



Mechanical Engineering  
Academy of Distinguished Alumni

## **Robert L. Bass, PhD**

*Mechanical Engineering Hall of Fame, 2020*

BSME, The University of Texas at Austin, 1964  
MSME, The University of Texas at Austin, 1966  
PhD, The University of Texas at Austin, 1968

*Vice President (Retired)*

Mechanical and Materials Engineering Division  
Southwest Research Institute

Dr. Robert Bass was responsible for the managerial and technical direction of the Mechanical and Materials Engineering Division at Southwest Research Institute. The Division's activities covered engineering dynamics, materials engineering, structural and mechanical engineering, fluids engineering, and nondestructive evaluation and testing. Dr. Bass was involved in leading the strategic planning for the Division's future, and was directly accountable for the Division's financial performance.

Dr. Bass' career covered over 40 years of experience in the conduct and management of fundamental and applied research programs. At SwRI, he conducted experimental programs using scale models to establish hydrodynamic and aerodynamic flow characteristics, and loads for both internal and external flows for a wide variety of applications. This work was conducted for the marine, petroleum, aerospace, and nuclear industries, and for associated government agencies. Dr. Bass conducted studies associated with the ventilation, inerting, and liquid cargo-induced dynamic loads on large ship tanks; the venting and dispersion of heavier-than-air hydrocarbon vapors emitted from ship tanks, storage tanks, and ruptured LPG transmission lines; flow-induced vibrations on flexible ducted flow components; and dynamic loads on lifting surfaces experiencing highly separated flows. Dr. Bass was also instrumental in developing requirements for safety and pollution prevention equipment, and for improved fluids separation equipment used in offshore oil and gas operations. Dr. Bass has expertise in flow measurement techniques, and directed several programs, which resulted in the development of flow instrumentation for a wide range of applications. Dr.

Bass was also actively involved in the development and operation of an international Gas Flow Metering Facility located at Southwest Research Institute. Dr. Bass has over 40 publications and presentations, and has authored over 50 research reports covering his areas of expertise.

Dr. Bass was previously involved as an officer or member on numerous ASME and API committees, including the ASME Board on Accreditation, Registration and Certification, ASME Safety and Pollution Prevention Equipment Committee(s), the API Committee on Gas Measurement, and various subcommittees of the API Offshore Safety and Anti-Pollution Equipment Committee. Dr. Bass has also served on numerous advisory committees to universities, governmental agencies and industrial organizations; including serving as Chairman of the industry advisory committees to The University of Texas, Department of Aerospace Engineering and Engineering Mechanics, and the Fluid Dynamics Group of the College of Engineering.

**PROFESSIONAL CHRONOLOGY:** Mobil Oil Company: production engineering assistant, 1963; The University of Texas, Department of Mechanical Engineering: teaching assistant and research assistant, 1964-68; E.I. DuPont, Richmond, Virginia: research engineer, 1968-70; Southwest Research Institute: senior research engineer, 1970-73; manager, 1973-81; director, 1981-89; vice president, 1989-2008.

**MEMBERSHIPS:** American Society of Mechanical Engineers (Fellow), American Association for the Advancement of Science, Phi Kappa Phi, Sigma Gamma Tau.