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Eugene Cecil LaFond Biography

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Eugene Cecil LaFond was a quiet man, a scientist and statesman of science, who had a worldwide effect on the new field of oceanography.

Born on December 4, 1909, Bridgeport, Washington, he died peacefully in his sleep at home Sunday, December 1, 2002, a few days shy of his 93rd birthday. His wife of 67 years, Katherine Gehring LaFond, his constant companion and scientific partner, and two sons, William and Robert, survive him.

Though he traveled worldwide, Gene always considered San Diego his home. His family moved here in 1921, and he graduated from Sweetwater High School(1928) and San Diego State College (1932). He was awarded an honorary D.Sc from Andhra University, India in 1956.

In the course of his remarkable career, Gene worked at Scripps Institution of Oceanography, contributed to the content of "The Oceans: Their Physics, Chemistry, and General Biology," the first modern textbook in oceanography, was a pioneer SCUBA diver, dove off California in the bathyscaphe Trieste and other deep-sea research submersibles, conducted experiments under Arctic ice in U.S. Navy submarines near the North Pole, led construction of an oceanographic tower off Mission Beach, lead segments of the two-year Scripps Naga Expedition to Thailand and Vietnam in 1960-62, participated in the Bikini Atoll atomic bomb tests, and under a Fulbright Grant, worked in India with its scientists to establish the first oceanographic institute in that nation.

While attending San Diego State College, Eugene met chemistry student Katherine Gehring. Shortly afterwards, Katherine was hired at Scripps Institution of Oceanography as a chemistry laboratory assistant in 1933 by its second Director, T. Wayland Vaughan. The Institution decided they needed to hire another technical assistant, and Katherine alerted Gene to the opportunity. Gene was hired that same year. Gene and Katherine married secretly in 1935. They initially kept their marriage a secret because University of California nepotism rules specifically forbade the employment of a married couple in the same laboratory. How well did they keep the secret? Katherine recalls with a smile, "People believed what they wanted to." Katherine and Eugene took a leave of absence from Scripps on August 1, 1936 to allow Eugene to attend class at Berkeley, and they finally made their marriage public.

LaFond initiated the design and installation of the derrick-like structure offshore of Crystal Pier, Mission Beach, known alternately as the "NEL Tower," the "Mission Beach Tower," or the "LaFond Tower." The unmanned oceanographic platform stood in 60 feet of water and housed complex recording instruments from 1959 until it was toppled by El Nino waves in 1988. It is a popular sport diver destination today.

Perhaps Gene LaFond's greatest contribution is being the undisputed father of India's oceanographic program. His legacy stems from his work during three extended visits to India under a U.S Fulbright Grant during 1952-53, and again in 1955-56, by express invitation of the Indian government. His wife Katherine recalls they were also invited to New Zealand, but they choose India because "they didn't know much about their culture." As a visiting professor at Andhra University he lectured on modern concepts and equipment to students and faculty, gave public lectures, assembled and improvised sampling gear, and made short research and teaching cruises in the Bay of Bengal (19 trips in 1952-53, 10 in 1955-56). In 1963 Gene and Katherine joined biological-oceanographic teams on the NSF-sponsored International Indian Ocean Expedition's R/V Anton Bruun (formerly the U.S. presidential yacht Williamsburg) for research in the Bay of Bengal, the Andaman Sea, and off western India. Friend and fellow Scripps scientist Bob Fisher recalls,

"In time BG (Before Gene) India had essentially no tradition, outlook, or history of marine exploration; AG (After Gene) its program is varied and scientifically sound."

India established an internationally recognized medal of ocean science bearing LaFond's name, and an endowed academic chair commemorating his contributions. Scripps professor Joris Gieskes adds concisely, "He was truly a great man."

LaFond entered college with plans to become a mechanical engineer, but he developed an interest in science. After arriving at Scripps Institution in 1933, LaFond worked for Scripps Director T. Wayland Vaughan, preparing charts and plotting oceanographic station data, conducting oceanographic observations on R/V Scripps, taking photographs and doing a study of beach erosion. LaFond's talent for photography was employed when the Scripps staff decided to compile a photo album as a retirement present for Vaughan. LaFond took pictures of campus and every member of the staff in 1935. He was accepted as a graduate student in 1936 and took graduate courses at both Scripps, UC Berkeley, and UCLA.

