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Summer fellowship program gives local teachers tools to apply real-world lessons

By Alia Wilson, Sunnyvale Sun
awilson@community-newspapers.com

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When a student asks a teacher the inevitable question, "When will I ever use this in the real world?," usually there is a set of standard answers. But for a select group of 155 Silicon Valley teachers, the answer is a little more personal.

This summer, those teachers are participating in the Industry Initiatives for Science and Math Education, or IISME, annual summer fellowship program. The eight-week fellowship provides "real world" experiences for teachers, with lessons that will be tied back into their school year curriculum.

Forty-three companies, universities and research labs open their doors to the educators for a unique opportunity to work in their organizations in an effort to meet the increasing demand for stronger, more relevant Science, Technology, Engineering, Math (STEM) education.

Brian Dong, who teaches computers, technology and mathematics at Monta Vista High School in Cupertino, is working on military communications satellite propulsion system testing at Lockheed Martin Space Systems in Sunnyvale.

Lockheed, one of the program's founding sponsors, has sponsored a total of 334 teacher fellows in the past 27 years. This year, the company is hosting 20 Bay Area teachers.

"It's definitely an eye-opening experience for any teacher; it's completely different from the classroom," Dong said. "It's an opportunity to see where math is used in the real world and how it connects to science and tech design and tie it

into a lesson."

Part of the fellowship for teachers is to develop an education transfer plan on how to use their experience to their classroom instruction.

Dong said he created a science assignment that requires students to do research on space travel, rockets and orbiting. He will also have his students build a Java-based program in which they can create a game allowing users to navigate the surface of Mars.

This summer, sponsors such as Cisco Systems, Hewlett-Packard, Intel, Stanford University, Synopsys and UC-Berkeley are supporting 155 teachers, 31 percent of whom teach in especially high-need schools. The paid fellowships also benefit the companies and other sites hosting the teachers.

"Lockheed Martin has participated in the IISME Summer Fellowship Program every summer," said Kevin Bilger, Lockheed Martin vice president and general manager and a member of the IISME Senior Advisory Council, in a news release. "IISME has strengthened the bridge between industry and education to improve the quality of science, math and technology instruction in our local schools. We look forward to once again providing teachers with a hands-on working environment to inspire our next generation of scientists and engineers."

Alexi Badaoui, who teaches computers/technology, math and physical science at Columbia Middle School in Sunnyvale, is working in a robotics lab in the mechanical engineering department at Santa Clara University. Since 2003, the university has hosted 25 teacher fellows.

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Badaoui is working on two projects, one a semi-submersible robot designed to map the sea floor and the other a robotic arm that interfaces with the Internet.

"I'm thinking of having a lesson where students connect to the Internet and enter angles to make the arm move," Badaoui said. "One of the goals for next year is to keep getting the robotics program stronger and stronger at Columbia.

"Because of this fellowship, I think that I'm going to be able to give it a different dimension by incorporating what Santa Clara is doing in this domain. It's a great opportunity for kids already to just talk about it. I really hope to organize a field trip. In the field of robotics, Santa Clara University is a mine of resources."

For more information about IISME, visit www.iisme.org.



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