



## SHORT COURSE

# THE USE OF THE *APPLIED ELEMENT METHOD* (AEM) IN STRUCTURAL MODELLING AND NONLINEAR ANALYSES

Tuesday, 18<sup>th</sup> March and 25<sup>th</sup> March 2025 - h. 9AM-1PM

Delivery mode: LIVE STREAMING

### Course Objectives

The course is aimed at practitioners and undergraduate/master's/doctoral students interested in exploring the topics of advanced modelling of structures (reinforced concrete, masonry, steel structures) and nonlinear analyses through the use of the **Applied Element Method (AEM)**, a numerical approach based on discrete elements that allows explicit reproduction of collapse.

### Course notes and additional tools provided

- Slide sets in .pdf format
- **One 60 days-free license of the software OMNIA (developed by Mosayk)**

### Course schedule

#### Tuesday, 18 March (PART 1)

##### 9 AM start of the course (1st part)

- Introduction to the Applied Element Method (AEM)
- Resolution algorithms
- Introduction to 3D materials
- Validation of the formulation through numerical examples from literature

##### 1 PM End PART 1

#### Tuesday, 25 March (PARTE 2)

##### 9 AM start of the course (2nd part)

- Practical aspects of numerical modelling through the use of the new powerful software OMNIA
  - Reinforced concrete structures
  - Masonry structures
  - Steel structures
- Nonlinear static and dynamic analyses
- Discussion on the results

##### 1 PM End PART 2

### Course coordinator

**Rui Pinho**, full professor at the Department of Civil Engineering and Architecture of the University of Pavia, founding partner of Seismosoft srl and co-founder of Mosayk srl

## Lecturers

**Giammaria Gabbianelli**, researcher at the Department of Civil Engineering and Architecture of the University of Pavia and co-founder of Mosayk srl

**Andrea Orgnoni**, freelance engineer and co-founder of Mosayk srl

## Course registration fee: 240 € + VAT

(for Bachelor/Master/PhD **students** the registration fee is **180 € + VAT**)

## Course Registration

The registration must be confirmed by March 7th, 2025 through payment of the respective fee on the “Shop” page of the Mosayk website ([www.mosayk.it/shop](http://www.mosayk.it/shop)) – payment can be made via **credit card/PayPal** or by **bank transfer\***

**Any withdrawals in the 2 days before the start of the course will be subjected to a penalty equal to 50% of the cost of the course + VAT.**

The Course has a maximum number of 50 participants and will be considered confirmed if the minimum number of participants is reached, i.e. 15 participants.

Mosayk reserves the right, if necessary, to change the dates of the course and also reserves the right to cancel the course at any time, returning the amount already paid by those enrolled.

\* in case of bank transfer, make sure that i) no bank commissions are paid by Mosayk and ii) the credit date is not later than the beginning of the course.

For further information please contact [info@mosayk.it](mailto:info@mosayk.it)