

# TC220

## Field Monitoring in Geomechanics

## TC220 Field Monitoring in Geomechanics was formed in March 2019

The principal aims of TC220 are:

1. To organise speciality conferences, symposiums, workshops and short courses dedicated to the subject of field monitoring in geomechanics. To encourage the involvement of a wide range of geo-professionals in these events.
2. To encourage the preparation of keynote lectures, state-of-the-art lectures including on new technologies, general reports for conferences organised by the International Society, regional conferences and conferences organized by Member Societies.
3. To promote the inclusion of structural and geotechnical monitoring in universities and at conferences and meetings of other international bodies, thereby encouraging a common culture of learning through field monitoring.

**47 nominated members**

**19 corresponding members**

**29 countries**



*Pictured are the founding members of ISSMGE (Secretary), Giorgio Pezzetti (Vice-Chair), and Ridley*

Every four years the field monitoring community gathers for an international symposium on field monitoring in geomechanics. The first symposium was held in 1983 and the most recent was in September 2022. These symposia deal with the use of instrumentation by civil engineers, geotechnical engineers, mining engineers, engineering geologists and geophysicists to measure the in-situ properties of soils and rocks and to monitor the performance of geo-engineered structures by taking measurements. The applications include dams, foundations, tunnels and other underground openings, embankments, natural slopes, land reclamation, mining facilities, repositories for industrial or nuclear waste, offshore structures and field testing to determine soil and rock properties.

**ON THIS PAGE YOU WILL FIND DETAILS OF PAST AND FUTURE SYMPOSIA**

### Previous Symposia

- 1st 1983: Zurich, Switzerland
- 2nd 1987: Kobe, Japan
- 3rd 1991: Oslo, Norway
- 4th 1995: Bergamo, Italy
- 5th 1999: Singapore
- 6th 2003: Oslo, Norway
- 7th 2007: Boston, USA
- 8th 2011: Berlin, Germany
- 9th 2015: Sydney, Australia
  - [Click here](#) to download the papers
- 10th 2018: Rio de Janeiro, Brazil
  - [Click here](#) to download the papers
- 11th 2022: London, UK
  - [Click here](#) to download the papers
  - [Click here](#) to view the Keynote Lectures
  - [Click here](#) to view the finalists of the 1st Elmo DiBiagio Young Engineers' Paper Competition

This website is here to promote the activities of TC 220 and Geotechnical Engineering, which deals with Field

The website takes its name from a series of international Geomechanics. These symposia have been running on instrumentation by civil engineers, geotechnical engineering geophysicists to monitor the performance of geo-engineered



[www.field-monitoring.org](http://www.field-monitoring.org)



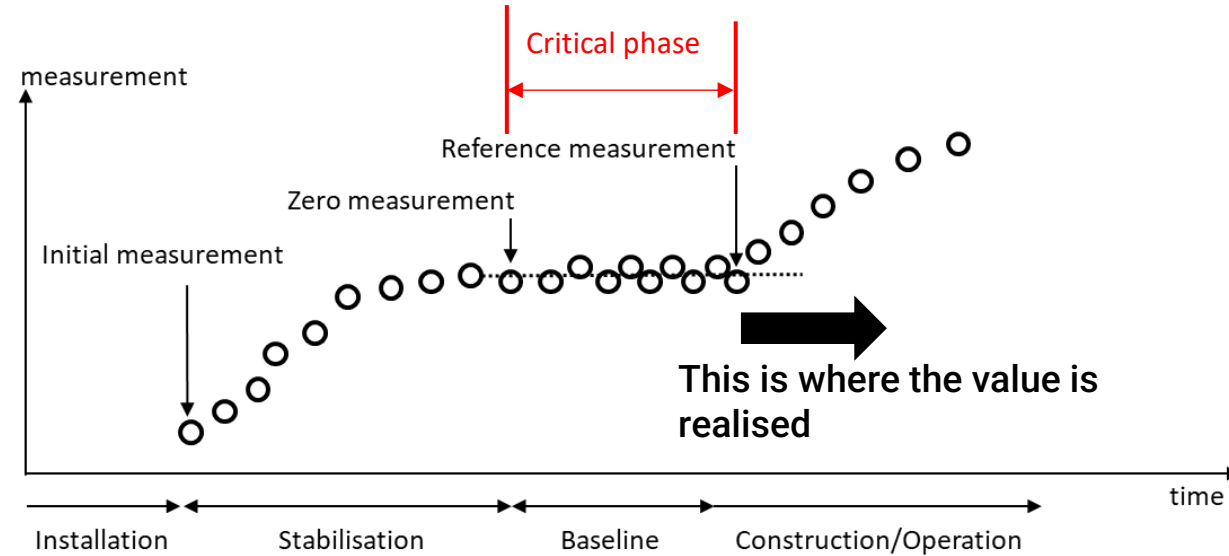
TC220 is there to promote I&M within the wider geotechnical community. It is not there to set standards.

