



EDITORIAL

Celebrating the 95th birthday of Professor Karl S. Pister

A biographical timeline of Professor Karl Pister

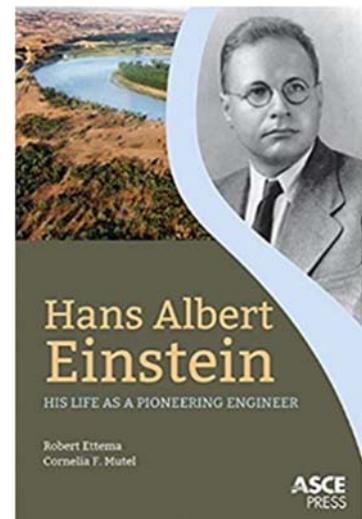
By Professors Mark Austin and Loc Vu-Quoc

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This biographical timeline complements the biography of Professor Karl Pister at the beginning of this special issue in providing the background information of some of Professor Karl Pister's influential teachers, mentors, colleagues, research collaborators, and students.

- 1925: Date of birth, June 27.
Father: Stockton high school teacher in math and mechanical drawing.
Mother: Stockton high school teacher in domestic science.
- 1942: Graduates from high school, class valedictorian.
His initial plan was to study chemistry at Stanford University.
- 1942: Summer working as engineering aide for division of highways.
- 1945: Army Reserve Officers' Training Corps (ROTC). Enlists in the Naval Reserve.
Graduated from University of California (UC) Berkeley with a Bachelor of Science in Civil Engineering.
- 1945: Naval Service during World War II. Assignment to Okinawa.
Released in 1946.
- 1946-47: Began graduate studies at Berkeley in the Fall semester, 1946.
Teaching Assistant for Professor Hans Einstein and Professor Egor Popov in hydraulics and surveying, respectively.
Became full-time lecturer.

Editor's note: Professor Hans Einstein, a son of the famous physicist Albert Einstein, was a pioneer in river bed-sediment transport, with a detailed account of his life and accomplishments in the book by R. Etterna and C.F. Mutel, [*Hans Albert Einstein: His Life as a Pioneering Engineer*](#), ASCE Press, 2014, and for a shorter version of the book, the paper by R. Etterna and C.F. Mutel, [*Hans Albert Einstein: Innovation and Compromise in Formulating Sediment Transport by Rivers*](#), *Journal of Hydraulic Engineering*, Vol.130, No.6, June 2004, which was published to "mark the hundredth anniversary of the birth of Hans Albert Einstein (1904–1973)".



Prof. Egor Popov



Wikipedia ‘[Hans Albert Einstein](#)’ (version 21:49, 6 October 2021)



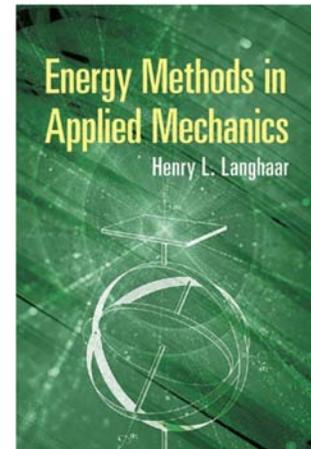
Professor Hans Einstein demonstrating to undergraduate students the phenomenon of shock front or “hydraulic jump” in open-channel flow at the Berkeley Hydraulic Lab in the mid 1960s, Ettema & Mutel 2014. Credit: [Bill Ray, Life photographer](#), with permission ([Internet archived on 2021.10.05](#))

In 1976, Professor Popov was [elected to the National Academy of Engineering](#) (NAE, [Internet archived on 2021.10.05](#)) for “Contributions in mechanics of solids and the inelastic cyclic behavior of structural systems.” See also [Egor P. Popov 1913-2001](#), Obituary, National Academy of Engineering, by R.K. McGuire. ([Internet archived on 2021.09.26](#)). Photo credit: Ed Kirwan.

Wikipedia ‘[Egor Popov](#)’ (version 17:07, 28 July 2019). ■ LVQ

- 1947: Met Ms. Rita Olsen, his future wife.
- 1948: Took a mechanics course from Professor Egor Popov, which turned out to be a turning point in his professional career.
Graduated with a Master of Science in Civil Engineering.

