

Research institute recruits PCC students

By Kimm Groshong Staff Writer
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PASADENA - Wearing her white lab coat, Cristina DeMelo carefully handled test tubes filled with protein solutions one recent morning at the Oak Crest Institute of Science.

"This is a big, big, big chance for me," she said.

DeMelo moved to the United States eight years ago from Brazil, where she was a pharmacist. Since her license is not recognized here, she decided to retrain as a biochemical researcher and is currently enrolled at Pasadena City College.

Like many other students working in the cinder block warehouse laboratory that is home to the Oak Crest Institute, DeMelo would not have the opportunity to work in such a research-intensive environment with easy access to faculty advisers were it not for Marc Baum and his brainchild.

Baum is the founder and president of Oak Crest. He describes the institute's work as "academic entrepreneurship" - a kind of mix between academia and small start-up company.

His nonprofit research institute allows faculty members the freedom to pursue projects while also offering students the opportunity to learn laboratory techniques and to see what physical science research driven by curiosity is all about.

Since 1998, high schoolers through postdoctoral associates have come through Oak Crest's door to engage in hands-on research projects, mostly dealing with environmental chemistry. Several have presented their results at national meetings of the American Chemical Society and have had work published in scientific journals.

"Everything we do here is rooted in the chemical sciences," Baum said. "We do stray to other areas also, but it's still as chemists."

Today, nine students are working at the institute, including six community college students, eight women and one man.

Many have been students of Wendie Johnston, director of the Los Angeles/Orange County Biotechnology Center at PCC. She said students often come to her looking for entry-level research positions, and she directs them to Baum's program. "They need some time in a real job with real problems to solve," she said. "Oak Crest is a fantastic place for people to work. It's a happy place and very rigorous in terms of its science."

The students are mentored there by four faculty members in addition to Baum. Faculty members spend about 80 percent of their time working on their own research projects, with the remainder devoted to helping students trouble-shoot and learn chemical techniques.

John Moss joined Oak Crest in early 2001 after finishing his work as a postdoctoral scholar at Caltech. He said he enjoys the freedom Oak Crest gives faculty members such as himself.

Moss is currently working on new instrumentation to characterize particulates in the air in real time for miner safety. The device, which would serve as a mechanical canary in the coal mine, would ideally tell miners if they are being exposed to higher levels of particulates, what they are and where they're coming from.

"So if you take a graduate-level adviser but increase the amount of time that the person would spend with their students, that's kind of our model," Baum said.

DeMelo said that level of interaction with the faculty is ideal for her and that she had been looking for a job like the one Oak Crest gave her for about two years. "This is a special and unique opportunity, finding somebody who has the patience to work with a professional entering the field again," she said.

For Baum, the long-term goal is to do something for the environment and to boost the number of students, especially women and those from community colleges, who pursue jobs in science and engineering.

"Essentially, what we do here," Baum said, "is we're not degree-granting but we're experience-giving."

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