

Undergraduate Researchers Win Funding For Summer Projects

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Eight teams of faculty and undergraduate students at Sam Houston State University have the "green light" to begin summer-long research projects, and they are getting the necessary funding through the Summer 2014 Faculty and Student Team Awards, provided by the Center for Enhancing Undergraduate Research Experiences and Creative Activities.



Tami Cook is directing the new Center for Enhancing Undergraduate Research Experiences and Creative

Activities, designed to encourage, and fund,

undergraduate research on campus.

The EURECA Center, established in 2013, was created to encourage more undergraduate research on campus and to make current undergraduate research more visible, according to Tami Cook, center director and professor of biological sciences.

"I have been at Sam Houston for 15 years and I always have undergraduate students working in my lab with me, so I'm very passionate about undergraduate research," Cook said. "The EURECA Center is making undergraduate research a bigger part of campus culture for students."

Last fall, the center sent FAST Award applications to professors, and 18 were returned for consideration. While originally hoping to grant awards to three research teams, the EURECA Center secured funding for eight teams with the help of the College of Sciences, which funded three awards and supplied half of funding for a fourth award; and the College of Business Administration, which contributed half of the funding for one award.

Each team's faculty mentor will receive \$4,000 for working on the project over the summer and each student team member will receive \$2,000.

"Most of our students aren't independently

wealthy and they need to work in the summer to save money to go to school in the fall and spring, which means all of their creative activities basically come to a standstill in the summer," Cook said. "This program allows students to earn money over the course of 10 weeks, so maybe they don't have to get a job at McDonalds; their job will be to continue their scholarly activity or research."

Faculty members can use their award money as salary (to be split among faculty members if the team is interdisciplinary), or, if needed, the money can be used to defray student expenses associated with the project.

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Tom Garrett, associate professor of film and FAST Award recipient, will be using his stipend to help pay travel expenses as he and two students spend part of the summer in Los Angeles, shooting a documentary about Academy Award-winning director John Avildsen.

Garrett recently co-wrote a book about Advildsen, "The Films of John Avildsen," which focuses on the director's career and the making of such films as "Rocky" and "The Karate Kid."

"I don't apply for many grants, but when I saw the application for the EURECA Center FAST Award, I knew it was in my wheelhouse," Garrett said. "I love giving students the opportunity to have hands-on experiences."

Garrett and students Khoi Nguyen and Matthew Sloan are already laying the groundwork for the project, scheduling interviews, acquiring film footage and booking plane tickets.

"Sylvester Stallone has never been interviewed about the director before but said he is going to do it," said Garrett, who said the opportunity to meet with the "Rocky" actor might not have been possible without the FAST Award.

"The book inspired the documentary," Garrett added, "and the FAST Award is making it a reality."

Other FAST Award winners are taking a more traditional approach to research, including a team led by Todd Primm, associate professor of biology, which is looking at the effects of antibiotics on a host. While the subject matter is not unique, it was the group's fresh approach that caught the attention of the EURECA advisory board.

"We want to think more like the real world in our research," Primm said. "We are looking at the effects that antibiotics have, not on the infecting pathogen, but on bacteria that are normally all over a person or animal, which is sometimes called the microbiome."

The team—comprising students, Jeanette Carlson, John Pinard and Dayna Bishoff—is using a fish as the model system because it is "easy to deal with in size and inexpensive," according to Primm.

"We will be studying the normal microbiome on the skin and in the gut, which have many benefits to the host animal. Research already shows that the bacteria present on the skin and in the gut change from the antibiotic, what we want to know is 'what effect does the change have on the fish?" he said.

"If you change all of the bacteria and the fish seems to be perfectly fine, then we can have less concern about people who take antibiotics often," he said. "But if you change them and the side effects are bad, then we need to be concerned about it."

Another FAST Award winner is the team lead by Hannah Gerber, assistant professor of literacy, which is tackling trash and sanitation issues in developing nations that do not have the



Beneficiaries of the new EURECA Canter FAST Awards include (above) Tom Garrett (far left), who will take two students to Los Angeles over the summer to interview Sylvester Stallone for a documentary on John Avildsen (next to Garrett); and Todd Primm (below, far left), whose student team will help him exame microbiome on the skin and in the gut. With Garrett and Avildsen are mass communication department chair Jean Bodon and SHSU President Dana Gibson. With Primm are students who worked on a separate project with him. —Photos by Brian Blalock



infrastructure for clean up or recycling programs.

Gerber's project is creating a gamified app that will work to educate people around the world

and in the United States on the proper ways to dispose of trash and to recycle.

"Like Fruit Ninja, it will be simple to play and have a first-person point of view. Trash will rain down and the player will have to sort it on the fly and will then receive information that will lead them through the game," Gerber said. "As people reach certain levels in the game, we have corporate sponsors that will donate money to the account of your choice, which will then disburse money to the health and sanitation departments in these nations and help build needed infrastructures."

Gerber's cross-functional and interdisciplinary team members are Melissa Ashworth, a finance and marketing major, and Luis Gaitan, a computer animation major.

"I'm going through the entire process, from planning and creating focus groups, to coming up with the most efficient design possible, to testing, fixing bugs, and creating every element of the game," Gaitan said.

Gaitan is thrilled to have this opportunity and believes funding for undergraduate research is a great investment in a student's future.

"The way I see it, it offers an early start in grad school. Usually, you start focusing on the area that you want to research in grad school, and you start from ground zero," Gaitan said. "Funding undergraduate research allows students to enter grad school with concrete research under their belts, which I think is extremely important."

The remaining Summer 2014 FAST Awards are funding research projects in computer science and forensics, economics, agricultural science, biological sciences, and computer sciences.

"Many other universities don't put a lot of attention on undergraduate research, so I think this opportunity is fantastic," Gerber said. "It opens up the doors for our undergraduate students to realize their potential to do research and carry that into their professions."

Once the projects are completed, each FAST team is required to submit a final report on their research to the EURECA Center and present their work at either the Undergraduate Research Symposium, hosted by the Elliott T. Bowers Honors College, or The Woodlands Center Student Research Conference, each held in April 2015.

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