

Serena Cattari

Associate professor

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Education and training

2007

PhD in Structural and Geotechnical Civil Engineering

Modellazione a telaio equivalente di strutture esistenti in muratura e muratura-c.a. formulazione di modelli sintetici (In Italian)

Department of Civil Chemical and Environmental Engineering DICCA - Genoa - IT

2003

Master Degree in Civil Engineering

110/110 lode-dignità stampa

University of Genoa - Genoa - IT

Academic experience

2016 - ONGOING

Researcher RTD-B

University of Genoa - DICCA - Genoa - IT

2011 - 2016

Researcher - RTDA

University of Genoa - DICCA - Genoa - IT

2007 - 2011

Assistant professor

University of Genoa - Genoa - IT

Language skills

English

Independent

French

Basic

Teaching activity

Since 2014 Appointed Teacher – Building Retrofitting II, University of Genoa

Since 2013 Appointed Teacher – Structural Design, University of Genoa

2009 – 2013 Appointed Teacher – Laboratory of Structural Engineering, University of Genoa

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

from 2011 to 2018

3 PhD Students ongoing: 2 at University of Genova; 1 at Instituto Superior Técnico, University of Lisbon with the co-tutor Prof.ssa Rita Bento

5 PhD Students (graduated)

3 Responsible of post-doc fellows

37 Master students

PhD committees membership

From 2016 Member of PhD committee of the curriculum in Structural and Geotechnical Engineering, Mechanics and Materials within the PhD Program in Civil, Chemical and Environmental Engineering of DICCA Department, University of Genova.

Postgraduate (PhD) teaching activity

2015 Teacher in the PhD course on “Probabilistic seismic assessment of masonry existing buildings” (DICCA – University of Genova);

2010 Co-teacher in the PhD course on “Modelling and analysis of existing masonry structures” (DICCA – University of Genova);

Research interests

KEY EXPERTISE

- Numerical modelling of existing and historical masonry buildings
- Performance-based assessment of existing buildings and masonry cultural heritage (through both nonlinear static and dynamic analyses and based on both a deterministic and probabilistic approach)
- Development of strength criteria and models for masonry panels (both piers and spandrels)
- Damage and seismic vulnerability assessment of existing buildings at large scale (both masonry and r.c. existing buildings).

With reference to the expertise on numerical modelling, SC provides significant contributions to the equivalent frame modelling approach. Regarding this, it is mentioned the participation (since 2006) to the development of the software Tremuri (originally proposed by Prof. S.Lagomarsino, A.Penna and A.Galasco in 2002).

Grants

2009 - 2012

PERPETUATE Project-PERformance-based aPproach to Earthquake proTection of cUlturAl heriTage in European and mediterranean countries

European Commission (FP7 - Grant Agreement no. 244229) - IT

Participant

Role: Participant and WP Leader (WP8)

2014 - 2018

ReLUIS III Masonry Structures Line

ReLUIS consortium and Italian Department of Civil Protection - IT

Participant

Role: Local Responsible of Research Unit UNIGE-c. Moreover Serena Cattari was appointed as the coordinator of activities of Task 4.1 (from 2017, addressed to the analysis of real building damaged by the 2016 earthquake and monitored by the Seismic Observatory of Structures of Italian Department of Civil Protection) and Task 4.3 (from 2015, addressed to the analysis of benchmark masonry structures to assess the reliability of URM modelling approaches for nonlinear seismic assessment)

2017

Activities for the CLE assessment of some municipalities in Liguria

Liguria Region - IT

Participant

Support to the research activity of the Academic Spin-off GEAmb S.r.l. addressed to the application of the SMAV (Seismic Model from Ambient Vibration) in Liguria Region.

2017 - ONGOING

Studies on the seismic vulnerability of Sanremo Municipality with particular reference to the operating conditions of the seismic emergency plan

Sanremo municipalità - IT

Participant

Assignments abroad

2014- Invited seminars at Canterbury University (*Seismic Assessment of Historical Masonry Structures through Displacement-Based Procedures*) and Auckland University (*Equivalent frame modeling for the seismic assessment of URM buildings through nonlinear analyses*)

2014- Research stay at University of Canterbury (New Zealand) as Visiting Professor within the collaboration related to the project "Vulnerability analysis of unreinforced masonry churches" (funded by the EQC Biennial Grants Programm 2014) and participation to the drafting panel of updating of NZSEE recommendation –Section 10 Seismic Assessment of Unreinforced Masonry Buildings

2015 - Fellowship within the International Short Visit program promoted by

SNSF- Swiss National Science Foundation(Grant Number IZK0Z2_158191; project: “New models for spandrel elements in existing masonry buildings”; Istitution: EPFL - École Polytechnique Fédérale de Lausanne; Supervisor: Prof.K.Beyer; stay duration: 3 month)

MAJOR COLLABORATIONS (ONGOING)

Prof. Rita Bento, seismic assessment of masonry and mixed masonry-reinforced concrete buildings in Lisbon, ICIST - Instituto de Engenharia de Estruturas, Território e Construção, Portugal

Prof. Katrin Beyer, modeling of masonry spandrels, EPFL-École Polytechnique Fédérale de Lausanne,Switzerland

Prof. Jason Ingham, structural analysis of masonry buildings, University of Auckland, New Zealand

Other professional activities

2012- Participation to the drafting panel of CNR-DT 212 Document– Guide for the probabilistic assessment of the seismic safety of existing buildings issued by Italian National Research Council, Rome, Italy. Coordinator: Prof.

P.E.Pinto; Members of the drafting commission: Prof.P.E.Pinto, Prof.

P.Franchin, Prof.S.Lagomarsino, Dr.S.Cattari, Prof.I.Iervolino

From 2003 Participation to the post-seismic damage assessment: Piemonte 2003;Lombardia 2004; Abruzzo 2009; Emilia 2012; Central Italy 2016

ORGANISATION OF SCIENTIFIC MEETINGS

2018- Co-organizer of the Special Session 18 "Seismic modelling of masonry buildings: present knowledge and open challenges for research and practice " within the 16thEuropean Conference on Earthquake Engineering, Thessaloniki, Greece, June 18th-21th 2018.

2017- Co-organizer of the minisymposium MS25 " Computational Strategies for the seismic assessment of Cultural Heritage Masonry" within the 6thInternational Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017, Rhode, Greece, June 15th-17th 2017.