

CURRICULUM VITAE

Luigi Biolzi

a) 1980 Degree in Civil Engineering, cum laude, University of Pisa, Italy.

b) Professional Experience

Nov. 1994-	Professor of Structural Eng. Politecnico di Milano, Italy;
Nov. 1991-Oct. 1994	Assoc. Prof. of Structural Eng. Politecnico di Milano, Italy;
Aug. 1985-Oct. 1991	Assoc. Prof. of Structural Eng. University of Udine Italy;
Oct. 1981-Aug. 1985	Ass. Prof. of Civil Eng., University of Udine, Italy;
Nov. 1980-Oct. 1981	Post Doc., Scuola Superiore di Studi Universitari e di Perf., Pisa;
Mar. 1980-Oct. 1980	Researcher, Istituto di Scienza delle Costruzioni, University of Pisa, Italy.

c)

Visiting Prof., Dept. of Civil Engng, University of Minnesota, USA; Dept. of Civil Engng,
University of California, Berkeley.

2000-2005 Taught Courses (Strength of Materials and Structural Design) at the Accademia
di Architettura di Mendrisio dell'Università della Svizzera Italiana, Switzerland.

d) Research Specialties

1) Mechanics of Materials: Stress Concentration and diffusion phenomena. Fracture and Damage
Mechanics. Masonry and Composite Materials. Structural Behavior of elastic-softening Structures.
Large deformations in rubber like materials. High Performance cement based materials.
Photocatalytic white concrete. Strength and ductility of R.C. structures. Damage due to weathering
and High Temperatures. Laminated glass and Glass structures.

2) Experimental Mechanics: a) Biaxial Apparatus b) Electronic Speckle Pattern Interferometry
Apparatus c) Creep Apparatus for concrete d) Acoustic Emission monitoring.

Funding provided by Italian Ministry of Higher Education and Research-MIUR, Enichem, Montedipe, CTG Italcementi, Isotempra, NATO Collaborative Research Grant, European Community.

e)

Peer Review Duties:

- Int. Journal of Fracture;
- Journal of Materials Science;
- Materials and Structures;
- Journal of Elasticity;
- Fire Safety Journal;
- Journal of Composites part B;
- Constructions and Building Materials
- Engineering Fracture Mechanics;
- Europ. Journal of Mechanics;
- International Journal of Rock Mechanics and Mining Sciences;
- Int. Journal Solids and Structures;
- Journal of Structural Eng., ASCE;
- Journal of Architectural Eng., ASCE;
- Journal of Geotechnical Eng., ASCE;
- Journal of Engineering Mechanics, ASCE;
- Journal of Performance of Constructed Facilities., ASCE;
- Engineering Structures;
- Cement and Concrete Composites;
- Engineering Failure Analysis;
- ACI Materials Journal;
- ACI Structural Journal;
- Advances in Structural Engineering;
- Energy and Buildings;
- AJSE-Engineering;
- Soil Dynamics and Earthquake Engineering;
- Journal of Composites for Construction, ASCE;
- Materials and Design;
- International Journal of Non-Linear Mechanics.

Reviewer for Programs of:

- Portuguese National Science Foundation;
- Swiss National Science Foundation (SNSF);
- Austrian Science Fund (FWF);
- Programm Ecos-Conicyt France-Chile;
- Università La Sapienza Rome;
- Czech Science Foundation;

International Journals

1. Stress concentration factors in axisymmetric solids under imposed deformations, Meccanica, Vol. 22, No. 1, 1987, pp.19-26.

2. Comportement des structures portantes en acier sous l'action de secousses sismiques, *Acier-Stahl-Steel*, Vol. 31, No. 3, 1981. (con L. Sanpaolesi and R. Tacchi).
3. Evaluation of compressive strength of masonry walls by means Limit Analysis, *J. Struct. Div., ASCE*, Vol. 114, No. 10, 1988.
4. Strain rate effect on crack propagation in concrete, *Theor. and Appl. Fract. Mech.*, Vol. 7, No. 3, 1987. (con G. Tognon).
5. Snap-back softening instability in high strength concrete beams, *Materials and Structures (RILEM)*, Vol.22, No 132, 1989, (con S. Cangiano, G. Tognon e A. Carpinteri).
6. Flexure of beams with elastic-softening behavior, *Solid Mechanics Archives*, Vol. 13, No 3, 1988, pp.177-191.
7. Mixed mode fracture in concrete beams, *Engineering Fracture Mechanics*, Vol. 35, No. 1/2/3, 1990.
8. Bearing capacity of a bar under transversal loads, *Materials and Structures (RILEM)*, Vol.23, No 138, 1990. (con E. Giuriani).
9. Class I vs Class II Stability: A Demonstration of Size Effect, *Int. J. Rock Mech. Min. Sci. & Geomech. Abstr.*, Vol. 28, No. 2/3, 1991, (con J.F. Labuz).
10. Cyclic behavior of end-plate moment connection, *ASCE J. of Struct. Engrg.*, Vol. 117, No. 3, 1992.
11. Global instability and bifurcation in beams composed of rock-like materials, *Int. J. Solids and Structures*, Vol. 30, No. 3, 1993, pp. 359-370, (con J.F. Labuz).
12. On the mechanical response of short-fiber reinforced polymer composites, *J. of Material Sciences*, Vol. 29, N. 4, 1995, pp. 2507-2512, (con I. Pitacco).
13. Overall structural behavior of high strength concrete specimens, *Construction & Building Materials*, Vol. 11, No. 1, 1997, pp. 57-63, (con Guerrini e Rosati).
14. Characteristic strength of quasi-brittle materials, *Int. J. Solids Structures*, Vol 35, No 31-32, 1998, pp. 4191-4204, (con J.F. Labuz,).
15. On the Durability of Very High Performance Cement based Materials, *J. Mat. Civil Eng., ASCE*, Vol. 11, No 2, 1999, (con Guerrini).
16. Fracture of plain and fiber reinforced high strength mortars slabs with AE and ESPI monitoring, *Applied Composite Materials*, Vol. 7, No 1, 2000, pp. 1-12, (con Cattaneo e Guerrini).
17. Flexural/Tensile Strength Ratio In Rock-Like Materials, *Rock Mech. & Rock Engineering*, Vol. 34, No. 3, 2001, (con Cattaneo and Rosati).
18. Experiments with rock: Remarks on strength and stability issues, *International Journal of Rock Mechanics & Mining Sciences* 44(4) (2007) pp. 525–537 (con Labuz).