While at Scripps he took a course in dynamic oceanography from Scripps' third director Harald Sverdrup in 1937. LaFond prepared the charts and illustrations for Sverdrup, Johnson and Fleming's "The Oceans: their Physics, Chemistry, and General Biology," the first modern textbook in oceanography. Published in 1942, it was immediately classified to prevent it from falling into enemy hands during World War II. The book changed the approach to graduate education in oceanography at Scripps. In time, Scripps graduates used the text to begin graduate programs or research departments in oceanography at 19 other universities in the United States and around the world. Gene and Katherine recently signed several copies of "The Oceans" to be presented to the Centennial class of Scripps graduates.

LaFond was promoted to the rank of oceanographer at Scripps in 1940. On August 1, 1941, the eve of World War II, Gene was given a leave of absence from Scripps to undertake war work at Point Loma in a laboratory later named the University of California Division of War Research (UCDWR) studying sedimentary properties and underwater acoustics of fundamental application to naval warfare. While at UCDWR he advanced to a position as Associate Oceanographer. Following the war, UCDWR was disbanded, but a few of the contracts formed the nucleus of the emergent Marine Physical Lab (MPL) of Scripps. LaFond returned to Scripps in 1945. In 1947, he moved to the U. S. Navy's Naval Electronics Laboratory (NEL) to head the Marine Environment Division. LaFond took a number of leaves of absence from NEL over the years to take advantage of research opportunities.

He was one of many scientific consultants who participated in Operation Crossroads, the atomic bomb tests at Bikini Atoll in the central Pacific. Referring to the second explosion detonated underwater, he wrote,

"It was a fantastic sight, this massive column of water 2000 feet in diameter and 5000 feet high moving upward with a couple of the 100 naval vessels airborne in white water. Atomic bombs are more awesome than I could ever believe."

Between the two atomic tests, Gene and John Lyman lowered water samplers to various depths. The wire angle of the cast revealed a strong westerly current. They recorded the observation. The massive water flow was later described and named the "Cromwell Current." From 1947 to 1951 he directed scientific operations aboard submarines and icebreakers during five cruises to the northern Aleutian platform and Beaufort Sea.

LaFond was particularly distinguished for his work on the Indian Ocean which began in the 1950's as part of the International Indian Ocean Expedition (IIOE), 1959-1964. The IIOE was an international effort to explore the Indian Ocean with funding from many sources including the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The IIOE is credited with strengthening science at a number of Eastern Hemisphere universities and bringing their scientists and graduate students into oceanography. LaFond served as professor of oceanography at Andhra University in India from 1952-53 and 1955-56. From 1956-57, he served as specialist in oceanography for the U.S. Department of State. The following year he undertook a North Polar expedition on the atomic submarine USS Skate, which was the first to surface at the north pole. He returned to Scripps as a marine biologist in 1960-61, but served as chief scientist on the U.S. Program in Biology for the IIOE at Woods Hole Oceanographic Institution (WHOI) in Massachusetts in 1962-1963, followed by six months at UNESCO in Paris as deputy director of the Office of Oceanography. He returned to the Navy Electronics Laboratory (later renamed the

Naval Undersea Research and Development Center) in 1964 and remained there as senior scientist and consulting oceanographer until his retirement.

At NEL in the early 1960's Gene helped pioneer the use of submersibles to study the ocean floor environment. He dove in the bathyscaphe Trieste, and the smaller Soucoupe Marine (rented from Jacques Cousteau) and the Westinghouse Deepstar 4000. This method studying the near-bottom zone provided information with greater accuracy and detail than was possible from a surface ship. This work was not without risk; on one Deepstar 4000 dive he narrowly escaped tragedy when the ascent system and its backup failed. Finally, mercury ballast used for trim was hand pumped onto the ocean floor and the craft could rise.

He played a pivotal role as secretary-general of the International Association for the Physical Sciences of the Ocean (IAPSO). During his tenure, Gene and Katherine became recognized for their unfaltering dedication to international collaboration among scientists, coordinating meetings, and providing travel assistance to scientists from developing countries. In January 2000, Scripps Associate Director Robert Knox wrote to Gene saying,

"Through the work of IAPSO, you built a web of international collegiality in the ocean sciences that will benefit science and humankind that will last long after you and I are gone from the scene."

Paola Rizzoli, current IAPSO President, wrote that through his work at IAPSO, Gene "expanded its role to become a truly international ocean science organization and maintained the superb standards established under such Presidents as Roger Revelle, Sir George Deacon, and others."

LaFond was a member of many scientific organizations including the American Association for the Advancement of Science, the American Society of Limnology and Oceanography, the American Geophysical Union, Sigma Xi, IAPSO, and was a Founding Member and Fellow of the Marine Technology Society.