

Like the arm of a giant starfish, the steel-and-concrete pier near Avila Beach stretches out more than half a mile over the Pacific.

Recently donated to the College of Science and Mathematics by Unocal Corporation, the structure will be the platform for vast research and learning opportunities once Cal Poly's Marine Science Education and Research Center is complete.

"We have high hopes and expectations that we can make the center nationally recognized and acclaimed," says Phil Bailey, dean of the College of Science and Mathematics.

It will be the only such center between Santa Barbara and Monterey.

"But its real uniqueness lies in the fact that it will be run primarily by undergraduates," Bailey emphasizes.

Early plans include a laboratory, a classroom, seawater holding tanks for marine organisms, and the necessary equipment "to create a significant marine science and research center," according to Bailey.

"This once-in-a-lifetime donation is just the latest example of Unocal's longtime interest in, and support of, Cal Poly's science programs," says Cal Poly President Warren J. Baker. "This gift, along with a cumulative giving history

A Dedication to Education

Unocal Pier Donation Helps Cal Poly Make Splash in Marine Science Education and Research

By Jo Ann Lloyd • Photos by Jeff Greene

that brings Unocal's donations to more than \$27 million, makes Unocal the largest contributor in Cal Poly's history.

"Unocal's continuing generosity enhances Cal Poly's learn-by-doing educational philosophy by providing our students, especially undergraduates, with hands-on experience," Baker says.

"This gift will help assure a legacy of quality education for future generations of Cal Poly students," says Mark Smith, Unocal's vice president who

oversees real estate, remediation services, mining operations, and carbon group, including the company's Central Coast operations. "We have been a longtime partner with Cal Poly, and graduates of this fine university have played an important role in Unocal's business."

Smith also noted that the gift was the result of a two-year effort by Unocal and Cal Poly administrators, as well as government officials. "The dedication and effort of all parties made the gift a reality," Smith says.

In addition to the pier, valued at \$18 million, Unocal has given Cal Poly \$4.5 million to establish two endowed professorships in marine science and provide an endowment for operations and maintenance of the pier.

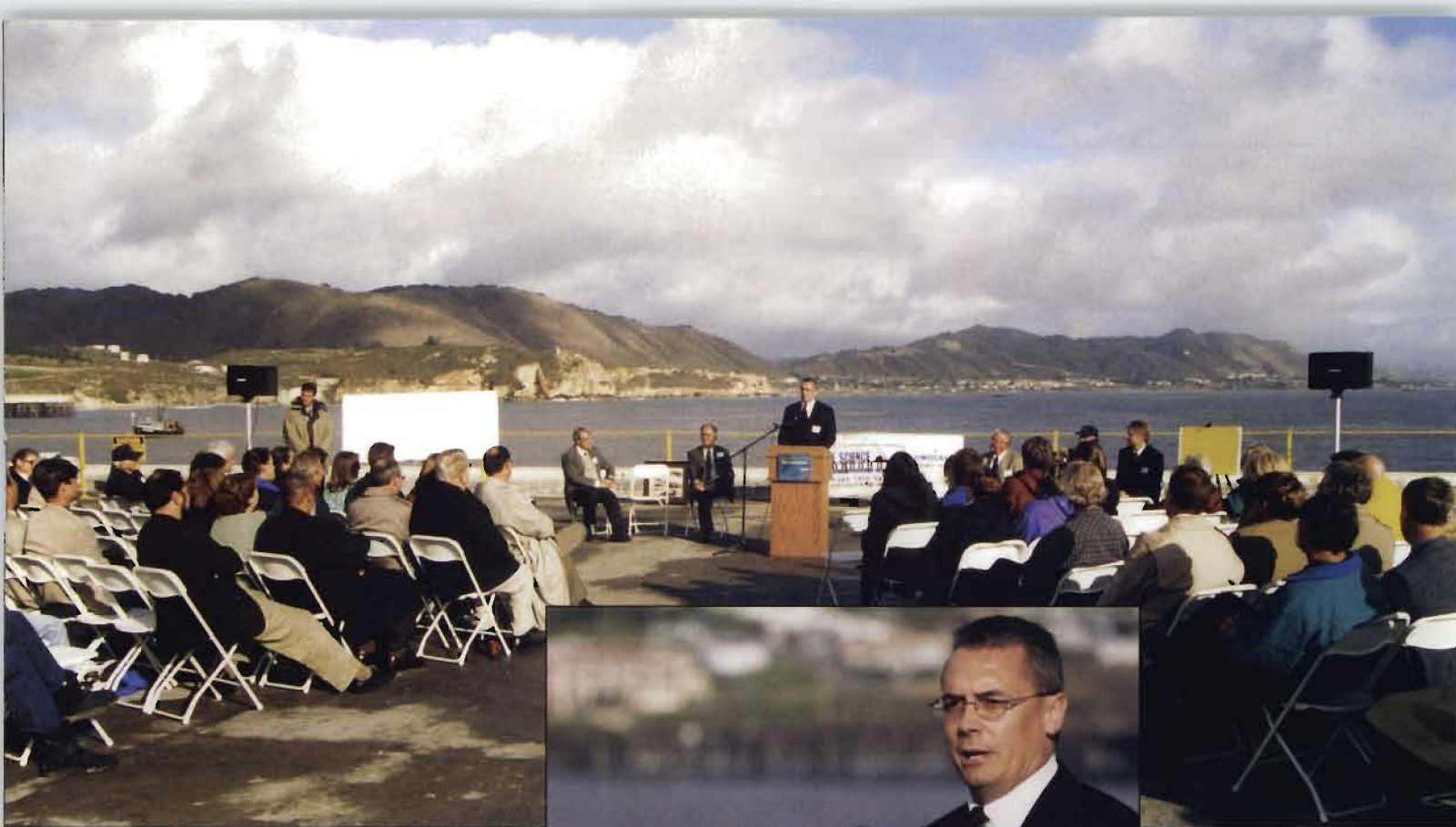
The first Unocal Professors of Marine Science are Biological Sciences Assistant Professor Mark Moline and Biological Sciences Professor Emeritus Tom Richards



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Warren J. Baker
Cal Poly President



(who first approached Unocal about donating the pier).

