

OpenSees Training Workshops - 2017

Overview

The 2017 OpenSees training workshops will be held at the University of Canterbury and the University of Auckland. These workshops are intended to provide a general introduction to working with the OpenSees finite element analysis platform for both structural and geotechnical applications. It is recommended that attendees bring a laptop to get the most out of the workshop, although it is not required. Both workshops will be held under a two-day format, will be fully catered, and are free to all.

Day 1 will concentrate on introductory topics and is well-suited to those who have never used OpenSees, those who are just beginning with OpenSees, or those who would like a refresher. The content of this first day will include topics such as:

- How to download, install, and run OpenSees on your computer
- An anatomy of an OpenSees model file
- Recording analysis results and interpreting recorded output
- Simple structural analysis in OpenSees
- Geotechnical modeling capabilities of OpenSees
- Available pre and post-processing tools

Day 2 will focus on more advanced analysis concepts, with in-depth discussions of specific structural and geotechnical analyses. This second day is best-suited to those who are currently (or imminently) using OpenSees, but beginning users will also benefit. The content of the second day will include topics such as:

- Structural collapse simulation
- Estimation of structural collapse capacity using Incremental Dynamic Analysis and Multiple Stripe Analysis
- Running simulations in parallel on personal computers and supercomputers
- Implementing your own custom material model and element in OpenSees

Please register your interest for the 2017 workshops via email to christopher.mcgann@canterbury.ac.nz. Note which workshop you would like to attend (i.e. Christchurch or Auckland), and which day(s) you would like to attend (beginner topics and/or advanced topics).

Schedule

University of Christchurch

16-17 March, 2017
John Britten, HP Seminar Room
UC Ilam Campus

University of Auckland

27-28 March, 2017
Building 903, Room 252/254
UA Newmarket Campus

Agenda

Day 1: Introduction to working with OpenSees

9:00 - 9:30	Introduction and Getting Started with OpenSees
9:30 - 10:30	Basic Modeling with OpenSees
10:30 - 11:00	Morning Tea and Hands-on time for Basic Examples
11:00 - 12:30	Introduction to Structural Modeling
12:30 - 13:00	Lunch
13:00 - 13:30	Hands-on time for Structural Modeling Examples
13:30 - 15:00	Introduction to Geotechnical Modeling
15:00 - 15:30	Afternoon Tea
15:30 - 16:00	Hands-on time for Geotechnical Modeling Examples
16:00 - 16:30	Pre and Post-Processing Tools

Day 2: Advanced OpenSees modeling and analysis

9:00 - 10:15	Estimation of Structural Collapse Capacity
10:15 - 10:30	Morning Tea
10:30 - 11:30	Running Structural Analyses in Parallel
11:30 - 12:00	Hands-on time
12:00- 13:00	Lunch
13:00 - 14:30	Advanced Geotechnical Modeling and Simulation
14:30 - 15:00	Running Simulations in Parallel by Domain Decomposition
15:00- 16:00	Hands-on time and discussion (optional)

2017 Workshop Materials

The example files for the workshop are available in the following compressed directories:

[Basic Example Files](#)

[Introduction to Structural Modeling Example Files](#)

[Geotechnical Example Files](#)

[Post-Processing Example Files](#)

[Parallel Computing Example Files](#)

[Advanced Geotechnical Example Files \(Day 2\)](#)

[OSAPI - OpenSees Python Interpreter](#) - Presentation and Examples by Max Stephens at University of Auckland

The presentations made at the workshop are available here as well:

[Workshop Introduction - Getting Started](#)

[Basic Examples](#)

[Introduction to Structural Modeling](#)

[Geotechnical Examples](#)

[Pre- and Post-Processing Tools](#)

[Structural collapse capacity estimation](#)

[Parallel Processing and HPC Resources](#)

[Adding a New Material to OpenSees](#)

[Advanced Geotechnical Examples](#)