



Australian Geomechanics Society

Sydney Chapter

Young Geotechnical Professionals' Night

Wednesday, 10th September 2008

Auditorium, Ground Floor, 8 Thomas Street, Chatswood

(See attached map for venue location)

Light refreshments at 5.30 PM prior to 6.00 PM meeting, followed by Cocktail Reception after the meeting.

The Young Geotechnical Professionals' Night is an opportunity to see four selected presentations by young geotechnical engineers and engineering geologists discussing interesting and challenging aspects of their work. The following presentations will be given during the evening.

Investigation of the Piles Creek Embankment Collapse

Peter Retsos, Connell Wagner Pty Ltd

An embankment at Piles Creek failed during heavy rain in June 2007. Five deaths occurred when a vehicle then drove into the void created by the collapse. The subsequent investigation of the collapse was undertaken by Connell Wagner in a collegial manner with expert representatives from the RTA and Gosford City Council. In this presentation, Peter will discuss the methods used during the field investigations and the advantages and disadvantages of undertaking a collegial investigation. He will also reflect on the benefits and skills gained from examining a failure of this nature.

Jointing and Dyke Structures in Top Ryde, Sydney

Kathryn Pike, Arup Pty Ltd

The ongoing construction of the Top Ryde Shopping Centre involves excavation to depths varying between 10m and 25m below ground surface. Preliminary investigations identified an igneous dyke in the northern corner of the site and high angle joints. These features have been progressively revealed during the excavation process. Kathryn will present the results of mapping, analysis and interpretation of the geological and structural features encountered. The study of such features will allow engineers to make improved predictions of areas of rock affected by dyke structures and their associated jointing.

Ground Improvement for Rail Embankment Construction on Soft Ground

Ted Tse, Connell Wagner Pty Ltd

A 4.3km railway line is proposed as part of the development of the Coal Export Terminal 3 on Kooragang Island, Newcastle. The proposal involves the construction of embankments up to 10m high, to be formed over soft ground, water ponds, coal washery rejects and slag banded emplacement cells. Investigation and testing for the site included two stages of field investigation, laboratory tests and a full scale trial embankment. Ted will present the challenges encountered in the design of the rail embankment, including the investigation and selection of various ground improvement options.

Modelling of Infilled Rock Discontinuities

David Oliveira, University of Wollongong

One of the most challenging tasks when designing structures on or within a rock mass is the modelling of the mechanical behaviour of the rock. This is typically due to the rock mass comprising interlocking discrete blocks and the varying conditions of the rock joint surfaces. Among these contact surfaces, infilled rock joints are likely to be the weakest planes. David will present a review of studies involving the shear behaviour of infilled rock joints and some of the most recent advances in modelling. A new semi-empirical yielding criterion for infilled rock discontinuities will be discussed.

For further info. contact Sally Peacock
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Attendance may be credited (1 point) towards Continuing Professional Development requirements. Members are responsible for recording CPD for audit purposes.



**Location Plan for
8 Thomas Street, Chatswood**

