



ANNOUNCEMENT

AGS (HK) Technical Seminar

Ground Improvement by Deep Cement Mixing Method

by

Ir Warren DOU
China Road and Bridge Corporation (Hong Kong)

Date: Tuesday, 1 August 2023

Time: 18:30 – 19:30 (Hong Kong Time)

Venue: The webinar will be conducted through Zoom.

Successful applicants will be informed by emails with a Zoom's link to the webinar. Participants should arrange for their own device with a stable network environment to join the webinar.

Enquiry: agshk.org@gmail.com

Fee: Free of charge

Registration: https://us02web.zoom.us/webinar/register/WN_UyMZYvwzSW-e3p9Qc6yNeg

Please register by 30 July 2023. Successful applicants will receive webinar details after registration. CPD certificate will be sent to the attendees, who attended more than 80% of the webinar time, within 2 weeks after the webinar.

Book Prize: The youth professionals under 35 years old are encouraged to submit their reports (max. 500 words) in quality on this event. Please refer to the AGS (HK)'s website "The AGS Book Prize Reports – Assessment Framework" for details before the submission. The successful candidate will be awarded with the Book Prize that comprises of a book "Geology of Site Investigation Boreholes in Hong Kong" that written by Chris Fletcher, and a coupon of HK\$500 from Eslite Spectrum (誠品生活) or equivalent. Their awarded report will further be uploaded to the website of AGS (HK). Please send your report to Mr. Haydn Chan by email: haydn.chan@arup.com.



Synopsis:

Soft ground under the sea often presents challenges for supporting seawall or reclamation without treatment if no dredging is implemented. Ground treatment is often required to improve the engineering properties of weak soils to enhance strength and bearing capacity for supporting the intended structures. Deep soil mixing with addition of binder is one of the ground treatment method that has been widely used in Asia and worldwide.

The speaker has recently been involved in a large-scale ground improvement project in Hong Kong, using the deep cement mixing method. This seminar will discuss the characteristics of cement-soil mixture in the laboratory environment as well as performance of the field mixed soil using the same binder material. A detailed test program was developed to evaluate the strength and other properties of the cement-soil mixtures by using various amounts of binder and water to binder ratios. A series of unconfined compressive strength of the laboratory mixture were performed. The relationship of strength of the cement-soil mixture with binder dosages is developed. Test results of laboratory mixed soils were compared with those of field mixed soils. The relationship of strength between laboratory mixed soils and field mixed soils was derived. Field installation process of deep cement mixing for the project will also be discussed.

About the Speaker:

Ir Warren Dou is Senior Technical Director of China Road and Bridge Corporation (Hong Kong), as well as Adjunct Professor of the Hong Kong University of Science and Technology. He is a fellow of Hong Kong Institution of Engineers, registered professional engineer in Hong Kong and Canada, and a committee member of HKIE Geotechnical Division.

He has over 30 years of experience in the fields of geotechnical and civil engineering since graduation from the University of British Columbia, Canada with a research Master's Degree in geotechnical engineering. He has been involved in design and construction of a wide spectrum of major civil and infrastructure projects in Hong Kong and internationally, including Hong Kong Disneyland, Hong Kong Express Rail, Shatin to Central Link, Hong Kong International Airport Three Runway System Project, Tseung Kwan O Cross Bay Link, and Mass Rapid Transit Circle Line in Singapore. Through the past few decades, he has developed extensive expertise in numerical analysis and design for deep excavation, tunnels, foundation engineering, marine structures, reclamation, ground improvement and seismic engineering. He is currently involved in a few infrastructure projects some of which includes construction of subways by trenchless method, roads and bridges.