

## 2011-2012 Giving Guide

# Lockheed Martin Corp. - fellowships launch next generation of scientists

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How does a company stay competitive when many of its employees are nearing retirement, new startups seem more dazzling and special job requirements mean a smaller candidate pool?

Turn to the members of tomorrow's work force.

That's been the strategy of Lockheed Martin Corp. For decades, the global security company has partnered with local schools to make science and math more engaging in the classroom, and ultimately motivate students to pursue engineering careers.

The company is one of the biggest participants in the nonprofit Industry Initiatives for Science and Math Education (IISME) summer fellowship program, which provides teachers hands-on work experience alongside engineers who mentor them in space-based and missile programs. The expectation is that teachers can incorporate this work back into the classroom.



Vicki Thompson

*Kevin Bilger, vice president and general manager at Lockheed Martin, serves on the senior advisory council for a nonprofit program that provides teachers hands-on work experience alongside engineers who mentor them in space-based and missile programs.*

"Like most companies in the Silicon Valley, Lockheed Martin relies on technological innovation to deliver our products," said [Kevin Bilger](#), Lockheed's vice president and general manager, who serves on IISME's senior advisory council and has been influential in the program's recent expansion into Southern California.

"Our future is at stake" without talented scientists and engineers, said Bilger.

The program was founded in 1985 by a consortium of San Francisco Bay Area companies, including Lockheed Martin, in partnership with the [Lawrence Hall](#) of Science at the University of California at Berkeley. Lockheed has sponsored teachers every summer since then, hosting a total of 334 teachers in paid, eight-week fellowships over the past 27 years. The company sponsored 27 teachers fellowships for \$13,000 each this past summer.

Bilger said through the program, teachers can take real-world problem-solving skills back to the classroom, whether it's teaching students formulas for a rocket launch or using standard geometry equations to reposition an on-orbit satellite and minimize its fuel consumption.

"Students are always asking, 'Why am I learning this?' The program provides teachers with real-world applications and experiences that hopefully will ignite and fuel their students' interest in math, science and engineering," he said.

Lockheed, headquartered in Maryland and with locations in Sunnyvale and Palo Alto, is one of the world's largest defense contractors. It reported \$45.7 billion in revenues in 2010.

Reaching out to students is invaluable in a sector that is seeing an alarming talent shortage, say industry leaders. The Business Roundtable recently released a report showing that the United States needs 400,000 college graduates in the areas of science, technology, engineering and math annually if it wants to be competitive in the global marketplace. The nation is graduating only about 265,000 annually, according to the Business Roundtable, which includes CEOs from companies around the nation.

Of the degrees earned in the United States, only 5 percent are in engineering compared to 20 percent in Asia, according to the [Aerospace Industries Association](#). The struggle to find talent doesn't end there for aerospace and defense companies like Lockheed, which can't outsource labor to foreign workers because of national security requirements.

Bilger said the company is expected to lose a significant portion of its 126,000 employees to retirement over the next five years and projects hiring about 20,000 employees to fill that gap. About 60,000 of the company's employees are engineers, scientists and IT workers.

"Our thinking is that if we can reach students here, locally, they may go off to college, but they always want to come back home. (IISME) is a focus on our future," he said.

While there's no data to show whether the program inspired any Lockheed employees to choose a career in aerospace, [Jennifer Bruckner](#), executive director for IISME (pronounced Iz-mee), said teachers who have completed fellowships at Lockheed have already impacted about 250,000 students. Program evaluations show that teachers who participate in the program stay in teaching at a higher rate, she added.

"Lockheed has been taking the lead in many science education-focused initiatives long before it became fashionable to do so," Bruckner said. "Their fellowships are really becoming glamorous. They're the ones everyone seems to want. This has a lot to do with the leadership at the company. Lockheed really sees this program as an investment."

Organizers hope to expand the program to 1 million students.