

PHYSICAL TALK

PREDICTING COMPRESSION INDEX USING MACHINE LEARNING ALGORITHMS



MR. CHIA YU HUAT



**11 OCTOBER 2024,
FRIDAY**



5PM - 7PM



**MALAKOFF AUDITORIUM,
WISMA IEM, PETALING JAYA**

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SYNOPSIS

In construction on soft ground, predicting soil settlement is crucial. Soil compressibility, measured by the compression index, is key to understanding how soil layers compress under load. Traditionally, the compression index is determined through a time-consuming oedometer test. Alternatively, empirical formulas can be used to estimate the compression index based on soil properties like liquid limit and void ratio, offering a simpler but less accurate method. This evening talk compares machine learning algorithms with empirical formulas for predicting the compression index using data from Malaysia. The results show that machine learning methods have potential for predicting compression index.

SPEAKER'S PROFILE

Chia Yu Huat graduated from the Universiti Malaya (UM) with Bachelor of Civil Engineering and is currently working as a consultant engineer at G&P Geotechnics, with a diverse range of involvement in geotechnical engineering projects. His portfolio includes the design of foundations for both high and low-rise structures, dam safety reviews, mine pit slope stability assessments and the design of earth-retaining structure systems. Additionally, he is also involved in projects as an independent reviewer/checker for road embankment projects, slope stability, and slope investigations with remedial solutions. He actively participates in several associations including the committee of the Geotechnical Technical Division of the Institution of Engineers Malaysia (GETD, IEM) since 2022, the associate member of the Malaysian Geotechnical Society (MGS) and the Board of Engineers Malaysia (BEM). He also serves as a Nominated Member for TC309 Machine Learning within the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). He has also published publications in journal and book chapters related to the application of Machine Learning in geotechnical engineering.

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