Toll Bridge Program Seismic Safety Peer Review Panel

Technical Biographies

This document provides a summarized biography of the members of the Toll Bridge Program Seismic Safety Peer Review Panel.

Frieder Seible, Ph.D., P.E., M.NAE, M.CAE

Professor Seible is Academic Vice-President, Dean of the Engineering Faculty and Dean of the Information Technology Faculty at Monash University, in Melbourne Australia. Prior to this appointment he served two terms as Dean of the Jacobs School of Engineering at the University of California in San Diego (UCSD). He also served as founding chair of the department of Structural Engineering of UCSD from 1995 until 2001. He is a world-leader in bridge design and strategies to mitigate earthquake damage to buildings and bridges. Dr. Seible chairs the California Department of Transportation Seismic Advisory Board, and has served on or led many national and international committees on bridge design and retrofit for earthquake safety. He serves as a structural engineering consultant on many of the world's long-span bridges; his research achievements include over 600 publications and technical reports primarily related to seismic design of bridges and buildings as well as blast resistant design of critical structures.

Professor Seible's current research interests are in the area of evaluation and protection of critical infrastructure systems; analysis and design of reinforced/prestressed concrete bridges; evaluation and rehabilitation of existing bridge structures and buildings; development of new computer models to predict dynamic and static nonlinear response of reinforced and prestressed concrete structures under service loads, overloads and failure loads; verification of computer models by means of large or full-scale experimental testing; earthquake resistant design of reinforced concrete and concrete masonry structures; development of new large-scale structural testing techniques; seismic assessment and retrofit of bridges; application of Polymer Matrix Composites (PMC) in civil structures; blast assessment and hardening of structures; health monitoring of constructed infrastructure facilities; and terrorist threat/blast mitigation for critical infrastructure facilities; structural safety and functionality of High Speed Rail.

Dr. Seible is a member of the National Academy of Engineering (NAE), is an elected Foreign Fellow of the Chinese Academy of Engineering (CAE), has receive over 40 professional and industry awards, and holds eight honorary professorships.

John Fisher, Ph.D., P.E., M.NAE

Dr. Fisher is professor emeritus of civil engineering at Lehigh University and director emeritus of the ATLSS Engineering Research Center. Dr. Fisher is a graduate of Washington University, St. Louis, Missouri, with M.S.CE and Ph.D. degrees from Lehigh University. A structural engineer, Dr. Fisher is a specialist in structural connections, the fatigue and fracture of riveted, bolted, and welded structures, the behavior and design of composite steel-concrete members, and the performance of steel bridges. In 1986 he was elected a member of the National Academy of Engineering. In 1989 he was elected an Honorary Member of the American Society of Civil Engineers. He was the first academic to receive the Construction-Man-of-the-Year Award from ENR in 1987, and in 1999 was named one of the 125 engineers identified by ENR editors for outstanding contributions to the construction industry since 1874. In 1992 he was awarded the Frank B. Brown medal by the Franklin Institute for his contributions to structural engineering. In 1995 he was awarded the John A. Roebling Medal for lifetime Achievement in Bridge Engineering. In 1997 he was named the Distinguished Lecturer by the Transportation Research Board and the Portevin Lecturer by the International Institute of Welding. In 2000 he was awarded the John Fritz Medal for researching safety and performance of steel structures for the public good by the five Engineering Societies of the United Engineering Foundation, and the Transportation Research Board Roy W. Crum Distinguished Service Award for his contributions tobridge engineering and research. In 2001 the International Association of Bridge and Structural Engineering elected him the Laureate of the International Award of Merit in Structural Engineering. In 2002 the International Association of Bridge Maintenance and Safety awarded him for Bridge Safety. In 2006 he received the Geerhard Haaijer Award for Excellence in Education from the American Institute of Steel Construction. And in 2007 he was awarded the Outstanding Projects and Leaders (OPAL) Lifetime Achievement Award in Education by the American Society of Civil Engineers. Dr. Fisher has published over 300 articles, reports and books in scientific and engineering journals.

I. M. Idriss, Ph.D., P.E., M.NAE

Dr. Idriss a University of California at Davis professor emeritus of geotechnical engineering and independent consulting engineer, has over 50 years of experience in soil mechanics and foundation engineering with emphasis in geotechnical earthquake engineering. During that time, his geotechnical advice has been sought by government agencies and advisory panels around the world. He has been involved with the follow-up analysis of every major earthquake since the 1964 Alaska quake, including those at San Fernando, Mexico City, Northridge and Kobe; he has been part of the team of engineers that descends on a region in the aftermath of a major quake, to analyze damage and determine causes of structural collapse. His research on soil mechanics and foundation engineering has influenced the construction of dams, nuclear power plants, seaports, office buildings, residences, hospitals, railways and bridges around the world. In the wake of the Loma Prieta quake, Idriss was one of eight people named to Gov. George Deukmejian's Board of Inquiry; the panel was assigned to find out why the Cypress section of I-880 and a section of the San Francisco-Oakland Bay Bridge had failed and how the state could prevent this from happening again. Dr. Idriss has authored or co-authored about 160 technical papers and research reports on subjects related to the geotechnical aspects of earthquake engineering (seismic response of soil deposits; earth structures including slopes, earth and rock fill dams; dynamic soil material properties; liquefaction; soil-structure interaction; and probabilistic deterministic assessment of characteristics of ground motions. The results of his research related to the nonlinear behavior of soils under cyclic loading conditions have been applied to assessing performance of soft sediments during earthquakes. He has been engaged in other research activities that relate to significant duration of earthquakes, simplified procedures for assessment of soil-structure interaction, probabilistic review and assessment of recorded ground motions and associated spectra, and application of probabilistic techniques in geotechnical practice. In 1999, Idriss received a UC Davis Distinguished Public Service Award, an honor that recognizes faculty members who have made public service contributions to the community, state, nation and world throughout their professional careers. This honor followed his 1989 election to the National Academy of Engineering. Other high honors he received include the H. Bolton Seed Medal, ASCE, 1995; Distinguished Member (ASCE, 2008); the Ralph B. Peck Award & Lecture (ASCE, 2010); and Honorary Member of the Earthquake Engineering Research Institute (EERI, 2012) to name a few. Dr. Idriss also served on the state of California's Seismic Advisory Board and on peer advisory panels for all the Bay Area toll bridge retrofit projects.