UC SANTA BARBARA
THE Current

November 18, 2016
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Girl Power

Jell-O, water tanks and laser beams. Using these simple tools, four female scientists gave a group of 28 girls a lesson in light technologies and a primer in photonics, the science of light.

The event at Girls Inc. Goleta was part of Women in Photonics and Manufacturing Week, a slate of programs organized by the Photonics Society at UC Santa Barbara aimed at introducing girls of all ages to the field of photonics. Intended to inspire the students to pursue careers in photonics, the activity guided the 9-12-year-old girls through interactive lessons on the role of photonics technologies in their lives.

The girls' eyes lit up when volunteers explained that scientists use light to transfer data across the world. "I loved seeing how the students would react when I described basic photonics concepts, like how fast it takes light to travel across the country and back compared to how fast they can travel in the same amount of time," said Takako Hirokawa, a graduate student at UCSB and one of the volunteers for the event. "It was great to see how engaged participants were, because this is genuinely super cool stuff."

Held in partnership with the American Institute for Manufacturing Integrated Photonics (AIM Photonics) and the Center for Science and Engineering Partnerships (CSEP) at UCSB, Women in Photonics and Manufacturing Week also included tours of local Santa Barbara photonics companies, career talks from women working in the field of photonics and photonics outreach activities. The event brought together 11 females working in photonics, from UCSB graduate students to research scientists in

the field, who traveled around Santa Barbara and Goleta to introduce girls to photonics and seed inspiration to pursue careers in science-related fields.

The local program was held to celebrate the IEEE Photonics Society's Introduce a Girl to Photonics Week, IEEE Day and Manufacturing Day. "We have a thriving photonics community here in Santa Barbara, and we wanted a way to leverage that to help get girls excited about pursuing careers in this field," said Demis John, industry liaison for the Photonics Society at UCSB. In total, over 100 students and their parents in the local Santa Barbara community participated in the week's events.

Victoria Rosborough, a graduate student at UCSB, was one of several female scientists who spoke to students about her career path in photonics at La Colina Junior High School. Hearing women discuss their scientific careers gave the girls in the audience role models, she said, hopefully encouraging them to pursue their own interests in photonics and science in general. "It's important for students of every gender to see women represented in traditionally male fields," Rosborough said. "I hope the participants took away an impression that science and technology are exciting and relevant to their everyday lives."

"Because there are not many women in engineering, I think women need encouragement to be involved in engineering as equally as men," said Biljana Stamenic, a senior development engineer at the UCSB Nanofabrication Facility.

Hirokawa reiterated Stamenic's sentiments, saying that she is committed to volunteering for science outreach activities because she wants "to be a concrete example of a real scientist for the young girls.

"There's still this image in the media that scientists and engineers are socially awkward guys with glasses in a lab coat," Hirokawa said, "and I hope to combat that in a small way every time I show up to a classroom to speak."

Aiming to strengthen the relationship between photonics researchers and the local Santa Barbara community, the Photonics Society at UCSB hopes to put on many more such events in the future. "We will continue to offer programming to spread awareness and excitement for this important field and the technologies it enables," said Eric Stanton, president of the society. "Events like these are a great way for UCSB graduate students and photonics researchers to share their enthusiasm for their work with the local community, raising awareness and exposing budding scientists to the exciting possibilities of photonics technologies."

About UC Santa Barbara

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