

***2<sup>nd</sup> CHIAM TEONG TEE  
MEMORIAL LECTURE cum LUNCH***



**Terzaghi, Bishop, and the Practical Application of the Principle of Effective Stress**

**By**

**Dr Laurence Wesley**

Organised and Managed by:  
**IEM Academy Sdn Bhd**

Co-Organised and Supported by:  
**Professional Practice Committee and Geotechnical Engineering Technical Division**

**Date : 23<sup>rd</sup> June 2018, Saturday**

**Venue : Malakoff Auditorium**

**Wisma IEM, Petaling Jaya**

**Time : 10.00 am - 1.00 pm**

**BEM APPROVED CPD/PDP: 2 HOURS**  
**REF. NO.: IEM18/HQ/152/L**  
**(CLOSING DATE: 14 JUNE 2018)**

**IMPORTANT NOTE**

IEM members are required to produce their membership cards for CPD scanning.

# **THE LATE IR. CHIAM TEONG TEE - LIFE DEDICATED TO PROGRESS OF THE ENGINEERING PROFESSION**

Ir. Chiam Teong Tee (fondly known as Peter Chiam) was born in Penang in 1934. He received his secondary school education at Penang Free School. He was one of the first batch of engineering students from the University of Malaya then in Singapore and graduated in 1958. He also obtained a Master degree in Engineering Science (MEngSc) from the University of New South Wales in 1968 under the UNESCO Fellowship. Ir. Chiam passed away on Saturday 30th January 2016, aged 82. Ir. Chiam was married to the late Mdm Khoo Siew Choo. He is survived by his daughter, Mdm Elaine Chiam and son, Chiam Chen Yoong.

Ir. Chiam started his career in the Department of Irrigation and Drainage (DID) in 1958. In 1962 he joined Lau & Partners, a consulting engineering firm before going back to the University of Malaya in Kuala Lumpur as a lecturer in 1963 on the encouragement of the late Tan Sri Datuk Ir. Dr. Prof Chin Fung Kee. He together with Ir. Dr. Ting Wen Hui was roped in after their graduation in 1958 by the late Tan Sri to return from Singapore to Malaysia to assist with the setting up of the laboratory equipment in the new faculty buildings at Pantai Valley. In 1971 he was appointed as the Deputy Dean and later the Dean of the Faculty of Engineering in 1973. In 1975, the late Ir. TT Chiam retired from University Malaya with all engineering courses conducted at the Faculty of Engineering, University Malaya received full professional recognition from all the professional institutions of the United Kingdom. That was an amazing feat achieved by him as the Dean of the Faculty of Engineering. The switch from English to Bahasa Malaysia as medium of instruction in 1976 caused an exodus of lecturers and subsequently the loss of professional recognition of engineering degree of UM at that time by the professional institutions of the United Kingdom.

Although retired from engineering education proper in the mid-1970s, the late Ir. Chiam was instrumental in the introduction of the IEM/BEM Graduate Examination. In 1976, Ir. Chiam together with Dr. Tam Chat Tim formulated the regulations for the Part 1&2 Examinations which were to enable IEM to negotiate with the Council of Engineering Institutions (CEI), the predecessor of the Engineering Council (EC), to conduct the examinations. The objective of the Examinations is to provide an opportunity for young Malaysian sub-professionals who wish to upgrade themselves, to achieve professional status through local professional examinations. The CEI gave its approval for IEM to use the CEI Examinations in August 1977 and the inaugural Examinations was held in May 1978 with 72 candidates approved to sit for Part 1 and another 13 candidates for Part 2 of the Examinations. Through the years many local sub-professionals have benefitted from this examination and many of them went on to become very successful engineers.

After his retirement from University Malaya, the late Ir. Chiam founded *Perunding Bakti Sdn Bhd*, an engineering consultancy firm in the areas of civil, mechanical and electrical engineering. He was involved directly in many projects undertaken by the company including drainage and irrigation works, highways, high rise buildings and housing developments.

Ir. Chiam also worked very closely with the late Tan Sri Datuk Ir. Dr Prof. Chin Fung Kee who was his mentor and became very involved with The Institution of Engineers, Malaysia (IEM) when

the late Tan Sri Ir. Prof. Chin Fung Kee became the President of IEM from 1966 to 1968. In his first year in IEM Council, Ir. Chiam initiated the complete redraft of the new IEM Constitution and Bylaws (under the chairmanship of the Late Tan Sri Ir. JG Daniel) including the use of the title "Ir." for all the members of The Institution of Engineers, Malaysia, irrespective of their grades of membership. The title was thereafter included in the Registration of Engineers Act as a title exclusively for the use by all professional engineers registered with the Board of Engineers, Malaysia (BEM). Other relevant professional bodies, such as the Architects, Surveyors etc subsequently followed suit giving titles such as Ar. and Sr. respectively to their members!

Ir. Chiam actively served the engineering profession through IEM in various capacities for 50 years since the 1960s and in 1981; he was elected President of IEM. During his involvement with IEM, he initiated various policies to maintain the standard of the engineering profession such as:

- The inclusion of a paper on Code of Ethics for the IEM's Professional Interview
- The publication of the IEM Conditions of Contract and IEM Rules on Arbitration
- The setting up of a Dispute Resolution Practice (DRP) Sub Committee; now known as Dispute Avoidance and Resolution Practice (DARP) Subcommittee.

