

# Curriculum Vitae

Family Name: Modena      First Name: Claudio      Date of Birth: 12 June 1946      Nationality: Italian

## Education/ Professional Studies:

Institution: University of Padua  
Date From/To: 1965/1970  
Degree/ Diploma: Graduation in Civil Engineering

## Language skills : (From 1 (notions) to 5 (excellent) for competence) (\*=mother tongue)

<u>Language</u>	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
English	5	5	5
Italian	*		

## Membership of Professional bodies:

Association of Engineers of Verona, Italy. Since 11/03/71; No.: 830

## Other skills:

Prof. C. Modena is Full Professor of Structural Engineering at the University of Padua. He received a triennial Research Scholarship from the Ministry of Education and in 1974 he was appointed Assistant Professor of Structural Engineering at Padua University. In 1988 he was appointed Associate Professor. Since 1994 he has been Full Professor of Structural Engineering of University of Padua. Since 2000 he has also held the course of "Structural Problems of Monumental Historical Heritage" in Architectural and Building Engineering. Author of over 200 papers. He is interested in analysis and design of construction, with particular attention on masonry historical and monumental structures, strengthening/retrofitting in seismic areas, retrofitting of metal and masonry arch bridges, safety evaluations. He has several years experience of research work within the frameworks programmes of the EU as responsible of UNIPD Research Unit: BRITE-EURAM "Industrial Development of Reinforced Masonry Buildings", BREU-CT95-0575; ISOBRICK "Industrialized Solutions for Construction of Reinforced Brick Masonry Shell Roofs", GROW-1999-70420; ON SITE FOR MASONRY "On Site Investigation techniques for the structural evaluation of historic masonry buildings" EVK4-CT-2001-00060; IMPROVING THE SEISMIC RESISTANCE OF CULTURAL HERITAGE BUILDINGS, EU-India Economic Cross Cultural Programme (ALA-95-23-2003-077-122). He is the responsible co-ordinator of the project DISWall "Developing Innovative Systems for reinforced masonry Walls". He has participated and has been responsible with co-ordination and management responsibilities for University of Padua Research Unit in several research projects founded and co-founded by the Ministry of Education, University and Research (MIUR ex MURST), by the National Research Council (CNR) and by the National Group for Earthquake Defence (CNR-GNDT). Prof. Modena has maintained a balance between academic and practical experience, combining with mutual benefit both research work and technical consulting. Most of his consulting activity is in the field of restoration and conservation of historic masonry structures. He is member of the following technical-scientific committees:

Cultural Heritage Ministry: Protection of Cultural Heritage from Seismic Hazard Committee and Standardization Committee (NORMAL) for structures and NDT.

UNI - Italian Normalization Institute: CIS-Structural Engineering Committee; Coordinator of the sub-committee for masonry.

CNR-GNDT National Group for Earthquake Defense: Experimentation Work Group and Vulnerability Work Group.

CEN - TC 250 Structural Eurocodes "Masonry Structures"

Link-Engineer for Eurocode 6, nominated by the Ministry of Infrastructures.

Italian delegate for the Coordinating Group of TC 125 "Masonry".

PT1 "Common Rules for Reinforced and Unreinforced Masonry Structures" TC 250-SC6.

ISO: TC 179 "Masonry", SC2 "Reinforced masonry"

CIB Commission- W23 Wall Structures Honorary member and past President

RILEM Past member of Commission RILEM LUM 76 - Masonry (coordinator prof. A.Hendry, Edinburg). Member of Commissions:

-TC 125 :Design by testing;

-TC 127 :Non destructive test methods on masonry

-MDT committee masonry durability and onsite testing.

-TC MMM committee for computer modeling of mechanical behavior of masonry structures

Joint Committee for Structural Safety (JCSS)

Member of JCSS as delegate of CIB-FIB.

European Association of Earthquake Engineering (EAEE)

Member of WG6 work group

## Present Position within the organisation:

Full professor, of Structural Engineering

Director, of Material Testing Laboratory

Technical and Scientific Head of SIL – Integrated System of University and Independent Laboratories in Padova.

### Professional experience Record (relevant to the proposal):

In the following, some of the consultancies that Prof. Modena was appointed to in recent years or that are still in progress, are listed. They concern various typologies of CHBs and the application of different testing, monitoring, analysis and strengthening techniques, consistent with the proposed proposal.