In the UK, Standards are set by the British Standards Institution (BSI) and internationally by organisations such as ISO.



## ISO 182 WG2

- 18674-1 General rules
- 18674-2 Extensometers
- 18674-3 Inclometers
- 18674-4 Piezometers
- 18674-5 Total Pressure Cells
- 18674-6 Hydraulic Settlement Cells
- 18674-7 Strain Gauges
- 18674-8 Load Cells
- 18674-9 Geodetic Measurements



EN ISO 18674-1 Figure 1

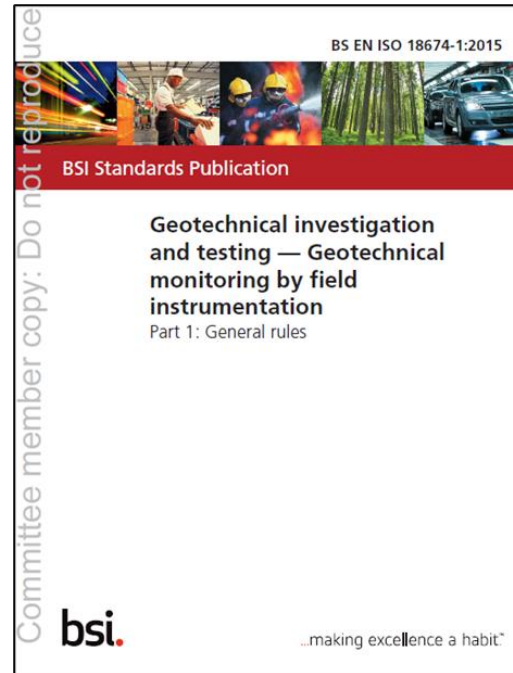
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B/526/7/4

This group will promote the ISO Standards and highlight the needs of the UK in the context of the second generation of Eurocodes.

### **EN 1997-1:2024 General rules**

*"Geotechnical Monitoring **shall** comply with EN ISO 18674 (all parts)"*

Examples of TC220's activities with TC206

Supported by   
• THE BRITISH •  
GEOTECHNICAL  
ASSOCIATION



Included:

1<sup>st</sup> ISSMGE Dunicliff Honour Lecture

Keynote lectures in collaboration with TC206

Elmo DiBiagio Young Engineers' Competition

Competition to host 12<sup>th</sup> International Symposium – won by Indian Geotechnical Society

Examples of TC220's activities with TC206



# Half-day Mini-Symposium on The Observational Method

6<sup>th</sup> February 2024: Organised by the BGA, with the assistance of TC220 and TC206

Conditions that enable use of the Observational Method

Field monitoring to support use of the Observational Method

Real-time back analysis

Real world examples of the Observational Method

Examples of TC220's activities with TC206

# TC206 / TC220 Monitoring Working Group (MWG)

MWG Leadership - Hock Liong Liew (TC206, TC220), Dorota Symonidou (TC206) and Leen de Vos (TC220)

## **Terms of Reference**

- Enhance interaction between TC206 /TC220
- Explore common interests and boundaries
- Improve monitoring and reporting systems
- Develop I&M procurement
- Gather case histories summarising I&M performance – good and bad

# Examples of TC220's activities with TC206



## Sunday 25<sup>th</sup> August 2024 Programme

Session 1: (09.00-11.00)

How to specify quality in geotechnical monitoring

Session 2: (11.15-13.00)

Monitoring and the observational method

Session 3: (14.30-16.30)

Keynote lectures

Dr Giorgio Pezzetti Looking at monitoring data

Dr Allen Marr Challenges and opportunities in geotechnical performance monitoring

Session 4: (16.45-18.30)

Teaching I&M at universities

## Examples of TC220's activities



June 2026

Including:

33 accepted papers on the subject of I&M

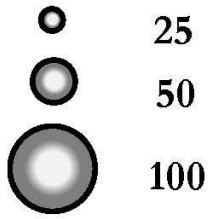
Dedicated sessions to present the papers

Workshops on I&M

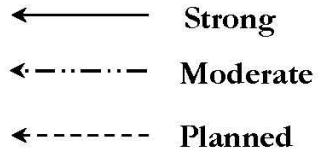
Theme 1 Advancing Education and Training in Field Monitoring for Geomechanics

