

## CURRICULUM VITAE

Claudio Modena, Professor  
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Born in Sommacampagna (Verona), Italy, June 12, 1946; married, one son.

### Education

Degree (Laurea-MSc) in Civil Engineering, obtained “summa cum laude” from the University of Padova in 1970.

### Academic Career

Dr. C. Modena received in 1971 a triennial Research Scholarship from the Ministry of Education and in 1974 he was appointed Assistant Professor of Structural Engineering at the University of Padova.  
In 1988 he was appointed Associate Professor, and since 1994 he has been Full Professor of Structural Engineering of University of Padova.

Since 2000 he has also held the course of “Structural Problems of Monumental Historical Heritage”.

Since 2003 he was the Director of a Master Course (post-lauream) on Structural Restoration of Historical Construction, and since the current academic year co-coordinator of an Advanced Master Course in Structural Analysis of Monuments and Historical Constructions, within a consortium formed with the University of Minho (Portugal), the Technical University of Barcelona (Spain), the University and ITAM in Prague (Czech Republic), funded by the European Master Programme Erasmus Mundus.

He is currently member of the Doctorate School established at the University of Padova on “Study and Conservation of Archaeological and Architectural Heritage”.

He is the Director of the Material Testing Laboratory at the Department of Structural Engineering since 1994. From 2001 to 2008 he was member of the Rector’s Staff with special responsibility for the historic buildings owned and/or occupied by the University of Padova.

### Membership in Scientific and Technical Committees

#### **ICOMOS-ISCARSAH**

Member since 1998 of the ISCARSAH (International Scientific Committee for the Analysis and Restoration of Structures of Architectural Heritage) of ICOMOS, actively cooperating in the preparation and dissemination of the “Recommendations for the Analysis, Conservation and Structural Restoration of the Architectural heritage”.

## **UNESCO**

Expert for UNESCO WORLD HERITAGE Sites, in particular during a mission at KIZHI Church (Carelia), for the re-construction of the BAM Citadel (IRAN) and, in the context of and European Funded Research Project (EU-INDIA), for the analysis and monitoring of the KUTUB Minar in Dehli.

**RILEM** - International Union of Laboratories and Experts I Construction Materials, Systems and Structures

Member of several Committees from the early eighties related to historic constructions (test methods, intervention techniques) of RILEM.

He was the co-editor, with Luigia Binda, of the Rilem proceedings "Evaluation and Strengthening of Existing masonry Structures" (June 1995).

He is currently the Italian National Delegate to RILEM.

**CIB** – International Council for Building Research and Documentation

Member of the CIB W23 Wall Structures Committee, and Chairman of the Committee in the period 1991-1996.

**CEN (European Normalisation Body) TC 346** – Conservation of Cultural property

Member of the Committee , responsible for a WG dealing with the analysis of building structures.

**ECTP-FACH** : European Construction Technology Platform-Focus Area Cultural Heritage

Member, and co-founder, of ECTP-FACH, and co-coordinator of a WG on Intervention techniques; he is also member of the national mirror organisation (PTIC).

**Italian Ministry of Cultural Heritage – UNI (national standard body)**

Member of the NORMAL committee (producing standards related to the conservation of cultural heritage), and Chairman of the sub-committee "Structures".

**Italian Ministries of Culture and Public Works-National Emergency Agency**

Member of the joint Committee responsible for the production of the "Guidelines for the application of seismic codes to cultural heritage"

**Italian Ministries of Public Works**

Member of the special committee established to supervise the application and updating of the national structural codes, with special responsibility for masonry structures.

## Research Activity

He is author of over 300 publications, and the main fields of interest regarding cultural heritage are on theoretical/experimental techniques and procedures (test methods, monitoring) for the structural evaluation of historic constructions, on the development and mechanical characterisation of materials and techniques (both traditional and innovative) for repairing/strengthening existing constructions, on procedures for the assessment and mitigation of the seismic vulnerability of existing masonry structures.

He was and is still responsible for major research projects, funded (also by industries) at national and international level, regarding:

- on-site investigation techniques for the structural evaluation of historic masonry constructions: ONSITEFORMANSONRY is the acronym of a recently concluded project financed by the EU, with the participation of several European universities and research institutions; monitoring and identification of mechanical and structural (static and dynamic) behaviours via static and dynamic testing techniques are the subject of a national funded project by the Ministry for the University;
- experimental evaluation of the effectiveness and mechanical characterisation of materials and techniques currently used or newly proposed by industrial partners for repairing/strengthening existing masonry structures: projects funded during several years by public national agencies, ministries and the National Emergency Agency and by private industrial partners, and currently by the EU within the NIKER ([www.niker.eu](http://www.niker.eu), *New Integrated Knowledge based approaches to the protection of cultural heritage from earthquake induced risk*) project, coordinating 18 partners from Europe, Balkan region, middle-east and north Africa; traditional and innovative, and combination of the two, are considered, performing static (cyclic) and dynamic tests (in particular a major project s being now carried out using also shaking table tests on full and reduced scale models of panels and buildings) to evaluate the efficiency of injection techniques, comparing the results with other co-ordinated research projects conducted in different universities; special arrangements of local reinforcement using steel and /or frp to improve the behaviour of masonry under sustained dead loads (long term behaviour);
- characterisation of timber floors of historic construction subjected to “light” strengthening interventions and modelling of their local and global response under seismic actions;
- development, improvement and extensive application of combined (simplified-complex) methods for the evaluation of seismic vulnerability of existing historic single building and bridge and historic building and bridge stock and for the optimal allocation of resources for setting up mitigation plans;
- management of post earthquake safeguard of historic centres stricken by earthquake, with specific reference to the April 9<sup>th</sup> 2009 earthquake in Abruzzo, Italy, within the activity of the special authorities in charge for the conservation and reconstruction of historic centres damaged by the earthquake.

## Consulting activity in the field of structural restoration of monuments

Active as consulting engineer in the field of structural restoration of monuments since the beginning of the eighties, he has been involved in several projects regarding buildings, churches and major monumental constructions. Among them are:

- special constructions as the roman amphitheatre (Arena) and theatre in Verona, the ruins of the archaeological site in Nora (Sardegna), Castel Maniace (Siracusa), walled towns (Padova, Montagnana, Este, Marostica, Cittadella), the peripheral wall of the Arsenale in Venice, cast iron bridges and the big Armstrong-Mitchell crane in the Arsenale of Venice;
- churches and bell towers like S. Zeno and the Cathedral of Verona, the cathedral of Trento, the churches of S. Maria Gloriosa dei Frari and S. Stefano in Venice, S. Giustina in Padova, Cappella degli Scrovegni (with the very important paintings by Giotto) in Padova, the Cathedral of Monza,
- palaces like Palazzo Ducale in Urbino, Palazzo della Ragione e Palazzo della Gran Guardia in Padova, Palladian palaces in Vicenza, several buildings inside the Arsenale of Venice;
- churches (San Biagio d'Amiterno, San Giuseppe dei Minimi, San Marco, San Pietro Apostolo in Onna, financed by the German Government), the Theatre, several palaces and buildings damaged by the earthquake in L'Aquila.