

THE HKIE GEOTECHNICAL PAPER AWARD

2018 sees the third exercise of the HKIE Geotechnical Paper Award in its current format. At 24, the number of entries is between those in 2014 (36) and 2016 (17). With the endorsement of the Geotechnical Division Committee (GDC), a seven-member Assessment Board was formed to look for winning papers. It comprises Ir Sammy PY Cheung (Chairman), Ir Ian Askew, Ir Y C Koo, Ir Dr C K Lau, Ir Dr Eric Li, Ir Dr Victor Li, and Ir Y C Chan (Secretary). Ir Cheung and Ir Askew are ex-officio members of the Board by being Chairman and Vice-Chairman of GDC. The other five members are selected from the Assessment Board Panel taking into consideration the subject nature of the contending papers and reducing potential conflict of interest.

The Assessment Board follows the same practices as in previous exercises to ensure confidentiality of identity of participants and fair but critical judgment on the contending papers. Hence, members receive information on a need-to-know basis, and only the winning papers are made known publicly. Board members share views through a hub that remove identity tags. Deciding winners in the Assessment Board meeting is by blind voting. Members with perceived conflict of interest take part in sharing of views but not voting.

The Assessment Board has found the best two papers to be equally meritorious, and hence recommended both for the Award. The titles and the basis of the choices are as follows.

Kwan, J.S.H., Koo, R.C.H. & Ng, C.W.W. (2015) Landslide mobility analysis for design of multiple debris-resisting barriers. *Canadian Geotechnical Journal*, Vol 52(9), pp 1345-1359

The paper documents development of a methodology for rational design of multiple barriers for intercepting mobile landslide debris. It started with Newtonian mechanics, took hints from physical model tests and case records, demonstrated by application to a real design case, and benchmarked against an advanced numerical model. This comprehensive and solid approach won confidence. The proposed methodology promises to fill another gap in Hong Kong's continual search for more reliable and effective design of debris flow barriers. The paper is clearly and logically written, with the support of two very helpful appendices on aspects demanding greater details to make sense of the subject matter. It should be accessible to most geotechnical practitioners with a good grasp of basic mechanics.

Ng, P.L., Polycarpe, S., Barrett, T.N.D.R., Roux, G. and Vallon, F. (2017) Development of a novel tunnel dismantling machine for the MTR West Island Line construction. *HKIE Transactions, the Hong Kong Institution of Engineers*, Vol. 24, No. 3, pp. 151-168

The Tunnel Demolition Machine is a bold solution to a uniquely demanding project setting. Its success required precise ground and support modelling to guide the design of bespoke mechanical components and work cycles. The advanced technology applied would be of interest to practitioners. The paper instead takes readers through a perspective uncommon for project case papers, by providing a superb step-by-step record of how the project challenges were tackled. From it, one may appreciate the nature of innovation: persistent drive for better answers to issues, a wide and in-depth knowledge base to support creativity, and great attention to detail and rigorous preparation to ensure final success. The paper is well written with excellent figures and hence very readable.

Prize giving is in the Annual Seminar. The winners will be presented with a trophy for each paper, and a crystal plaque and a certificate to each co-author. One author of each paper will then give a brief presentation to highlight key messages from it.

There have been changes to the framework of the Award Scheme. A basic building block of the scheme is the Assessment Board Panel of eminent local geotechnical practitioners, to give views on the scheme and have members ready to form Assessment Boards. In 2017, GDC endorsed invitation of eminent practitioners to join the Panel. This increases its number from 16 to 20, and of members with tunneling experience.

At its conception, the scheme bars papers with a co-author who is an Assessment Board Panel member. In the 2016 exercise, an entry was not accepted on this basis. The engineer who entered the paper appealed. The issue was raised for discussion among Panel members after the award exercise. Views for and against relaxing this restriction were heard. In the end, we decided to suspend the restriction for two exercises, to observe implications.

This report is brief because much has already been said on the scheme in the reports of the first two exercises, especially the first one in the 2014 Annual Seminar Proceedings at <http://mobile.hkieged.org/km.vbhtml>. Please also visit <http://mobile.hkieged.org/geopaper.vbhtml>, the official site of the Award scheme, for further information.



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