

## **Prof. Philip L-F Liu**



Dr. Philip L-F Liu is the Distinguished Professor in Department of Civil and Environmental Engineering at National University of Singapore, a member of the National Academy of Engineering (NAE, USA). He received a B.S. degree in CE from National Taiwan University in 1968, a S.M. degree in Civil Engineering in 1971 and a ScD degree in 1974 from Massachusetts Institute of Technology. He became an Assistant Professor in the School of CEE in 1974 and was promoted to Full Professor in 1983 at Cornell. He was the Director of the School of Civil and Environmental

Engineering at Cornell University from 2009 to 2015 and was the Vice President for Research and Technology at National University of Singapore from 2015 to 2019.

Prof. Philip L-F Liu is an internationally-recognised, front-line researcher in the fields of water wave theory, tsunami dynamics, wave-breaking processes, sediment transport and the interaction of waves with structures. Since the 1990s, he has pioneered the development of a unified mathematical model of wave behaviour that covers a wide range of nonlinearity and frequency dispersion. The advances he has achieved have resulted, for the first time, in physically-based mathematical models and efficient computational procedures that produce accurate predictions of wave fields over complex bathymetry as well as in the vicinity of coastal structures. His reputation rests on the outstanding contributions he has made to fundamental understanding of wave processes and to the applicability of his research to practical engineering problems. For example, his recently-developed numerical model (CORBAS), which provides a detailed description of the generation and dissipation of turbulence energy by wave breaking, has been used around the world as a research and engineering tool to study and evaluate breakwater designs.

Prof. Philip L-F Liu has co-authored one book and co-edited more than 10 books. His 200+ archival papers have received over 2800 citations. Liu is a Fellow of the American Geophysical Union (AGU) and the American Society of Civil Engineers (ASCE). He has received many academic awards, including the prestigious ASCE Walter L. Huber Civil Engineering Research Prize (1978), the J. S. Guggenheim Fellowship (1980), the ASCE John G. Maffatt & Frank N.

Nichol Harbor and Coastal Engineering Award (1997), the International Coastal Engineering Award ASCE (2004) and the Alexander von Humboldt Research Award (2009). Liu was elected to the National Academy of Engineering (NAE) in 2015.