

FIFTH-GRADE GIRLS EXPOSED TO MATH AND SCIENCE JOBS

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Alohi Fero works for the W.M. Keck Observatory, using a computer to revise schematic drawings. Korina Leong also works for the observatory, programming and repairing computers.

Both girls are just sophomores at Honokaa High School and became inspired to follow careers in math and science in the fifth grade when they participated in GEMS: Girls Exploring Math and Science.

GEMS, now in its ninth year, is sponsored by the Kona branch of the American Association of University Women. For one day each fall, 175 fifth grade girls from West Hawaii schools attend workshops conducted by professional women with successful careers in fields related to math, science and technology.

"Fifth grade women are impressionable and if we can share with them ladies who are using math and science in their professions, we are sowing a seed that will grow into an appreciation and interest," said Alice Lacock, president of the Kona branch of AAUW.

The GEMS experience came full circle for Fero and Leong last week at the Royal Kona Resort, where they helped young girls use electronic basics to build a flashing button out of a circuit board, resistors and battery. Briana Boche of Waimea Country School watched with fascination as she melted metal with a soldering iron for the project.

"That's so cool," Boche said with a smile, as she pushed on the cooled metal with her finger. Maybe Boche had just found inspiration like Fero and Leong did five years earlier.

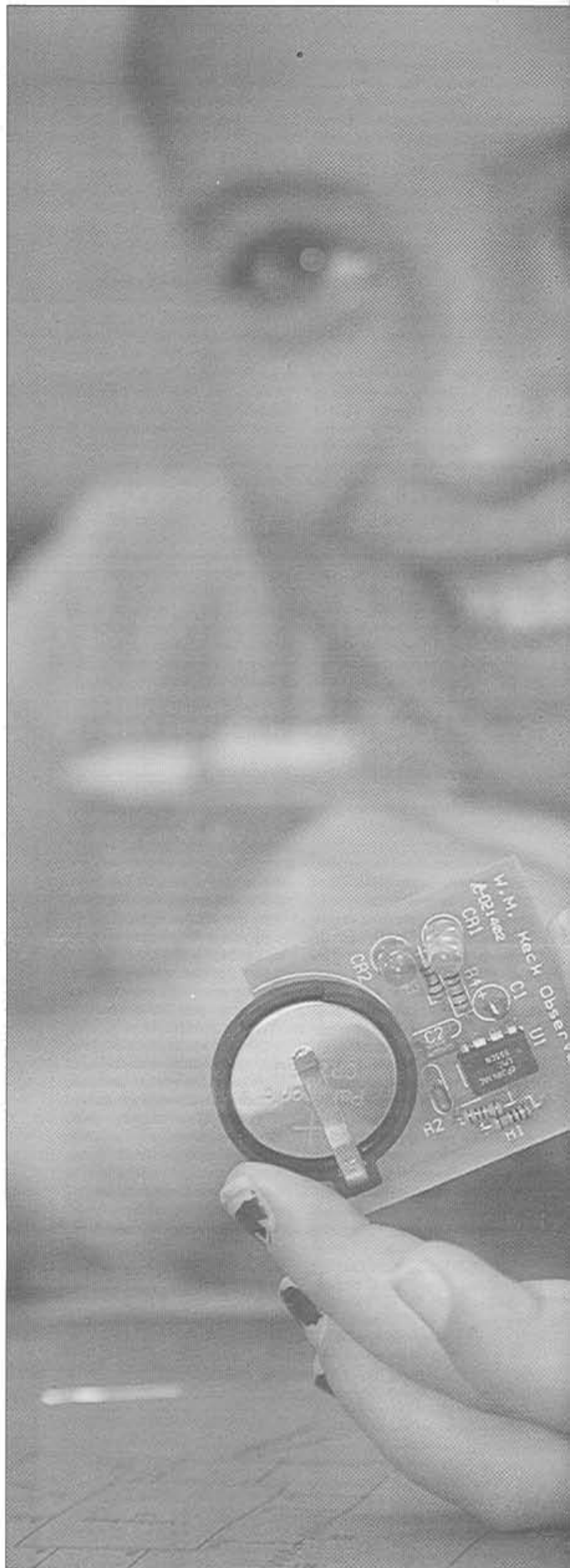
"GEMS encouraged me to do more science, like what I do with Keck," Fero said. "And working for Keck has encouraged me to go into astronomy for a career."

The program shows girls practical applications for the subjects that are used in real life.

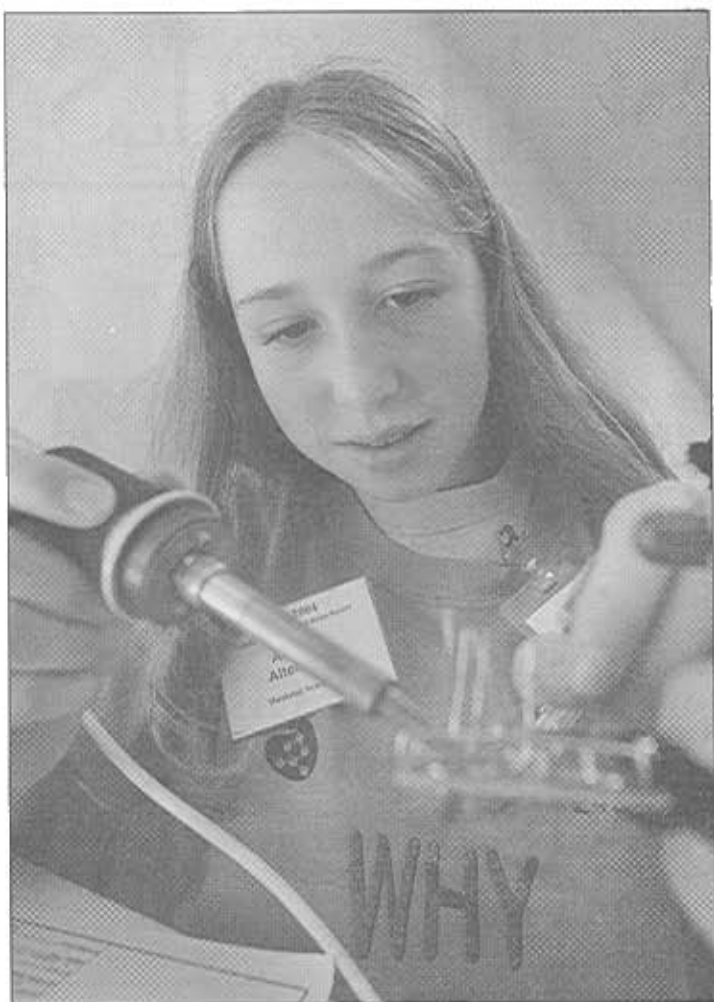
"GEMS makes math and science fun because in school we learn from books, but this is hands-on," Leong said. "Most of our friends aren't as interested in this stuff and think we are so smart."

And that is precisely what GEMS aims to address - the lack of interest girls often have in math and science, and peer pressure that the subjects aren't "cool."

Research studies, including Shortchanging Girls, Shortchanging America, sponsored by the AAUW in 1994, have shown that elementary school girls and boys show an equal amount of interest and aptitude in science and math. However, as students grow into adolescence and progress through school, a gender gap develops between boys and girls in their interest and pursuit of math and science related classes, and ultimately, career paths.



Hualalai Academy student Miranda Medeiros displays a flasher pin she assembled during a (GEMS) workshop last week at the Royal Kona Resort. The program exposes yo



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Allison Alterman solders components onto a circuit board at a Girls Exploring Math & Science workshop last week at the Royal Kona Resort.

► **GEMS:** Program inspires girls to look at careers in math and science

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Along with decreased interest in math and science, the girls also experience a lessening of self-esteem. This pattern of behavior limits a young woman's career and occupational pathways as she graduates from high school and either starts college or investigates other occupational training opportunities.

"When these girls have adult models and actually meet women who have careers in math, science and technology, it builds their confidence, gets them interested and they start believing they can do it too," said Kiera Horgan, co-chairwoman of GEMS.

During GEMS, students attend three, hour-long workshops out of the 12 sessions offered.

Virginia Easton-Smith, an agricultural extension agent for the University of Hawaii, led Adventures in Agriculture, where students toured the hotel grounds to scout for insects, test soil pH and look at different microclimates within the resort.

Teri Leicher, managing partner of Jack's Diving Locker, told students that the first SCUBA diver was actually Simone Cousteau, wife of legendary Jacques Cousteau. Fifth-graders learned about ocean ecology, marine technology and the physics and physiology of snorkeling and

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KORINA LONG

W.M. KECK OBSERVATORY EMPLOYEE

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SCUBA diving.

Students also learned about organic farming from Melanie Bondera of Kanalani Ohana Farm, who said farmers need to be scientists in their own backyards to protect their crops. She showed the girls how to do a simple lab test on a papaya.

"The students seem really interested. They like chopping papaya for an experiment and it intrigues them to be around lab equipment," Bondera said. "Plus, I know when I was young I thought all farmers were men, so maybe seeing me changes that belief in them."

During GEMS, students also discovered how dentists keep smiles bright, explored how veterinarians keep animals healthy, learned the basics of land surveying and experimented with computer programming.