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# BSCES Honorary Members

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*The Society honors three members for their professional excellence, achievements and contributions.*

**A**T THE 1987 Annual Meeting of the Boston Society of Civil Engineers Section/ASCE (BSCES), the Society paid special recognition to three of its members — Harl P. Aldrich, Jr., Paul S. Crandall and Donald R.F. Harleman — by making them Honorary Members. Honorary Membership is the Society's highest level of acknowledgment of its outstanding and distinguished members based on their contributions to BSCES, the engineering profession and society. Honorary Member status for these individuals was attained through a rigorous process of nomination by a BSCES committee, petition by its membership and election by the Board of Government. They join three other living Honorary Members — John B. Babcock, Albert G.H. Dietz and John A. Volpe — to form a select group that comprises less than one-half of one percent of the Society's membership.

## **Harl P. Aldrich, Jr.**

To many engineers, Dr. Aldrich's career has served as a model of leadership, scholarship

and professionalism in engineering. He is a co-founding Principal of Haley & Aldrich, Inc., a 200-person firm of consulting geotechnical engineers, geologists and hydrogeologists located in Cambridge, Massachusetts. He is a registered professional engineer in Massachusetts and New York, and has over 35 years of experience in academia and in consulting engineering practice.

Dr. Aldrich received his S.B. and Sc.D. degrees in civil engineering from the Massachusetts Institute of Technology (MIT) in 1947 and 1951, respectively. He was a member of MIT's civil engineering faculty, teaching courses in soil mechanics, foundations and groundwater flow, as well as a Visiting Lecturer on Soil Mechanics at Harvard University, before co-founding Haley & Aldrich, Inc., with James F. Haley in 1957.

Dr. Aldrich has served as Principal-in-Charge of more than 1,000 projects the firm has undertaken, concentrating primarily on the design and construction aspects of foundations for buildings, earth dams and waterfront structures, specializing in geotechnical engineering problems. He has extensive experience with projects abroad, and has authored numerous technical papers related to frost penetration, precompression, foundations, vertical sand drains, dam safety and groundwater problems in Boston. Dr. Aldrich has also been active at the national level in the area of dam safety, including serving as Chair



**Harl P. Aldrich, Jr.**

of the Committee on the Safety of Dams in 1977, a committee sponsored by the National Research Council to review Bureau of Reclamation practices and procedures for assuring the safety of some 330 existing water storage dams. He also served on a panel of six independent experts in 1980 that was sponsored by the Federal Emergency Management Agency and charged with reviewing federal agency compliance with guidelines for dam safety. From 1981 to 1983, he chaired the Work Group on Stability of Embankment Dams and Their Foundations of the Committee on Safety of Existing Dams, sponsored by the National Research Council.

Dr. Aldrich has been active in professional societies throughout his career. A Fellow of the American Society of Civil Engineers (ASCE), he was President of the Massachusetts Section of ASCE and later became President of the Boston Society of Civil Engineers before their merger into a single organization. As the representative of Haley & Aldrich, Inc., he was one of the ten founding members of the Association of Soil and Foundation Engineers (ASFE), fostering its development. He has been a strong advocate of ASFE's highly successful Peer Review program. This program has since been modified and implemented by the American Consulting Engineers Council. Dr.

Aldrich has also served as President of Terra Insurance Ltd., which provides professional liability insurance to ASFE member firms.

Dr. Aldrich has been recognized for his contributions to engineering practice by his election to the National Academy of Engineering. He is also a member of the honorary engineering and scientific societies of Sigma Xi, Tau Beta Pi and Chi Epsilon. He has been recipient of such honors from BSCES as the Clemens Herschel Award, Structural Section Prize, Ralph W. Horne Award and Desmond Fitzgerald Award — all honoring his technical, Society and community contributions. He remains active in MIT activities, including having served as President of the Alumni Association and member of the MIT Corporation.

### **Paul S. Crandall**

As a practicing civil engineer for more than 40 years, and a renowned leader in the field of dry dock engineering, Paul S. Crandall has been a businessman, innovator, problem solver and teacher. He is recognized for the guidance he has given to young civil engineers through their formative years, providing the profession with many thoughtful and skilled practitioners. He assumed the presidency of Crandall Dry Dock Engineers, Inc., in 1953, becoming the fifth generation of "Dry Dock" Crandalls running the firm that was founded in 1854.

Paul Crandall received his S.B. degree in civil engineering from MIT in 1942. Following three years of service in the U.S. Army Corps of Engineers during World War II, where he rose to the rank of Captain, he joined his family firm in 1945. He worked as designer, field engineer and design engineer until assuming presidency of the firm. He is a registered professional engineer in Massachusetts.

