#IamPhysSci - Sebastian Alejandro Fernandez, B.S., Chemistry

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Tatiana Overly
UCI School of Physical Sciences



At UCI, Sebastian Fernandez found an academic environment to explore synthetic chemistry through his research and a platform to make a positive impact on his fellow students.

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Lucas Joel

Sebastian Alejandro Fernandez grew up in an environment steeped in artistic expression, with a sculptor father and a ballerina sister shaping his own artistic inclinations. It seemed a sure thing, then, that he would follow in the creative footsteps of his family.

But then two high school chemistry teachers, Ms. Holtz and Mr. Sogo, inspired him to follow a path into science – something not yet done by his family. “It was the first time a teacher told me I was good at something,” Fernandez said.

After a field trip to UC Irvine’s Nuclear Magnetic Resonance Spectroscopy Facility in his junior year of high school, Fernandez knew chemistry was where he wanted to be. A few years later, he started his studies at the UCI Department of Chemistry.

One key moment at UCI came when Nobel laureate Sir Dave MacMillan, an alumnus of the chemistry department, gave a talk on campus that inspired Fernandez to delve deeper into lab research.

A few months later, Fernandez landed his first research assistant position in Professor Chris Vanderwal’s lab. On his first day, Fernandez spotted something out of the ordinary: a sign on a fume hood that read “This fume hood has hosted one Nobel laureate. Will there be a second?”

Fernandez understood the implication – if one alumnus did it, why not another? “I realized at that moment that an education at UCI is whatever you make of it,” he said.

UCI gave Fernandez an academic environment to explore synthetic chemistry through his research, and a platform to make a positive impact on his fellow students. As a mentor for students in lower-division courses, he sees the role as an opportunity to give back what his mentors gave him.

Fernandez spent his last year at UCI as an undergraduate research assistant in Professor Chris Vanderwal’s lab, where he developed complex, biologically interesting natural products that maximize efficiency while minimizing environmental impact.

His area of research promises wide-ranging applications, from drug development to the creation of complex molecules, illustrating the potential of organic synthetic chemistry and the reason why Fernandez finds inspiration in his work.

“I thought I had left a life of art behind, but through my research, I realized that organic synthetic chemistry is an art form of its own,” Fernandez said, who received the UCI Department of Chemistry’s Don L. Bunker Award for outstanding undergraduate research.

The mentorship Fernandez received from Professor Chris Vanderwal has been instrumental in shaping his path as a synthetic chemist. Vanderwal instilled in him the values of respect and patience in scientific inquiry, principles Fernandez will carry with him after UCI.

After graduation, Fernandez is starting a Ph.D. in chemistry with a focus on organic synthesis at Scripps Research Skaggs Graduate School in San Diego, California. His interests extend beyond existing applications of synthetic chemistry, aiming to broaden the scope of natural product application to solve a wider array of problems.

Reflecting on his time at UCI, Fernandez cherishes the serene moments spent in Aldrich Park – a reminder of the importance of balance in life and the beauty of nature amidst all of life’s demands. His parting advice to his peers and future UCI students is to seize every opportunity to enjoy a breath of fresh air in UCI’s outdoor spaces.

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