UNIVERSITY OF CAMBRIDGE
Department of Engineering

GEOTECHNICAL SOCIETY

The collapse at Nicoll Highway Station in Singapore

Dr Brian Simpson, OBE FREng MA PhD FICE Eur Ing

Arup Fellow, Honorary Professor at the University of Nottingham

Seminar overview:

On 20 April 2004, a major collapse occurred during the construction of the Circle Line in Singapore. This involved a 33m deep cut and cover tunnel section, which was being constructed adjacent to the Nicoll Highway in the M3 area of the contract. The collapse resulted in four fatalities and huge costs, requiring reconstruction of some 100m of the Nicoll Highway and the re-routing of the railway. The ensuing public enquiry debated many issues that contributed to the failure, involving structural and geotechnical design and management. The talk will highlight the important lessons that can be drawn from this incident about soil behaviour, numerical modelling, factors of safety, use of the “observational method”, geotechnical monitoring and structural design.

When and where:

Wednesday, 21 October, 19:30

Old Combination Room, Trinity College

Queries:

Orestis Adamidis
oa245@cam.ac.uk

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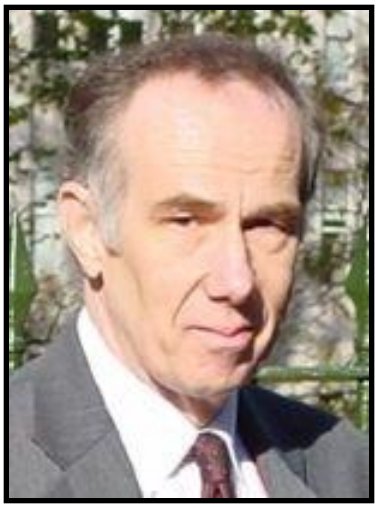

Short biography:

Dr Brian Simpson is an Arup Fellow, a principal of Arup Geotechnics and an Honorary Professor at the University of Nottingham, UK. He completed his PhD in Cambridge in 1971 – one of the first applications of finite element analysis to the highly non-linear behaviour of soils. Since then, he has worked on a wide range of geotechnical and ground-structure interaction problems, maintaining particular interests in numerical modelling, retaining structures, foundations and tunnels. He presented the BGA Rankine Lecture in 1992 and a State-of-the-Art report on Geotechnical Analysis and Design at the 2009 international conference of ISSMGE. Since the early 1980's, he has been involved in the development of Eurocode 7 (Geotechnical Design), having been a member of its drafting panels and vice-chairman of the CEN (Comité Européen de Normalisation) committee on Eurocode 7 (SC7). He has authored two commentaries on Eurocode 7 and several papers on various related issues. He is the current chair of ISSMGE Technical Committee TC205 on Safety and serviceability in geotechnical engineering.

In 2004-5 he was one of the expert witnesses called to the Public Enquiry in Singapore following the collapse of the Nicoll Highway Station during construction.

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