

Summer 2022 Newsletter

FACULTY AWARDS



Dr. Junfei Xie Hosts Design Competition via NSF CAREER Award Funding

Article by Melinda Sevilla, May 24, 2022

Dr. Junfei Xie, Associate Professor from the Department of Electrical and Computer Engineering at San Diego State University used funding from her NSF CAREER project on [Networked Airborne Computing](#) to host the 2nd CPS-IoT Week Student Design Competition on Networked Computing on the Edge.

Spread over five years, Dr. Xie's \$550,000 NSF award allows her to build on her previous work and develop a system for drones to have networked airborne computing capability. The funding also allows for community and student competitions such as this one.

CPS-IoT Week is the premier event on Cyber-Physical Systems and Internet-of-Things Research. It brings together five top conferences, HSCC, ICCPS, IPSN, RTAS and IoTDI, multiple workshops, tutorials, competitions and various exhibitions from both industry and academia.

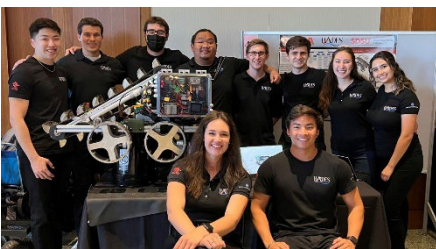
To read the full article click on [Electrical and Computer Engineering Professor Hosts Design Competition via NSF CAREER Award Funding](#)

NEWS

Thomas Offenbecher - 2022 College of Engineering Outstanding Student

Thomas Offenbecher is an undergraduate electrical engineering student in the Department of Electrical and Computer Engineering, San Diego State University, Class of 2022. Thomas was awarded the 2022 College of Engineering Outstanding Student award. Professor Barry Dorr stated, "Thomas was the Outstanding ECE Student this year. His natural curiosity, technical ability, and genuine concern for fellow humans make us so proud of him. He is completely bitten by the signal processing bug and plans to develop digital radio after continuing his education at UCSD. This young man will make us all proud."

The admiration is mutual as Thomas wrote, "Next to me in the photo is the incredible Professor Barry Dorr, whom I have chosen as my Most Influential Faculty member. He was without a doubt the best part of my entire undergraduate electrical engineering career. I had the privilege of taking four classes with him (EE310, EE330, EE430L, and senior design). I have never met a professor who is so kind, humble, and down to earth. As I go forward in my career, I will always carry with me and remember these valuable experiences I had as his student."



SDSU's ECE/ME Team HADES to Participate at the NASA Robotic Mining Competition (RMC) Lunabotics 2022, Florida

Team HADES is representing San Diego State University at the NASA Robotic Mining Competition (RMC) Lunabotics 2022 by designing, building, and operating a lunar mining robot. This student competition has been facilitated through NASA's Artemis Generation of student competitions and projects, while for Team HADES it was also their San Diego State University Senior Design Capstone project. The competition is an engineering challenge in which students gain experience with the engineering lifecycle process, from concept development to system closeout. During the project lifecycle, the team was able to apply what they have learned inside the classroom in this hands-on project. The goal of NASA RMC is to find innovative solutions to extract material from beneath the lunar surface using a partially autonomous robot with a dust-free operation/design.

In nine months, five Mechanical Engineering (Alyssa Brunen, Sterling Belaire, Linda Clark, Nathan De Chambeau, and William (Billy) Bilicki) and five Electrical & Computer Engineering students (John Paul Edwin Ventura, Jaquelyn Fernandez-Iniguez, Jean Michel Vives, Josh Dolled, and Andrew Chung) worked closely together to create a lunar mining robot. The rover is able to maneuver through a lunar environment, with simulated craters and boulders, dig through a layer of BP-1 to retrieve simulated lunar regolith material beneath it, and deposit the regolith to a specified location. Inspection, gravel mining, average bandwidth consumption, robot energy spent, dust tolerance design & operation, and autonomy are some of the categories HADES will be scored on at the competition.

An important note is that Team HADES is also a first-year competition team, which means that no prior San Diego State University Team has participated in this competition, and HADES has made it to the final, which is an incredible accomplishment and showcases the ability of SDSU's Engineering Students at such a national high level. The competition will take place May 26th–27th, 2022 at NASA's Kennedy Space Center in Florida. The goal is to extract a minimum of 1kg of lunar regolith in each of the two 15-minute trials. The more gravel removed, the more points the rover receives, allowing it to place higher in the competition.

View the Team HADES Proof of Life video, a formal submission to NASA, [here](#). View the HADES Design Day 2022 Video [here](#).

Giving to the Electrical and Computer Engineering Department

To learn more about giving to the Electrical and Computer Engineering Department, please contact our Senior Director of Development: Kate Carinder – kcarinder@sdsu.edu, or phone: 619-594-8264