A s UNLV continues its upward trajectory toward becoming a tier-one 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 fellowships, 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 opportunities of which all of their fellowships are provided with private funding from the UNLV Foundation."

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

The Story of Four Fellowships

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 underappreciated 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 ingest food contaminated by the spores of a soil-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 Ehrlich 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 Heemsen 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.

“He dreams 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 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 monitoring 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, GEO-SCIENCES

Sarah Evans can imagine tens of millions of years ago when Nevada was a high, flat, arid 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 geography.

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.

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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.
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 thermochronometry 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 a certain time frame. 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, ExxonMobil, 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 experience she has had throughout her education, including her doctoral studies at UNLV.

“I’ve had incredible support for 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 interest is more specifically, his doctoral dissertation, which 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 extension 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 advisor, 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 archeological sites 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.

She finds drug addiction and neglect to be a small piece of the puzzle, we can do more research to learn more.”