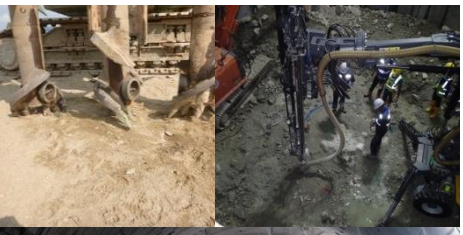
Tunnelling and Underground Construction Society (Singapore)

Symposium on Innovation & Challenges in Asian Tunnelling 2015 (SICAT 2015)



About SICAT 2015

The quest for knowledge to meet the challenges faced by the growing Asian tunnelling and underground construction industry has led the Tunnelling and Underground Construction Society (Singapore), TUCSS, to organise this Symposium. It aims to share the valuable experiences gained from the recent underground infrastructural projects in Singapore and other Asian countries such as Malaysia, Thailand, Korea & China.

To overcome the challenges faced by the industry, we require creative and innovative solutions. The symposium seeks to bring together prominent experts and specialists to share their visions and experiences on a variety of relevant topics through keynote addresses and talks. This will be relevant for all Clients, Professionals, Project Managers and Engineers who are involved in the tunnelling and underground construction industry, including Government Agencies, Consultants, Specialist Suppliers and Contractors.

The two-days symposium will have eight excellent keynote lectures delivered by well-regarded experts from all over Asia in their respective fields. It will also include twelve excellent presentations by Specialist Suppliers and Manufacturers who will be showcasing their latest technologies at their exhibition booths during the symposium.

DETAIL

Date: 2 – 3 September 2015
Time: 9.00A.M. to 5.00P.M.
Venue: Raffles City Convention Centre

PDU/STU

PDU: 14
STU: 12

REGISTRATION**

Members* (TUCSS/BCA/ GeoSS/LTA/ SRMEG) : $600.00

Non Members : $700.00

*TUCSS *Corporate members may nominate up to 2 participants at member's rate*
***TUCSS reserves the rights to postpone or cancel the course without prior notice.*
***All registrations are on a first-come-first-serve basis. Any cancellation from the participant will not be refunded.*

Keynote Speakers :

Sim Wee Meng
Senior Group Director
Land Transport Authority

Zhu He Hua
Director
Tongji University

Bob Moncrieff
Managing Director
Rona Consulting Co., Ltd

Oskar Sigl
Managing Director
Geoconsult Asia Singapore Pte Ltd

Ralf Winterberg
Group Chief Engineer
Elasto Plastic Concrete

Seung Ryull Kim
President & CEO
ECSO Consultant and Engineers Company

Nick Shirlaw
Consultant
Golder Associates (Singapore) Pte Ltd

Blaise Pearce
Director, **MRT Corporation Sdn Bhd**

Supporting Organisation:

Association of Consulting Engineers Singapore

Building and Construction Authority

Geotechnical Society of Singapore

The Institute of Engineers Singapore

Land Transport Authority

Singapore for Rock Mechanics & Engineering Geology

TUCSS Secretariat @ 1 Liang Seah Street #02-11 Liang Seah Place Singapore 189022
Tel: 6336 2328 Fax: 6336 2583 Email: tucss@cma.sg Website: www.tucss.org.sg

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Keynote Sessions :

- Asia Tunnelling Works
- Underground Hydrocarbon Rock Caverns in Singapore - Key Considerations During Planning and Design
- Keynote 5
- Integrated Technology from Construction to Maintenance for Metro Underground Structure
- A Overview and status of the KVMRT, Tunnelling Performance and Risk Management and Specific Mitigation
- Design and Construction Technology for the Creation of Underground Spaces in Urban Area- focused on the Construction of Seoul Subway Networks
- Face Pressures, and options for reducing them
- Namma Metro, Bangalore "Tunnelling challenges below the City Railway Station"

Technical Sessions :

