#IamUCI – Paul Hurst

Q&A with Class of 2023 graduate Paul Hurst, Ph.D., chemistry
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Hurst poses in front of the McWilliams Infinity Fountain at the UCI School of Physical Sciences.

Picture Credit:
Steve Zylius/UCI

Paul Hurst was born in Indiana, but his family moved to Hawaii when he was 1. He went to Kahuku High School, a small campus in Oahu's North Shore, then moved to Utah to earn a B.S. in chemistry at Brigham Young University.

Hurst says he has always had a fascination with the natural world. While his high school offered few opportunities for engaging in STEM learning, he did get to participate in a science fair as an

honors student. Hurst's experiments around this time focused on metal erosion and electrochemistry. "They were quite simple experimental setups, but they gave me enough interest to decide to pursue a degree in chemistry," he says.

At UCI, Hurst's dissertation research was on the self-assembly of polymers, molecules that contain a repeating unit, "like a bunch of Legos stacked on top of each other," he says. They include materials used in consumer plastics, rubber tires and fabrics. A specific area of research for Hurst involved the development of nanoparticles that contain some segments that are attracted to water and some that repel it. The main application for these nanoparticles is drug encapsulation that can facilitate controlled pharmaceutical delivery. They can also be used in catalysis and manufacturing.

Hurst says he gained inspiration from his ancestors: "When my grandparents came to the U.S. from Peru, they had to work as caretakers and janitors in their old age. From their example, I learned to never devalue work that does not require a formal education. In addition to my Peruvian heritage, my father and his side of the family are from the mainland U.S., but I was raised in Hawaii, a place with a rich cultural heritage quite different from the mainland. Being from many backgrounds has helped me develop empathy for others. I hope that as a researcher, I can be cognizant of the needs of people from all walks of life."

Can you describe a time you felt most proud to be an Anteater?

When deciding which graduate school to attend, I had the opportunity to visit a few schools. My gut feeling was that UCI was a place full of genuine and friendly people. I have not been disappointed. The university and the Department of Chemistry are committed to excellence in research and mentorship. In addition to research, as a resident of graduate and family housing, I have had the opportunity to be a garden fellow. I have enjoyed working with other students in the garden and helping people get started in gardening. Simple things like this have made me proud to be an Anteater.

What are your plans after graduation?

In starting my Ph.D., my goal was to become a professor. It still is. I will be joining the Waymouth lab at Stanford as a postdoctoral fellow studying polymer-based mRNA delivery, among other topics. Afterward, I will be on the job market looking for a tenure-track professor position at a research university.

> *“Paul was one of the first students to join my lab and played a key role in building our research program. It’s difficult to imagine what the lab would have been like if Paul had not joined, but it definitely wouldn’t have been as successful without him. It’s been so much fun to work with Paul, brainstorming ideas and working through problems. Research is tough, but when you work together as a team, it’s extremely rewarding. I’ve been consistently impressed with Paul’s knowledge and creativity, and I’m excited to see where his future will take him. I’m sure he will continue to be extremely successful.”*
>
> *– Joe Patterson, assistant professor of chemistry*

Who has been your biggest influence at UCI?

My Ph.D. advisor, Joe Patterson, has been incredibly supportive of my endeavors and has given me the space to develop my own ideas. We have had many great discussions that have felt like two scientists discussing research rather than an advisor talking down to a trainee. I hope to incorporate his practices as a mentor in my future research group. It would be wrong to leave out my own family as some of my biggest influences. My wife and my daughters, who were born during my time at UCI, have supported me and given me reason to work hard. My Ph.D. has been a family effort.

What advice would you give to your first-year self?

Just to enjoy the journey. Your time at UCI is full of great opportunities. Often, we stress out too much over prestige and finishing checklists that we can’t enjoy the discoveries we’re making or the material we’re learning.

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