

UC San Diego

UC San Diego News Center

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Feb 01, 2018



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Chancellor's Research Excellence Scholars Program Launches 175 Student-Research Projects

Three years ago, the campus launched a pilot program to promote interdisciplinary research among undergraduate and graduate students and postdoctoral fellows. The idea was to partner them with faculty mentors from at least two disciplines and provide them with funds so they could conduct research with the potential to make a real impact on society.

Now that the program has proved its worth, UC San Diego is making the program permanent. Last September, applications were submitted and this month the Chancellor's Research Excellence Scholars program, formerly Frontiers of Innovation Scholars Program (FISP), has awarded 175 students with this unique multidisciplinary opportunity.

“The Chancellor’s Research Excellence Scholars Program builds the teams of interdisciplinary experts that we need to address complex national and global challenges,” said Chancellor Pradeep K. Khosla. “Because of the measurable success of the pilot program, we will continue to invest in these multidisciplinary initiatives, so our students and scholars can continue to positively impact our community and world.”

Postdoctoral scholars and Ph.D. students were awarded up to \$25,000 each; undergraduate students were awarded \$3,000 each, with the funding going to projects led by principal investigators. In total, this year’s CRES awardees were granted a little over \$2 million for multidisciplinary research across four specific research themes:

- Understanding and Protecting the Planet
- Enriching Human Life and Society
- Exploring the Basis of Human Knowledge, Learning and Creativity
- Understanding Cultures and Addressing Disparities in Society

“The student-research projects all support those research priorities and continue the university’s investment in access and affordability for all students interested in an exceptional educational experience,” said Vice Chancellor for Research Sandra A. Brown, whose Office of Research Affairs oversees parts of the CRES program. “These investments will forge new intellectual enterprises, which increasingly rely on the ability to work across diverse disciplines, either individually or as members of interdisciplinary teams.”

The program is a unique opportunity for undergraduate students to work on interdisciplinary single-laboratory projects or programs. CRES-awarded Ph.D students and postdoctoral scholars are paired with mentors in at least two different divisions to encourage multidisciplinary research.

For example, graduate student Jonathan Paden will work with Sheldon Brown, a professor of visual arts, and Darren Lipomi, a professor of nanoengineering, to build material that interface a sense of touch in virtual reality.



Professor Neal Devaraj (left) and student, research lab.

“The goal would be to recreate feelings,” said Lipomi. “Not just electrical shocks or vibrations through a gaming controller, but to create a new gamut of tactile sensation for virtual and mixed reality that could render the feeling of petting a cat, or other natural feelings that cannot be recreated using current technologies.”

Following last year's announcement of UC San Diego's partnership with IBM Research, Tajana Rosing, a professor of computer science and engineering, Virginia de Sa, a professor of cognitive science, and Laurel Riek, a professor of computer science, are working with undergraduate students to explore interventions for encouraging healthy living.

"We're trying to encourage and figure out how to help people who may be exhibiting signs of cognitive issues," said Rosing. "We're working to both help detect those issues early enough and then slow them down using technology."

Such multidisciplinary projects in every field of study across campus, Brown said, contribute to keeping UC San Diego among the nation's leaders in innovative, problem-solving research and scholarship.

"The CRES fellowships provide opportunities for the students and scholars to develop their ability to communicate and collaborate with those in very different disciplines," said Brown. "Priority is given to projects that are aligned with UC San Diego's strategic research themes and represent a new collaborative focus, employ novel and creative approaches, and foster commitments to diversity and access."

Preference is given to new applicants, but a one-year renewal is also possible. Undergraduate funding is for one year only. Purposes for which funds may be spent include such things as purchase of equipment, supplies, salary support, conference travel and use of facilities.

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