香港岩土及岩土環境工程專業協會
ASSOCIATION OF GEOTECHNICAL &
GEOENVIRONMENTAL SPECIALISTS (HONG KONG)

Contact Ir Clayton CHAN, Tel.: (852) 3922 8607 Fax.: (852) 3922 9797 E-mail: Clayton.Chan@aecom.com
Website: www.ags-hk.org

ANNOUNCEMENT
AGS (HK) AGM Technical Seminar

"Tuen Mun – Chek Lap Kok Link – Innovative Technologies and Methodologies for an Outstanding Subsea Tunnel in Hong Kong"

By
Antoine Schwob
Technical Manager
Dragages HK Ltd - Bouygues Travaux Publics Joint Venture

Date : Friday, 13th December 2019

Time : 7:00pm – 8:00pm (after 2019 AGM of AGS (HK) from 6:30pm to 7:00pm)

Venue : Fincher Room, Kowloon Cricket Club, No. 10, Cox's Road, Jordan, Kowloon

Enquiry : For enquiries, please contact Haydn CHAN (haydn.chan@arup.com)

Seminar Fee : Free of charge

Refreshment: Complimentary food and beverage sponsored by AGS (HK)

Registration : No prior registration is required. Seating capacity is provided for approximately 80 people, to be assigned on a first come, first served basis. Attendance certificates will be provided after the seminar.

Book Prize : Book prize is open to all young attendants (under 35 years old) for the submission of a good quality report (max. 500 words) on this event. Book Prize reward comprises a book "Geology of Site Investigation Boreholes in Hong Kong" by Chris Fletcher and book coupon HK$300 from Joint Publishing Ltd (三聯書店). The report for book prize shall be sent to Roger Lee (rogerlee@meinhardt.com.hk).

Synopsis

On Tuen Mun - Chek Lap Kok Link – Northern Connection Subsea Tunnel Section project, the difficult ground conditions as well as the tunnel depth reaching almost 60m made the tunneling works particularly challenging. Numerous innovative technologies and methodologies were thoroughly developed and implemented in order to overcome these challenges and to make the TBM drives a success.

Two 14m diameter TBMs were used along the 4.5km long drive below the sea. One of them had

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started its drive with the world's largest diameter (17.63m) along the first 630m before being reconfigured into a 14m diameter TBM. For hyperbaric maintenance interventions, saturation diving system and full automatic robotic arms were developed to change a total of about 2000 disc-cutters on both TBM cutterheads.

Another major challenge was the construction of 41 subsea cross passages for which the pipe jacking methodology was adapted for the project.

Apart from TBM drives, innovative design solutions were developed for the construction of Shafts, their crossing with TBMs and Cut and Cover sections including a 500m-long and 43m-deep Caterpillar-shaped cofferdam with 15 cells.

This presentation offers an overview of the technical solutions developed and implemented on this outstanding project.

About the Speaker

Antoine Schwob is Technical Manager with Bouygues Travaux Publics in Hong Kong. Antoine has a 15 years' experience in design of technically-driven projects in various fields of civil engineering ranging from Bridge design (multi-span segmental deck viaducts constructed with balanced cantilever technique) to Tunnel works (bored with slurry shield Tunnel Boring Machines, pipe jacking technique; or excavated in conventional way).

In addition, he has a strong knowledge in Geotechnical Engineering (Reclamation works, D-Walls, Foundations and various types of ground treatments) and complex nuclear projects with various system interfaces.

Antoine's expertise lies within technical management of mega-size projects with design challenges interlinking with optimization of construction methods and planning of works.

Projects include the HK $18bn Tuen Mun – Chek Lap Kok Link – Northern Connection Subsea Tunnel Section in Hong Kong (current position as Project Technical Manager); €1.45bn Chernobyl New Safe Confinement in Ukraine; Trinitrain Project in Trinidad and Tobago, West Indies; New Tyne Crossing Tunnels in UK; East Tsing Yi Viaducts in Hong Kong.