

REGISTRATION – 2 EASY WAYS TO REGISTER!!



MAIL or FAX to:



Professional Activities Centre
Faculty of Engineering
National University of Singapore
9 Engineering Drive 1
Blk EA #05-34, Singapore 117576

Enquires : Please contact Ms. Lim Hui Leng for more information at
Tel : (65) 6516 5113
Fax : (65) 6874 5097 or
E-mail : englhl@nus.edu.sg

Fee : Singapore participants : SGD800.00 + SGD56 (7%GST)
Foreign Company Registration: GST exempted

Payment : Payment is required prior to the course. Crossed cheques should be made payable to “**National University of Singapore**” and mailed together with the registration form to the mentioned address.

Discount : Ten percent (10% max) discount is applicable to:
• NUS Alumni members;
• Organisations / Companies sending three or more participants.

Refunds and Cancellations: A 50% refund will be made for withdrawals (received in writing) ten working days before the commencement of the course. No refunds will be made thereafter. However, a replacement will be accepted upon prior arrangement at no extra cost. Please inform us of the changes, if any, by fax. The Professional Activities Centre reserves the right to cancel the course and fully refund the participants, should unforeseen circumstances warrant it. Every effort will be made to inform participants of any changes.

Closing Date: **23 November 2009**

Website : <http://www.eng.nus.edu.sg/PACentre>



Workshop on the Use of PLAXIS in Underground Excavation & Other Geotechnical Application

(With Hands-On Session)

by

Dr. Harry Tan Siew Ann
Associate Professor
Department of Civil Engineering
National University of Singapore

1– 2 December 2009

9 am – 5pm

Organized by:

Professional Activities Centre
Faculty of Engineering, NUS

Department of Civil Engineering
Faculty of Engineering, NUS
Company Registration: 200604346E

Workshop on the Use of PLAXIS in Underground Excavation & Other Geotechnical Application (With Hands-On Session)



1 – 2 December 2009, 9am – 5pm

COURSE OBJECTIVE

The use of PLAXIS in deep excavation projects in Singapore have increased by leaps and bounds. Many in the industry are using this tool without proper understanding of geomechanics, numerical and constitutive modeling of soils. The program is treated like a blackbox, and in some instances can lead to incorrect analysis, leading to either unsafe or overly conservative design. This course is aimed at providing some guidance on the use of PLAXIS in deep excavation, so that the user is aware of the advantages as well as the pitfalls of FEM based design in deep excavations. Lectures discuss issues on erroneous use of software and common mistakes.

COURSE OUTLINE

DAY 1

Lecture 1 - FEM and Concepts of Plasticity
Lecture 2 - Stiffness of Soils (Mohr-Coulomb Model)
Exercise 1 – Model Oedometer and Triaxial Tests
Lecture 3 - Drained and Undrained Soil Behaviour
Lecture 4 - Introduction to Deep Excavation
Exercise 2 – Model Propped Cantilever Wall
Lecture 5 - Consolidation and Seepage

DAY 2

Lecture 6 - Advanced Soil Model (Hardening Soil)
Lecture 7 - Excavation in Soft Soils
Exercise 3 – Model New OG Basement Carpark
Lecture 8 - Ground Anchors and Soil Nailing (Stiff Soils)
Exercise 4 – Model a Soil Nail CUT
Lecture 9 - Piles and Rafts (Pile Load Tests to 3D Foundations Modelling)

ACCREDITATIONS

Pending for accretion by Professional Engineers Board.

COURSE LECTURER'S PROFILE

A/Prof. Harry Tan Siew Ann was a Colombo Plan Scholar who graduated from Auckland University with First Class Honours BEng in 1977 as the top engineering graduate of the school. He joined NUS as a Senior Tutor and earned his MEng in 1982. He was awarded the NUS Overseas Graduate Scholarship to pursue his MSc and PhD degrees in geotechnical engineering at the University of California in Berkeley, which he completed in 1982 and 1985, respectively. He has been a staff member of the Department of Civil Engineering at the National University of Singapore since May 1980.

To date, A/Prof. Tan has published over 150 technical papers covering topics such as Applied Geosynthetics, Soft Clays, Land Reclamation, Excavations and Highway Materials Testing and Evaluation. He has won several awards for his research and has several patents on equipment for testing of porous roads.

Currently, A/Prof. Tan is serving in the SPRING working group on the CP for "Deep Excavations". He has also served as a core committee member of several technical committees, including the TC9 (Earth Reinforcements) of the International Society of Soil Mechanics and Geotechnical Engineering, USA Transportation Research Board committee A2K06 on subsurface drainage in highway pavements, SPRING committee on earthworks and geotechnical engineering.

A/Prof. Tan was an active user of Plaxis since 1992. He was actively involved in teaching Plaxis courses in industry since 2000, in Singapore, Malaysia, Korea and the Netherlands. He is part of the scientific network of distinguished international researchers in geomechanics and numerical methods who supports the continuing development of Plaxis for use in the geotechnical engineering industry.

As a registered professional engineer since 1994, A/Prof. Tan has been involved in several consulting jobs in Singapore. His consultancy experience involves many deep excavation projects in Singapore, including New OG basement and One North/ Fusionopolis project. In recent past, he was appointed as one of the (MOM) State Expert witness on the Nicoll Highway Collapse Investigation from July 2004 till the end of the Inquiry in April 2005.

TARGET AUDIENCE

This course is designed for consultants, contractors, statutory boards like LTA, Jurong Engineering, Surbana, and PUB engineers involved in deep cut and cover excavation projects.

REGISTRATION FORM

**Workshop on the Use of PLAXIS in Underground
Excavation & Other Geotechnical Application
1 – 2 December 2009**

Course Fee: SGD800.00 + SGD56 (7% GST)
Foreign Company Registration is GST exempted

Participant's details:

Name 1: Dr/Mr/Ms: _____ Designation: _____

NUS Alumni: Yes / No **Dietary Restriction: _____

Name 2: Dr/Mr/Ms: _____ Designation: _____

NUS Alumni: Yes / No **Dietary Restriction: _____

Name 3: Dr/Mr/Ms: _____ Designation: _____

NUS Alumni: Yes / No **Dietary Restriction: _____

Organization: _____

Contact Person: _____

Address: _____

Email: _____

Tel No (O): _____ Fax No: _____

Payment Mode:

Cheque/Bank draft No: _____ Amount (S\$): _____

VISA/MSTR / AMEX: _____ Expiry Date: _____

Authorised Signature/ Company Stamp:

Closing Date: 23 November 2009