Dear ALL,

We would like to draw your attention to an upcoming seminar being held jointly between the Geological Society of Hong Kong (GSHK) and the Department of Land Surveying and Geo-Informatics (LSGI) at the Hong Kong Polytechnic University:

Topic: "Cavern Mapping" and "Logistical Challenges for Combined TBM and Drill and Blast Tunnel Projects"

# **Speakers:**

**Dr. Bruce King**, Associate Professor from Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University.

Mr. Guy Bridges, Executive Director, Geotechnical, AECOM Asia Company Limited.

Venue: Classroom ZN603, Hong Kong Polytechnic University

**Date:** Friday 28<sup>th</sup> March 2014

Time: 7:00pm to 9:00pm

Prior booking is not required. For further details please see the attached flyer.

Regards

Felix LEE GSHK Secretary



## Speakers:

**Dr. Bruce King**, Associate Professor from Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University.

**Mr. Guy Bridges**, Executive Director, Geotechnical, AECOM Asia Company Limited

Topic: "Cavern Mapping" and "Logistical Challenges for Combined TBM and Drill and Blast Tunnel Projects"

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Department of
Land Surveying
and
Geo-Informatics

## **Summary**

The objective of this seminar is to introduce the subject of challenges for tunnel project and cavern mapping. The seminar is sub-divided into two sessions. The cavern mapping session includes a historical review of cave and cavern mapping, application of photogrammetry and laser scanning to the mapping, modelling of caves and caverns, use of point clouds for geotechnical studies and a glimpse of the future in cavern mapping.

For the second session, the challenges for combined TBM and Drill and Blast Tunnel Projects includes logistical challenges, retention walls and temporary supports, risk management for tunneling in predictable and mixed soil conditions, challenges of urban drill and blast tunneling assignments and the importance of co-ordination.

Prior booking is not required, however it is advised to arrive promptly to secure a seat.

CPD certificates will be provided.

### **About the Speaker:**



### **Dr. Bruce King**

Dr. Bruce King is an Associate Professor from Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University. He teaches photogrammetry, laser scanning and spatial data acquisition and undertakes research in photogrammetry and laser scanning.

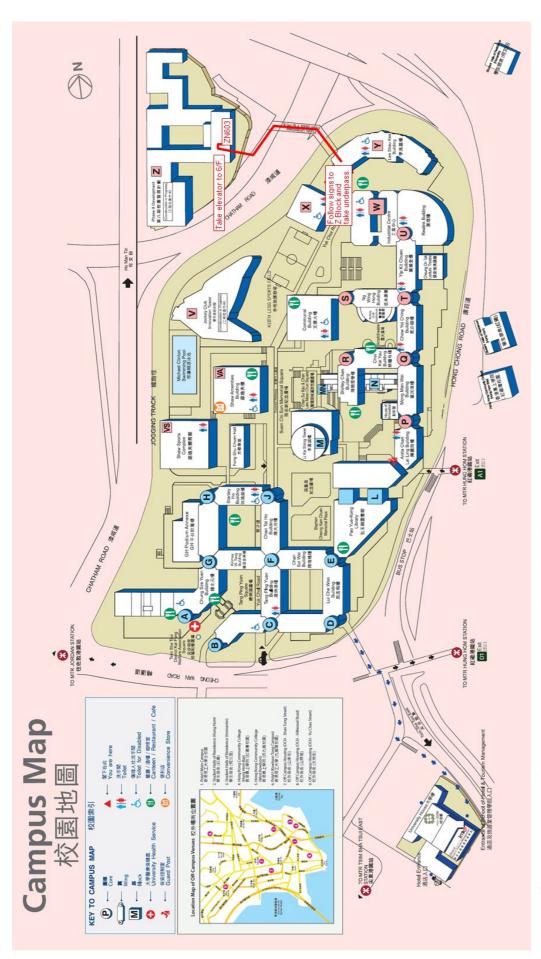
Bruce obtained his Bachelor of Surveying degree from the University of Newcastle, Australia in 1981. During his study he worked as a Trainee Surveyor, Surveyor and finally Senior Surveyor with The Broken Hill Proprietary Ltd. at the Newcastle Iron and Steel Works. In 1984 he joined the University of Tasmania as a lecturer in surveying where he developed his interest in close-range photogrammetry. In 1989 Bruce returned to Newcastle to work on research projects with TUNRA, ADAM Technology and the MPS-2 analytical stereoplotter and to undertake his Ph.D. on bundle adjustment of constrained stereopairs. Since 1995 he has been employed by The Hong Kong Polytechnic University where he teaches and does research in photogrammetry and laser scanning. He has acquired two laser scanners for LSGI and conducted some of the first commercial applications of terrestrial laser scanning in Hong Kong. His current research projects include the development of novel bundle adjustment models for multi-camera photogrammetric systems and the use of mobile laser scanning in GNSS-free areas such as railway tunnel systems.



**Guy Bridges** 

Since graduation Guy has spent over twenty years working as a geotechnical engineer, predominantly on tunnel projects in the UK and Hong Kong. He is qualified as Mining Geologist, and has been involved in the design and construction of tunnels and geotechnical works for major road, rail and drainage projects utilising construction methods ranging from drill and blast to TBM, soft ground mechanical excavation and open cut.

In Hong Kong some of the major projects Guy has been involved with include the WestRail DB350 Tai Lam Tunnel, Route 8 Nam Wan Tunnel, Site Formation at Jordan Valley, Ocean Park site formation and Funicular tunnel, HATS Stage 2A tunnels and shafts, Kowloon Southern Link KDB200, Hong Kong West Drainage Tunnel, West Island Line, Express Rail Link and Shatin to Central Link. Guy's geological background, range of experience of tunnel design and construction, and close involvement with works on site, has given him a detailed understanding of the geotechnical uncertainties that exist on tunnel projects, and the practical solutions that need to be developed to manage the construction works.



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