Paul Crandall has continued his ancestors' legacy of being in the forefront of dry dock engineering over the last 30 years. As a leader in his specialty of drydock design, operation and maintenance, he has brought together all the technical disciplines — mechanical, electrical, materials, geotechnical and naval architecture — required to create structures for

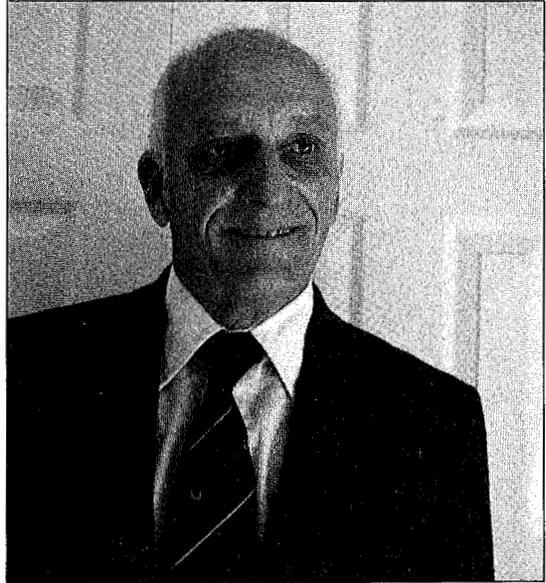
lifting from the water almost everything from enormous ships to small boats. The geographic scope of his work has been worldwide — across the U.S., South America, Europe and the Pacific.

He has authored many articles on the subject of drydock engineering. Following a disastrous dry dock instability accident in Baltimore, he was asked to give practical and theoretical instructions to a new dockmaster. This "training" has been repeated 16 times nationally in what has become known as Dockmaster Training Seminars, and it also resulted in a manual that is widely accepted as a "bible" in the industry. He has been a teacher within his own firm that has fostered many emerging engineers, insisting that they discard the engineer's "cook book" image and instead reason out solutions using sound engineering principles. This learning process is characterized by his firm's motto: *Progress, the result of never being satisfied.*

Paul Crandall's professional achievements and activities include serving as member of the ABS Committee on Dry Dock Rules; Visiting Lecturer at Princeton University; and Guest Lecturer at Tufts University, Northeastern University, Massachusetts Maritime Academy and Ecole des Ponts et Chaussées in Paris, France. He is a Fellow and Life Member of the ASCE, a Life Member of the BSCES, a Life Member of the Society of Naval Architects and Marine Engineers and a member of the American Concrete Institute. He was awarded the BSCES Structural Group Award in 1968 for his article, "Timber Design in Waterfront Construction."

### **Donald R.F. Harleman**

Dr. Harleman's 40-year career has placed him among today's most outstanding hydraulic engineers. Like his mentor, Arthur Ippen (who was Director of the MIT Ralph M. Parsons Laboratory and BSCE President, 1960-1961), he has been a worthy bearer of John R. Freeman's torch by being an original technical contributor, consultant, author and leader of important international seminars and conferences, as well as through his skillful training and strong encouragement and support of young engineers.



**Paul S. Crandall**

Dr. Harleman received his B.S. degree in civil engineering from Pennsylvania State University in 1943 and his S.M. and Sc.D. degrees in civil engineering from MIT in 1947 and 1950, respectively. Beginning as a Research Assistant and Research Associate in the Hydrodynamics Laboratory at MIT in 1945, his whole career has been devoted to MIT and the advancement of hydraulics.

With Arthur Ippen and James Daily, Dr. Harleman played an essential role in planning MIT's new Hydrodynamics Laboratory in 1951. He served as Assistant Professor of Hydraulics, and then as Associate Professor and Professor, from 1950 to 1975. In 1972, he was chosen to head MIT's Water Resources Division, and in 1973, to direct the Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics. He relinquished that position as Director in 1983, but remains as the Ford Professor of Engineering. During his career, he has also served as Visiting Professor, Engineer or Scientist at the California Institute of Technology, Delft Hydraulics Laboratory in the Netherlands, Department of Applied Mathematics and Theoretical Physics at the University of Cambridge, England, and at the International Institute for Applied Systems Analysis in Vienna, Austria.

His major research interests and accom-



**Donald R.F. Harleman**

plishments have been in the areas of fluid transport and mixing processes as they affect effluent discharges into water bodies, coastal engineering and tidal hydraulics, stratified flow due to temperature and salinity, water body waste heat disposal associated with energy generation, and solar energy collection and storage by means of salt gradient ponds. He has authored numerous papers, and his text, *Fluid Dynamics*, co-authored by J.W. Daily and published in 1966, has been recognized as the outstanding text of its day. In the same year, he also contributed to *Estuary and Coastline Hydrodynamics*, A.T. Ippen, Editor. He also holds a U.S. Patent with G.H. Jirka on submerged multiport diffusers for cooling water

discharge.

Dr. Harleman's professional achievements and activities have been many. He was elected to membership in the National Academy of Engineering in 1974, and has served on its Committee on Power Plant Siting and Committee on Glen Canyon Environmental Studies Review. He is also a member of the National Academy of Sciences, and has served on their Panel of Geophysics of Estuaries of the Geophysics Study Committee and the Committee on International Relations, USSR and Eastern Europe. He also served on the Federal Power Commission Task Force on Technical Aspects and Committee on Conservation Energy.

Dr. Harleman's contributions to both the ASCE (Life Member) and BSCES (Life Member) have been long and many, including Chairman of the Executive Committee of ASCE's Hydraulics Division, Chairman of BSCES' Hydraulics Group, and member of BSCES' John R. Freeman Fund Committee. His accomplishments are reflected in the awards bestowed on him by these Societies. Among his awards are: from ASCE — Research Prize, Karl Hilgard Prize (twice), J.C. Stevens Award, First Hunter Rouse Hydraulic Award, and Wesley W. Horner Award; and from BSCES — Hydraulics Award and Desmond Fitzgerald Medal.

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