VENTURA, Calif. - It's just after 1 p.m. on a Thursday afternoon and Ralph Imondi is conferring with six high school science teachers. They sit behind computers in a darkened room, talking above the gurgling hum of nearby fish tanks filled with small sea creatures.
Imondi's partner, Linda Santschi, appears in the doorway of one of the specialized labs that surround the room where the teachers are discussing eukaryotic cells. Like Imondi, she appears undisturbed by the presence of visitors checking out Coastal Marine Biolabs, a nonprofit organization she and Imondi founded in 2007.

Coastal Marine Biolabs, also known as CMB, is an unconventional science research and education facility in Ventura that exposes junior and senior high school students to real-world scientific research by emulating a graduate school setting. Professional programs are also offered for high school science teachers intent on improving their training.

Santschi and Imondi left promising academic careers to build CMB and learned about business on the fly.

"If we had known at the outset how difficult of an enterprise that this would be I'm not sure that we would have embarked upon it because scientists by their nature are not very good at marketing," Santschi said.

They proceeded with no self-serving agenda and their nonprofit tax filings show they accepted little pay to get it launched. Santschi said it came at tremendous personal sacrifice, and prosperity was never the goal.

"We started out with zero financial capital but our hope was that financial capital would follow intellectual capital," Santschi said.

It has. CMB recently received millions of dollars to help continue its mission: To transform science teaching and learning.

The National Institutes of Health in July awarded Coastal Marine Biolabs $1.2 million to immerse high school students in cutting-edge neuroscience research. That award was followed earlier this month by another NIH award of $1.1 million to launch a pre-college research education project.

They intend to use the federal funding to educate students free of charge. Tuition is charged
for non-federally funded residential programming but scholarships are available for qualified applicants.

"Most of the money and resources that have come into the organization go into the programming itself," Santschi said.

Before the money started coming in, CMB got some assistance from the local community, including the Ventura Harbor, which subsidized 2,000-square-feet of space tucked in between its restaurants and shops. CMB recently renewed its lease for five more years.

The site was chosen to take advantage of the natural environment, where student dives expose them to such things as invertebrates harboring fluorescent proteins in the local reefs.

The site was also chosen to take advantage of the presence of biotechnology companies in Ventura County, like Amgen Inc. Amgen and its foundation have helped with equipment donations that began in 2007 when the company was downsizing and holding donation events for nonprofits. They gave away thousands of dollars worth of laboratory equipment that CMB desperately needed to set up a high-capacity lab.

CMB was still short on highly-specialized equipment needed for certain biomedical research, but with the items it got from Amgen, its lab became attractive to the philanthropic community, which had heard about CMB's mission, came in, looked around and asked: What do you need?

Santschi said it was incredible the way the universe seemed to conspire to help them get started.

"Talk about serendipity, luck by chance and being in the right place at the right time," she said.

Interest and awareness in CMB's programming has intensified, but its founders intend to keep class sizes small to maintain an intimate interaction with CMB's leaders. The number of sessions offered has risen, however. Santschi estimates that CMB offered three or four in
2008, its first year taking students.

"Now we're running 10-14 sessions per year," she said.

Santschi and Imondi both hail from the East Coast. She's from New York and Imondi is from Rhode Island. They came together to form the school after completing their postdoctoral fellowships — Santschi at the Salk Institute for Biological Studies in La Jolla, and Imondi at UCLA. They noticed college students in the labs where they were working weren't quite prepared and wanted to do something about it. They envisioned CMB devoting equal attention to science research and science education, two disparate cultures.

"In university research settings the scientists are forced into a situation where the primary emphasis is placed upon the research and there's not enough time to devote equal effort to education," Santschi said.

Word-of-mouth is now driving high school students and science teachers from across the nation to journey to Ventura and engage in high-level science programs. CMB allows educators to see how science unfolds as a discovery process, and they're updating their curricula.

"It's difficult for them to impart that kind of experience onto their students without having significant help from the scientific community, the forefront scientists who are devoting most of their time primarily to research," Santschi said.

Wendi Butler, a biology teacher at the Cate School in Carpinteria attended a CMB program and now expects more of her students.

"It gave me way more knowledge than I had previously," she said. "Biology is ever-changing, constantly, and high school teachers don't have time to research. And we never get to interact with scientists."

Andres Castro teaches chemistry and oceanography at Hope High School in Providence, Rhode Island. He attended a CMB program last year and has since reframed his approach to
engage students more. As a result, he's getting more from his students and their attendance has improved.

"It was an amazing program," he said. "They helped me to understand that less is more."

Henry Ashworth attended a CMB program the summer before his senior year at Foothill Technology High School in Ventura. Ashworth will be a junior this fall at Eckerd College in St. Petersburg, Florida, where he has a double major in chemistry and philosophy and wants to pursue a career in medicine.

He said the students are treated like high-level researchers, which was an unusual experience. Ashworth said he was in the CMB laboratories some nights until 1 a.m. Today he is still using the skills and techniques he learned that summer.

"When you eat, breath and sleep science like you do at CMB it sticks with you," he said. "It's not something you can wash off."

Ashworth recommends it for any student interested in pursuing a career in biotechnology, and anyone with a curiosity about science.

"It's very intellectually engaging," he said.

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