

2013

The Story of Four Fellowships

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Repository Citation

Norman, Jean R. (2013) "The Story of Four Fellowships," *UNLV Innovation: Vol. 6, Article 8*.

Available at: <https://digitalscholarship.unlv.edu/innovation/vol6/iss1/8>

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The Story of Four Fellowships

Meet four recipients of UNLV's most prestigious graduate fellowships and learn about their research and their gratitude for the funding that made it possible.

Profiles by Jean Reid Norman

As UNLV continues its upward trajectory toward becoming a top-tier research institution, one of its key goals will be supporting doctoral students.

"Doctoral students are an absolutely critical part of the research endeavor," says Thomas Piechota, interim vice president for Research and Economic Development. "Research is very often conducted in teams, and doctoral students are vital members of these teams. They work with faculty in mutually beneficial collaborations that advance research."

This occurs at all major research institutions across the world, he says.

"So if we are to build UNLV's reputation for research, doctoral students must be supported," Piechota says.

One of the best ways to support doctoral students is by offering doctoral fel-

lowships, according to Kate Korgan, interim dean of the Graduate College.

"Fellowships provide doctoral students with the financial support they need to complete their research and write their dissertations in their final year," Korgan says. "This kind of financial assistance is essential and impactful because it supports doctoral students so that they can focus on completing their degrees."

Both Piechota and Korgan agree that significantly increasing doctoral fellowship support is pivotal to establishing UNLV as a tier-one research institution. As evidence of the importance of fellowships, they point to four of this year's recipients to illustrate the kind of sophisticated research being conducted and the value of the fellowships to the students. All of their fellowships are provided with private funding from the UNLV Foundation.

ISRAEL ALVARADO LIFE SCIENCES

When Israel Alvarado says he's been as busy as a bee, he knows what he's talking about. But he might be just as inclined to say he's as sick as a bee.

Alvarado's research takes him deep into an illness that affects 4 percent of honeybee hives inspected in a U.S. Department of Agriculture survey. American Foulbrood Disease occurs when honey bee larvae eat food contaminated by the spores of a seed-like bacterium, and it can kill a colony. Alvarado is trying to figure out how the disease establishes itself in hives and what substances have the potential to halt it.

"AFB disease can impact the health of the honey bee colonies we use to pollinate our crops," he says. "So this can have a significant impact."

His doctoral research takes Alvarado into multiple scientific disciplines, including physiology, microbiology, and biochemistry. He works with life sciences professor Michelle Elekonich and chemistry professor Ernesto Abel-Santos, both of whom have been critical to his success.

"Without their support, I could not have accomplished what I have so far," he says, noting that he has received a grant from the U.S. Department of Agriculture to support his research.

This year, he also received the Hermsen Fellowship, which is specifically designated for doctoral students in life sciences.

After graduation, Alvarado hopes to land a postdoctoral fellowship and then establish a career in academia. He would also like to turn his research into an entrepreneurial venture that can help agriculture.

"The dream of any researcher is to contribute to research fields and to society," he says.

He already contributes in other ways; he volunteers for the American Society for Microbiology, helping to make presentations on honeybees and related scientific concepts in schools.

"The more we expose children to science, the more likely they will one day



Life sciences doctoral student Israel Alvarado conducts research on the cause American Foulbrood Disease, an illness that affects approximately 4 percent of honeybee hives and diminishes bees' ability to pollinate crops.

want to become scientists," he says. "I feel a responsibility to UNLV and Nevadans to share what I have learned over the years."

He also is giving back through his mentoring of UNLV undergraduates in the laboratory.

"It is rewarding to support their enthusiasm for research," he says. "I try to encourage undergraduates to think of graduate school as a viable option."

He says he encourages his students to continue their education because graduate studies have been so important to him.

"I believe that everyone has the potential to be an expert in a specific field that they enjoy," Alvarado says. "Graduate education provides you with the license to carry out your dreams."

SARAH EVANS, GEOSCIENCES

Sarah Evans can imagine tens of millions of years ago when Nevada was a high-standing plateau and a large portion of California was swimming with the fishes.

The geosciences doctoral student explains that about that time, dramatic changes occurred in the Earth's crust, forming the expansive valleys and jagged mountains that are now characteristic of Nevada topography.

To the west of these mountains, she says, was the Pacific Ocean.

"Eastern California and Nevada used to look similar to what the west coast of South America looks like today," she says.



Geosciences doctoral student Sarah Evans studies extensional tectonics, the widening and stretching of the Earth's crust. Her work could help geologists locate natural gas, oil, and mineral deposits more efficiently.

Evans is conducting her doctoral research on the processes that led to these incredible geological changes. Geologists call this process "extensional tectonics," or the widening and stretching of the Earth's crust.

Evans feels fortunate to study this subject in Nevada, which she says is a natural laboratory for geologists.

"There's so much extension here that it exposes lower levels of the crust we wouldn't see otherwise," Evans says, adding that rock features that are more than 10 miles underground in other places sit above ground here.

Evans is trying to reconstruct a timeline of when this important period of extension occurred in Nevada. She's using relatively new technology called thermochronology that determines the temperature of a rock in a certain time frame.

Her research is important for understanding how the Earth's crust evolved in similar places around the globe. It could also help locate natural gas, oil, and mineral deposits more efficiently, as such deposits often occur in extensional regions, she says.

Her work began with geological mapping, which she conducted over the summer in the Southern Snake Range of Great Basin National Park.

The field work has helped her produce a map that will be published through the Nevada Bureau of Mines and Geology. She will also have two journal articles published as result of the research.

