



Bob Bresler

BORIS BRESLER

1918–2000

Elected in 1979

“Pioneering in the structural design of large works to withstand combined stresses, sustained loads, corrosion, fires, and earthquakes.”

BY VITELMO V. BERTERO, JOSEPH PENZIEN,
KARL S. PISTER, AND EGOR P. POPOV

BORIS BRESLER, professor emeritus of civil engineering at the University of California, Berkeley, passed away on March 9, 2000, at the age of 81 in his home in Tel Aviv. He taught and conducted research at Berkeley for 32 years and had an exceptionally rich cultural and professional engineering life.

He was born in Manchuria on October 18, 1918, and was part of the Russian Jewish community that emigrated to Harbin before the Revolution. He graduated from the Harbin Commerce High School and acquired a superb knowledge of the Russian language, which proved useful in his professional career, enabling him to write critical reviews of Russian language technical articles, among them “Theory of Mechanisms” by Chebyshev in the *Quarterly Journal of the National Research Council* and “Solution of Thin-Walled Beams in Torsion by Complex Variable Polynomials” by Beerman in *Applied Mechanics Reviews*.

After attending St. John’s University in Shanghai, he entered and graduated from UC Berkeley with a BS in civil engineering in 1941. He became a construction inspector and then a design engineer at the Kaiser Richmond Shipyards, where Liberty

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Ships were constructed. From 1943 to 1945 he was employed as a stress analyst at Consolidated Vultee Aircraft Corporation in San Diego, where he was involved in the selection of load criteria for bombers. In the evenings he taught numerical stress analysis, strength of materials, and airplane structural design at the University of California's War Training Center in San Diego. He subsequently studied at the California Institute of Technology, where he pursued studies in the theory of elasticity, vibration analysis, and aircraft design, earning an MS degree in aeronautical engineering in 1946.

Later that year he was hired as a lecturer in civil engineering at Berkeley, where he held the additional title of research engineer on the pioneering Prosthetic Devices Research Project conducted under the direction of Howard D. Eberhart. He developed methods for analysis of the mechanics of human locomotion and established criteria for the structural design of artificial limbs. The research resulted in a number of papers on prosthetic devices and a series of lectures at graduate seminars of the Department of Orthopedic Surgery at UC San Francisco.

In 1948 he was appointed assistant professor of civil engineering and also registered as a professional engineer in California in mechanical engineering. He began to devote most of his research efforts to understanding the mechanical behavior of materials of construction, with particular reference to the behavior of structures exposed to complex loading and environmental conditions. He developed advanced analytical methods for the response of reinforced concrete structures to fire and other extreme temperature conditions, as well as systematic procedures for evaluating seismic hazards in existing buildings.

He became assistant dean for graduate studies in the College of Engineering (1956–1959) and was active in the affairs of the Berkeley Division, serving as vice chair of the Graduate Council and as a member of the Committee on Committees of the Division as well as the Statewide Academic Senate.

He authored or coauthored more than 70 technical papers. He was coauthor of *Design of Steel Structures* with T.Y. Lin and J. Scalzi (John Wiley and Sons, 1964), author of *Reinforced*

Concrete Engineering (John Wiley and Sons, 1974), and editor of the 1978 volume *Douglas McHenry International Symposium on Concrete and Concrete Structures*.

After retiring in 1978, Boris joined the consulting engineering firm of Wiss, Janney, Elstner Associates, Inc. as a senior consultant and manager of the California office. He developed design criteria for various types of structures, including high-rise buildings, offshore structures, and industrial and nuclear power plant facilities. He enjoyed his work as a consultant in structural engineering and as a member of numerous professional committees.

Consistent with the breadth of interest demonstrated throughout his life, he also chose to follow new paths. He established a publishing house, Benmir Books, in Walnut Creek, and, while residing for part of the year in Israel, edited a newsletter about the experiences of Jews in China.

His work resulted in numerous professional honors. He was co-recipient (with Karl Pister) in 1960 of the Wason Medal for Materials Research of the American Concrete Institute (ACI) and the Joe W. Kelly Award in 1978. In 1968 he received the ASCE State-of-the-Art of Civil Engineering Award and in 1979 was elected to the National Academy of Engineering. In 1988 he was cited by the *Engineering News Record* for his contribution to the field of fire protection engineering in the construction industry. In 1994 ASCE elected him an honorary member for "his many contributions to the profession of structural engineering, particularly in the areas of complex loading and special environments such as earthquakes and fire hazard."

Boris was an excellent teacher, not only in the classroom and office but also for his colleagues. He greatly influenced teaching and research on the Berkeley campus and left many friends there and in societies such as SEAONC, ACI, ASTM, and IABSE, in which he was an active participant. All of us will miss him, especially his great sense of humor.

Boris enjoyed a happy marriage with his wife Joy until her untimely death. He is survived by daughter Deborah Ann and son-in-law Michael Bloom, of Danville, and two grandchildren.