



The Institution of Engineers, Malaysia
 Bangunan Ingenieur, Lots 60/62, Jalan 52/4, Peti Surat 223, 46720 Petaling Jaya, Selangor Darul Ehsan
 Tel: 03-79684001/2 Fax: 03-79577678 E-mail: sec@iem.org.my IEM Homepage: http://www.myiem.org.my

EVENING TALK ON ADVANCES IN VIBRATING WIRE MEASUREMENT FOR GEOTECHNICAL INSTRUMENTATION

(Organised by the Geotechnical Engineering Technical Division, IEM)

BEM Approved CPD/PDP Hours: 2.0 Ref No: IEM17/HQ/072/T

Day/Date : **Tuesday, 28th March 2017**
 Time : **5.30 pm – 7.30 pm**
 Venue : **Tan Sri Ir. Prof. Chin Fung Kee Auditorium, 3rd Floor, Wisma IEM, PJ**
 Presenter : **Mr. Brent Randall, P.E. (Utah)**

Synopsis:

Geotechnical Engineering often involves a level of uncertainty and risk management. Measurements are commonly used to reduce uncertainty and to obtain a better knowledge of system performance or unique site characteristics. Geotechnical measurements may include traditional soils samples, the Standard Penetration Test (SPT), or observed site conditions like water level and tilt. This lecture examines and discusses common practices and recent advances in the automation and telemetry of geotechnical measurements like tilt, extension, or water pressure through the use of data acquisition systems. The lecture will be divided into three sections:

- ❖ *A general overview and discussion on the fundamentals of a site monitoring program, an in-depth look at designing and implementing an automated data acquisition system. This involves understanding measurement objectives, available instrumentation, site considerations, and data collection and management.*
- ❖ *A review of a case study between Campbell Scientific and the U.S. Army Corps of Engineers at the Rend Lake Dam using more modern spectral analysis technology to troubleshoot noisy vibrating wire piezometers.*
- ❖ *A hands-on demonstration with equipment from the industry (including non-Campbell scientific instruments) with a goal to encourage interaction and discussion between the instructor and participants.*

Profile of Speaker:



Mr. Brent Randall is the Infrastructure Group Manager at Campbell Scientific, Inc. Brent received his Bachelors and Master’s Degree in Civil and Geotechnical engineering from Utah State University as well as a minor in Portuguese. His thesis project was to instrument and study snowmelt-induced movement on a slow moving landslide in the mountains of northern Utah. Upon graduation he worked as a geotechnical engineer in Washington State on projects throughout the United States and Canada. Projects included geotechnical field work, site surveys, environmental monitoring, and reports. Brent pursued his interest in geotechnical instrumentation by taking a job with Campbell Scientific in their infrastructure group as an Application Engineer. His work in the group has also included the role of Product Manager and most recently Group Manager. Working with Campbell Scientific has allowed him to provide assistance on large infrastructure projects throughout the world. Brent has had the opportunity to teach instrumentation classes and workshops throughout the United States. Brent is a licensed professional engineer in the state of Utah. Brent has also worked as a mechanical engineer for the U.S. Air Force in their Radomes, Towers, and Shelters group while attending graduate school. He also spent two summers working for the U.S. Forest Service as a Wildland Firefighter in the Rocky Mountains. Shortly after starting engineering school, he worked as a service volunteer in Sao Paulo, Brazil for two years.

Ir. Yee Thien Seng
 Chairman, Geotechnical Engineering Technical Division, IEM

ANNOUNCEMENTS TO NOTE

- **Non-IEM members** may also attend the talk but will need to pay a registration fee of **RM50** and an administrative fee of **RM15**. GST is inclusive.
- Limited seats are available on a "first come first served" basis (maximum 100 participants). **To secure your seat, kindly register online at www.myiem.org.my.**

ADMINISTRATIVE FEE

- Kindly be informed that an administrative fee of **RM15** is payable for talks organized by IEM. GST is inclusive.
- IEM Student Members are however exempted.

PERSONAL DATA PROTECTION ACT

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CPD/PDP HOURS CONFIRMATION

Name: Membership No/Grade: Signature: