

Virtual Undergraduate Town Hall FAQ

High Performance Computing at Oak Ridge National Laboratory and Optimize Your Undergraduate Research Experience

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High Performance Computing at Oak Ridge National Laboratory: Careers, Research Opportunities, and State-of-the-Art Technology

What kind of background do I need to work in High Performance Computing?

- That depends on the role you are interested in. Many in my group have a physics background, but several colleagues at Oak Ridge National Laboratory have backgrounds in economics, social sciences, and biology. In my opinion, your degree specialty is not as important as the skills you possess or past experiences, particularly in the technical tracks.

What are the main differences you experienced working at a National Laboratory versus a private company?

- In industry, you have a very defined task to accomplish and usually a very strict timeframe to complete each task. Working at the National Laboratory, even though you still have strict deadlines, you have so much support from your colleagues, as you are often surrounded by experts in other fields. This allows you to create collaborations, and it is one of my favorite parts of working at the lab.

Identify and Make the Most of an Undergraduate Research Experience

What is the benefit of participating in an academic year REU if I've already completed a summer REU?

- The academic year allows you to work on more extensive projects. While you may be able to write a paper during the summer, the full academic year allows you to discuss a topic in greater length and at multiple locations. An academic REU also gives you an opportunity to participate in more collaborative work since you would be part of a team.

Have you had any mentors during your academic studies or profession? How have they impacted your career?

- The SC Conference series offers many resources to help you find mentors and connect with experts in the field. I attended the conference in 2010, where I was assigned two mentors. I have kept in touch with one of them to this day.
- This conference also allowed me the opportunity to meet many professionals in my field that I turned to for advice on multiple occasions. As a matter of fact, these contacts were the ones who encouraged me to visit Oak Ridge National Laboratory in Tennessee, and ultimately join the ORNL team.

What was your biggest concern about going to graduate school, either before or while attending?

- I was sure I wanted to work in computer science at a more applied level, but I was worried that I would have to commit to one specialization (e.g. climate scientist, material scientist). At the time, I was not aware of the flexibility that High Performance Computing could offer me career-wise, but working at ORNL I've remained a generalist, working to assist many different industries (e.g. molecular dynamics, bioinformatics).

What attracted you to research?

- My University actually required a senior thesis for graduation, so everyone had to do research. I was fortunate to go to a school where the classroom ratios were 5:1 or 10:1, so I got to work closely with my professors. Our professors encouraged us to select research that interested us so my environment helped develop my passion for research. Those who are not as fortunate to have small team research built into their learning environment can participate in an REU to gain that experience.