

27 - 29 April / 5 - 8 May 2026
Campus de Couros - University of
Minho
Portugal

10th international course on: **Seismic analysis of structures using OpenSees:** Finite element-based framework and civil engineering applications

An intensive training program focused on **numerical modelling and structural simulation** using the **OpenSees** framework. The course combines optional **online** preparatory classes with **in-person** sessions, covering fundamental finite element concepts, up to advanced applications.

27-29 April

Introduction to Tcl and OpenSeesPy, efficient scripting, notebooks, and basic parametric FE models.

online

5 May

Nonlinear modeling and structural dynamics: 2D/3D frame analysis under static and seismic loads.

6 May

Reinforced concrete & steel structures: Material modeling, plasticity, infills, and model calibration.

7 May

Geotechnical modeling, parametric studies, FE model updating, custom material models.

8 May

Masonry modeling strategies and seismic assessment of masonry and historical structures.
in person/online

Lecturers



Cristoforo Demartino



Carlotta Contiguglia



Maria Laura Leonardi



Bruno Muniz



Daniel Oliveira



Antonio Sberna



Nicolás Mora Bowen



Enrico Spacone



Ahmed Elkady



Hugo Rodrigues



Amaya Gómez



Carmen Garcia



Massimo Petracca



Luigi Caglio



Zhijian Qiu



Paulo Lourenço



Francesco Vanin



Daniel Caicedo



Igor Tomic



Nuno Mendes

Organizing committee

Daniel Oliveira - Miguel Azenha - Maria Laura Leonardi - Cristoforo Demartino - Carlotta Contiguglia - Igor Tomic

Scientific committee

Daniel Oliveira - Miguel Azenha - Paulo Lourenço - Nuno Mendes - Cristoforo Demartino - Igor Tomic - Filip Filippou - Ahmed Elkady - Giorgio Monti - XinZheng Lu - Jiang Liming - Zhijian Qiu - Frank McKenna

Registrations and fees

Fully online: **150€ +22% (VAT)** | In person: **230€ +22% (VAT)**

Max in person participants: 30

Registration is required at www.eurasianopensees.com before **4th of April**.

For additional informations: info@eurasianopensees.com

Registration will entitle participants to lecture attendance, course slides, and materials.

In-person attendees will receive a 3-month ASDEA OPENSEES / STKO academic license.

Venue

Campus de Couros, Centro Avançado de Formação Pós-Graduada, | Rua de Vila Flores 166, 4810225 Guimarães, Portugal



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Aim of the course

OpenSees (Open System for Earthquake Engineering Simulations) is an open-source software mainly conceived for the seismic analysis of structures. The source code is public to facilitate its wide diffusion and adaptability to the needs of users, who can also modify and extend default libraries in terms of materials, components, and algorithms. The main difficulties users usually face during their first approach to OpenSees are due to the programming language, which might appear rather complex. Following previous editions, the main goal of this course is to provide a full immersion from the basic understanding of the OpenSees framework and **programming language**, fundamental **commands** and **analysis methodologies**, and **advanced applications**. Structural engineering and research applications will also be presented through expert seminars.

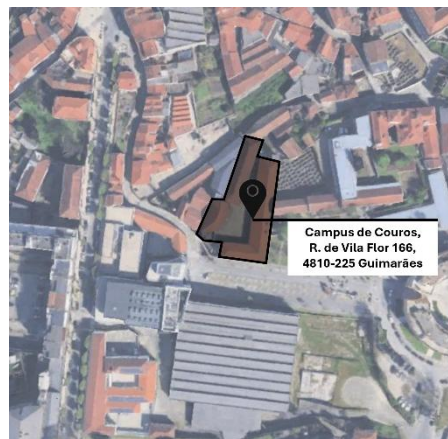
Dates and venue

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Online	27-29 April 2027
Online/In person	5-8 May 2027

Universidade do Minho

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| Rua de Vila Flores 166, 4810225 Guimarães, Portugal



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Partners





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DETAILED PROGRAM

Lecturers



Cristoforo
Demartino



Carlotta
Contiguglia



Maria Laura
Leonardi



Bruno
Muniz



Daniel
Oliveira



Antonio
Sberna



Nicolás
Mora Bowen



Enrico
Spacone



Ahmed
Elkady



Hugo
Rodrigues



Amaya
Gómez



Carmen
Garcia



Massimo
Petracca



Luigi
Caglio



Zhijian
Qiu



Paulo
Lourenço



Francesco
Vanin



Daniel
Caicedo



Igor
Tómic



Nuno
Mendes

*Portugal time zone

Monday, 27 April 2026, Day #-3 (online) Python and TCL

Time	Class	Lecturer
14:00-17:00	Applicative Lecture: Introduction to Python and TCL (interpreters and IDEs) and overview of OpenSees(Py). Introduction to Google Colab. Exercises	Bruno Muniz-Maria Laura Leonardi
17:00-18:00	Live workshop	

Tuesday, 28 April 2026, Day #-2 (online) Introduction to OpenSees and basic FEM theoretical framework

Time	Class	Lecturer
14:00-17:00	Applicative Lecture: Introduction to FEM analyses. Implementation of a simple linear structures in OpenSees in TCL and Python	Cristoforo Demartino-Carlotta Pia Contiguglia
17:00-18:00	Live workshop	

