

SEMINAR ON DESIGN & CONSTRUCTION CHALLENGES IN SOFT SOILS

SPEAKERS:



Ir. ALLAN CHWEE YEW LUN



Ir. YEE THIEN SENG



Ir. ENG BOON CHENG



Ir. DR LAW KIM HING

3 FEBRUARY 2026, TUESDAY
8:30 AM - 6:00 PM
ARMADA HOTEL, PETALING JAYA

Registration fee (Subject to 8% SST)

GRADE	FEE (VIA IEM WEBSITE)	FEE (THROUGH EMAIL)
IEM Student Member	RM230	RM250
IEM Member / HRDC for IEM Member	RM350 / NA	RM400 / RM425
Non-IEM Member / HRDC for Non-IEM Member	RM750 / NA	RM800 / RM850

BEM Approved CPD: 7
Ref. No.: IEM25/HQ/587/S

APPROVED DURATION:
23/11/2025 - 23/11/2026
HRD CORP SERIAL NO:
10001626266



SYNOPSIS

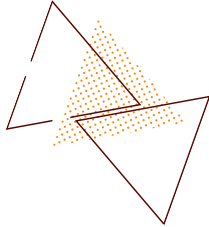
Soft soil formations are among the most challenging ground conditions faced by engineers in Malaysia. When not properly investigated, designed or managed, soft soils can lead to serious issues such as excessive settlement, instability, construction delays and even structural failures. Recognising the need for continuous knowledge-sharing in this critical area, the Geotechnical Engineering Technical Division of IEM is pleased to organise a 1-day seminar on “Design and Construction Challenges on Soft Soils.”

This seminar brings together highly experienced speakers from both government agency and the private sector. Participants will gain valuable insights from real project experiences and practical case studies. The topics will cover key aspects such as:

- Soil investigation and characterization of soft ground
- Foundation design and construction strategies
- Embankment design, stability and monitoring
- Excavation works in soft soils and associated risks

The programme aims to promote a deeper understanding of soft soil behaviour, highlight common pitfalls and present effective solutions to mitigate geotechnical risks. It will be beneficial for engineers, consultants, contractors, project managers, academicians and others involved in geotechnical and infrastructure projects.

Join us for this knowledge-rich session as we address current challenges and share best practices to enhance safety, reliability and performance in soft soil engineering.



REGISTRATION FORM

No	Name (s)	M'Ship Number	IC No.	Fee (RM)
SUB TOTAL				
ADD SST @8%				
TOTAL PAYABLE				

***Fees MUST be fully paid BEFORE the CLOSING DATE. Seats could only be confirmed upon payment. Enclosed herewith a crossed cheque No: _____ for the sum of RM _____ issued in favour of "The Institution of Engineers, Malaysia" and crossed 'A/C payee only'. I/We understand that the fee is not refundable if I/We withdraw after my/our application is accepted by the Organising Committee as stated in the cancellation term. If I/We fail to attend the seminar, the paid registration fee will not be refunded.**

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 Signature & Stamp

 Date

Kindly email the registration form to sitiaisyah@iem.org.my

IMPORTANT:

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Your cooperation is highly appreciated.

CANCELLATION POLICY

IEM reserves the right to postpone, reschedule, allocate or cancel the event. Full refund if cancellation is received in writing more than 7 days before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership status.

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PROGRAMME

Time	Description	Speaker
8:30am – 8:50am	Registration & Light Refreshment	
8:50am – 9:00am	Welcoming Address	
9:00am – 10:15am	Session 1: Soil Investigation	Ir. Allan Chwee Yew Lun
10:15am – 10:45am	Morning Tea Break	
10:45am – 12:00pm	Session 2: Embankment	Ir. Yee Thien Seng
12:00pm – 12:30pm	Q&A - 1	
12:30pm – 2:00pm	Lunch	
2:00pm – 3:15pm	Session 3: Pile Foundation	Ir. Eng Boon Cheng
3:15pm – 4:30pm	Session 4: Deep Excavation	Ir. Dr. Law Kim Hing
4:30pm – 4:45pm	Q&A - 2	
4:45pm – 5:00pm	Afternoon Tea Break	
5:00pm – 6:00pm	Session 5: Forum & Panel Discussion - Forum Moderator: TBA Panel: All Speakers	
6.00pm	Token Appreciation to Speaker / Closure	

SPEAKERS' BIODATA

Session 1: Soil Investigation in Soft Ground Design and Interpretation



Synopsis:

Soil investigation in soft ground design is a critical process in geotechnical engineering aimed at understanding the subsurface conditions of compressible, low-strength soils such as clay and peat. The investigation provides essential data for evaluating the ground's load-bearing capacity, settlement behavior, and stability.