- ✓Risk Management Strategies for MRT tunnels
- ✓Compressed Air Works for Tunnelling in Singapore
- ✓Selangor Raw Water Project
- ✓Challenges of SCL tunnelling in Singapore
- ✓Safety Initiatives implemented in Singapore Power Cable Tunnel Project
- ✓Ground Conditioning - environmental concerns
- ✓Advanced construction method studies to mitigate risk associated with large diameter tunnelling in Hong Kong
- ✓Ground Freezing Technology and Case Example
- ✓The use of steel fibre reinforced concrete (SFRC) in underground projects in Singapore
- ✓Slurry Treatment and Testing
- ✓Tunnelling Construction Control Systems
- ✓Horizontal jet grouting

Click here to Register Now

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Programme

0800hrs	Registration	
0845hrs	Opening Address Mr Kulaindran Ariaratnam, TUCSS President	
0900hrs	Challenges for the future Singapore/Asia Tunnelling Works Mr Sim Wee Meng, LTA Senior Group Director	To be Advised
0945hrs	Reducing cost of Risk for Tunnelling Projects Mr Ian Brown	To be Advised
1015hrs	Safety Initiatives implemented in Singapore Power Cable Tunnel Project Mr Edward Raj, Singapore PowerGrid Ltd, Deputy Director	This presentation shares the safety journey which started with the conception of the Safety Pledge. Everyone involved in the project; the 3Cs – client, consultants and contractors, pledge to work together as a family in embracing safety. With everyone taking ownership of safety, numerous safety initiatives have been successfully implemented in this project.
1045hrs	Morning Tea Break	
1115hrs	A Overview and status of the KVMRT, Tunnelling Performance and Risk Management and Specific Mitigation Mr Blaise Pearce, MRT Corp Sdn Bhd Director	The presentation will briefly explain the project scope and report the current works progress status. The performance of the tunnelling activities will be presented together with an explanation of the adopted approach to management of engineering risks and some case examples of mitigation measures implemented. The presentation will end with an overview of the future MRT lines within the Klang Valley.
1200hrs	The use of steel fibre reinforced concrete (SFRC) in underground projects in Singapore Mr Gan Cheng Chian, Bekaert Maccaferri Underground Solutions	Steel fibre reinforced concrete (SFRC) has been used in Singapore underground projects since the 1990's. The majority of SFRC applications in underground projects in Singapore has largely been in sprayed concrete for tunnel or cavern linings. SFRC in sprayed concrete can today be found in all the cable tunnel projects in Singapoore. In 2011, SFRC was finally adopted for use in precast segmental tunnel linings by the Land Transport Authority for Contract 933 on the Downtown Line. And in 2013, almost 10kms of precast segmental tunnel linings was specified using SFRC in Thomson Line for Contract T206 and T207.
1230hrs	Compressed Air Works for Tunnelling in Singapore Mr Bill Jordan, Advanced Marine Pte Ltd, Business Development	This presentation will review the current state of Compressed Air Works related to CHI for TBM's in tunnelling. Risks associated with CAW, and some common sense guidelines for selection of equipment, procedures and personnel will be discussed. An examination of the current legislation and requirements, as well as a review of potential options for working deeper or more safely based on some overseas projects will be highlighted.
1300hrs	Lunch Break	
1400hrs	Underground Hydrocarbon Rock Caverns in Singapore - Key Considerations During Planning and Design Dr. Ralf Winterberg, Elasto Plastic Concrete Group Chief Engineer	Macro synthetic fibre reinforced concrete (MSFRC) has reached maturity as an engineering technology and is widely used in all forms of tunnel linings. Many advantages over steel reinforcement have established a strong position in the marketplace. This presentation seeks to introduce the capability of MSFRC in tunnel linings with a focus on their long-term performance.
1445hrs	Exhibitors' Presentations	To be Advised
1545hrs	Afternoon Tea Break	
1615hrs	Design and Construction Technology for the Creation of Underground Spaces in Urban Area- focused on the Construction of Seoul Subway Networks Dr Seung Ryull Kim, , ESCO Consultant and Engineers Company, President	The intended purpose of lecture is to provide a holistic view of design and construction technologies to create the underground spaces for the construction of Seoul Subway Networks. It then subsequently addresses the experience of how the underground space could be mobilized positively to contribute to sustainable growth of a City of Seoul which has experienced such a rapid and condensed expansion, particularly during the short period of times.
1700hrs	Spray Concrete Lining Mr Kenny Lo, BASF, Head of Infrastructe	To be Advised
1730hrs	Slurry Treatment and Testing Mr Chris Holdsworth, Earth Support Pte Ltd, Managing Director	Why Slurry ? ? Use of TBM Slurry where EPB Is unsuitable doe to prevailing changing ground conditions. Slurry can be modified for changing ground conditions as required.

