The Institution of Engineers, Malaysia
(Penang Branch)

Technical Talk

Digital-driven Resilience-based Hong Kong Slope Safety System

Synopsis

The Geotechnical Engineering Office (GEO) is mandated to manage the landslide risk in Hong Kong. Since 1977, the GEO has established and implemented the Hong Kong Slope Safety System (HKSSS) to manage the landslide problems in such a way to protect life and property in a holistic manner.

Over the past forty-five years, the HKSSS has constantly evolved to meet the public expectation and the society's needs. With the emergence of innovation and technology, the GEO has leveraged the rapid technological advancement to further enhance the HKSSS. In this presentation, Dr Cheung would present the recent evolvement and advancement of the HKSSS with highlights in the opportunities and challenges as it attempts to strengthen its resilience against climate change impacts. These include slope engineering breakthroughs in preventing and mitigating landslide hazards, strengthening landslide predictive capability, enhancing emergency preparedness and response, and improving community resilience against extreme rainstorms using cutting-edge innovation and technology such as advanced remote sensing techniques, novel numerical modelling algorithms, Internet of Things (IoT), digital twins, machine learning algorithms and virtual reality (VR) / augmented reality (AR) concepts in landslide risk management.

About the Speaker

Dr Raymond Cheung

Dr Raymond Cheung has more than thirty-five years' experience in civil and geotechnical engineering. He has participated in various mega infrastructure projects in Hong Kong under the Airport Core Programme, including Hong Kong International Airport reclamation, Airport Railway and Western Harbour Crossing, before joining the Hong Kong SAR Government in the late 1990s. He has published tens of technical papers and a book on different fields of civil and geotechnical engineering. He is a member of various editorial boards of international journals and technical committees such as the technical journal "Georisk" and the Chinese Journal of Geotechnical Engineering, the European School Scientific Committee of Landslide Risk Assessment and Mitigation (LARAM), the International Network on Landslide Early Warning Systems (LandAware) and ISSMGE TC205 (Safety and Serviceability in Geotechnical Design).

He is currently Head of the Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department (CEDD) in Hong Kong overseeing control of geotechnical works, setting geotechnical standards, testing and development of construction materials, mining operation and quarrying, cavern and underground space development, the Landslip Prevention and Mitigation Programme, landslip warning system and emergency services, and the development of geotechnical innovation and technology.

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6.30pm-8.30pm

BEM CPD Hours: 2
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Speaker
Dr. Raymond Cheung

Moderator
Ir. Yeap Geok Ngoh