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## IISME: 25 Years of Excellence

By Suzy Paluzzi

Industry Initiatives for Science and Math Education was begun through the efforts of Bay area companies and the Lawrence Hall of Science at the University of California at Berkeley. With a focus on Science, Technology, Engineering and Math, the program teams teachers with local companies and universities during the summer. The effect is that teachers are exposed to industry and research environments and are thus able to incorporate new ideas into their curriculum upon returning to the classroom. IISME has achieved “ a positive impact on teacher retention, teacher leadership, National Board certification rates, and teacher performance in the classroom,” according to the website at [www.iisme.org](http://www.iisme.org)



Among the host companies this past summer are “Santa Clara’s Intel Corporation and Applied Materials.” “One Santa Clara teacher held a fellowship and Santa Clara University also hosted a teacher,” says Tisha Bacigalupi, Sponsor Relations Manager.

The Executive Director of IISME is Jennifer Bruckner.

Craig Young, a Wilcox High Physics teacher who has students in grades 10 through 12, participated in the Fellowship program. “My role this summer was to create classroom activities and lessons that can introduce students to nanoscience. “Probing what you can’t see” is one of my favorites. It allows students to inquire into the nature of magnetic fields using refrigerator magnets,” explains Young.

“I knew almost nothing about electron microscopes and even less about atomic force microscopes at the start of the summer, and I learned a lot from the researchers and grad students at Stanford. At the same time, I felt I was able to contribute by translating some of what they do into activities that are accessible to teachers and students, who may know as little about nanoscience and microscopy as I did at the beginning of the summer,” he adds.

Both Intel and Applied Materials hosted nine teachers in 2009. The teachers are assigned a mentor at the sites. Joya Chatterjee was a mentor at Intel and says, “ We have learned a lot from the teachers. To jump into a project and get it done in 8 weeks required discipline. Mary Ann Cave wrote a teachers’ training manual and Yolanda Chang, her teammate, concurrently translated it into Spanish. Santa Clara is a large community...now it has been extended to the rest of the world...teachers in Portugal, Spain, Mexico, Brazil...will use what has been developed in Santa Clara.”

Applied Materials was named Outstanding Corporate Sponsor in 2006 by IISME, according to Ana Espinola, IISME Coordinator at Applied Materials:

“This is one of several programs we are involved in that helps strengthen the communities where we do business. Specifically, partnering with IISME allows us to provide teachers with professional development experiences so that they gain additional learning and understanding of high tech practices and can incorporate into their course curricula, ultimately helping to better prepare a strong, highly skilled workforce in math, science and technological fields. The program allows us to benefit and participate in their mission to:

\$. Transform teaching and learning by providing teachers with paid Summer Fellowships

\$. Re-ignite teacher passion and build skills and confidence through unique research and industry-based professional development

\$. Help teachers motivate students for career and life success in the 21st Century

The teachers were placed in various business groups across the company and worked with individual employee mentors on specific business related projects within each group. For example, one teacher in our Silicon Systems Group created a data prototype web-based reporting system that provides visibility into quality/reliability /productivity metrics for the company’s solar manufacturing systems. Another teacher in Global Information Systems assisted with the documentation of an Application Product Lifecycle project, designed to create a standard plan for upgrading certain computer applications.

This summer, all teachers had the opportunity to attend the semiconductor industry tradeshow SEMICON West in San Francisco, where they learned about the latest trends and technologies driving nanomanufacturing technology into the future, the importance of preparing students for high tech jobs, and how a shortage of talent could potentially affect the industry and America’s position as a global technology leader.