



Image courtesy of Geotechnical Observations

WEDNESDAY 4TH NOVEMBER, 10AM - 2PM

Critical Links in Ground Engineering is the first in a series of events addressing what are considered to be key factors in the process of ground engineering.

In the case of instrumentation and monitoring (I&M), which is the focus area of this webinar, the most critical link is probably that between predicted and actual behaviour of the ground, groundwater regime, temporary works, permanent works, and assets potentially affected by the works.

This CPD event from the Association of Geotechnical and Geoenvironmental Specialists will identify and

address the hurdles likely to be encountered when setting up an I&M strategy and system, and the provisions that must be made for an effective and meaningful programme. Such provisions include an ability to store the vast amount of data that I&M can generate, and the software necessary to present and assist with the interpretation of that data.

This event will cover a wide range of topics including:

An introduction to instrumentation and monitoring (I&M); the wide range of techniques available and the magnitude of the I&M market.

The impact of current and forthcoming standards, codes, and specifications on the necessity for, and application of I&M.

The international dimension to I&M, with reference to practice in New Zealand and Australia.

The work and global reach of Technical Committees, Steering Groups, and the like, involved in I&M.

The need for I&M education, training and qualifications for university students, graduates, apprentices and technicians.

The search for an industry-wide, international, data management system for I&M

to complement that already in place for ground investigation (e.g. AGS 4.1 Data Format)

Five, highly experienced speakers will present on a range of topics which are crucial to any ground engineering specialist. They each bring extensive national and international experience of I&M to this webinar, and are highly regarded within their fields. We are pleased to announce that Paul Burton will be joining us as a guest overseas speaker. Paul will be presenting live from New Zealand and will provide an opportunity to compare the application of I&M on an international basis.

PRESENTATIONS**INSTRUMENTATION
AND MONITORING:
A CRITICAL LINK IN
GROUND ENGINEERING**

Presented by
**Jonathan R A
Gammon, (Non-**

**Executive Director
/ Advisor at Geotechnical
Observations Limited and
AGS Instrumentation &
Monitoring Working
Group Leader)**

This presentation will identify the role of instrumentation and monitoring (I&M) in ground engineering and will encompass environmental, structural, asset protection and management considerations.

The status of I&M as a critical link in ground engineering will be illustrated and the importance of I&M in the context of the design and implementation of temporary works, and the related adoption of the Observational Approach will receive attention.

The presentation will underline the need to give attention to I&M and to ensure adequate provision is made, for the vast amount of data that current systems can generate. The importance and sources of baseline monitoring/data will be identified, and long-term/whole-life monitoring will also receive attention.

References to direct and remote monitoring will be made, as well as a summary of the present day scope of I&M and the various techniques and types of instrument available.

**DATA – OVERHEAD,
DELIVERABLE OR
OPPORTUNITY?**

Presented
by **Philip
Child, (Senior
Consultant,**

**Geotechnical Information
Management at Bentley
Systems)**

The delivery of data, specifically AGS data, is now a staple in many (major) ground investigation contracts in the UK. With data unlocking clear benefits for reuse and flexibility it has been known to form the basis for contentious conversations between exchanging parties.

This presentation will outline some key challenges we face but in particular propose an alternative way of thinking about our data. With these fundamentals in place attention will then be given to the specifics of working with monitoring data and the possibilities it provides.

**LOOKING FORWARDS
FROM DOWN BELOW**

Presented by **Paul
Burton, (Executive
Leader at
Geotechnics**

(New Zealand)

Providing instrumentation and monitoring services in the Australasian region can be challenging. This presentation will share and highlight these challenges and look to suggest some developments that could benefit the world community of I&M professionals.

The presentation will provide an overview of the types of projects and solutions encountered in the Antipodes. In a globalized world, does it matter that you are in a remote island in the South Pacific? Does it matter that you are in a diametrically opposite time zone? What are the effects of limited international travel? Using some case studies, this presentation will bring some sunshine to the Northern Hemisphere winter.

**DEVELOPMENT OF
INTERNATIONAL
STANDARDS FOR
INSTRUMENTATION
AND MONITORING**

Presented by
**Dr Andrew Ridley,
(Managing
Director at**

**Geotechnical Observations
Limited)**

International standards for geotechnical monitoring have been in development by ISO since 2010. The first of these on general rules was published in 2015 and is currently being reviewed. Part 2 on extensometers was published in 2016, Part 3 on inclinometers was published in 2017, Part 5 of Total Strs Cells was published in 2019 and the latest standard Part 4 on piezometers was published in 2020. All of these have been published as ISO Standards in English and French worldwide.

In Europe the standards have been published under EN_ISO 18674 and a German language version has also

been published. Standards on strain gauges, load cells and settlement systems are in preparation.

**WHAT MIGHT A QUALIFIED
TECHNICIAN LOOK LIKE?**

Presented by
**Julian Lovell,
(Managing
Director at Equipe
Group and AGS Chair)**

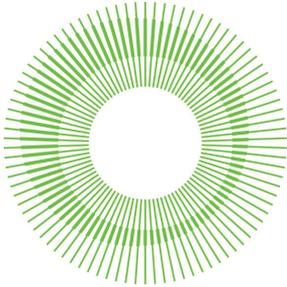
This presentation will discuss the UK's strategy to develop training for installation and monitoring technicians which dovetails in with the development of Vocational Qualifications and compliance to the Standards.

Currently, the training of individuals who carry out installation and monitoring activities hugely varies and is often ad hoc. As clients are becoming increasingly aware of the importance of monitoring their geotechnical assets and structures and the complexity of some of the instrumentation equipment and associated technology grows it is essential that technicians and ground practitioners are equipped with the knowledge and skills to perform the work assigned to them.

This is an opportunistic time to develop a joined-up strategy, as new International Standards are being discussed which set out the competence requirements of a Qualified Technician and the AGS is also leading a Working Party developing a brand-new Vocational Qualification for field and laboratory technicians.

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