He was conferred the IEM Honorary Fellowship in 1986 and inducted into the IEM Engineering Hall of Fame in 2012 in recognition of all his invaluable service to the Institution and the profession. Even though he no longer served in the IEM Council after 2006, he continued to give his service to IEM in other areas such as professional practice and arbitration.

Ir. Chiam has been an Arbitrator since 1981 and was on the IEM Panel of Arbitrators and also on the Panel of Arbitrators at the Regional Centre for Arbitration in Kuala Lumpur (KLRCA). He was a Fellow of the Malaysian Institute of Arbitrators (FMI Arb). He was also responsible for setting up the IEM Arbitration Subcommittee when he was the IEM President in 1981 and helped prepare the initial draft of the IEM Arbitration Rules. During his tenure as President of IEM, the late Ir. Chiam also proposed to the government on the setting up of the Ad hoc Arbitration Tribunal consisting of KSUs of the Ministry of Finance, ICU and EPU. The Ad hoc Committee was to meet whenever a government contractual claim was to be referred to arbitration.

The late Ir. Chiam was also involved in conducting the research on the engineering scale of fees which resulted in a working paper being proposed to the government. The proposed three scales of fees was then approved and used by the government.

All through the years, the late Ir. Chiam had worked relentlessly in various capacities and in various bodies to promote the engineering profession and the professionalism of the engineers in the industry. From the drafting and implementation of arbitration rules to upholding the standard of engineering education in the country, he has been giving selflessly to society in general and the profession in particular. He will always be remembered by those who had benefitted by it the IEM/BEM Graduate Examinations, the IEM Arbitration rules or those who hold the title "Ir."

## **CHIAM TEONG TEE MEMORIAL LECTURE**

In consideration of the immense contributions by the late Ir. Chiam Teong Tee to the engineering education and the engineering profession in Malaysia in general and to IEM in particular, the IEM Council at its 408<sup>th</sup> meeting held on 24 July 2017 decided to honour Ir. Chiam Teong Tee by setting up an Annual Chiam Teong Tee Memorial Lecture in IEM to be managed by the IEM Academy Sdn Bhd.

The Inaugural Lecture will be held on 23<sup>rd</sup> June 2018 and the details of the lecture are provided below:

### **Synopsis**

The principle of effective stress is the most important concept in soil mechanics, and was first proposed by Terzaghi in the 1930s. The second most important figure in its development was Bishop who established its significance with respect to the shear strength of soils and its application to practical problems, especially the stability of slopes. This talk will cover the roles of Terzaghi and Bishop in the development of the principle and its application to the stability situations geotechnical engineers deal with. In particular the associated roles of a total stress analysis and an analysis in terms of effective stress are described in detail. An explanation is given as to why these two methods of analysis will not give the same answer.

3. *Mekanika Tanah Edisi Baru (in Indonesia)*
4. *Mekanika Tanah untuk Tanah Endapan dan Tanah Residu (Indonesian translation of the first book above)*

### **About the Presenter**



Dr Wesley has an M.E. from the Auckland University, and a PhD from Imperial College, obtained under the guidance of Professor A.W. Bishop.

His work experience as a geotechnical engineer covers:

- Eight years with the Indonesian Public Works Department
- Five years with the New Zealand Ministry of Works
- Eleven years with the Auckland consulting company, Tonkin and Taylor.
- Eighteen years as a senior lecturer in soil mechanics at Auckland University

During his time with Tonkin and Taylor he was involved in a variety of projects in Indonesia and Malaysia. The latter included foundations of buildings in Kuala Lumpur, the Sungai Layang Earth Dam in Johore Baru, site development at Prai, (near Penang), and the highways from Kuala Lumpur to Karak and from Kuala Krai to Gua Musang.

His special research interest has been the properties of residual and volcanic soils. Other research interests include reinforced earth, landfills, groundwater and seepage. He has published many papers on residual soils, and his recent publications include the following text books, two published by John Wiley and Sons, New York;

1. *Fundamentals of Soil Mechanics for Sedimentary and Residual Soils (John Wiley and Sons)*
2. *Geotechnical Engineering in Residual Soils (John Wiley and Sons)*

# REGISTRATION FORM

Fax: 03-7958 2851 Email: rufina@iemasb.com or nora@iem.org.my

Website: www.iemasb.com or www.myiem.org.my

## FEES (INCLUSIVE OF GST)

Members, IEM	RM 106.00
Members, Engineering Graduates Alumni Association, Universiti Malaya	RM 106.00
Non-members	RM 159.00

### \*\*\*IMPORTANT NOTICE\*\*\*

All registration fees must be FULLY paid before commencement of the Lecture. IEM Academy Sdn Bhd reserves the right to refuse entry for participant(s) who have not paid their registration fees to attend the Luncheon Lecture. THIS REQUIREMENT WILL BE STRICTLY ENFORCED.

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- ✓ The Organising Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.