Università degli Studi di Pavia
Laboratorio Ufficiale Prove Materiali e Strutture - DICAr

INTENSIVE COURSE

Experimental Assessment & Numerical Modeling of Seismically Isolated Structural Systems

The present course consists of 24 hours of both theory and practical applications related to the experimental assessment of full-scale isolation devices, together with the numerical modeling of case study structures. The outcomes of dynamic tests performed to full-scale devices of real applications will be analyzed, through data reduction procedures, according to the European Standard code for Anti-Seismic devices UNI:EN15129:2009. Finally, fast design procedure will be presented for the typologies of isolators adopted in the common practice, and the seismic response of a base-isolated case study structure will be assessed, through Non-Linear Time History Analysis (NLTHA), by means of a commercial F.E.M. software.

Contents:

Week #1	***Topic:***	***Time:***
Monday 02/10	Introduction to Seismic Isolation	14:00 – 16:00
Tuesday 03/10	European standard for Anti-Seismic devices	14:00 – 16:00
Wednesday 04/10	Data reduction of dynamic tests on full-scale isolators	14:00 – 18:00
Thursday 05/10	Tutorial on modeling of isolated structures in SAP2000	14:00 – 16:00
Friday 06/10	Fast design procedures for isolation systems	14:00 – 16:00

Week #2	***Topic:***	***Time:***
Monday 09/10	Definition of a case study structure	14:00 – 16:00
Tuesday 10/10	Selection of the seismic input for NLTHA	14:00 – 16:00
Wednesday 11/10	Modeling and analysis of the isolated structural system	14:00 – 18:00
Thursday 12/10	Simplified lumped mass oscillators	14:00 – 16:00
Friday 13/10	Analysis of results	14:00 – 16:00

Prof. Marco Furinghetti
Assistant Professor of Structural Engineering
DICAr - Università degli Studi di Pavia

Dates: 2 weeks: 2nd to 6th and 9th to 13th October 2023

Time: 24 hours

Classroom: Aula D7
University of Pavia

For any enquires, contact creaco@unipv.it