A presentation on soft ground investigation typically includes field testing (such as boreholes, Standard Penetration Tests, Cone Penetration Tests, and vane shear tests) and laboratory testing which are commonly carry out. Interpretation of the SI results will be discussed to develop soil profiles, classify soil layers, and determine key parameters such as undrained shear strength, compressibility, and permeability. Interpretation of these data guides the design of ground improvement techniques, foundation types, and settlement control measures.

Presentation will also include a case study on the results obtained from the empirical analysis considering the soil strength parameters derived from the soil investigation data as well as sharing of the real-time monitoring data obtained from the instrumentation installed at the site.

Speaker's Profile:

Ir. Allan Chwee graduated from Universiti Teknologi Malaysia (UTM) with Bachelor of Civil Engineering in 2011 and obtained his Master of Engineering in Geotechnical in 2017. He started his career as a civil site engineer for a high rise project before he joined GCU Consultants Sdn Bhd (member of Aurecon), a consulting firm specializing in Geotechnical Engineering. Currently, he is the Managing Director of ArdentGeo Consulting Services Sdn Bhd, a geotechnical consultant firm. He has published many technical papers on geotechnical engineering in international and local conferences. He has more than 15 years of technical experience and has involved in major infrastructure projects such as Tanjung Jati Cirebon Power Plant (Indonesia), Indonesia Data Center, Gemas – Johor Bahru Electrified Double Track, KL – Singapore High Speed Rail (HSR), MRT Line 2 Underground, Klang Valley Double Track Phase 2, etc. He is a professional engineer with practicing certificate registered with Board of Engineer (BEM), Malaysia, registered as ASEAN Chartered Professional Engineer (ACPE) and a Chartered Member of Engineer Australia. Ir. Allan is also active in professional community. He is currently a committee member of the Geotechnical Engineering Technical Division (GETD) of the Institution of Engineers, Malaysia (IEM) since 2019.

Session 2: Design of Embankments on Soft Soils

Synopsis:

Earth embankments are traditionally employed to economically support land transportation lines above the natural ground surface. They are also used at facilities to impound water for storage as well as to exclude flood waters. Thus, an embankment has to retain its intended geometry and structural integrity at all times to function satisfactorily. However, when constructed on soft foundation soils these requirements become significant challenges to attain; such as to structurally survive its own construction owing to limited foundation soil carrying capacities and, thereafter, to avoid elevational changes during its service life.

This seminar session provides the essentials to design earth embankments on soft soils. Some cautions against preferences in legacy design procedures will be made.

Speaker's Profile:

Ir. Yee graduated in civil engineering from the University of Malaya in 1978 and has over the years worked on projects largely involving heavy plant and building foundations as well as large infrastructures. He had also carried out numerous work on distress evaluations and rehabilitation engineering. In 1994, Ir. Yee set up his own practice, Geo.Consult, to support the construction industry with both expert and specialist advice; in particular on geotechnical engineering aspects. His participation in recent projects of significance are the Kuching Deep Water Port, Shah Alam Expressway, North-South Expressway, Kuantan Port Inner Harbour Development, Kuantan-Kertih Railway and the Rawang-Ipoh Double Tracking Railway. He has authored/co-authored more than a dozen technical papers in local and international conferences.



SPEAKERS' BIODATA



Session 3: Challenges, Lessons, and Best Practices for Pile Foundations on Soft Ground in Malaysia

Synopsis:

The construction of pile foundations on soft and compressible ground remains one of the most significant challenges in geotechnical engineering practice in Malaysia. Inadequate application of sound engineering principles in such conditions can lead to structural instability, excessive settlement, project delays, cost overruns, and numerous other risks. These risks highlight the importance of integrating comprehensive geotechnical assessment, rigorous design, and effective construction control to ensure successful project delivery.

Selected case histories and lessons learned from the Public Works Department of Malaysia will be shared, focusing on recurring issues encountered during piling works on soft ground. The discussion underscores the benefits of adopting effective design and construction practices, which enhance foundation performance, improve project reliability, reduce risks, and ultimately contribute to cost efficiency and timely completion.

Speaker's Profile:

Ir. Eng Boon Cheng is a Senior Geotechnical Engineer with over two decades of dedicated service at the Geotechnical Engineering Branch, Public Works Department Malaysia. She holds a Master's degree in Geotechnical Engineering and is a registered Professional Engineer as well as an ASEAN Chartered Professional Engineer (ACPE). Her expertise spans a wide range of geotechnical projects, including leading site investigations, preparing detailed designs, and carrying out complex forensic assessments. Beyond project delivery, Ir. Eng also serves as a technical advisor to government agencies and contributes as a key internal trainer in geotechnical engineering, with particular emphasis on foundation works. At the national level, she plays a significant role in shaping the profession through active involvement in the development and review of geotechnical standards.

Session 4: Design and Construction Challenges of Deep Excavation in Soft Soils

Synopsis:

Deep excavation is a critical process in urban and infrastructure projects, such as basements, tunnels, underpasses, and underground stations. In soft soils, such as soft clay, peat or loose silty sand, the design and construction of deep excavation present significant challenges due to low shear strength, high compressibility, low stiffness and poor stability. These conditions often lead to excessive ground deformation, wall movement, and potential damage to nearby structures if not properly controlled.

