
- CentOS 7
- Intel 16
- GCC 5
- Intel MPI and OpenMPI 1.10

Hewlett Packard Enterprise

intel

Mellanox TECHNOLOGIES

HPC ADVISORY COUNCIL NETWORK OF EXPERTISE

Faculty Advisors

Chuck Schwarz is an HPC Systems Administrator in Research Computing at Purdue University. Formerly a supply chain analyst/developer and freelance consultant, he enjoys tackling the unique challenges that manifest themselves in the realm of high-performance computing. When hes not wrangling supercomputers, he enjoys cooking, woodworking, 3D printing, and reading.

Doug Smith is an HPC & Network Engineer for the Laboratory for Atmospheric and Space Physics at the University of Colorado and he has been involved in cluster competitions since the beginning (2007). His interests in computing are fluid dynamics as well as high speed networking and space science applications. Outside of the lab Doug enjoys outdoor activities in the mountains with his family.

Lev Gorenstein was born in Siberia and trained as a chemical engineer and polymer chemist in Moscow Institute of Fine Chemical Technology, Russia. His simultaneous interest in both computers and physical chemistry had naturally brought him into the fields of computational biochemistry, structural biology and protein structure simulations. Subsequently, computers seem to have won and Lev is currently a Senior Scientific Applications Analyst in Research Computing at Purdue.