- 1949: Presented his first paper at an American Geophysical Union (AGU) meeting in Los Angeles.
- 1949-51: Entered the Ph.D. Program, Theoretical and Applied Mechanics Department, University of Illinois at Urbana-Champaign, with [Professor Henry Langhaar](#) ([Internet archived 2021.10.06](#)) as advisor, who was “absolutely the best thing that ever happened to [his] graduate work”.
- 1950: Engaged with Ms. Rita Olson in February 1950, with a diamond ring mailed from Champaign, Illinois, bought from the father-in-law of his good friend and classmate, [Professor Charles Taylor](#) ([Internet archived on 2021.10.06](#)), also Langhaar’s student and renowned photo-mechanician. Married Ms. Rita Olsen, November 1950.



- 1952: Ph.D. Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign, 1952
- 1952-53: Became Assistant Professor of Civil Engineering, UC Berkeley. Performed research with Professor Boris Bresler on material properties of Portland Cement Concrete.

Editor’s note: [Boris Bresler 1918-2000](#), NAE Obituary by V.V. Bertero, J. Penzien, K.S. Pister, E. Popov. ([Internet archived on 2021.09.26](#)). See also [Boris Bresler, Civil Engineering: Berkeley, 1918-2000](#), by V.V. Bertero, J. Penzien, K.S. Pister, E. Popov. ■ LVQ



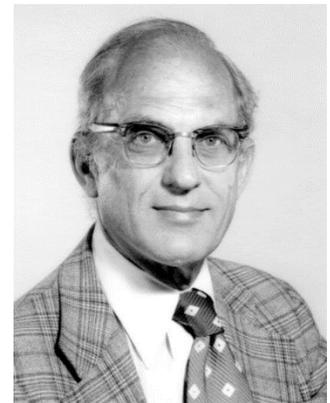
Prof. Boris Bresler

- 1952: Appointed to Senate (Berkeley Library Committee).
- 1953: Performed research on behavior of torpedo nets with Professor Ray Clough, who in 1956 was among the first developers of the finite element method for airplane-structure analysis.

Editor’s note: R.W. Clough and E.L. Wilson, [Early Finite Element Research at Berkeley](#), Fifth U.S. National Conference on Computational Mechanics, Aug. 4-6, 1999, ([Internet archived on 2020.10.27](#)).

In 1968, Professor Clough was [elected to the NAE](#) ([Internet archived on 2021.10.05](#)) for “Analysis, design, and applications of structures for dynamic loadings, including earthquakes.”

See also [Ray W. Clough 1920-2016](#), NAE Obituary by E.L. Wilson and J.P. Moehle. ([Internet archived on 2021.08.13](#)). Photo credit: Ed Kirwan.



Prof. Ray Clough

Wikipedia ‘[Ray William Clough](#)’ ([version 08:38, 13 March 2021](#)). ■ LVQ

- 1960: Professor Boris Bresler and Professor Karl Pister received the Wason Medal on Materials Research of the American Concrete Institute (ACI) for their research on Portland Cement concrete.



Professor Ray Clough (far right) received the National Medal of Science on 1994 Dec 19, “For his outstanding contributions in the fields of finite element analysis, structural dynamics, and earthquake engineering which had extraordinary influence in the development of modern engineering”, pictured with Vice President Al Gore (4th from right) and other awardees. Credit: NSF.

- 1960s: Birth of the Pister Research Machine (PRM).

Editor’s note: Some prominent members of the PRM in the 1960s, shown in the photo below with Professor Karl Pister as their doctoral advisor, were (from left to right):

Professor Russell A. Westmann (UC Los Angeles) was best known for his works on elasto-dynamics of building foundation, fracture mechanics, and viscoelasticity.

Professor Robert L. Taylor (UC Berkeley) was [elected to the NAE \(Internet archived on 2021.10.05\)](#) “For research and application of finite element methods in structural mechanics and other areas, and for education leadership in this field” in 1991. See also “[My fifty years with finite elements](#)”, Venice, Italy, Jun 2008 ([Internet archived 2021.06.07](#)).

