

THE *Current*

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Mentorship and Motivation

A single week can change everything. It sure did for Cristina Soto-Balderas.

A junior transfer student at UC Santa Barbara, Soto-Balderas and 19 other undergraduates recently traveled to the Smithsonian Conservation Biology Institute (SCBI) in Virginia for a pilot program called UCSB-Smithsonian Scholars Week.

Before she went, Soto-Balderas said, she had been unsure exactly how she would apply her love of math and science to a professional career. But after a week of classroom, field and lab-based activities focused on applied conservation science and research, she was sold.

“I wasn’t thinking about conservation at all before this program,” said Soto-Balderas, who added a minor in spatial studies so she could learn programming and help scientists model species’ migratory patterns and population fluctuations. “Now, I’m hoping to get good enough in analysis so that I can use those skills to contribute to conservation.”

For Soto-Balderas exposure to the myriad ways that math majors like herself can impact the field of conservation was perhaps the most important takeaway from the trip. But her favorite memories are many, from scholarly presentations on everything from panda reproduction to frog diseases, to meeting other students and making new friends, to seeing fireflies for the first time. “Being surrounded by biologists,” she explained with a laugh, “everyone started trying to catch them.”

The inaugural UCSB-Smithsonian Scholars Week saw a cohort of 20 first-generation college students (four from UCSB and 16 from Santa Barbara-area community colleges) immersed in groundbreaking research at state-of-the-art Smithsonian facilities, all while exploring multidisciplinary approaches to biodiversity conservation. For many of them, the trip was their first experience collecting data outside of a laboratory.

Conceived by Mario Castellanos, executive director of UCSB's Office of Education Partnerships, and Steve Monfort, director of SCBI, the program aims to help students from low-income or underrepresented minority backgrounds get practical research and mentorship experience. The two have known each other for more than a decade, and an official partnership seemed like a mutually beneficial prospect.

"I've always been a bit of a sucker for finding students who have the desire and the passion and giving them an opportunity to achieve their dreams," said Monfort. "It's a very powerful feeling when you know you've helped someone to progress in their life and their career. I think this program was designed to lift kids up by giving them the opportunity for success."

Castellanos said he considers himself lucky to have connected with a number of professional mentors throughout his career — and wants to open those same doors for students today. "I wasn't the top student, but I had the interest, and that afforded me great opportunities," he said. "We want to continue supporting those students. Research shows that early exposure to research and mentorship helps students persist and be successful."

As part of the partnership with the Smithsonian, which has been formalized and will be funded through the summer of 2018, UCSB offers activities any student can participate in, like webinars and guest speaker workshops held throughout the year, as well as coveted opportunities for fieldwork in June (on Santa Rosa Island) and an expanded two-week program in August (in Washington, D.C. and Virginia). In addition, the program is developing multi-week research opportunities on the UCSB campus, within the UC Reserve system, and at the Santa Barbara Museum of Natural History.

Castellanos stressed the practical benefits of doing hands-on research with trained professional scientists. "The students love doing the fieldwork," he said. "I think it helps them see themselves in that role, and they realize that the science community

is accessible. The process of conducting research is a skill and needs to be taught and practiced. This program provides students with that early experience in a dynamic environment and nurtures their interest.”

Echoing Castellanos’ sentiments, Soto-Balderas said she loved her time doing fieldwork on the 3,000-acre SCBI campus, where she was in awe of all of the scientists with whom she connected. The chance to meet many different SCBI scientists proved invaluable, she said, and was not nearly as intimidating as she expected.

“We got a crash course in all types of research,” Soto-Balderas said. “So many scientists who were down-to-earth came to talk with us.” It was through these meetings that she found her passion for using mathematical models to solve problems of conservation.

“One of their main goals was building connections and mentorships, so that’s what I tried to do,” she continued, adding, “and now I know people who work at the Smithsonian!”

The benefits of the experience were apparent to Monfort as well. “It’s a short trip, but it’s very clear that it made an impact on them,” he commented. “It validated their interests and made them feel like somebody believed in them. They’ve come back and their confidence is higher.”

More than just training future conservationists, Monfort said he relishes the impact that such programs could have on the future of the planet. “At the Smithsonian, we have an investment in understanding and sustaining a biodiverse planet,” he explained. “This program is a platform for elevating that kind of an effort.” Both he and Castellanos hope that UCSB’s curriculum can be used as a model for other universities, so that as many students as possible will have the opportunity to find a new professional mentor or passion for research.

The Office of Education Partnerships is actively recruiting students for the program’s next session. “We’re looking for students across disciplines, and trying to show them a field that incorporates a lot of different disciplines, so they can find a pathway that might make sense for them,” Castellanos said.

About UC Santa Barbara

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