



Malaysian Geotechnical Society

## One Day Seminar and Exhibition on Geotechnical Engineering

**Date: 13<sup>th</sup> December 2022 (Tuesday)**

**Time: 8.45 am – 6.00 pm**

**Venue: Four Points by Sheraton Puchong**

**BEM Approved CPD Hours: Applying (Estimated 7.0 hours)**

**PEB PDU points: Applying**

### SPEAKERS



**Prof. Keh-Jian (Albert) Shou**  
Vice President Asia, ISSMGE



**Ir. Liew Shaw Shong**



**Dr. Leong Kam Weng**



**Ir. Dr. Ong Yin Hoe**



**Mr. Chong Mun Fai**



**Ir. EG Balakrishnan**



**Ir. Albert Lim**



**Ir. Lee Peir Tien**

# PROGRAMME

Time	Topic of Lecture
08:15 – 08:40	<b>Registration</b>
08:40 – 08:45	<b>Welcoming Address</b>
08:45 – 09:45	<p><b>Lecture 1 – Advances of Trenchless Technologies for Underground Pipelines</b>  <b>By Prof. Keh-Jian (Albert) Shou</b></p> <p>Trenchless Technology consist of underground construction methods of utility installation, rehabilitation, inspection, location and leak detection, with minimum excavation from the surface. For the new installation of underground pipelines, it is focused on the installation of new utilities using directional (steerable) drilling, microtunneling and other trenchless techniques. For the rehabilitation of underground pipelines, it is focused on the rehabilitation of existing utility pipes to restore performance and/or avoid failure of those pipes. This class of rehabilitation methods can be subdivided into “Renovation”, “Replacement” and “Repair” (which is focused on addressing localized defects in the existing pipe which may be structural or points of leakage). In addition to the work undertaken to actually install or rehabilitate an underground utility, there are significant investigation, inspection and planning phases that must be accomplished before the detailed design work and the construction work can be undertaken.</p>
09:45 – 10:45	<p><b>Lecture 2 – Geotechnical Education and Challenges in Real Engineering Problems in Practice</b>  <b>By Ir. Liew Shaw Shong</b></p> <p>Traditional engineering education in tertiary institutions has delivered fundamental theoretical knowledge with emphasis on calculations because the belief on assessing the severity of actions, capacity of resistance, safety margin and serviceability performance of effects are the common language for engineering communication. However, considering effective conveyance of the engineering frameworks to tackle the problem for the engineering students, simplification processes with assumptions made to the level of enabling manual calculation are inevitable unavoidable. During the simplification, mechanism of failure or distresses are postulated to facilitate calculations involving of static equilibrium, material constitutive model with failure criterion, deformation behaviours and porewater responses (pressure and material deformation). Certain practices in geotechnical engineering by merging the assessment approaches of serviceability limit state and ultimate limit state can result in incorrect outcome due to its incompatibility between the two limit states. Often there are cases whereby the adopted methodology in the assessments or designs in the standard design procedures does not correspond correctly with the real mechanism of cause-and-effect and sequence of the potential incident. As such, there are dilemma in relating the real engineering problems with the teaching frameworks where necessary simplification and assumptions made for engineering graduates to practice in the industry. This lecture will present with few engineering scenarios and also case studies to illustrate the issues.</p>
10:45 – 11:15	<b>MORNING TEA BREAK</b>
11:15 – 12:00	<p><b>Lecture 3 – Going Green with Ground Improvement</b>  <b>By Dr. Leong Kam Weng</b></p> <p>The recent COP26 meeting in Glasgow stressed the urgency on reduction of global greenhouse gas emission to prevent climate disaster in future. This talk will introduce concepts of sustainability and key drivers on reducing carbon emissions in ground engineering works. Focus will be given on two key drivers: Solutioning and choice of material. Case studies will be used to demonstrate the successful applications of Ground Improvement in reducing carbon emissions while delivering the design intents of the projects.</p>

