



Team Members

Abhishek Enaguthi

Senior at Oregon State University majoring in Computer Science (AI focus) with a minor in Finance. Interested in high-performance computing and compiler design.

Stella Greenvoss

Junior at the University of Oregon majoring in Computer Science. Works in front-end web development with interests in HPC and graphics.

Noah Bean

Senior at Oregon State University majoring in Electrical and Computer Engineering with a minor in Statistics. Interested in high-performance computing and applied mathematics for scientific discovery.

Denver McCarthy

Computer Science student at Portland Community College with professional experience in web and mobile development. Interested in high-performance computing for solving complex problems.

Nabeeha Saffat

Senior at Portland State University majoring in Mathematics with a minor in Computer Science. Interested in high-performance computing applications in astronomy and medicine.

Alex Rivera

Junior at Portland State University majoring in Computer Science. Experienced in programming and hackathons with interests in HPC, AI, and computer networking.

Team Introduction

Forging a new legacy of statewide collaboration, the Inaugural Oregon IndySCC team unites students from four distinct institutions: the University of Oregon, Oregon State University, Portland Community College, and Portland State University. Brought together by a shared and passionate interest in high performance computing, these students are trailblazers for their state. They are driven by the excitement of exploring a new field, the challenge of the competition, and the unique honor of representing Oregon as a single, unified team. This team represents something far greater than a single competition; it is a catalyst for a new era of partnership across Oregon. Their journey is bringing together not only students but also HPC staff, IT leadership, and researchers from all participating universities. They are not just competing for a prize; they are building a foundation for future collaboration and strengthening the entire state's research and technology ecosystem for years to come.

Team Preparation and Strategy

- EXPLORE** As an inaugural team with many team members new to HPC, preparation emphasized education, collaboration, hands-on experience, and exposure to the full range of skills needed for the competition.
- LEARN** Team members attended existing HPC workshops from the parent institutions to get familiar with cluster computing from the user side before turning attention to administering.
- ORGANIZE** The team participates in weekly meetings where they are introduced to new topics, as well as talk about deployment and optimization strategies
- COLLABORATE** Google shared drive was used for meeting notes and documentation, GIT repository for custom code and configuration files, and discord channel for the team communication outside of the meeting
- TEAMWORK** Some tasks have been worked on as a group while other tasks would be assigned to different team members during the meeting.
- FLEXIBILITY** Members would work on their assigned tasks asynchronously and their results would be reported to the rest of the team where further optimization strategies would be discussed.

Team Support

This pioneering team is backed by a powerful, statewide network of support. Mentors include a diverse group of HPC professionals and researchers from across Oregon's top institutions — including Oregon Health Science University — who are all providing hands-on workshops and expert guidance. To sharpen their skills, the team has access to ORCA, the Oregon Regional Computing Accelerator, allowing them to explore HPC and train on a formidable regional resource as they prepare for the competition.



Software and Infrastructure Information

Category	Software	Notes
Operating System	Rocky Linux 9	
Scheduler	SLURM	
Compilers and Math libraries	GCC, AOCC, OpenBLAS, AOGL, MKL	Evaluating performance of the software build using different compilers and libraries. Evaluating performance of the software build using different compilers and libraries
MPI Implementation	OpenMPI, MPICH	We wanted multiple MPI implementations in order to compare and contrast
Accelerator support	CUDA and OpenACC	
Infrastructure Management	Ansible	Used for ad hoc node management and configuration changes
Benchmarks	HPL, HPCG, OSU microbenchmarks, Profilers, Stream	Used to validate configuration and measure performance
Software deployment	Spack	To deploy software we both use spack and compilation from source for the competition and non competition common HPC software
Software used for testing	LAMMPS, GROMACS	To gain diverse experience in fine-tuning and optimizing runs of various software applications

