



Harvey F. Ludwig

HARVEY F. LUDWIG

1916–2010

Elected in 1969

“For advances in environmental engineering research and development in water and waste-processing methods.”

BY DANIEL GUNARATNAM
SUBMITTED BY THE HOME SECRETARY

HARVEY F. LUDWIG had a “presence” as a personality and an engineer. He was born in 1916 in Canada and grew up in Los Angeles (1920–1936).

Many outstanding engineers and scientists have shaped the environmental engineering field since its inception. Harvey F. Ludwig was a legend. His 70-year career of continuing contributions and leadership helped shape the modern practice of environmental engineering. Dr. Ludwig obtained his B.S. degree in 1938 in civil and sanitary engineering from the University of California, Berkeley, and his M.S. in 1941. During World War II he was a commissioned officer of the U.S. Public Health Service (USPHS).

In 1946 he started a consulting practice and in 1949 became an associate professor at the University of California, Berkeley. In 1951 he became assistant chief engineer of the USPHS (under Dr. Mark Hollis). In this position he presided over the development of institutions (i.e., laws, federal agencies, programs) that were the foundations for what emerged in final form in the 1970s (and have continued to evolve). At the same time, Dr. Ludwig oversaw research funding at various universities across the country that fueled research and graduate programs which led to a “flowering” of the field that has continued.

In 1956, Dr. Ludwig resigned from the USPHS and started Engineering-Science, Inc. (ES). His modus operandi was to hire mostly M.S. and Ph.D. students recruited from his network of academic colleagues who would adapt their research knowledge into practice. At that time, hiring engineers with graduate degrees was more unusual than common. ES expanded rapidly with offices in key cities in the United States, including a research laboratory and office in Oakland (1956), later in Washington, D.C. (c. 1966), headed by his longtime USPHS associate Gordon MacCallum, and then in Austin, Texas, started by Dr. Davis Ford (1968). The firm grew rapidly with important projects throughout the country, and it started to develop an international clientele. Dr. Ludwig was by this time (1969) a legend in environmental engineering. In the same time, the field was experiencing a golden age—research was advancing knowledge, graduate programs were spreading, the practice was flourishing, and the public had adopted a widespread environmental ethos that was being translated by politicians into laws and policy. At that time, ES was, arguably, at the crest of this movement. It was one of the most visible firms in the field and at the forefront of innovation. This was due not only to Dr. Ludwig individually but also to the way he had structured the firm with both depth and breadth of expertise and leadership. In addition, Dr. Ludwig had extensive involvement with professors from throughout the country.

ES was actually, though, part of a larger corporate structure. One entity was a construction company that had financial difficulty. The “way out” was a buyout offer in 1968 by Zurn Industries of Erie, Pennsylvania. The new corporate structure did not work out, and Dr. Ludwig left the firm in 1972 to set up his own consulting practice in Washington, D.C. ES was later purchased by its employees and remained prominent in the field through 2004, when its identity was assimilated fully by Parsons, an international construction company.

In 1973, Dr. Ludwig’s private practice led him to Bangkok where he started a new firm, Seatec International, which has influenced environmental engineering throughout Southeast

Asia (Indonesia, Malaysia, Thailand, Laos, Cambodia, and the Philippines), China, South Asia (India, Bangladesh, Nepal, Sri Lanka), South Korea, and Taiwan. While there he championed the case for adapting environmental standards and designs to match the socioeconomic context of developing countries—as opposed to imposing the design approaches of industrialized countries. He worked with multilateral banks (the World Bank and the Asian Development Bank), and bilateral institutions, such as the U.S. Agency for International Development and others. He proceeded to revise their procedures to fit appropriate environmental standards that were more workable in developing countries. His contribution to the Asian Development Bank to prepare guidelines for environmental impact assessments for all sectors of projects was simply outstanding. In his final years he championed the integration of environmental issues into all economic development to ensure that environmental issues were mainstreamed into economic plans.

Dr. Ludwig was a mentor to countless practicing engineers in both the United States and Asia. He was known for his high standards in writing, in professional practice, and in getting a job done. To quote Professor Donald Anderson, in 1965, when he headed the Oakland office of ES, “When you work for Harvey Ludwig. . . ,” much was expected. He was instrumental in founding what is now the American Academy of Environmental Engineers (a certifying organization) in 1956 and sponsoring the founding of the Association of Environmental Engineering and Science Professors (AEESP) in 1963. In 1966 his firm ES initiated the sponsoring of a “best thesis” cash award within AEESP. Dr. Ludwig’s rationale was that the significant cash (\$1,000 at that time) added prestige to the award. The award has continued under the auspices of other firms, with inclusion of both master’s and doctoral theses.

As of 2008, Dr. Ludwig had some 358 publications, ranging from research on coagulation (1941) to strategies for saving the forests in Southeast Asia (2005). In addition, he wrote eight textbooks on environmental engineering. Four of his

papers won awards: the American Water Works Association John M. Goodell Award, with W. F. Langelier, in 1942; the Water Environment Federation's Harrison Prescott Eddy Medal in 1954; and the American Society of Civil Engineers (ASCE) Rudolph Hering Medal in 1955. Personal achievement awards included an honorary doctoral degree from Clemson University in 1965; election to the National Academy of Engineering in 1969, shortly after its founding; the AEESP's Founder's Award; the American Academy of Environmental Engineers (AAEE) Honorary Member Award in 1999; the University of California College of Engineering Alumnus of the Year Award in 1999; the AEESP/AAEE Special Joint Award in 2005 for services as a principal founder of both organizations at Clarkson University; and various other awards in Bangkok and Southeast Asia.

As implied, the passing of Harvey Ludwig leaves a void in the profession and in his family, which included his wife, Vanida, and four daughters, a son, five grandchildren, and two great-grandchildren. Harvey was a wonderful husband and a good father to his children. He continued to disseminate his frequent e-mails (to over 60 friends, family members, and colleagues) to within a few weeks of his passing on April 24, 2010. He had opinions on every issue, including global warming, economic crises, education, the European Union, graft and what to do about it, appropriate technologies, environmental standards for developing countries, and more. He tried to advance the issue of appropriate technologies for developing countries at every opportunity, including writing textbooks on the topic. Harvey as a personality and as an engineer was not only a legend but also an institution whose influence continues.