Date : Recent years

Position : Structural Consultant

Responsibilities : Restoration of the Roman Amphitheatre "ARENA of Verona", Verona, Veneto, Italy

Date : Recent years

Position : Structural Consultant

Responsibilities : Restoration and monitoring of the Scrovegni Chapel frescoed by Giotto, Padua, Veneto, Italy

Date : Recent years

Position : Structural Consultant

Responsibilities : Restoration and monitoring of the palace "Palazzo della Ragione", Padua, Veneto, Italy

Date : Recent years

Position : Structural Consultant

Responsibilities : Restoration of the palace "Palazzo Ducale", Urbino, Marche, Italy

Date : Recent years

Position : Structural Consultant

Responsibilities : Strengthening of the Historical Arsenal of Venice, Venezia, Veneto, Italy

### Publications (most relevant in the last years):

- L. Binda, C. Modena, M.R. Valluzzi, L. Zago (1999), Mechanical effects of bed joint steel reinforcement in historic brick masonry structures", SF&R, London, UK.
- C. Modena, A. Riolfo, D. Zonta (1999), Dynamic Investigation on the Palazzo Della Ragione Roof in Padua, Structural Fault and Repair Conference, London, UK.
- Binda L., Modena C., Valluzzi M. R. (1999). Experimental studies for the choice of repair techniques applied to historic buildings. Proc. of General Assembly of ICOMOS, Mexico.
- Modena C., Pineschi F., Valluzzi M.R. (2000). "Valutazione della vulnerabilità sismica di alcune classi di strutture esistenti", GNDT Gruppo Nazionale per la Difesa dei Terremoti, ISBN 88-900449-6-9.
- C. Modena, D. Zonta, G. Zanardo (2001) Experimental evaluation of the ductility of a reduced-scale reinforced masonry building. RILEM Materials & Structures, vol 34, December 2001, pp636-644.
- M.R. Valluzzi, M. Valdemarca, C. Modena (2001). Experimental analysis and modelling of brick masonry vaults strengthened by frp laminates, ASCE Journal of Composites for Construction, August 2001, vol. 5, n. 3, pp. 163-169.
- M.R.Valluzzi , L. Binda and C. Modena. (2001) "Experimental and analytical studies for the choice of repair techniques applied to historic buildings", RILEM Materials and Structures (in print).
- C. Modena et al. (2001): "Advanced Monitoring Systems", Proceedings of On Site Control And Non Destructive Evaluation Of Masonry Structures And Materials - Rilem - International Workshop, Mantova, Italy.
- Valluzzi M.R., Bondi A., da Porto F., Franchetti P., Modena C. (2002). "Structural investigations and analyses for the conservation of the "Arsenale" of Venice", Journal of Cultural Heritage, Ed. Elsevier, January-March 2002, Vol. 3, n. 1, pp. 65-71.
- Modena C., Valluzzi M.R., Folli R., Binda L. (2002). Design choices and intervention techniques for repairing and strengthening of the Monza cathedral bell-tower. Construction and Building Materials. vol. Special Issue, pp. 385-395.
- M. R. Valluzzi, D. Tinazzi, C. Modena. (2002) "Shear behavior of masonry panels strengthened by FRP laminates". Construction and Building Materials Journal. Elsevier, n. 16, pp. 409-416
- D. Zonta, C. Modena, (2003) "Observations on the appearance of dispersive phenomena in damaged structures", Journal of Sound and Vibration, v 241, n 5, Apr 12, 2001, p 925-933
- Modena C., Valluzzi M.R. (2003), "Repair techniques for creep and long-term damage of massive structures", Advances in Architecture, v 15, Structural Studies, Repairs, and Maintenance of Heritage Architecture, VIII, 2003, p 141-150
- Valluzzi M.R., da Porto F., Modena C. (2004). "Behaviour and modelling of strengthened three-leaf stone masonry walls" RILEM Materials and Structures; v 37, n 267, April 2004, pp. 184-192
- Modena, C., Lourenço, P.B., Roca, P. (Editors), Structural analysis of historical constructions 2004: Possibilities of numerical and experimental techniques, ISBN 04-1536-379-9, A.A. Balkema Publishers, Leiden, pp. 1450 (2004)
- M. R. Valluzzi, D. Tinazzi, Modena C. (2005). Strengthening of masonry structures under compressive loads by FRP strips: local-global mechanical behaviour. Science and Engineering of Composite Materials. vol. in press.
- Valluzzi M.R., Binda L., Modena C., Mechanical behaviour of historic masonry structures strengthened by bed joints structural repointing, Construction Building Materials, Vol. 19, n. 1, pp. 63-73, 2005
- Turco V., Secondin S., Morbin A., Valluzzi M.R., Modena C. (2006), "Flexural and shear strengthening of un-reinforced masonry with FRP bars", Composites Science and Technology, v 66, n 2, February, 2006, Experimental Techniques and Design in Composite Materials, p 289-296