

**PHYSICAL
EVENT**

*DUE TO CURRENT SOP, THE MAX
NUMBER WILL BE 60 PAX ONLY*

TECHNICAL TALK ON BORED PILES IN TROPICAL SOILS AND ROCKS – SHAFT AND BASE RESISTANCES, $t-z$ AND $q-w$ MODELS

VENUE: WISMA IEM

This event will be held physically at Wisma IEM

THURSDAY,

31ST MARCH 2022

5.30PM – 7.30PM



SPEAKERS:



Ir. Dr. Toh Cheng Teik

BEng, PhD, CEng, MICE



Ir. Dr. Ong Yin Hoe

BEng, MEng, PhD

BEM Approved CPD/PDP: 2 Ref. No.: IEM22/HQ/030/T

Registration Fees

Student Members : Free

IEM Members : RM 15.00

IEM Non Members : RM 70.00

Register online I www.myiem.org.my

SYNOPSIS

Analyses of load tests on 100 instrumented bored piles in the different weathering grades of the different tropical geological formations of Peninsular Malaysia enabled correlations of ultimate shaft and base resistance with SPT N and unconfined compression strengths. The data also enabled development of t-z and q-w models that are related to SPT, unconfined compressive strength and rock types. The t-z models can be used for strain softening and strain hardening whilst the q-w models are for strain hardening and stiffening behavior.

The models thus developed were applied for analysis of 35 (out of the 100) piles in the data base that were loaded till the load-settlement curves were significantly non-linear. Most of the analyses resulted in a reasonable match with the measured load-settlement and load transfer curves up to 1.5 times the pile working load regardless of whether the q-w function was strain hardening or stiffening. Accurate matching with measured load - settlement and load transfer curves beyond 1.5 times working load and until 3 times working load was conditional on the correct choice of the q-w function. The models were further tested against 27 published load tests results from across the world.

SPEAKERS' PROFILE

Ir. Dr Toh Cheng Teik currently is the Director at DR TOH ASSOCIATES SDN BHD, a Geotechnical consultant in Kuala Lumpur, Malaysia. He is a civil engineer with a PhD from Monash University Australia for work in soil models and finite elements applied to soft clays. He has 45 years' experience in geotechnical engineering including 1 year at CSIRO, Australia and 5 years lecturing at University Malaya. He has written about 40 papers in regional and international conferences and journals. He was amongst the first batch of accredited checkers appointed by the Board of Engineer Malaysia. His qualifications and affiliations are: BEng, PhD, MIEM, MICE, MASCE, C.Eng, P.Eng. He was the editor of the Muar Trial embankments conference proceedings for LLM. He was major contributor and deputy chairman of the CIDB committee drafting guidelines on road construction on peat.

Ir. Dr Ong Yin Hoe also is one of the Director at DR TOH ASSOCIATES SDN BHD, a Geotechnical consultant in Kuala Lumpur, Malaysia. He has a Masters in geotechnical engineering from AIT and a PhD in civil engineering from Universiti Teknologi Petronas and has worked as a geotechnical engineer for about 20 years including as resident engineer for foundation works including anchored contiguous bored pile wall, diaphragm walls, bored piles and jack - in piles. He has also been involved in the design of highways on soft ground. As well he has vast experience in three dimensional finite element analysis of tunnels, basement excavations and bored piles and has been involved in impact assessment of basement excavations on existing tunnels, underground rail stations and existing viaduct structures. He has been invited on several occasions to lecture at MIDAS conferences. He is the author of more than 10 papers on numerical methods and on bored piles.