

The University of Texas at Austin
Geotechnical Engineering Group with



presents the

***2021 Lymon C. Reese
Distinguished Lecture***



Prof. David Daniel

University of Texas at Dallas

**“Reflections on Lessons Learned
from a Career in
Geotechnical Engineering”**

April 16, 2021 at 4:30 PM

Virtual via Zoom

University of Texas at Austin

Prof. David Daniel, PE, PhD, NAE

President Emeritus
University of Texas at Dallas

B.S., University of Texas at Austin
M.S., University of Texas at Austin
Ph.D., University of Texas at Austin

Bio

Dr. David E. Daniel is President Emeritus of The University of Texas at Dallas and an Engineering Consultant in Dallas, Texas. He served on the faculty at UT Austin from 1981 to 1996. His research focused on environmental controls for contaminated land and groundwater. From 1996 until 2005, he served as Head of the Department of Civil and Environmental Engineering, and then as Dean of Engineering at the University of Illinois. From 2005 to 2015 he served as President of The University of Texas at Dallas. From 2015 to 2018 he served as Deputy Chancellor and Chief Operating Officer of The University of Texas System in Austin. Honors include the Normal Medal, Croes Medal, Middlebrooks Award, Presidents Award, Opal Award for Education, Terzaghi Lecture, and Geotechnical Hero’s Award from the American Society of Civil Engineers (ASCE). He was elected to the National Academy of Engineering (NAE) in 2000. Past service includes chairing the External Review Panel for ASCE to investigate the causes of the levee failures of New Orleans as a result of Hurricane Katrina, and service on the NAE panel that investigated the causes for the blowout and explosion of Deepwater Horizon. Dr. Daniel currently serves as President of The Academy of Medicine, Engineering, and Science of Texas (TAMEST) and Chairman of the Gulf Research Program Division Committee of the National Academies of Sciences, Engineering, and Medicine.

Abstract

My lecture will reflect on lessons learned from my career in geotechnical engineering. These lessons have proven to be invaluable not only in my engineering career, but also in my work as a higher education administrator. Many of the most valuable lessons learned occurred while I was a student at UT Austin. The geotechnical engineering faculty provided guidance and inspiration. They taught me lessons not only about engineering, but about professional life, interactions with others, and leadership. I will provide specific examples in my talk.

One of the most important lessons I’ve learned over my career is how to manage risk. One must lay bold plans and be willing to take some risks, but not foolish ones. I’ll reflect on how I think about risk. I’ll talk in some detail about the Macondo Well blowout and the ensuing disaster on Deepwater Horizon in the Gulf of Mexico. This disaster cost 11 people their lives and led to one of the largest oil spills ever experienced. The blowout was caused by a series of terrible risk-management decisions, all of which are geotechnical engineering related, which I’ll review in my talk.

The geotechnical engineering program at UT Austin is truly extraordinary. I believe that the faculty and students understand and appreciate this exceptionalism, but they may not appreciate some of the enduring, non-geotechnical-specific lessons that the program teaches. I hope that my examples of lessons learned will help others appreciate not only the technical benefits of their geotechnical engineering education, but also the more far-reaching impacts on professional and leadership capabilities.

Honoring the Lifetime of:

DR. LYMON C. REESE, Ph.D., P.E.

Nasser I. Al-Rashid Chair Emeritus
in Civil Engineering
University of Texas at Austin

Lymon Reese was born in the hills of southwest Arkansas where his father was an employee of a timber company, a "log scaler." Lymon was the youngest of three children. The family lived in a small house consisting of a rail car on a siding and an attached building. Within a few years, the family moved to Murfreesboro where his father became Tax-Assessor Collector and Lymon and his siblings attended the local schools. Later the family moved to Abilene, Texas, where Lymon completed high school. While in Abilene Lymon worked as a caddy at the Abilene Country Club, beginning a life-long love of the game of golf. He earned fifty cents a round, money that was taken home to help the family. His father had become ill, the Great Depression bore down, and his mother kept boarders in the home to help make ends meet.

Lymon was Salutatorian of his high school class, where he spoke against a *laissez-faire* attitude toward education and argued for training in high school that would help the graduates find a job. He worked as a groundskeeper during the summer to pay for tuition to Abilene Christian College. The depression continued unabated and, with no money to purchase books, he reluctantly gave up college and worked full-time to help his family. In 1939 he took a Civil Service examination and got a job on a land-surveying party at a salary of \$85 a month. His surveying team set the stakes for building levees along the River. His father had died, so his mother moved with him to the Rio Grande Valley.

