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Sonia Fernandez

Excellence in Engineering Education

Two promising engineers, one prestigious honor.

A pair of UC Santa Barbara engineering faculty members — Diba Mirza from the Department of Computer Science and Tyler Susko from the Department of Mechanical Engineering — have been named co-recipients of the Northrop Grumman Excellence in Teaching Award. Given to junior faculty, the annual recognition goes to educators in the STEM fields who have shown excellence in their techniques, in their interactions with students, colleagues and staff, and in their activities and lectures. Candidates also are evaluated on student feedback based on the students' interest, enthusiasm and achievement.

Creative Machines

As participants in the UCSB Hyperloop capstone project, students of mechanical engineering lecturer Susko conceptualize and build their version of the high-speed transit vehicle of the future — but that's only part of the fun. An expert in the design of machines, Susko focuses on the real-life interactions between machines and humans who use them. His students create meaningful, beneficial projects, learn fundamental and advanced mechanical engineering concepts and get a taste of research and independent product development.

Susko's own research resulted in the prototype for the MIT-Skywalker, a rehabilitation robot that assists stroke victims and those who suffer from cerebral palsy to train themselves to move independently. He and his team worked on the

project while he was at MIT.

“It is an honor to be selected in recognition of my teaching, especially by Northrop Grumman, who has been one of our top capstone project sponsors and employers of our graduates,” Susko remarked. “My job is easy because of the intellect and drive of our talented UCSB engineering students. I’m lucky to be able to interact with them weekly as they progress in their education to be engineers that UCSB is truly proud to call our own.”

Susko’s enthusiasm for teaching design extends to the youngest students as well, as he hopes to align early engineering and science education with young children’s innate imagination, resourcefulness and creativity to produce the engineers of the future. In addition to the Hyperloop team and students associated with Lab d4H (“design for humans”), Susko works with the Isla Vista Elementary School robotics outreach program.

Embedded Learning

A new addition to the UCSB College of Engineering’s computer science faculty at UCSB, Mirza focuses her research on embedded systems with application to cyberphysical systems. She has worked with the Scripps Institution of Oceanography at UC San Diego to develop underwater robotic swarms that can help scientists learn more about the ocean. Prior to joining UCSB, she was an assistant adjunct professor in the Department of Computer Science and Engineering at UCSD.

However, Mirza’s primary interest is in teaching, particularly students who have just begun their college years. She first found that passion as a postdoctoral student at UCSD and has since taught computer science to all levels of undergraduate engineering students as well as to aspiring high school students. In her efforts to help students learn and discover their full potential, Mirza seeks to create a supportive environment and design hands-on curricula.

“I would like to thank Northrop Grumman for this wonderful honor,” she said. “The computer science department attracts many bright students and it is my pleasure to groom them to be the next generation of computer scientists. I am immensely grateful for the support I have received from my faculty colleagues and the College of Engineering in realizing this shared mission.”

“One of our newest faculty members, Diba Mirza, is already a star with the computer science students and nonmajors who have taken her courses,” said Matthew Turk, chair of the Department of Computer Science. “She has introduced new software practices to her students, instigated a new undergraduate tutor program for the department and received rave reviews for her teaching, advising and service. Diba already has a reputation as a passionate and enthusiastic teacher who challenges her students and provides abundant guidance and resources to help them succeed.”

Mirza also won a Faculty of the Year Award in the Jacobs School of Engineering at UCSD and a Faculty of the Year Award from the Tau Beta Pi engineering honor society at UCSD.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.