"Professor Richards was honored as an endowed professor because of his vision and work in bringing Unocal and Cal Poly together, as well as for his substantial contributions to marine biology," Bailey says.

Richards established the Quarter-at-Sea program between Cal Poly and the CSU California Maritime Academy, which allows Cal Poly students to study aboard the Maritime training vessel *Golden Bear* as it cruises the world's oceans each spring.

Moline, who came to Cal Poly in 1998, was chosen for his success in bringing in research funds and for his research programs, including a summer program at Woods Hole

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Mark Smith, Unocal vice president for real estate, remediation services, mining operations, and carbon group, including the company's Central Coast operations, addresses a crowd of more than 200 at the November 2001 pier dedication.



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Unocal Vice President, real estate, remediation services, mining operations, and carbon group, including Central Coast operations

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Oceanographic Institute that includes Cal Poly students.

He has been confirmed as a recipient of a Presidential Early Career Award for Scientists and Engineers and will receive the award in a ceremony hosted by President Bush in Washington, D.C., later this year.

"Professor Richards is being honored for the contributions in his career that brought us here, and Professor Moline for his ability to pursue the future," Bailey says.

Richards' task will be to work with faculty and community educators to develop a program for the center.

"It's a work in progress," Richards explains. "We will move some current research projects to the pier and will begin long-term

environmental survey and oceanographic data-collection studies. It will also be an excellent location for a variety of senior projects."

"This is an undergraduate center," Moline stresses. "It's important to integrate 'real'



"Computer modeling, three-dimensional

visualization, and the Internet will be used to assess the long-term effects that natural phenomena, such as El Niño, and unnatural phenomena, like pollution, have on marine environments."

Philip Bailey
Dean, College of Science
and Mathematics

research into the learning experiences of our students."

And not just marine biology students.

"My mission is to let people know that marine science is very interdisciplinary," Moline says. "It involves physics and chemistry, biology and mathematics, even engineering."

Cal Poly researchers expect that the center will foster collaborative projects with other California State University and University of California campuses, as well as such agencies as the Monterey Bay Aquarium Research Institute and Scripps Institute of Oceanography in La Jolla.

According to Bailey, the CSU is developing funding proposals for the latest marine science technology. "Computer modeling, three-dimensional visualization, and the Internet will be

Smiling in the rain during the pier dedication are (left to right): Cal Poly President Warren J. Baker; Mark Smith, Unocal vice president for real estate, remediation services, mining operations, and carbon group, including Central Coast operations; Jack Spaulding (ME '49), retired Unocal employee; Philip Bailey, dean, College of Science and Mathematics; Kenneth A. Smith, Unocal program manager, Central Coast group; Michael J. Morris, attorney at law, Andre, Morris & Buttery; and William J. Almas, Unocal manager, government affairs, Central Coast group.





Tom Richards (left) and Mark Moline are the first Unocal Professors of Marine Science.

used to assess the long-term effects that natural phenomena, such as El Niño, and unnatural phenomena, like pollution, have on marine environments.

"The proposed initiative would help policy-makers and the public determine if local, state, and federal policies are meeting intended goals," Bailey says. "Cal Poly's new facility can play an exceedingly important role in that assessment."

Moline is working on another project with possible wide application. With funding from the Regional Water Quality Control Board, he is taking various measurements of the offshore water. Information on salinity, temperature, wave height, currents, and contamination will be made available on the Internet. Anyone heading to the beach – from surfers to

sailors – will be able to check conditions before leaving home.

"The center will not only benefit Cal Poly students and faculty, but also will increase the understanding and stewardship of the Central Coast's marine life," says Baker.

"The center," says Richards, "is our window on the world."

"We want to be good neighbors. We want to work with Cuesta College and Allan Hancock in Santa Maria and other local elementary, middle, and high schools.

"We want to open the window as wide as we can to include as many others as we can."

For more information about the center, contact Mark Moline at mmoline@calpoly.edu or Phil Bailey at pbailey@calpoly.edu.

Stormy Beginnings

Cal Poly's new pier is not the original wooden pier built in 1914 by the Pacific Coast Railway Co. That was destroyed in a fierce storm in 1983.

Cal Poly alumnus and retired Unocal employee Jack Spaulding (ME '49) was on the pier when it went down.

He and two others were about three-quarters of the way out, assessing the damage done to the pier by the storm.

It wasn't raining at the time, and the swells had diminished, Spaulding recalls.

"We had finished our task and turned to go back, when Dutch Van Harreveld (ME '50) yelled, 'Here comes a big one!' The wave broke over the main wharf section. It felt like we were on an express elevator, going down," Spaulding says. "I dropped to my knees and grabbed a rail."

The men ended up on a 16- by 100-foot section of the pier, which served as a sort of raft. "The swells were so severe that the 'raft' was breaking up," Spaulding says. "By the time we were picked up – maybe 45 minutes after the pier went down – the raft was a mere 16 by 16 feet."