

## Technical Talk on “3D Printed Geosynthetics”

*(Jointly Organised by Geotechnical Engineering Technical Division, IEM & MYIGS)*

**Ref Number: IEM19/HQ/131/T BEM Approved CPD/PDP Hours: 2**

**Date** : 2 April 2019 (Tuesday)  
**Time** : 5.30 pm – 7.30pm (*Refreshments will be served at 4.45 pm*)  
**Venue** : MALAKOFF Auditorium, Ground Floor, Wisma IEM, PJ  
**Speaker** : Associate Prof. Dr GARY FOWMES (University of Warwick,  
United Kingdom)

### SYNOPSIS

This presentation will detail two case studies which question conventional wisdom on geosynthetic – soil interaction, it will introduce the notion of wear on geosynthetic interfaces then move onto the experience of 3D printing geosynthetics, specifically; it will focus on the use of a number of state of the art prototyping technologies, including fused filament printing, laser sintering, thermal ablation and CNC milling, to produce prototype textured geomembranes. The aim of the project is to create higher strength interaction between geosynthetics and adjacent materials, allowing steeper, higher and safer slopes to be constructed. Moreover, the presentation will also showcase the use of digital imaging, including optical microscopy, scanning electron microscopy and interferometry to analyse the wear on geosynthetic materials as a result of interface shear displacements

### SPEAKER'S BIODATA

Associate Prof Dr Gary Fowmes is a Chartered Civil Engineer who worked commercially as a Geotechnical Engineer for over nine years, carrying out design, research and development in the geo-environmental engineering sector. He joined the University of Warwick in 2017 after four years as a Lecturer/Senior Lecturer at Loughborough University. He completed a doctorate at Loughborough University in 2008 and has authored over 50 conference and journal publications. His main specialisms include the application of geosynthetics in slope stability and waste management. Additionally, he has worked extensively with geotechnical instrumentation for performance monitoring and validation, along with life cycle analysis of geotechnical structures.

### FEE ANNOUNCEMENT (Inclusive of SST)

#### Members:

- (i) Registration Fee: No Charge
- (ii) Administrative Fee:
  - (a) Online RM15
  - (b) Walk-In RM20

#### Non-Members:

- (i) Registration Fee: RM50
- (ii) Administrative Fee: RM20

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**Ir. LEE PEIR TIEN**

**Chairman,**

**Geotechnical Engineering Technical Division, IEM**