



**The Finnish Society for  
Rock Mechanics**  
presents  
**Short Course on**

**MODERN ROCK ENGINEERING  
PRINCIPLES**

**A TWO DAY COURSE FOR GEOLOGISTS  
AND ROCK ENGINEERS**



**May 26-27, 2020**

**Espoo, Finland**

material in an accessible and lively manner.

**General Info**

This new and unique course presents the links between rock engineering and structural geology, particularly in relation to modern design approaches such as those presented in Eurocode 7. By attending this course participants will learn and why how modern design principles differ from those of the past, the structural geology knowledge necessary to implement these, and how the two should be combined to generate robust rock engineering designs.

The course will be given jointly by:



**Professor John Harrison**  
of the University of  
Toronto, Canada



**Professor John Cosgrove**  
of Imperial College  
London, UK

Since 2010 John Harrison has been heavily involved in the development of Eurocode 7 for rock engineering design, and currently chairs the ISRM Commission on the Evolution of Eurocode 7.

John Cosgrove brings over 30 years experience as a structural geologist advising internationally on complex rock engineering projects.

The two Johns have worked and taught together for many years, and use this experience to present the

## Course content

The course comprises a series of sessions that interlink key topics in rock engineering and structural geology.

It begins with an introduction to modern rock engineering design approaches, highlighting the role that an understanding of geological variability and uncertainty plays in these.

The sessions that follow look in more detail at specific geological inputs, in particular those associated with natural brittle failure phenomena in the Earth's crust. This is followed by sessions on in situ stress from both the geological and engineering points of view, and specifically dealing with the challenges of making and interpreting stress measurements.



Sessions on the geological development of fractures and fracture sets, and the principles of fracture analysis follow, leading to sessions on the complexity and

engineering properties of rock masses in the context of modern design approaches.

The final sessions deal with the challenges of determining meaningful rock mass properties for reliability-based design, and explain both the genesis and evolution of Eurocode 7, and the very particular implications its introduction has for rock engineering design and construction.

## Who should attend the course?

The course is aimed at those working with geoengineering projects – rock engineers, geologists and students – who wish to obtain better knowledge of both the principles embodied in Eurocode 7 and how an understanding of structural geology and geological environments can help in the development of rock engineering designs to Eurocode 7.

There is no requirement to be a specialist in the subjects to be covered, but this is a higher-level course and at least a background knowledge of structural geology and customary rock engineering design and will be helpful.

## Academic Credit

Course certificate will be issued containing a description of the program. Check with your supervising professor if academic credit is granted.

## Course Materials

Electronic download link will be provided to download the course notes prior to the course.



## Price

The price to attend is

- Participant 330 € (300€ ISRM/EAGE<sup>1</sup>)
  - University students 110 € (100€ ISRM/EAGE<sup>1</sup>)
- <sup>1</sup>) Discounted price to members of ISRM or EAGE.

Paying participants will receive tea and lunch vouchers for the cafeteria/restaurant in the same building (2 days).

**Note! Only IBAN bank transfers are accepted. Receipts will be provided. Invoices will not be sent.**

## Registration

Register to the course latest March 22<sup>th</sup> using the link:

[>> REGISTRATION FORM <<](#)

## Program

See the detailed program: [here](#).

## Accommodation Info

Participants in the course arrange their own accommodation. Recommended options:

Radisson Blu Hotel Espoo is located 0.5 km from the Aalto campus. [www.radissonblu.fi](http://www.radissonblu.fi)

+358 50 468 1876  
[juha.antikainen@aalto.fi](mailto:juha.antikainen@aalto.fi)

+358 50 464 2970  
[lauri.uotinen@aalto.fi](mailto:lauri.uotinen@aalto.fi)

Sokos Hotel Tapiola Garden is located 2.0 km from the Aalto campus, [www.sokoshotels.fi](http://www.sokoshotels.fi)

Eurohostel is located centrally in Helsinki, 11 km from the Aalto campus. [www.eurohostel.eu](http://www.eurohostel.eu)

## Course Venue

Lumituuli auditorium, Dipoli, Espoo, Finland  
Otakaari 24, 02150 Espoo



**Welcome to the course!**

Questions regarding registration, payment and organizing matters can be directed to:

Juha Antikainen

Lauri Uotinen