THE PROGRAM

Alumni Speakers:

DANIEL CHAVEZ | Washington State Department of Health
NICOLE ENGER | University of Washington Department of Medicine
MATTHEW McCAMMANT | Incyte Corporation
Daniel Chavez is a chemist 1 in the department of newborn screening where all infants born in Washington, Hawaii and soon Idaho are tested for a number of rare but treatable disorders using dried blood specimens. Chavez’ work focuses on running the initial screen for hemoglobinopathies, which includes sickle cell disease, through the process of isoelectric focusing.

Chavez appreciates the various opportunities at the Department of Health. “There are multiple departments. If a position opens up that you are interested in, you are encouraged to apply,” Chavez said.

There is a microbiology lab that tests samples for a variety of bacteria, parasites, and viruses that cause diseases, including COVID-19. There is an environmental science lab that tests shellfish, air, water, and soil for biological, chemical and radiological contamination. In newborn screening where Chavez works, the lab tests dried blood specimens for 32 metabolic conditions.

Chavez suggests CWU students take a variety of chemistry classes to become well-rounded chemists, and says instrumental analysis is one of the most crucial classes. Companies look for people who have experience using instrumentation, even if it's just the basics of how the instrument works. He also points out the importance of being prepared and asking questions during an interview. It shows you have an interest in the company and will help you stand out from other candidates.
Nicole Enger says she is thankful that as a grad student at CWU, she had the opportunity to study biochemistry in Professor Todd Kroll’s lab. “The program itself was, at times, mentally exhausting. But now I get to call myself a scientist,” Enger said.

After leaving CWU, Enger was hired by Dr. Kenichi Fujise to work as a research scientist in his lab at the University of Washington, Department of Medicine. The lab is part of the Division of Cardiology and focuses on the translationally controlled tumor protein, fortillin.

“Our main focus is to elucidate the role of fortillin in atherosclerosis and heart failure,” Enger said.

Enger has performed various molecular biology/biochemistry techniques, including molecular cloning, SDS-PAGE, western blot, protein production/purification, mammalian cell culture, and breeding/maintaining a mouse colony.

Enger recommends chemistry and biochemistry students take science courses outside of what’s required. She also suggests joining a research lab, or becoming a teaching assistant or tutor to get more hands-on experience.

“The more you step outside of the classroom and immerse yourself in science, the easier the transition will be from college to your first job,” Enger said. “I strongly suggest keeping your options open. There are many different paths you could take in science, whether that be working in academia or in an industry position. After graduating college, you have a whole world and a life ahead of you. This is the time to discover what you are truly interested in and passionate about.”
While attending graduate school at the University of Utah, Matt McCammant’s research focused on the development of Pd-catalyzed cross-coupling reactions. After completing his PhD, McCammant took a research fellowship at the University of Michigan where, in collaboration with researchers at Merck, he focused on novel chemical transformations to access $^{18}$F-labeled positron emission tomography (PET) tracers.

At Incyte Corporation McCammant works on the ground floor of drug discovery, aiming to develop the next generation of small molecule inhibitors that activate the body’s immune system to fight cancer. Beyond target design and synthesis, as an organic chemist McCammant relies heavily on critical thinking, multi-dimensional data analysis, and communicating results.

McCammant recommends students build a network to help focus their job search, build confidence, and open doors to employment opportunities.

“Find people in the field(s) you’re interested in, reach out to them and have a conversation,” McCammant said. “Discuss with them the steps they took to get where they are today and what they look for in potential candidates for positions you’re interested in. If you’re unsure about what a particular job involves, ask questions and build a deeper understanding.”

“In general, try to find a position that you’ll be excited for every day, for an employer that values its employees in all areas of their careers,” McCammant said. “All jobs have the mundane tasks but when you’re doing something you love those annoying tasks turn into white-noise in the background.”
**Degree Options**
- Bachelor of Science
- Bachelor of Science Biochemistry
- Bachelor of Arts
- STEM Teaching Minor
- Master of Science

**Get Involved**
- Serve as a Teaching Assistant
- Join a Research Group
- Be active in Chemistry Club

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