



The Institution of Engineers, Malaysia
(Southern Branch)

YOUNG ENGINEERS SECTION



ICP PILES

Half-Day Seminar on

The Application of Spun Pile on Southern Region Area

Co-organised with Industrial Concrete Products Sdn Bhd (ICP)



Date:
26th July 2025 (Saturday)



Time:
9:00 a.m. - 1:00 p.m.



Venue:
St. Giles South Key, Johor Bahru



Synopsis

Join us for an insightful half-day seminar focused on the critical role of spun piles in the Southern Region of Malaysia. This event will delve into the practical applications, performance, and challenges of PHC spun piles in complex soil conditions. We will also explore advanced testing and monitoring technologies to enhance foundation design and integrity. This seminar aims to equip consultant engineers with practical knowledge and introduce innovative solutions for engineering applications.

Program Schedule

| Time | Schedule |
|---------------------|--|
| 08:30 AM - 09:00 AM | Registration and Welcome |
| 09:00 AM - 09:10 AM | Welcoming Speech by IEM Southern |
| 09:10 AM - 10:15 AM | Speaker 1: Mr. Calvin Ng Topic: The Application of Pretensioned Spun High Strength Concrete Pile in Southern Region |
| 10:15 AM - 10:30 AM | Tea Break |
| 10:30 AM - 11:30 AM | Speaker 2: Dr. Tee Bun Pin Topic: Application of Instrumented Spun Pile Using Distributed Fibre Optic Strain Sensor: Case Studies in the Southern Region |
| 11:30 AM - 12:30 PM | Speaker 3: Mr. Chong Mun Fai Topic: Relevance of BTA Value in High Strain Dynamic Load Testing (PDA) |
| 12:30 PM - 01:00 PM | Q&A Session Closing Ceremony Token of Appreciation from ICP Group Picture |
| 01:00 PM - 02:30 PM | Lunch and Networking Session |

Participant Fees:

| | |
|-----------------------|--------------|
| IEM Member | RM 50 |
| Non-IEM Member | RM 80 |

BEM Approved
CPD/PDP Hours: 4.0
IEM25/SB/261/S

Limited Slots,
80 pax only.

Closing Date: 22nd July 2025



For QRPay payment, scan this code with your online banking or e-wallet.

Our Esteemed Speakers:



Mr. Calvin Ng

General Manager, Industrial Concrete Products Sdn Bhd

Topic: The Application of Pretensioned Spun High Strength Concrete Pile in Southern Region

This presentation provides an overview and valuable insights into the application of PHC piles in Johor. It highlights the behaviour of spun piles in alluvial soil profile through case studies. In the case studies, the speaker will present soil profiles, foundation designs, and test results from past projects. The session will address common site challenges in coastal areas, such as pile failure, soil displacement, and foundation settlement. Corrective actions to rectify and minimize these issues during construction activities will be discussed. A key focus will be on proper spun pile installation methods, emphasizing good piling practices to ensure the efficient and effective execution of piling work on site.

Dr. Tee Bun Pin

Founder and General Manager, Smart Sensing Technology Sdn Bhd (SST)

Topic: Application of Instrumented Spun Pile Using Distributed Fibre Optic Strain Sensor: Case Studies in the Southern Region

This presentation discusses the application of spun piles instrumented with distributed fibre optic strain sensors in the southern region, with specific case studies in Kulai, Malaysia and Singapore. The region's subsurface profile is known for its complexity, including layers of soft alluvial clay, dense sand, weathered rock, and occasional granite formations. These varying soil conditions introduce challenges in pile penetration, accurate capacity prediction, and overall foundation performance.

To address these challenges, distributed fibre optic strain sensing (DFOS) has been adopted as a modern instrumentation method. DFOS enables high-resolution, continuous strain monitoring along the full length of the pile, capturing detailed load transfer mechanisms, including shaft friction and end-bearing mobilization. This method provides valuable data during static load testing, offering deeper insights than traditional discrete instrumentation.

The presentation also highlights the practical aspects of pile and sensor installation, including sensor embedding techniques, grouting, protection during handling, and the challenges associated with installing large-diameter piles. A notable topic covered is the occurrence of false pile set in dense or hard layers, which can mislead depth or capacity interpretations if not properly identified and verified. Complementary testing methods such as the Pile Driving Analyzer (PDA) test and post-installation resting periods are also discussed. Additionally, comparisons between field monitoring results and numerical modelling help validate assumptions and improve the reliability of geotechnical designs. These case studies demonstrate how advanced instrumentation and interpretation methods significantly enhance the understanding of pile behaviour in difficult ground conditions, leading to safer and more cost-effective foundation solutions.



Mr. Chong Mun Fai

Managing Director, Dynamic Pile Testing Sdn Bhd

Topic: Relevance of BTA Value in High Strain Dynamic Load Testing (PDA)

The High-Strain Dynamic Load Test is commonly specified in contracts documents as a tool to determine pile capacity. In addition to capacity, compressive and tensile stresses during driving can also be computed. Furthermore, the PDA is frequently used to assess a pile's structural integrity through the BTA value obtained during field testing. The use of BTA for damage detection has advanced to the point where the numerical BTA output from PDA testing is widely adopted as an acceptance criterion for pile's structural integrity. However, relying solely on the BTA value as an acceptance criterion may lead to misinterpretation of the pile's condition. This presentation aims to provide Engineers with a deeper understanding of how to interpret the BTA value in conjunction with other parameters and field observations across various types to more accurately evaluate pile's structural integrity.



Registration will be on a first-come-first-serve basis. Kindly return the reply slip to the IEM (SB) office before **22 July 2025** together with a non-refundable cheque for the participant fees made payable to ***The Institution of Engineers, Malaysia (Southern Branch)***. Alternatively, you could bank-in the participant fees into the **Institution's Maybank Current Account (No. 5-013920-15708)**, and to facsimile both the Bank-in and Reply Slips to the Institution. The Institution requests all members co-operation in ensuring fees are paid in advance for the seminar. Please also be reminded that fees will not be refunded to absent participants who have paid, and to also note that all reservations must be paid despite participant cancellations. Thank you for your continuous support of the Institution.

Chairman, Sub-Committee on Seminar and Technical Talk, IEM (SB)



For QRPAY payment,
scan this code with
your online banking
or e-wallet.



REPLY SLIP

To: Hon. Secretary, The Institution of Engineers, Malaysia (Southern Branch) **WhatsApp: 07 – 3363406**

**Half Day Seminar on “The Application of Spun Pile
on Southern Region Area”**

Saturday, 26 July 2025, 9:00 a.m. – 1:00 p.m.
at the St. Giles Southkey, Johor Bahru.

I wish to attend the above talk. I enclosed herewith a cheque no. for the amount of RM.....as payment for the participant fee.

Name of Member: Membership No: I/C No:
(COMPULSORY)

Address: Tel(O):(Fax).....
..... Tel (H/P):
..... E-mail:

Company's Name:

Signature: Date:

Note : Kindly **email the Reply Slip together with the payment slip to iemsouthern@gmail.com** for confirmation.
: Attendance by representative will not be issued with the Certificate of Attendance.

PERSONAL DATA PROTECTION ACT

*I have read and understood IEM's Personal Data Protection Notice published on IEM's website at www.myiem.org.my and
I agree to IEM's use and processing of my personal data*