



Summer Physics Camp for young women

July 21, 2020

This year's Laboratory-hosted Summer Physics Camp for Young Women offered 21 young women from Northern New Mexico a unique opportunity to meet a broad range of female and male role models across STEM fields including astrophysics, engineering, computer science, and chemistry.

With support from the Laboratory, the New Mexico Consortium, LANL Foundation, Los Alamos and Pojoaque Public schools, the Athena Engineering Scholars program, the Thirty Meter Telescope Program, Hawaii Science and Technology Museum, and IEEE, the fourth year of the camp was adapted to a completely virtual experience with students attending from their homes in New Mexico and Hawaii and volunteers joining from as far as Europe.

"Developing a virtual camp at short notice has not been easy for us," says organizer and Laboratory researcher Anna Llobet. "But we're excited to inspire our local youth and make them realize that they too can change the world and one day be part of LANL's workforce, or inspire the love for STEM in their communities through education."

Women and people from minorities are underrepresented in STEM fields, which generally pay more than other professions. Research has also shown that STEM teams from more diverse backgrounds tend to be more successful.

From here to Hawaii (and beyond)

Through a partnership with Hawaii Science and Technology Museum, four students from Hawaii's schools and Pascale Creek Pinner (the U.S. DOE Einstein Educator Fellow 2018-19) took part, along with speakers from Hawaii Observatory.

More than half of the two-week camp was dedicated to hands-on experiments and demonstrations. Each student received a package of materials for demos and experiments to help them learn about topics including atomic structures, turbulence, the fundamental properties of light, electric circuits, electromagnetism and coding.

Also joining the camp was popular science TV host Space Gal (Emily Calandrelli) and Heather Bottom, systems engineer for NASA's Jet Propulsion Laboratory.

Inspiration abounds

Rui Wheaton, a junior attending the Master's Program in Santa Fe, particularly enjoyed the session led by Eva Birnbaum and Ellen Margaret O'Brien on the Laboratory's work creating medical isotopes.

"Thank you for showing us the inside of the lab! It was very cool to see the different instruments used," she said. "I found the talk on using radioactive isotopes to cure cancer fascinating as I want to pursue a career in medicine."

More sessions than ever

This year, the camp added more computing and robotics sessions teaching students the components of a computer, and allowing them to explore coding on a Raspberry Pi, and manipulate an Arduino board.

These sessions were made possible with the support of Laboratory scientists and engineers, the Athena Engineering Scholars program, University of New Mexico staff, and the ORCS Girls organization led by Oak Ridge National Laboratory scientist Thomas Proffen.

Over the two weeks, around 80 volunteers took part (more than three quarters of them women).

Student snapshot

Sixty percent of the students who took part are from racial/ethnic minorities, 40% of them have no close family role models in STEM and 30% of them do not think they will pursue a career in STEM. Around half the New Mexico students come from Santa Fe, with 24% from the Española Valley and 28% from Los Alamos-White Rock.

Students also learned about college opportunities in New Mexico, internship opportunities at the Laboratory, and professional skills including resumé writing.

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