



Life Membership

Robert Davey

CITATION:

Robert Davey is conferred with Life Membership of the New Zealand Society for Earthquake Engineering for his significant contributions to earthquake engineering and risk management in New Zealand.

Robert is a nationally recognised and respected expert in earthquake engineering, specialising in structural earthquake engineering, and loss estimation. He has been a member of the Society for over 30 years and is a Chartered Professional Engineer, and a Fellow of both Engineering New Zealand and the NZ Society for Earthquake Engineering. Robert was also awarded the 2015 Engineering New Zealand Freyssinet/Supreme Technical Award for his contribution to the engineering profession, and he is the recipient of three ACENZ Innovation Awards for excellence in building design and seismic assessment projects. His first-class degree in Engineering from the University of Canterbury and his Master's degree in Concrete structures and technology from the Imperial College London provided a solid foundation for his engineering practice. Robert's 50-year contribution to earthquake engineering has been through a variety of technical societies including NZSEE, and his work with the Ministry of Works and Development, Opus International Consultants and WSP. Robert worked as a structural engineer in the Wanganui and Napier offices, as a researcher at the Ministry of Works Central Laboratories and has been involved in the design of many notable buildings around New Zealand. In 1987, he moved to Wellington as a Principal in Structural and Earthquake Engineering. In 1992, he was engaged by the United Nations to advise on earthquake reconstruction after the 1990 Manjil earthquake and visited Iran to understand the earthquake damage and provide advice on standards for reconstruction. He also was part of the NZSEE Learning from Earthquakes team that visited Taiwan after the 1999 Chi Chi earthquake and brought back valuable lessons for New Zealand practice.

With a growing interest in earthquake risks and lifeline performance in the early 1990s, Robert led pioneering assessments of the performance of water and telecommunication lifelines and the risk to people and buildings in the Wellington Region in the mid-1990s, which was very valuable in informing emergency response planning and underpinned future assessments. He also played a key role in restoring telecommunications throughout the South Island in the aftermath of the Canterbury earthquakes and has also led numerous insurance loss assessments for insurance companies in New Zealand, as well as in Australia and Japan. Robert led numerous assessments of the earthquake performance of many government and lifeline buildings and facilities as well as infrastructure such as dams and power generation facilities, using then innovative displacement-based assessments. This approach enabled the development and implementation of pragmatic and cost-effective strengthening of many structures.

When power generation from wind energy commenced in the early 2000s, Robert was at the forefront of developing designs of wind turbine foundations, contributing to sustainable energy generation. He led the design of many water retaining structures and water treatment plant structures, and the seismic assessment and retrofit of water reservoirs, and developed expertise in the seismic design and performance of water retaining structures. Robert was chair of the NZ Standards committee and led the update of the NZS 3106:2009 on Liquid retaining structures and helped embed best practice seismic design provisions into standards. Lifeline organisations required quick inspections and assessment of the building facilities after earthquakes, and Robert developed pioneering emergency response plans by developing software to assess the probable damage states of lifeline facilities based on the fragility of the buildings and the epicentre, depth and magnitude of earthquakes, and this prioritising emergency response inspections for telecommunication facilities.

Robert was a member of the NZ Society for Earthquake Engineering management committee during 2013-2015, in the critical period after the 2010-2011 Canterbury earthquakes, and contributed to several Society and industry initiatives to enhance the resilience of New Zealand to earthquakes. He led research into the seismic fragility of Canterbury buildings for the Natural Hazards Research Platform and served as an expert to the Earthquake Commission on issues of earthquake damage and repairs to houses.

Over 50 years, Robert has made a huge contribution to earthquake engineering in New Zealand, undertaking many new and novel initiatives to better understand the seismic performance of facilities, strengthening and design of our built environment and embedding best practice through the development of standards.

The Society is delighted to recognise Robert's outstanding contribution through the award of Life Membership.