



The Eleventh Lumb Lecture

Bridging the Gap between Theoretical and Actual Slope Performance

Face to Face and online

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Presented by

Ir Prof. Wong Hok-ning

Adjunct Professor, The University of Hong Kong
Former Head of the Geotechnical Engineering Office

6:30 p.m. December 3, 2021 (Friday)

Rayson Huang Theatre, The University of Hong Kong



About the Speaker

Ir Prof. Wong Hok-ning is a renowned geotechnical expert with over three decades of distinguished professional career, including serving as the Head of the Geotechnical Engineering Office (GEO). For long years, he has provided leadership to GEO's world-acclaimed landslide prevention initiatives and the related research and development work, which conduces

to advancing slope engineering knowledge and landslide risk management practices. As a respected keynote speaker in international forums with over 50 publications on the subjects, he is recognized for his expertise in landslide investigation, urban slope engineering, modeling of landslide mobility and quantitative landslide risk assessment. Apart from being a key figure in the local geotechnical profession, he has also served in prominent international bodies in slope engineering and landslide risk management, including representing Hong Kong as a Core Member in the Joint Technical Committee on Landslides and Engineered Slopes (JTC-1) for 15 years. Through these, he contributed to promoting the state of the art in slope safety management and enhancing landslide resilience worldwide.

He left the HKSAR Civil Service in early 2017, with new endeavors in education and Christian service while remains enthusiastic in the engineering profession. His recent undertakings include investigating the Shatin-to-Central Link Project as an expert adviser to the HKSAR Government, lecturing in the University of Hong Kong, and serving as a professional adviser in the Christian Faith and Development Centre of the Education University of Hong Kong, among his other ongoing commitments in geotechnical research initiatives.

Synopsis

Unlike other types of modern-day engineering structures, slopes that are engineered according to sound geoscience theories and meeting state-of-the-art standards still suffer from an appreciable chance of failure. This unsettling fact was not previously evident to the geotechnical community at large. It was also unfamiliar to the local practitioners during the formative years in the first one to two decades of implementing the system for mandating the application of geotechnology in Hong Kong's slope engineering. Despite this, the notable improvement in slope safety made at the time has rendered Hong Kong internationally reputable as a model of slope engineering in an urbanized setting. Yet, as time went by when more engineered slopes had been formed and their actual performance tested under heavy rains, the bitter lesson was learnt of the gap between theoretical and actual slope stability. The systematic landslide investigations and related technical development studies launched by the GEO since the mid-1990s has provided comprehensive findings on failures of engineered slopes and important insights into the causes. This has brought about enhanced understanding of the need and impetus for further improving the relevant slope engineering practices. While the experience and knowledge have emerged primarily from Hong Kong, it is relevant to urban slope engineering and landslide risk management elsewhere.

This Lecture aims to show, with reference to the available data and selected case histories, the extent and causes of the disparity between the theoretical and actual slope performance in Hong Kong. In this context, the key improvement measures adopted over the years with some degree of success in bridging the gap will be explained. This will illustrate the importance of robust geotechnical design and holistic landslide risk management. Cautioning against complacency particularly in the wake of the new challenges that may arise from climate change, the Lecturer will also discuss issues yet to be addressed and some possible solutions.

CPD certificates will be issued after the lecture.

For further details, please contact Ms. Bridget Lam

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