

Masonry techniques in the face of earthquakes, from Antiquity to the present: prospects for multidisciplinary studies

October 20th, 2017: Laboratoire de géologie, Ecole normale supérieure
(salle E314 – 24, rue Lhomond 75005 PARIS)

Exploring the characteristics of heritage buildings in the face of earthquakes presents a crucial issue in risk-prone areas. Complex and still largely ignored, the behavior of masonries, which constitute one of the most traditional building techniques since Antiquity, needs to be focused. The aim of this international workshop is to assess the various methods of analysis. It will bring together archaeologists, seismologists, structural engineers and architects. These various specialists will cross their approaches in order to define new directions for the study and conservation of masonry buildings. In the framework of the ANR program RECAP, the workshop is organized at the Ecole normale supérieure, by the AOROC (UMR 8546), the Geology laboratory (UMR 8538), the AFPS and the IRSN.

Organization: Didier Combescure (AFPS), Hélène Dessales (ENS, UMR 8546), Maria Lancieri (IRSN), Hélène Lyon-Caen (ENS, UMR 8538)

PROGRAM

- [9h30] Hélène Dessales, Didier Combescure: introduction

Archaeological and textual interpretations

- [10h] Andrea Arrighetti (Università degli Studi di Siena): Archaeology of buildings and seismic risk. Methodological practice and case studies from Italy
- [10h30] Hélène Dessales (ENS), Agnès Tricoche (CNRS, Labex TransferS): The characterisation of post-seismic repairs in Pompeii : the database OPUR
- [11h] Hervé Jomard (IRSN): Overview of SisFrance : the French historical macroseismic database

11h30-12h30: discussion

In-situ characterization and modelling

- [14h] Maria Rosa Valluzzi (Univ. Padova): The contribution of structural engineering to the conservation of archeological sites in seismic area
- [14h30] Joao Guedes (Univ. Porto): Example of vulnerability of existing structures and intervention measures to improve masonry constructions' seismic behaviour

15h-15h30: discussion

Structures: models of calculation, laboratory tests

- [15h30] Andrea Prota (Univ. Napoli Federico II): Improving construction capacity against earthquakes: lesson learned from Pompei
- [16h] Frédéric Ragueneau, Cédric Giry, Cécile Oliver-Leblond (ENS Cachan): Mechanical modelling issues regarding masonry heritage structures: from material to structure
- [16h30] Sergio Lagomarsino (Univ. Genova): Seismic assessment of existing masonry buildings: conservation, strengthening and safety issues

17h-18h: discussion and conclusion