She is currently applying her expertise in the private sector as an intern for Exxon Mobil in Houston, Texas. She hopes the ExxonMobil internship will help her under-

stand private industry better so that she can help her future students obtain jobs.

Eventually, she hopes to become a professor at a community college or an undergraduate institution. Her previous experience as a community college student inspired this career choice. She says the instructors gave her the confidence to pursue her education further, and she plans to return the favor to future students through teaching and creating research projects in which undergrads can participate.

Evans says she has been well supported since she began her studies in fall 2011. When she entered the program, she received the Fay and Jack Ross Fellowship through the geosciences department. In addition, she

has received grants and fellowships from the Geological Society of America, the Nevada Petroleum and Geothermal Society, Exxon-Mobil, and the geosciences department.

This year, she is also the recipient of the UNLV Foundation's President's Fellowship.

She is grateful for her fellowship and the experiences she has had throughout her education, including her doctoral studies at UNLV.

"I've had incredible support my entire graduate career while studying world-class geology around Nevada," she said. "I've had some fantastic experiences."

NICK PELLEGRINO HISTORY

When Nick Pellegrino started his doctoral studies at UNLV four years ago, he became a rebel in more than one way.

Of course, he became a UNLV Rebel, wearing his scarlet and gray proudly. But his research into the history of church-state separation also has a rebellious streak to it.

"I have taken issue with many of the accepted narratives that we read in school," he says. "Part of what I'd like to do as an historian is to broaden our understanding of America's past by challenging these narratives, especially those about religion."

More specifically, his doctoral dissertation

seeks to show that Catholics, as a persecuted minority in England and Ireland, helped transform American thought on the church-state relationship.

Because religious liberty and church-state issues are so central to the current culture wars, Pellegrino realizes his research has the potential to make some waves.

"My work is part of a larger movement that calls on policy-makers to get their history right before making suggestions about church-state relationships in the 21st century, independent of what those policies may be," he says.

While he studies issues that divided people in the past, he says he feels lucky to be surrounded today by people who are united in creating a supportive environment for him and his research.

"I've heard many stories of rather cut-throat atmospheres among graduate students in departments across the country," he says. "But I've found a wonderful academic climate at UNLV where everyone is genuinely interested in helping in any way they can."

He extends that appreciation to his students; as a former graduate assistant, he taught undergraduate history classes.

"There is nothing more satisfying than seeing a student struggle the first few weeks before making a commitment to their academic life and rising to the top of the class by the final exam," he says.

While he enjoys the classroom, he will use his UNLV Foundation Board of Trustees Fellowship this year to focus on his dissertation research. In addition to his fellowship, his work also has been supported by the Maryland, Massachusetts, and Virginia Historical Societies and a Summer Session Scholarship, which helped him travel to archives for his research.

Pellegrino plans to pursue an academic career after graduation and believes his doctoral work is preparing him for that. But, he notes, graduate school is also giving him the opportunity to be the kind of student he wasn't earlier in life.

"I never paid much attention or did much homework when I was a child, so graduate school has helped me get back those lost years," he says. "It offers a wonderful opportunity for people to learn about things that secondary and undergraduate schools simply do not teach."



Psychology doctoral student Jessica Urgelles researches intervention strategies used with families that have been reported to the county for child neglect and maternal drug abuse.

JESSICA URGELLES, PSYCHOLOGY

When Jessica Urgelles arrived in Las Vegas from New York to begin her doctoral work in clinical psychology, she found a city in need.

Las Vegas does not have enough psychologists to provide sufficient appointments, she discovered, and many people in need could not afford to get help if they could get an appointment.

This created an opportunity that Urgelles says she may not have had elsewhere.

"The city is growing faster than the infrastructure can handle," she says. "A graduate psychology student can do a lot of hands-on work in the community; they may not have that opportunity in other cities."

Urgelles has been able to make the most of the opportunity, working through a practicum with victims of domestic, physical, and sexual abuse, particularly teenage girls who have fallen victim to human trafficking. She also managed the Family Research and Services lab, led by psychology professor Brad Donohue, and has done research on child neglect and mothers' drug abuse.

The work on child neglect and mothers' drug addictions has special interest for Urgelles; she will build on the lab's research for her dissertation.

"In cases of child neglect from substance abuse, you'd think moms would want to do anything for their children," Urgelles says. "But I've seen it with my own eyes. If they're

really dependent on a substance, their decisions are completely skewed by the drugs they're using."

The lab developed an intervention for families that had been reported to the county for child neglect where the mother was abusing drugs. Workers would go to the homes and work with the mother and children trying to help the mother stop using drugs and give priority to the family.

The program required that a significant other – husband, boyfriend, parent, or even just a friend – participate and provide support. Urgelles is focusing on the role of the significant other.

"Unfortunately, many of our clients had trouble keeping the significant other engaged," Urgelles says. Sometimes the significant other didn't finish the treatment or never showed up. "Some people with drug abuse problems have trouble making appropriate friends."

When relatives volunteered as the support person, sometimes it was helpful, sometimes it wasn't, she says.

"For instance, if the parent is putting them down or causing shame or guilt, it might work against them or hurt them," she says.

A recipient of the Barrick Fellowship and the Patricia Sastaunik Scholarship, Urgelles hopes to figure out a way to help long-term users with children kick the habit and become responsible parents.

"We have to find something to help these families," she says. "Even if we can discover just a small piece of the puzzle, we can do more research to learn more."



In his doctoral dissertation, fellowship recipient Nick Pellegrino seeks to show that Catholics, as a persecuted minority in England and Ireland, helped transform American thought on the church-state relationship.

EVANS: ERIK CAYNE; PELLEGRINO: DAVID S. APPELL

URGELLES: R. MARSH STARKS