



Mechanical Engineering  
Academy of Distinguished Alumni

**Johnny C. (Buddy) Wachel, P.E.**  
*Charter Member, 2005*

BSME, The University of Texas at Austin, 1957  
MSME, The University of Texas at Austin, 1959

*President & Manager of Engineering (Retired)*  
Engineering Dynamics, Inc.

Johnny C. “Buddy” Wachel was born in Arp, Texas, and attended Leverett’s Chapel High School. After completing an associate’s degree at Kilgore College, he transferred to The University of Texas and earned both his BSME and MSME degrees. As an undergraduate, Buddy was president of the ASME Chapter, an officer in the ME and Engineering Honor Fraternities, and a member of one of the first Student Engineering Councils. He received the Hugh Scott Cameron Award for Outstanding ME Graduate in 1957.

Buddy launched his career working at Texas Instruments for two years before joining Southwest Research Institute (SwRI) in 1961. At SwRI, he performed research on vibrations of piping systems and large compressor units, developing many procedures and calculation methods that are still used in the industry today.

By 1967, Buddy was a full-time consultant for existing compressor, pump and piping systems, and he developed expertise solving failure problems caused by nonsynchronous vibrations from higher compressor speeds and pressures. Between 1972 and 1978, he investigated numerous instability problems, which led him to develop the Wachel Equation for estimating the destabilizing forces in compressors, ultimately improving the correlation between design calculations and measurements. The Wachel Equation was adopted into the API codes in 2010.

As a section manager at SwRI, Buddy established his team as highly respected vibration consultants who were trusted by companies worldwide to resolve crisis situations with essential machine failures. Combining

this expertise with his entrepreneurial spirit, Buddy co-founded Engineering Dynamics, Inc. (EDI), in San Antonio in 1982, where he was president and manager of engineering until his retirement in 1997.

With Buddy’s guidance, EDI quickly became known for its superior-quality work in solving difficult vibration and pulsation problems and performing meticulous design audits. EDI made an important breakthrough at the time by developing digital computer techniques to simulate acoustical pulsation characteristics of gases and liquids in piping systems of reciprocating compressors and pumps. Buddy and his colleagues at EDI became recognized globally as a preferred resource to develop solutions for pulsation-induced vibration and failure problems.

Buddy received numerous honors during his career, most notably the ASME Life Fellow Award (2003) and UT Distinguished Engineering Graduate (College of Engineering, 2004; ME Department, 2005). The ASME Petroleum Division honored him with the Eugene Jacobson Award for the best all-around paper in the ME field in 1985. Buddy also served on the ASME Nuclear Piping Vibrations committee for 20 years. He authored more than 50 technical papers and shared his expertise by teaching engineering seminars on vibrations and pulsations in seven different countries.

Always loyal to The University of Texas and the College of Engineering (now the Cockrell School of Engineering), Buddy is a member of Tau Beta Pi, Friends of Alec, Pi Tau Sigma, the Longhorn Foundation, and is a lifetime member of the Texas Exes.