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0800hrs	Registration	
0830hrs	Dr Oskar Sigl, Geoconsult Asia Singapore Pte Ltd Managing Director	To be Advised
0915hrs	Selangor Raw Water Project Mr Takayuki Matsumoto, Shimizu Corporation, Deputy Project Manager	This project includes the long distance water transfer tunnel project which links the state of Pahang and Selangor in Malaysia. the challenges in long-distance tunneling (with TBM drives up to 11.6km length) in order to achieve high-speed TBM excavation under hard rock conditions with high overburden, adverse geological conditions and heavy water ingress are discussed. The TBMs have to excavate through granite rock with uniaxial compressive strength of 150-200 MPa.
0945hrs	Advanced construction method studies to mitigate risk associated with large diameter tunnelling in Hong Kong Mr Roger Storry, Dragages Hong Kong Ltd, Technical & Risk Manager	The Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works Contract 2 project includes dual 4.8km long tunnels constructed using conventional excavation techniques and a 14.1m diameter TBM. Due to alignment constraints a section of the tunnels has an enlarged span to accommodate sight-line requirements. To achieve the project programme the TBM will be launched as early as possible and a section of TBM tunnel will be subsequently be enlarged. Advanced construction method studies were essential to minimise the associated risks.
1015hrs	Morning Tea Break	
1045hrs	Face pressures, and options for reducing them Mr Nick Shirlaw, Golder Associate, Senior Consultant	Pressurised TBMs control the ground by applying a face pressure. The basis for face pressure calculations as used in Hong Kong will be reviewed. Generally, the calculations give a slightly conservative result, and there is some scope for fine-tuning. Options for reducing the face pressure will be outlined.
1130hrs	Tunnelling Construction Control Systems Dr Angus Maxwell, Maxwell Geosystems, CEO	To be Advised
1200hrs	Risk Management Strategies for MRT tunnels Mr Heiko Wannick, Munich Re, Senior Underwriter Construction	For years tunnelling projects were plagued by serious accidents which triggered substantial payouts from the insurance industry. Back in the early 2000s, it was difficult to secure sufficient insurance capacity for major projects. The “Code of Practice for Risk Management of Tunnel Works” was subsequently introduced as a joint effort between tunnel and insurance industries. A decade down the line this presentation tries to answer the question whether refined risk management practices have changed the standards in the tunnel industry.
1230hrs	Lunch Break	
1330hrs	Integrated Technology from Construction to Maintenance for Metro Underground Structure Professor Hehua Zhu, Tongji University	The presentation will include the integrated technologies from construction to maintenance for metro underground structure, such as data standard, data base, 3D modeling and visualization, system development and applications in China.
1415hrs	Exhibitors' Presentations	To be Advised
1515hrs	Afternoon Tea Break	
1545hrs	Tunnelling challenges below the City Railway Station Mr Bob Moncrief, Rona Consulting Co Ltd, Managing Director	This paper describes a challenging section of bored tunnelling where the new Namma Metro passes below the mainline Bangalore Railway Station. Cover to the new tunnels is generally less than one tunnel diameter and widely varying mixed faces that included weathered rock, residual soil and made ground were encountered. The twin bores pass under 23 live tracks and a number of platforms.
1630hrs	Ground Freezing Technology and Case Example Tom Watanabe, Taisei Corporation	This presentation outlines the Ground Freezing technology by SEIKEN Co.,Ltd which is the most well-known Ground Freezing Specialist Contractor from Japan. Background of Ground Freezing, theory, technologies and construction method with the case example in Japan will be introduced in the presentation.
1700hrs	Horizontal jet grouting Mr Yujin Nishimura, Raito Kogyo Co Ltd Singapore Branch	A horizontal jet grouting system has drawn attention as a technique for reinforcing the ground for excavation under important structures in service. The system will be explained with its mechanism and application examples carried out both in Japan and in Singapore.

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