



# GEOTECHNICAL SEMINAR

JOINTLY ORGANIZED BETWEEN  
GEOTECHNICAL SOCIETY OF SINGAPORE (GEOSS) &  
CENTRE FOR SOFT GROUND ENGINEERING



## Foundation for Tall Buildings in Coralline Limestone

by

**Chua Tong Seng**

**Kiso Jiban Singapore Pte Ltd**

**(PDU pending approval)**

<b>Date:</b>	Thursday, 14 July 2011
<b>Time:</b>	6:30pm Reception 7:00pm Seminar
<b>Venue:</b>	<b>LT1</b> Faculty of Engineering National University of Singapore

### SYNOPSIS

The presentation will cover the challenging design of foundation for tall buildings on a unique formation, Coralline Limestone. The project is along coast facing the Red Sea with buildings of 350m height housing luxurious residential apartments and supported by large diameter bored piles. The geotechnical investigations include deep investigative boreholes, seismic surveys using cross-holes and down-holes, pressuremeters, etc. The design load consists of various combinations of dead loads, live loads, wind loads and earthquake loads. Six number of instrumented ultimate pile load tests were carried out on site and the test results were utilized to check the design assumptions and verify the geotechnical model of the 3D FEM analyses. The challenge of cavity grouting below pile toes to fill up any cavities will be highlighted, and mitigation measures to minimize construction risks during piling works in the difficult soil condition will also be discussed. The presentation is a joint effort of TS Chua, KC Lim, Stephen Choo, Dr. KS Wong, Dr. IH Wong, CP Seh, T Sagae, PB Ng, Edward Koh, Edward Fajar, LP Wu, J Rudi, LT Arturo, Marisca, PL Teo, PY Pang, Khairi, KJC-Lab and Dr Tan TH.



### THE SPEAKER

Chua Tong Seng is the Deputy Managing Director of Kiso Jiban Singapore Pte Ltd (Geotechnical Consultants). He obtained Master of Engineering from NUS in 1991. Mr Chua has 25 years of experience in geotechnical engineering with special interest in foundation, deep excavation, slope stabilization, and tunneling. He is a registered professional engineer in Singapore and Malaysia. He is also a specialist professional engineer in geotechnical and accredited checker in the area of geotechnical. Mr Chua is also a member of Panel of the Engineering Experts, IES, committee member for the technical reference for deep excavation in Singapore TR26:2010, committee member responsible for preparation of Eurocode 7 in Singapore SSEN1997:2010 and National Annex; and founding committee of the Geotechnical Society of Singapore. He is also an Examiner for the Singapore Professional Engineers Board in the specialist geotechnical field.

For catering purpose, please confirm your attendance by reply e-mail to: [geoss@nus.edu.sg](mailto:geoss@nus.edu.sg)

\*\*\*\* Admission is free for members of Geoss. Non-members can register as members (S\$60 per annum) on the spot \*\*\*\*