

# Engineering Girls @ the Beach

—math, science, and engineering can be fun, too

—by Paul Browning

PHOTO CREDIT: David Nelson

Continuing its mission of increasing the appeal of math, science, and engineering among young girls, the College of Engineering at Cal State Long Beach (CSULB) hosted in March its first “Engineering Girls @ the Beach” day for fourth- through sixth-grade school girls.



CSULB engineering students Ruben Hernandez and Alysa Campus helping girls with their workshop assignments

The event took place in and around CSULB’s Engineering and Computer Science building complex, and each girl attended four 30-minute workshops that included hands-on activities, such as bird house construction, exploration of concrete strength and uses, and bridge building. The event’s workshops were designed to conform to the California Science Framework curricula adopted by the California Board of Education.

“Data regarding female competence in math and science accumulated over the past eight years provide proof that girls perform at grade-level or higher in math,” said Lily Gossage, director of CSULB’s College of Engineering Recruitment and Retention Center. “We have found that one of the main reasons why young women don’t enter the engineering field is lack of push toward math and science at a younger age.”

A correlation study done using data collected from 2,400 female students during the first four years of the College of Engineering’s fall program Women Engineers @ the Beach showed that only 6.8 percent of participants had prior knowledge of engineering. After participating in this program, 91.4 percent of the women reported having greater understanding of the field. A survey which assessed female students’ interest in returning for additional program events showed a response rate of 88.6 percent.

Engineering Girls @ the Beach, which will take place each spring semester at CSULB, is an event created

specifically for girls between the ages of ten and twelve. In the past, these younger girls had attended Women Engineers @ the Beach but they did not find the experience as conducive to learning as it would have been had they been in a group of their peers.

Four Long Beach elementary schools participated this spring in the pilot Engineering Girls @ the Beach program—Chavez Elementary, International Elementary, Roosevelt Elementary, and Stevenson Elementary.

A pre- and post-event survey was administered to gauge the level of comprehension and interest among participants. The results will be used to study the effectiveness of CSULB’s outreach and provide additional information to help the College of Engineering continue to improve the program.

Lily Gossage and other enthusiastic organizers of Engineering Girls @ the Beach see the program as an extension of classroom learning. “It is our hope that Engineering Girls @ the Beach will leave a lasting impression on our youngest participants,” said Gossage. Reaching out to girls at a younger age is critical in a generation where self-expression is valued over self-control, where Brittany Spears is more of a role model than math and science teachers or such renowned engineers as Grace Murray Hopper and Judith Resnik.”



CSULB participants Angelina Madain, Robin Sithorne, Lily Gossage, Dean of the College of Engineering Forouzan Golshani, Deborah Goodlow, Monique Griffin, and Dana Hughes

Engineering Girls @ the Beach was sponsored by Fluor Daniel, a FORTUNE 150 company which delivers engineering, procurement, construction, maintenance (EPCM) and project management to governments and clients in diverse industries around the world. The event is co-sponsored by the Society of Women Engineers, Long Beach Chapter.