JAMES KENNETH MITCHELL

University Distinguished Professor, Emeritus
Virginia Polytechnic Institute and State University, Blacksburg, Virginia
and
Consulting Geotechnical Engineer

Dr. James K. Mitchell received his Bachelor of Civil Engineering Degree from Rensselaer Polytechnic Institute in 1951, Master of Science in Civil Engineering Degree from the Massachusetts Institute of Technology in 1953, and the Doctor of Science Degree in Civil Engineering, also from M.I.T., in 1956.

Following several months as a Soil Engineer at the U.S. Army Corps of Engineers' Waterways Experiment Station in Vicksburg, MS, he served for two years on active duty in the U.S. Army in the U.S. and Germany. He joined the faculty of the University of California, Berkeley in 1958 and held the Edward G. Cahill and John R. Cahill Chair in the Department of Civil and Environmental Engineering at the time of his retirement from UC Berkeley in 1993. Concurrently he was Research Engineer in the Institute of Transportation Studies and in the Earthquake Engineering Research Center. He developed and taught graduate courses in soil behavior, soil and site improvement, foundation engineering, and environmental geotechnics as part of the Geotechnical Engineering Program within the Civil Engineering Department. He was Chairman of the Department of Civil Engineering at UC Berkeley from 1979 through 1984. He was appointed the first Charles E. Via, Jr. Professor in the Via Department of Civil and Environmental Engineering at Virginia Tech in 1994, University Distinguished Professor in 1996, and University Distinguished Professor, Emeritus, in 1999.

His primary research activities focused on experimental and analytical studies of soil behavior related to geotechnical problems, admixture stabilization of soils, soil improvement and ground reinforcement, physico-chemical phenomena in soils, environmental geotechnics, the stress-strain time behavior of soils, in-situ measurement of soil properties, and mitigation of ground failure risk during earthquakes. He supervised the dissertation research of 76 Ph.D. students and has authored more than 375 publications, including the graduate level text and geotechnical reference, "Fundamentals of Soil Behavior," with its third edition published in May 2005. This book is unique among others in the geotechnical field owing to its extensive coverage of soil formation, soil mineralogy, the importance of soil composition and structure in relation to engineering properties, and the roles of physico-chemical phenomena, time, and temperature in influencing soil engineering behavior.

He authored several state-of-the-art papers and guidance documents on soil stabilization, waste containment, ground improvement and earth reinforcement, and a video, "Ground Improvement for Dam Safety", produced in 1998 by the Interagency Committee on Dam Safety. During the 1960's and early 1970's he served as the National Aeronautics and Space Administration's Principal Investigator for the Soil Mechanics Experiment, which was a part of Apollo Manned Missions 14-17 to the Moon.

Dr. Mitchell serves as a consultant to numerous governmental and private organizations on geotechnical problems and earthwork projects of many types, especially those involving “unusual soils,” ground improvement for seismic risk mitigation, soil stabilization and reinforcement, earthwork construction, and environmental geotechnology, both nationally and internationally. Recent and currently active projects include the evaluation of seismic stabilities

and design of liquefaction mitigation options for several dams, a Seismic Safety Peer Review Panel for the Bay Area Rapid Transit System; the Blue Ribbon Panel for the Eastward Expansion of Craney Island and the Port of Virginia's new Marine Terminal; peer review of the Savannah River Site Soft Zone Research Program (Department of Energy), and the design review board for a large mine tailings waste impoundment. He was a member of the A.S.C.E. External Review Panel for the Performance Evaluation of Hurricane and Flood Protection Projects in S.E. Louisiana during 2005-2007. He served as a senior technical advisor for the recent Strategic Highway Research Program 2 project on Geotechnical Solutions for Soil Improvement, Rapid Embankment Construction and Stabilization of the Pavement Working Platform.

He is a licensed Civil Engineer and Geotechnical Engineer in California and Professional Engineer in Virginia. He is a Distinguished Member of the American Society of Civil Engineers. He served as Chairman (1971) of the Geotechnical Engineering Division of ASCE and Chairman of the United States National Committee for the International Society for Soil Mechanics and Foundation Engineering. He was Chairman of the ASCE Committee on Soil Properties, Chairman of the Committee on Placement and Improvement of Soils, and President of the San Francisco Section of ASCE and Chairman of the California State Council of ASCE during 1986-87. He was Chairman of the Transportation Research Board Committee on Physico-Chemical Phenomena in Soils from 1966-1973, Chairman of the Geotechnical Board of the U.S. National Research Council (NRC) from 1990 through 1994, and Vice President of the International Society for Soil Mechanics and Geotechnical Engineering from 1989-1994. In 2001 and 2002 he chaired a National Academies study on improving review procedures for U.S. Army Corps of Engineers water resources projects. He was a member of a NRC study committee on Opportunities and Challenges in Geoengineering Research for the New Millennium and Chair of the Committee on Organizing to Manage Construction and Infrastructure in the 21st Century Bureau of Reclamation. During 2005-2007 he chaired a National Academies Committee for Assessing the Performance of Surface and Subsurface Engineered Barriers, and in 2011 and 2012 served on the Committee for Assessing Induced Seismicity Potential in Energy Technologies.

Dr. Mitchell was awarded the Norman Medal in 1972 and 1995, the Thomas A. Middlebrooks Award (four times), the Walter L. Huber Research Prize, the Karl Terzaghi Award, the H. Bolton Seed Medal (2004) and the 2006 Outstanding Projects and Leaders Award (OPAL) in Education, all from the American Society of Civil Engineers; the Distinguished Teaching Award and the Berkeley Citation from the University of California; the Western Electric Fund Award of the American Society for Engineering Education; the Medal for Exceptional Scientific Achievement from the National Aeronautics and Space Administration, the U.S. Army Corps of Engineers' Chief of Engineers Outstanding Service Award in 1999, the Department of the Army Outstanding Civilian Service Medal in 2007, the Davies Medal for Engineering Achievement in 2010 from Rensselaer Polytechnic Institute, and was the recipient of the 2001 Kevin Nash Gold Medal of the International Society for Soil Mechanics and Geotechnical Engineering. He was the 1984 Terzaghi Lecturer of ASCE, the 1991 Rankine Lecturer of the British Geotechnical Society and delivered the Nabor Carrillo Lecture of the Mexican Geotechnical Society in 2004. He was elected to membership in the United States National Academy of Engineering in 1976 and the U. S. National Academy of Sciences in 1998. He served as the 2003-2005 Chair of the Civil Engineering Section of the National Academy of Engineering.

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