Theme 2 Encouraging Collaboration with other TCs

### Number of Members



### Interactions



## Applications

### TC Short Name

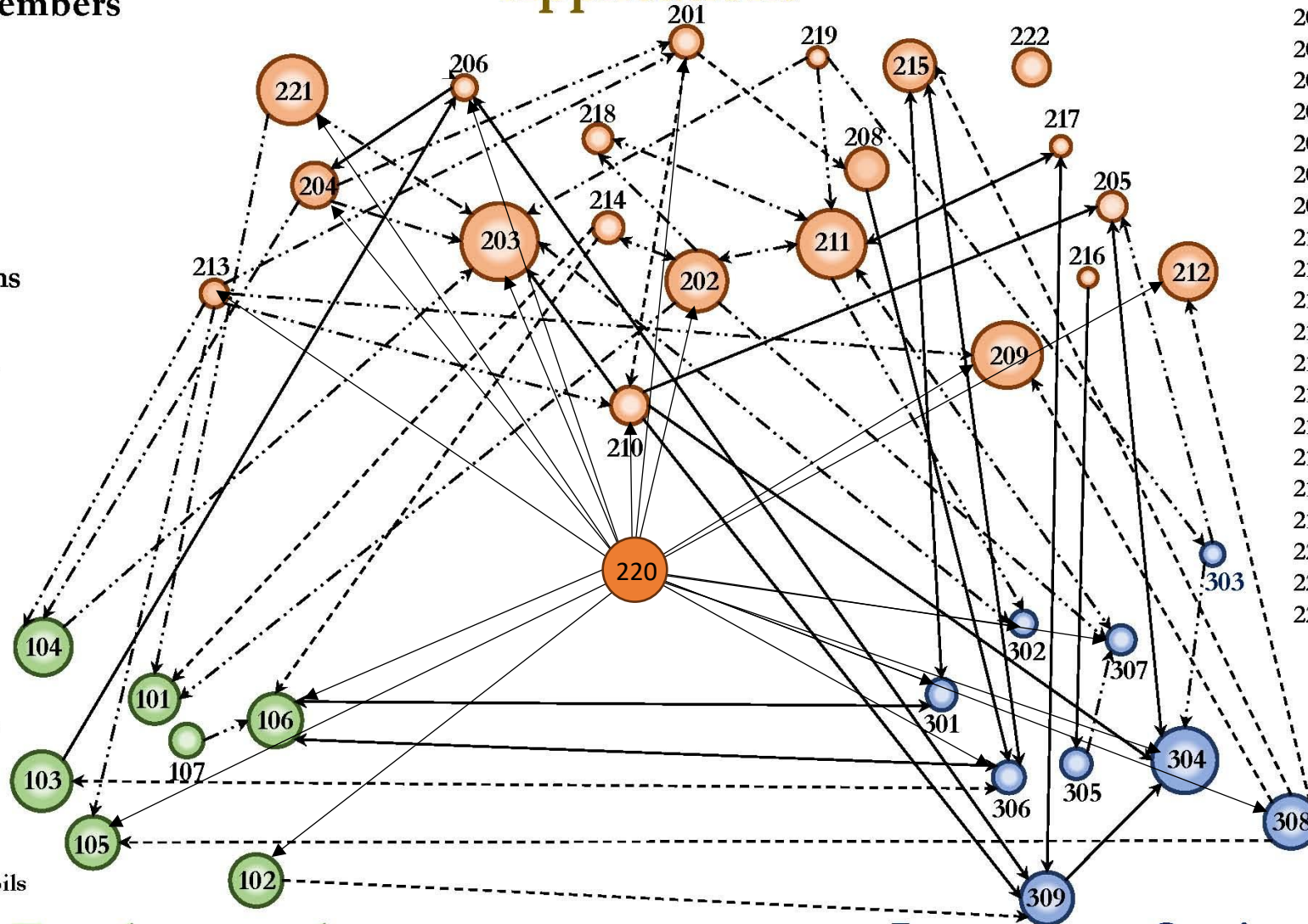
- 201 Dykes and Levees
- 202 Transportation
- 203 Earthquake
- 204 Underground Construction
- 205 Safety and Serviceability
- 206 Observational Method
- 208 Slope Stability
- 209 Offshore
- 210 Embankment Dams
- 211 Ground Improvement
- 212 Deep Foundations
- 213 Scour and Erosion
- 214 Soft Soils
- 215 Geo-Environmental
- 216 Frost
- 217 Land Reclamation
- 218 Reinforced Fill Structures
- 219 System Performance
- 220 Field Monitoring
- 221 Tailing and Mine Wastes
- 222 Geotechnical BIM and DT

### TC Short Name

- 101 Laboratory Testing
- 102 In-Situ Testing
- 103 Numerical Methods in Geomechanics
- 104 Physical Modelling
- 105 Geo-mechanics
- 106 Unsaturated Soils
- 107 Tropical Residual Soils

### TC Short Name

- 301 Historic Sites
- 302 Forensic
- 303 Floods
- 304 Risk
- 305 Megacities
- 306 Geo-education
- 307 Sustainability
- 308 Energy Geotechnics
- 309 Machine Learning



## Fundamentals

## Impact on Society

## Examples of TC220's activities



August 2026 – IIT Indore

2<sup>nd</sup> ISSMGE Dunnicliff Honour Lecture  
Dr. (-Ing) Giorgio Pezzetti

Keynote lectures in collaboration with TC206

Elmo DiBiagio Young Engineers' Competition

Competition to host 13<sup>th</sup> International Symposium

Expressions of interest received from:

Bolivia  
France  
Italy  
Spain