

Proceedings of The HKIE Geotechnical Division 43rd Annual Seminar

GDAS2023
19 MAY 2023

**Towards a Smart-Green-
Resilient Geo-Future for
World-class City**

Editors:

- **LEE Siew Wei**
- **LEUNG Yat Fai, Andy**



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LEE Siew Wei
LEUNG Yat Fai, Andy
(Editors)

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Volume Editors

- LEE Siew Wei, Executive Director, Geotechnical, Hong Kong
- LEUNG Yat Fai, Andy; Associate Professor, The Hong Kong Polytechnic University

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Foreword

It is my great pleasure to welcome you all to the 43rd Annual Seminar of the Hong Kong Institution of Engineers (HKIE) Geotechnical Division. This year's seminar is themed "Towards a Smart-Green-Resilient Geo-Future for World-class City Development", and it promises to be an exciting and informative event.

As we gather, both in-person at the Hong Kong Convention and Exhibition Centre and virtually online, we are reminded of the critical role that geotechnical engineering plays in the development of Hong Kong. With heightened expectations for green growth and sustainable development, we are in a prime position to build Hong Kong into a world-class, smart, and resilient city.

Geotechnical engineering has been at the forefront of innovation and technology in laying the groundwork for the provision of land and infrastructure in Hong Kong. We have seen significant progress, including the six new major rail link and road projects announced in the 2022 Policy Address. This progress is a testament to the collaborative efforts of the government, academia, practitioners, and industrial partners, who are working together to tackle climate change and carbon neutrality, and to reinforce Hong Kong as one of the most liveable cities.

As geotechnical engineers, we have overcome geographical constraints of very limited natural, developable land, and have enhanced our economy and living quality. We are proud of the progress we have made, and we are committed to seizing future opportunities and shaping the new future of Hong Kong.

This year's seminar provides a platform for policy makers, practitioners, and academia to share their insights and brainstorm ideas. It is an opportunity to learn from each other and to explore new possibilities. We are confident that the discussions and presentations at this seminar will contribute to the growth and development of Hong Kong, as we continue to build towards a smart, green, and resilient geo-future.

Before I conclude, I would like to express my sincere appreciation to the organizing committee led by Ir Terence Yau, all our sponsors, speakers, and participants who have made this seminar possible. Your support and contributions are invaluable, and we are grateful for your commitment to the geotechnical engineering community.

Thank you.

Ir Dr Johnny Cheuk
Chairman, Geotechnical Division
Hong Kong Institution of Engineers (2022/23 Session)

About the Seminar

With heightened expectations for green growth and sustainable development, geotechnical engineers are in a prime position to build Hong Kong into a world-class smart, resilient city. Geotechnical engineering has been embracing innovation and technology in laying the groundwork for provision of land and infrastructure in Hong Kong, including the six new major rail link and road projects announced in the 2022 Policy Address. Government, academia, practitioners and industrial partners are collaborating synergistically to action on climate change and carbon neutrality, and to reinforce Hong Kong as one of the most livable cities. This concerted effort, underpinned by our geotechnical expertise, has overcome geographical constraints of very limited natural, developable land and enhanced our economy and living quality. This seminar provides a platform to policy makers, practitioners and academia to share their insights and brainstorm ideas with a view to seizing future opportunities and shaping the new future of Hong Kong.

Peer review Statement

All manuscripts submitted to this conference are peer-reviewed following the procedure outlined below.

Abstract screening

A preliminary evaluation of the abstract is done by editors and abstract(s) having serious scientific flaws or outside the scope of the conference are rejected. Authors are given opportunity to revise and resubmit abstract with language issues, grammatical errors and insufficient originality. Authors of manuscripts rejected at this stage is informed within 1 week of receipt.

Peer review

Authors were required to submit a full paper for review. Reviewers are asked to evaluate the manuscript as per the following:

- Originality of work
- Whether the content is good for publication
- Follows appropriate ethical guidelines
- Has results that are clearly presented and supported in the conclusions
- Proper referencing of previous relevant work

Reviewers are requested to advise editors on accepting/rejecting the submitted paper. Along with that, they are requested to give suggestions or modifications to improve the quality of the paper.

The final decision on acceptance or rejection of the manuscript is made by the editors and chairman of the organizing committee and is communicated to the author along with any recommendations made by the reviewers.

After the peer review process, several papers were accepted for oral presentations in the annual seminar in May 2023.

The committee would like to thank all the reviewers for their diligence and for contributing their time, effort, and technical expertise to the review process.

List of reviewers

Ir Terence Yau

Ir Ray Chan

Ir Dr Tony Chen

Ir Tony Ho

Ir Roy Hung

Ir Joanne Ko

Ir Kenneth Lai

Ir Alvin Lam

Ir Dr S W Lee

Ir Dr Andy Leung

Ir Clifford Phung

Ir Grace Tam

Ir Dr Gavin Toh

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