Case histories will be presented, highlighting the design and construction challenges of deep excavation in karstic Limestone formation and in soft clay. The field performance and 3D numerical analysis results for the case histories will be presented and discussed during the presentation.

Speaker's Profile:

Dr. Law has 28 years of practical experience since graduation, and his experience includes work with specialist geotechnical and foundation contractors, and in academic research. Currently, he is currently the director of KH Geotechnical Sdn Bhd. In his 28 years' professional experience he has successfully completed more than 100 deep excavation projects in Malaysia under alternative design and built scheme with specialist geotechnical and foundation contractors. He has published numerous technical papers on deep excavation in international and local conferences. He is a registered professional engineer with practising certificate (PEPC) and Accredited Checker (Geotechnical) with Board of Engineer Malaysia and member of Institute of Engineers Malaysia since 2004.



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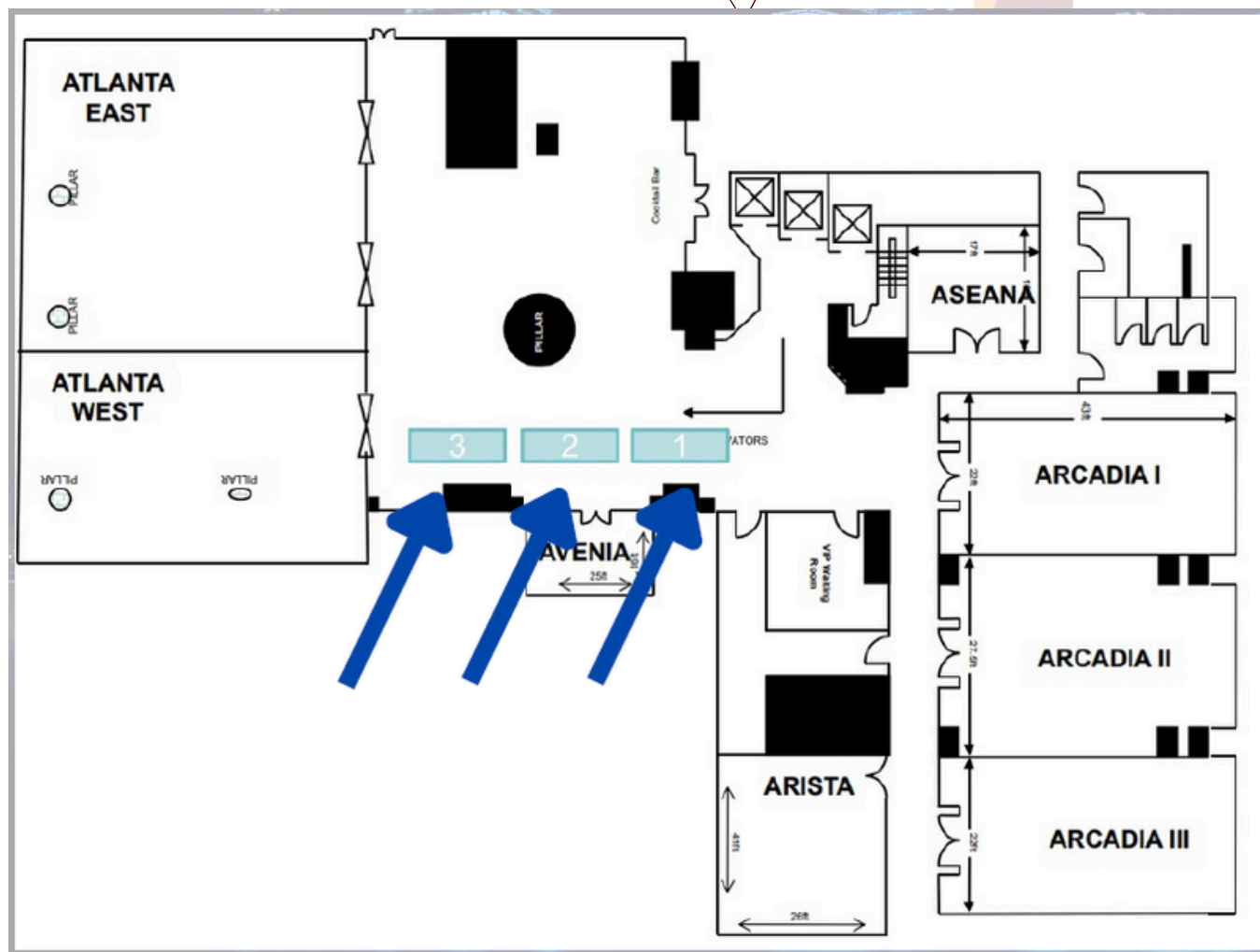
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