Lymon learned surveying while working as a helper on the team, and left for Birmingham, Alabama, where surveyors were being hired to build an ordinance plant. He convinced the interviewer to give him a job as a Party Chief and worked on the layout and construction of buildings in the plant. Later they moved for similar work in Oklahoma where he volunteered for the U.S. Naval Construction Battalions (Seabees). He served as Chief Petty Officer in the Aleutians and Okinawa.

On being discharged, Lymon worked briefly in construction before being accepted at Rice University as a

freshman at age 29. He earned 22 semester hours in a fast-track semester and lettered on the golf team. He transferred to The University of Texas where a more flexible degree plan was offered. While a student, he married fellow-student, Eva Lee Jett. Their first baby girl arrived in 1949 and Eva Lee left her nursing education career to pursue full-time motherhood. After receiving his Master's Degree at Texas, Lymon accepted a position as Assistant Professor of Civil Engineering at Mississippi State University. After a year, he took a leave from Mississippi State and moved with his family (Sally and John now for Eva Lee to manage) and went to the University of California at Berkeley for his PhD. His college education was funded by the GI Bill, a fellowship from the Rockefeller Foundation, and a competitive fellowship from the National Science Foundation.

His third child, Nancy arrived and in 1955, the family left Mississippi to accept a position as Assistant Professor at The University of Texas. He spent the remainder of his career at Texas. Dr. Reese was the Nasser I. Al Rashid Chair Emeritus and Professor of Civil Engineering and was Chairman of the Department from 1965 until 1972. He was Associate Dean of the College for Research from 1972 until 1979. After retiring, he maintained a close relationship with the University and taught occasionally.

Dr. Reese did extensive research in the field of geotechnical engineering, principally concerning the behavior of deep foundations. He pioneered performing field studies of instrumented piles and developed analytical methods now widely used in the design of major structures. He authored and co-authored 160 papers in refereed journals and 282 technical reports. He is the senior author of two recent books on foundation engineering. He presented over 450 invited lectures in the United States and abroad.

Dr. Reese was selected in 1986 by the American Society of Civil Engineers (ASCE) as Terzaghi Lecturer, and he received the Terzaghi Award in 1983. He was chosen by his peers to receive the Joe J. King Professional Achievement Award from the College of Engineering, The University of Texas, in February 1977. He was invited by the Boston Society of Civil Engineers Section of ASCE to present the 2004 Arthur Casagrande Memorial Lecture in Boston.

Dr. Reese was active in ASCE for many years and was elected Honorary Member in 1984. He held various offices in the Texas Section and was President of the Texas Section

in 1968-69. For several years he served as a member of the Executive Committee, Geotechnical Engineering Division, and was Chairman in 1986-87. He was a registered professional engineer in Texas.

Dr Reese lost his beloved Eva Lee, a skilled and prolific amateur artist, to cancer in 2003. He continued to be actively involved with his three children, 11 grandchildren and great-grandchildren whose numbers grew yearly. He also continued to enjoy a weekly game of golf, often with his son and some of his grandsons. In his later years, most of his time was spent at Ensoft, Inc., a distributor of engineering software, where he was principal. Some of his consulting activities were carried out through Lymon C. Reese & Associates, a wholly owned subsidiary of Ensoft.

Significant honors received by Dr. Reese include the Offshore Technology Conference Distinguished Achievement Award for Individuals in 1985, and the Distinguished Graduate Award of the College of Engineering, The University of Texas, in 1985. He was elected to membership in the National Academy of Engineering in 1975. He received an Honorary Doctorate from the Civil Engineering Institute of Bucharest, Romania, in 1994.

During his 33-year career at The University of Texas, Dr. Reese supervised 71 graduate students who received the M.S. or Ph.D. in Civil Engineering. Twelve of the students became professors at universities worldwide, and at least eight established businesses that have hundreds of employees. Eva Lee frequently worked with the wives and children of these students, making them welcome in the United States, assisting them with housing, shopping, and local resources.

Lymon C. Reese, Ph.D., P.E., father, grandfather, great-grandfather, scholar, entrepreneur, golfer, and lover of learning and teaching, passed away on September 14, 2009, at the age of ninety-two.

Thank you for participating in our celebration of Dr. Reese's lifetime of achievement and service.