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SDSC Hosts Computer Science Workshops for Middle-School Students

CONNECT-partnered program sparks interest among underrepresented students

rt Lopez, Sweetwater High School

The San Diego Supercomputer Center at the University of California, San Diego, in a partnership with selected local middle schools and CONNECT's Entrepreneurs for Young Innovators program through a grant from The Parker Foundation, has started a series of computer science workshops aimed at getting more minority and female students involved in computing. SDSC's StudentTECH computing workshops are designed to entice students from middle and high schools to enroll in computer science courses in high school and college.

"San Diego's economy depends upon technology and innovation that impact nearly every job sector," said Diane Baxter, SDSC's director of education. "These workshops are all about getting more students, especially underrepresented ones, to learn the computational thinking skills that those jobs require. But most of all, we want them to engage in the fun and excitement of computing so they look forward to learning more as they continue their studies."

Last month SDSC hosted a workshop for middle school students to introduce them to computer programming principles. The workshops were designed for middle school students, with the idea of encouraging them to take a new Computer Science Principles course when they matriculate to high school. Participating students were from Granger Junior High School and National City Middle School in the Sweetwater Union High School District.

"It was a wonderful learning experience for them, and all of the students expressed interest in taking more courses in computer science," said Art Lopez, a computer science and applications instructor at Sweetwater High School. "I was very impressed with their willingness to explore

new computer skills, so hopefully we embedded a 'seed' of learning to cultivate future computer scientists. In fact many of them expressed interest in pursuing a career in computing."

Lopez teaches the new Computer Science Principles course that will support a new advanced placement (AP) exam scheduled for launch by the College Board in 2016-17. Further information is available on the College Board's web site.

Students and parents alike have found the workshops to be both fun and educational, according to Lopez. "Students really appreciate having fun and being stimulated while learning, and several are interested in attending additional workshops – in fact several students said they would like to eventually attend UC San Diego, learn more about computer science, and one day have a job at a high-tech company. Parents have told me that their children valued the opportunity to explore computer science while really enjoying the experience – one that they might have not had. It's those kinds of responses that are very rewarding for us and the entire program."

The middle school program, funded by a consortium of local start-up industries represented by CONNECT, dovetails with a larger program funded by the National Science Foundation (NSF) called *ComPASS*, for Computing Principles for All Students' Success. That program is focused on training teachers to teach students Computer Science Principles. More information about the *ComPASS* program can be found in this press release.

"However, the challenge for our newly-prepared teachers is to get students to take the courses they are now offering in 20 San Diego area high schools and middle schools," said Baxter.

The goal for the middle school workshops is to help support broadening participation in computing by women and minorities. "Local industries clearly understand the need to engage the full diversity of the region's talent in their workforces," said Karen Winston, vice president of workforce development & STEM initiatives for CONNECT. "They want to be sure that all students are getting the preparation they need to be part of a technology-based, innovation-driven economy in the San Diego region."

SDSC will host its next StudentTECH computing workshop on November 16, focused on beginning programming using ALICE, a freely available 3D programming environment that makes it easy to create animations interactive games, story-telling or a Web-shared video. About 20 students from Granger Junior High and National City Middle schools are currently registered.

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