Professor Leonard R. Herrmann (UC Davis) was best known for his works on variational methods and plasticity.

Professor Stanley B. Dong (UC Los Angeles) was best known for his works on composite plates and shells. See also R.W. Clough and E.L. Wilson, [Early Finite Element Research at Berkeley](#), Fifth U.S. National Conference on Computational Mechanics, Aug. 4-6, 1999, ([Internet archived on 2020.10.27](#)). ■ LVQ



PRM “Grad Mafia”, June 1962: Professor Karl Pister (center) and his four graduating students, from left to right: Professor Russell A. Westmann, Professor Robert L. Taylor, Professor Leonard R. Herrmann, Professor Stanley B. Dong. (The file of the above photo was named “gradmafia.tif” in the Pister family photo collection.)¹

- 1964-65: Vice-chair, Civil Engineering Department.
- 1970-71: Chairman of the Division of Structural Engineering and Structural Mechanics.
- 1972-73: Chairman, Committee on Educational Policy at Berkeley.
- 1976-78: Senate Policy chair and Academic Senate, Berkeley Division, vice chair.
- 1978–1980: Vice chairman and chairman of the nine-campus Academic Council and Assembly of the Academic Senate.
- 1980: [Elected to the NAE](#) for “Contributions in the use of advanced principles of mechanics in understanding the behavior of engineering materials.” ([Internet archived on 2021.09.26](#))
- 1980-1990: Dean of Engineering at UC Berkeley
- 1985-1990: Roy W. Carlson Chair in Engineering.

¹ **Editor’s note:** It is likely not a coincidence that, from right to left, these four former students stood in alphabetical order of their last names. LVQ



Dean Pister (right), overseeing a surge in philanthropy for the College of Engineering, greets Dr. Byron and Ms. Elvira Nishkian (center), who endowed the first faculty chair in structural engineering, with then Berkeley Chancellor Ira Michael Heyman (left).²

Editor's note: '[Ira Michael Heyman](#)' "(May 30, 1930 – November 19, 2011) was a Professor of Law and of City and Regional Planning, and was Chancellor of [University of California, Berkeley](#), and Secretary of the [Smithsonian Institution](#)" (Wikipedia [version 20:35, 9 July 2021](#)).

[Roy W. Carlson 1900-1990](#), NAE Obituary by W. Chadwick, was a specialist on Portland cement concrete, for which Professors Bresler and Pister received the Wason Medal in 1960. ■ LVQ

- 1990s: Transitioned from well-defined engineering research to much more difficult and complex social-political issues.
- 1991-1996: Chancellor of UC Santa Cruz.
- 1993: Created *Karl S. Pister Leadership Opportunity Awards Program* at UC Santa Cruz.

² We thank Ms. Karen Holtermann for contributing to the caption of this photo. The previous version of this caption had the couple in the middle incorrectly identified as Dr. and Mrs Carlson.

Editor's note: See the tribute by Ms. Lola Martin-Antilano in Biography and Tributes. LVQ.

- 1996: Received the Berkeley Medal.

Editor's note: See Biography and Tributes. LVQ.

- 1999-2000: Vice President for Educational Outreach at University of California, Office of the President (UCOP).
- 2006: Cal Alumnus of the Year, the California Alumni Association.

Children: Frances (1951), Therese (1953), Anita (1955), Jacinta (1956), Claire (1958), Kris (1962)

Editor's note: For more details, see [Department of Civil Engineering University of California at Berkeley The First One Hundred Years \(or so\) \(Internet archived on 2021.09.26\)](#) and the [Pister.book \(Internet archived on 2021.03.09\)](#), an oral history. LVQ



Professor Hans Einstein discussing sediment transport in pipes with a student, Ettema & Mutel 2014.
Credit: [Bill Ray, Life photographer](#), with permission ([Internet archived on 2021.10.05](#))

Editor's note: Since it is rare to have quality photos of a professor in the act of teaching in the pre-Internet era, particularly taken by a *Life* photographer, and with space allowed, I took up the offer of Ms. Marlys Ray to also include the above photo, just for the pleasure of looking at these quality photos. LVQ