

New challenges on the assessment of historical structures

Date: 11 February 2020

Time: 18:00 - 19:00

Price: Free

Location: IStructE HQ, London

Speaker: Bartolomeo Pantó

Chair: Valentina Putrino



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Synopsis

Historical and monumental masonry structures represent an important cultural heritage of humanity. These structures are often located in high-seismic regions and built without following specific seismic design standards. Therefore, the seismic vulnerability assessment of this structural typology is a crucial topic within different fields concerned with the evaluation and management of seismic hazard.

The seismic response of masonry structures is extremely difficult to predict due to the high uncertainty associated with mechanical, geometrical and structural parameters. In this lecture, an original discrete macro-element method (DMEM), is presented. The model can be successfully used for different engineering purposes and in particular for the seismic assessment of unreinforced and reinforced masonry structures. After a basic description of the theoretical aspects, some representative case studies are presented and discussed.

Speaker

Dr Bartolomeo Pantò - Imperial College London - Department of Civil and Environmental Engineering

Dr Pantò is a research fellow at Imperial College, where he is a member of the structures research group. His research activity is mostly focused on the development of numerical models for the simulation of the non-linear behaviour of masonry and reinforced concrete structures. The main research area is the evaluation of the seismic behaviour of existing constructions, with particular emphasis on historical and monumental buildings, and seismic retrofit techniques based on innovative composite materials. At Imperial College, he is developing the RAMBEA (Realistic Assessment of historical Masonry Bridges under Extreme environmental Actions) project (funded by the European Commission within the framework Horizon 2020 framework program).