

Ir. Yau Chau Fong  
Organizing Chairman, Professor Chin Fung Kee Memorial Lecture  
c/o Ms. Janet Lim  
The Institution of Engineers, Malaysia  
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## 32<sup>nd</sup> ANNUAL PROFESSOR CHIN FUNG KEE MEMORIAL LECTURE

### ECO-GEOTECHNICS FOR A SUSTAINABLE FUTURE

~~5<sup>th</sup> November 2022~~ **Rescheduled to 3<sup>rd</sup> December 2022**

No.	Name	IEM M'ship No.	Fees
<b>Sub-Total</b>			

Enclosed herewith is a cheque no.: \_\_\_\_\_ for the sum of RM \_\_\_\_\_ issued in favour of **"PROF CHIN FUNG KEE LECTURE FUND"**. I/We understand that the fee is not refundable if I/we withdraw after my/our registration is accepted by the Committee but substitution of participants will be allowed. If I/we fail to attend the Lecture, the fee paid would not be refunded.

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## 32<sup>nd</sup> ANNUAL PROFESSOR CHIN FUNG KEE MEMORIAL LECTURE

To be delivered by

**Professor Charles W. W. Ng**

*Vice-President, Hong Kong University of Science and Technology (HKUST), Guangzhou Campus  
Immediate Past President, International Society for Soil Mechanics and Geotechnical Engineering*

on the subject of

### ECO-GEOTECHNICS FOR A SUSTAINABLE FUTURE

~~Saturday, 5<sup>th</sup> November 2022 at 10.00 a.m.~~  
**Rescheduled to Saturday, 3<sup>rd</sup> December 2022 at 10.00 a.m.**  
**(via Hybrid Mode)**

Physical Venue: Malakoff Auditorium, Wisma IEM  
No. 21 Jalan Selangor, 46150 Petaling Jaya

Ir. Yau Chau Fong  
*Organizing Chairman*

Prof Emeritus Academician Tan Sri Dato' Ir. Dr. Chuah Hean Teik,  
Ir. Dr. Ting Wen Hui & Ir. Dr. Chan Sin Fatt  
*Advisors*

*Jointly organized by:*

***The Institution of Engineers, Malaysia  
and  
Universiti Malaya Engineering Alumni Association (2017)***

**BEM Approved CPD/PDP Hours: 2 Ref. No: IEM22/HQ/389/L (H)**

### Synopsis of Lecture

Climate change has resulted in more frequent and severe soil-related disasters worldwide, such as slope failures, debris flows, sandstorms and droughts. These disasters have not only led to loss of life but are also contributing to serious ecological, environmental and economic degradation. To help bring about a more sustainable future, a relatively new discipline, eco-geotechnics, has emerged in recent years to tackle the challenging cross-disciplinary problems stemming from factors such as climate change. This new discipline integrates scientific knowledge on subjects such as soil mechanics, rock mechanics, ecology, biology and atmospheric science. The development of eco-geotechnics has given rise to various eco-friendly technologies that can mitigate and improve the performance of earthen structures such as slopes, embankments and landfill covers.

This lecture will outline the development of this new science and introduce the cross-disciplinary eco-geotechnics research programme. This soil bioengineering programme considers plants and microorganisms as a low-cost and aesthetically pleasing solution for shallow slope stabilisation. The programme comprises indoor and field experiments, centrifuge testing and theoretical analysis designed to examine the hydrological and mechanical effects of plants on slope stability. In addition to describing the stabilising effects of different root architectures, this lecture will introduce the various research designs and report the results of some of the main projects. These include an integrated and complementary research approach to investigating plant hydrological effects on the performance of a novel three-layer landfill cover system, laboratory column tests quantifying transpiration-induced soil matric suction in a novel vegetated three-layer landfill cover using recycled crushed concrete without the use of a geomembrane, and a full-scale six year field trial designed to investigate the influence of vegetation on the performance of the novel vegetated three-layer landfill cover. The monitored pore-water pressure, volumetric water content and percolation over the six years will also be illustrated and explained. Design recommendations will also be given.

### C.V. of the Speaker

**Professor Charles W. W. Ng** is the Vice-President of the Hong Kong University of Science and Technology (HKUST) in Guangzhou campus. He is also the Dean of HKUST Fok Ying Tung Graduate School, CLP Holdings Professor of Sustainability and Chair Professor in the Department of Civil and Environmental Engineering at HKUST. Professor Ng is a Fellow of the Royal Academy of Engineering and the immediate Past President of the International Society for Soil Mechanics and Geotechnical Engineering (2017–2022).

Professor Ng earned his PhD degree from the University of Bristol in 1993. After carrying out postdoctoral research at the University of Cambridge between 1993 and 1995, he returned to Hong Kong and joined HKUST as Assistant Professor in 1995, where he rose through the ranks to become Chair Professor in 2011.

A world authority on unsaturated soil mechanics, eco-geotechnical engineering and landslides, Professor Ng is Changjiang Scholar (Chair Professorship in Geotechnical Engineering), Fellow of the Hong Kong Academy of Engineering Sciences and Overseas Fellow of Churchill College, the University of Cambridge. He is also Fellow of the Institution of Civil Engineers, the American Society of Civil Engineers and the Hong Kong Institution of Engineers. Currently, he is a co-Editor-in-Chief of the Canadian Geotechnical Journal.

Professor Ng has supervised more than 70 PhD and 60 MPhil students to graduation and has published some 400 SCI journal articles and 250 conference papers and delivered more than 100 keynotes and state-of-the-art reports across the six continents. He is the main author of three reference books: A Short Course in Soil-structure Engineering of Deep Foundations, Excavations and Tunnels, published by Thomas Telford in 2004, and Advanced Unsaturated Soil Mechanics and Engineering and Plant-Soil Slope Interaction by CRC published by Taylor & Francis in 2007 and 2019, respectively.

### Registration Fee (Online Attendance)

Members, IEM	- RM10.00
Members, Engineering Graduates Alumni Association, Universiti Malaya	- RM10.00
Non-members	- RM25.00

### Registration Fee (Physical Attendance)

Members, IEM	- RM20.00
Members, Engineering Graduates Alumni Association, Universiti Malaya	- RM20.00
Non-members	- RM40.00

**IMPORTANT: All registration fees must be FULLY paid before commencement of the Lecture.**

### Registration Methods

Option 1 – Register via IEM Portal (online payment available) at [shorturl.at/dszN6](http://shorturl.at/dszN6)

Option 2 – Email your filled registration form to IEM Secretariat at [janet@iem.org.my](mailto:janet@iem.org.my)

Option 3 – Fax your filled registration form to IEM Secretariat at Fax No.: 03-7957 7678

### Programme

Date	:	Saturday, <del>5<sup>th</sup> November 2022</del> Rescheduled to <b>3<sup>rd</sup> December 2022</b>
Time	:	10.00 a.m. – 12.00 p.m. – Lecture 12.00 p.m. – 12.30 p.m. – Q&A Session

### **REGISTRATION IS COMPULSORY**

**Registration Deadline: 15<sup>th</sup> November 2022**

For participants who register for online participation, the Zoom Webinar link will be emailed to you 24 hours before the event.

If you do not receive the Zoom webinar link one day before the event, please contact [janet@iem.org.my](mailto:janet@iem.org.my)