



# GEOTECHNICAL SEMINAR

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



## Concept and Parameters for Ground Improvement

by

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&  
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**Deputy General Managers, Menard**

<b>Date:</b>	Thursday, 30 October 2008
<b>Time:</b>	6:30pm Reception 7:00pm Seminar
<b>Venue:</b>	<b>Engineering Auditorium</b> Faculty of Engineering National University of Singapore

### SYNOPSIS

Singapore has been a choice region for the development of ground improvement techniques. The extremely rapid infrastructure development and the stringent quality required by the Port of Singapore Authority at the end of Seventies facilitated the introduction of dynamic consolidation, deep vertical drains and later dynamic replacement, stone columns, vibro-compaction ground improvement techniques to Singapore. Oil and gas related works have also introduced accelerated construction methods requiring ground improvement. An overview of these evolutions based on concepts and parameters will be illustrated in this presentation. Latest development on rigid inclusions developed in Europe and recently applied in South East Asia will be presented and analysed. Discussions will be made on the benefits of such technique that could fit Singapore requirements (vibration free, soil-less, environment friendly etc) specifically for warehouses/low-rise structures and infrastructure development.

### THE SPEAKER

**Serge Varaksin** is currently a Deputy General Manager of Menard and the Chairman of ISSMGE Technical Committee TC17 on ground improvement. He was born in 1943 in Belgium. After completing his civil engineering degree, he was admitted on a work study program at Northwestern University. He completed his master degree under Professor Jorg Osterberg and published his research on relative density below groundwater table in the ASTM STP 523. In 1972 he performed his military service at the Belgium Military school as teaching research assistant of Professor Van Wambeke where he was exposed to Menard Pressuremeter technologies. He joined the Menard Company in 1973 and has since devoted his career in creating the present network of companies of Menard around the world applying the ideas of Louis Menard and Jean-Marie Cognon. He was the project manager of runway 2 ground improvement for Changi Airport in 1978, and introduced drains down to 43 m depth and dynamic consolidation to Singapore in 1979.

**Marc Lacazedieu** was born in 1972 in France. After completing his civil engineering degree in Ecole Centrale Paris under Professor Jean Marie Cognon, he worked in Egypt and Ghana for one and a half years for SEFI (a Menard subsidiary specialized in foundation works). He then joined SEFI in France in 1997 and was the representative of the company in a permanent JV with Soletanche Bachy for 2 years, working for the rehabilitation by grouting of the Paris subway network. In 2000, he joined Menard involving new ground improvement techniques (e.g. CMC/Vacuum) and well known techniques (DC/DR) for projects in Egypt, Turkey, South America, UK, Vietnam, Poland etc. Since 2004, he is a Deputy General Manager of Menard in charge of Operations and overseas development. He also teaches civil engineering in Ecole Centrale Paris since 2002.

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 who join as members (\$\$60 per annum) on the spot will have their membership till Dec 2009 \*\*\*\*

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