12:00 – 13:00	<p><b>Lecture 4 – Rock Slope Stability Analysis – A Case Study Using Finite Element Analysis (FEA) Method with Interface Element</b>  <b>By Ir. Dr. Ong Yin Hoe</b></p> <p>It is well accepted by community of engineers that stability of a rock slope can be assessed by carrying out kinematic analysis and factor of safety of the slope can be further analyzed by limit equilibrium analysis (LEA). The entry level for carrying out such analyses is low. However, there are limitations of the LEA in handling complex structural planes in real life project that would result in over-design and therefore wastage. A more rigorous analysis method is therefore necessary to model the problems. Reasonable agreements were achieved in between modelling results and observations at site in one case study for a dam project. It was concurred that the slope strengthening work designed by an independent checker using LEA is not necessary using the FEA and observational method.</p>
13:00 – 14:00	<b>LUNCH</b>
14:00 – 14:45	<p><b>Lecture 5 – The Relevance of BTA in High Strain Dynamic Load Test (HSDLT)</b>  <b>By Mr. Chong Mun Fai</b></p> <p>This presentation aims to provide the Engineer with a better understanding on how to use the BTA value output together with other parameters and observations in various type of piles to better determine the pile's structural integrity.</p>
14:45 – 15:30	<p><b>Lecture 6 – Engineering Challenges on Deep Excavation and Viaduct Foundation using Case Studies</b>  <b>By Ir. EG Balakrishnan</b></p> <p>Two case studies on excavation and viaduct foundation shall be presented to show all the challenges faced and the solutions adopted. The case study on deep excavation shows the use of single large diameter bored piles on limestone formation with appropriate cavity treatments, basement excavation retention system by using secant bored pile (SBP) and contiguous bored pile (CBP), combination of retention system by using internal strutting with partially top-down and bottom-up excavation method, and instrumentation monitoring for the safety of the surrounding structures shall also be addressed. The case study on viaduct foundation will address the short single pile foundation requirements, construction constraints and use of light weight backfill material in the form of expanded polystyrene (EPS) blocks to construct the road embankment underlain by the existing SMART and MRT tunnels.</p>
15:30 – 16:00	<b>AFTERNOON TEA BREAK</b>
16:00 – 16:45	<p><b>Lecture 7 – Design and Construction of Geotube® Containment Dyke on Soft Marine Clay</b>  <b>by Ir. Albert Lim</b></p> <p>Geotextile containment has been used in a wide variety of hydraulic and marine engineering applications for many years. One of its forms is geotextile tubes. The speaker will share the design methodology of geotextile tubes with reference to 3 project case studies in Vietnam and Malaysia. The first case study is the usage of geotextile tubes for the construction of Lach Huyen bridge, the longest sea-crossing bridge in Vietnam. The second case study covers geotextile containment dykes constructed for the land reclamation in Deep C 2, part of the Deep C Industrial Zone in Vietnam. Lastly, the third case study explores the land reclamation of Sri Tanjung Pinang 2, Penang.</p>
16:45 – 17:30	<p><b>Lecture 8 – Design and Construction of Displacement Piles over Soft Marine Clay</b>  <b>by Ir. Lee Peir Tien</b></p> <p>Generally, soft marine clay is quite common along the coastal line of Peninsular Malaysia especially at the west side. Soft marine clay always posts great challenges to the engineers in term of foundation design due to its low undrained shear strength and high compressibility. In addition, competent founding level for termination of pile such as hard layer (with SPTN&gt;50) or bedrock are normally encountered at deeper depth in soft marine clay environment. If the piles are designed to set at deep hard layer or bedrock, the cost of foundation will be increased significantly. Therefore, floating pile (pile to length) is an alternative option can be considered in such subsoil condition. In this presentation, the speaker will share 2 case histories on design and construction of displacement piles over soft marine clays. Results of maintained Load Test (MLT) with and without fully instrumentation will be presented to reveal the performance of the piled foundation.</p>
17:30 – 18:00	<b>Q&amp;A</b>

## EXHIBITORS



### REGISTRATION FEES\*

MGS / IEM / GeoSS / CTGS members: **RM280.00** per person

Non members: **RM480.00** per person

Group registration (**5 and more**): **RM250.00** per person ( MGS / IEM / GeoSS / CTGS members)  
**RM400.00** per person (Non members)

\*Inclusive of 2 tea breaks, 1 lunch and seminar handouts.

The registration fees must be paid in full before the participant is allowed to join the seminar.

Payee : **Pertubuhan Geoteknikal Malaysia**  
Bank Account No : **281-000- 12316**  
Bank Name : **Hong Leong Bank Berhad**

Please email the transaction receipt to [mgs@mygeosociety.com](mailto:mgs@mygeosociety.com) for verification purpose.  
For any enquiries, please write to [mgs@mygeosociety.com](mailto:mgs@mygeosociety.com).



Scan event or [click here](#) to save into your calendar

**REGISTER**

**CLOSING DATE: 9<sup>th</sup> December 2022**

### Terms & Conditions

- ✓ FULL PAYMENT must be settled before commencement of the Seminar, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participants fail to attend the Seminar, the fee is to be settled in full.
- ✓ Fee paid is not refundable.
- ✓ The Organizing Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.

**Ir. Lee Peir Tien**  
**President**  
**Malaysian Geotechnical Society**