Wednesday, 29 April 2026, Day #-1 (online) Introduction to Frame Structures

Time	Class	Lecturer
14:00-17:00	Applicative Lecture: Modeling of 2D/3D elastic frame structures	Cristoforo Demartino-Carlotta Pia Contiguglia
17:00-18:00	Live workshop	

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Tuesday, 5 May 2026, Day #1

3D Frame Structures: Static, Dynamic & Nonlinear Modelling

Time	Class	Lecturer
8:00-8:30	Registration	
8:30-8:45	Welcome	Daniel Oliveira
8:45-9:00	Framework, aims and scope of the course	Cristoforo Demartino
9:00-10:00	Theoretical Lecture: Introduction to dynamic analysis for seismic engineering	Daniel Oliveira
10:00-10:30	Coffee Break	
10:30-12:30	Applicative Lecture: Dynamic analysis	Antonio Sberna
12:30-13:30	Lunch (Free)	
13:30-15:30	Applicative Lecture: 2D and 3D elements in OpenSees and GMSH	Maria Laura Leonardi-Nicolás Bowen
15:30-16:00	Coffee Break	
16:00-18:00	Applicative Lecture: Introduction of non-linear modelling in OpenSees: material (concentrated) and geometric	Cristoforo Demartino
18:00-19:00	Live workshop	
19:00-22:30	Social dinner with OpenSees game night	

Wednesday, 6 May 2026, Day #2

Steel and reinforced concrete structures

Time	Class	Lecturer
8:30-10:30	Theoretical Lecture: Nonlinear analysis of steel and reinforced concrete frame structures: distributed plasticity approach	Enrico Spacone
10:30-11:00	Coffee Break	
11:00-13:00	Applicative Lecture: Modelling of steel frames	Ahmed Elkady
13:00-14:00	Lunch (Free) & group photo	
14:00-15:00	Seminar: FM-2D/3D: GUI for the 2D and 3D simulation of steel frame buildings.	Ahmed Elkady
15:00-17:00	Applicative Lecture: Modelling of concrete frames	Hugo Rodrigues
17:00-17:30	Coffee Break	
17:30-18:30	Seminar: Modelling of concrete frames with infill	Hugo Rodrigues
18:30-19:30	Live workshop	

Coffee break

Bar do Teatro Jordão - SASUM Umihó

Dinner

Restaurante Café Oriental Largo do Toural 11, 4810-427 Guimarães

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Thursday, 7 May 2026, Day #3

Advanced applications

Time	Class	Lecturer
8:30-10:30	Applicative Lecture: FE model updating - deterministic and Bayesian approaches	Luigi Caglio
10:30-11:00	Coffee Break	
11:00-13:00	Practical Lecture: Introduction to Geotechnical modelling in OpenSees	Zhijian Qiu
13:00-14:00	Lunch (Free)	
14:00-15:00	Seminar: Case studies developed with Cype	Amaya Gomez-Carmen Garcia (Cype)
15:00-16:00	Seminar: Case studies developed with STKO	Massimo Petracca (ASDEA)
16:00-16:30	Coffee Break	
16:30-18:30	Applicative Lecture: Implementing materials and elements in OpenSees	Massimo Petracca (ASDEA)
18:30-19:30	Live workshop	

Friday, 8 May 2026, Day #4

Masonry structures

Time	Class	Teacher
8:30-9:30	Theoretical Lecture: Introduction to masonry structures and modelling	Paulo Lourenço
9:30-10:30	Theoretical Lecture: Different discretization methods for masonry material	Nuno Mendes
10:30-11:00	Coffee Break	
11:00-13:00	Applicative Lecture: Using SAMUEL for masonry structure modeling	Francesco Vanin-Igor Tomic
13:00-14:00	Lunch (Free)	
14:00-15:30	Applicative Lecture: BIM-to-FEM solid modeling application for masonry structures	Maria Laura Leonardi
15:30-16:00	Coffee Break	
15:30-17:30	Applicative Lecture: High-fidelity models for masonry structure modeling in ASDEA STKO	Massimo Petracca (ASDEA)
17:30-18:30	Seminar: Collapse fragility analysis of historical masonry buildings considering in-plane and out-of-plane response of masonry walls	Igor Tomic-Daniel Caicedo
18:30-19:00	Closure and certificate ceremony	

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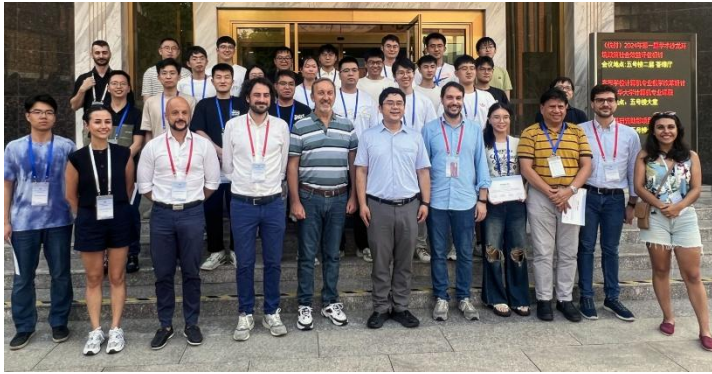
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PREVIOUS EDITIONS



8th edition
Tsinghua University,
HaiDian District, Beijing, P.R. China



9th edition
EPFL
Lausanne, Switzerland

SAVE THE DATE: Eurasian OpenSees Days



Additional info at:

www.eurasianopensees.com/eos-conferences/eos-2026-conference/