19. Evaluating residual properties of thermally damaged concrete, *Cement and Concrete Composites*, 30 (2008), pp. 907-916, doi:10.1016/j.cemconcomp.2008.09.005, (con Cattaneo & Rosati).
20. Size effect in thermally damaged concrete, *International Journal of Damage Mechanics* Vol. 19(5) (2010), 631-656 doi:10.1177/1056789509338320, (with G. di Luzio and G. Muciaccia).
21. Structural Behavior of a Pile-Supported Embankment, *Journal of Geotechnical and Geoen. Engng*, Vol. 136, No. 1, 2010, pp. 26–34, doi:10.1061/(ASCE)GT.1943-5606.0000180 (with G.S. Wachman and J.F. Labuz).
22. Assessment of Thermal Damage in Hybrid Fiber Reinforced Concrete, *Journal of Materials in Civil Engineering*, ASCE, Vol 22(9), 2010, pp. 836-845, doi:10.1061/(ASCE)MT.1943-5533.0000078, (with Cattaneo).
23. Progressive Damage and Fracture of Laminated Glass Beams, *Construction & Building Materials*, Vol. 24 (2010), doi: 10.1016/j.conbuildmat.2009.09.007, pp. 577–584 (with Cattaneo and Rosati).
24. A problem of scaling in fracture of damaged rock, *International Journal of Rock Mechanics & Mining Sciences* 48 (2011) 451–457, (with Labuz & Muciaccia).
25. Thermal Degradation of Fiber Reinforced Extruded Materials, *Fire Safety Journal* Vol.49 (2012) pp. 89-99, 10.1016/j.firesaf.2011.12.002 (with G. Muciaccia).
26. Opening and Mixed-mode Fracture Initiation in a Quasi-brittle Material, *Journal of Eng. Mech.*, ASCE, 139(2), 2013 , pp. 177–187 doi: 10.1061/(ASCE)EM.1943-7889.0000488 (with Lin and Labuz).
27. Breakout Capacity of Headed Anchors in Confined Concrete: Experimental Evidence, *ACI Struct. J.*, 110(3), 2013, (with Piccinin and Cattaneo).
28. Experimental and Theoretical Issues in FRP-Concrete Bonding, *Construction & Building Materials*, Volume 41, April 2013, pp. 182–190, (with Ghittoni, Fedele and Rosati).
29. Mechanical properties of photocatalytic white concrete subjected to high temperatures, *Cement and Concrete Composites*, Vol. 39 pp. 73-81, 2013, (with G. di Luzio & J.F. Labuz).
30. Assessing the residual fracture properties of thermally damaged high strength concrete, *Mechanics of Materials*, Volume 64, September 2013, pp. 27–43, (with G. Di Luzio).
31. Surveying and Monitoring for Vulnerability Assessment of an Ancient Building, *Sensors* 2013, (with L. Fregonese G. Barbieri; M. Bocciarelli, A. Frigeri).
32. Assessing the Seismic Vulnerability of a Historical Building, *Engineering Structures* 57 (2013) 523–535, (with G. Barbieri; M. Bocciarelli, L. Fregonese & A. Frigeri).
33. Delamination tests on CFRP-reinforced masonry pillars: optical monitoring and mechanical modeling, *Cement & Concrete Composites* 45 (2014) 243–254, (with R. Fedele, M. Scaioni, L. Barazzetti, G. Rosati).

34. Bending-Shear Response of Self-Consolidating and High-Performance Reinforced Concrete Beams, *Engineering Structures*, 59 (2014) pp. 399-410, (with S. Cattaneo and F. Mola).
35. Safety factors for the structural design of glass, *Construction & Building Materials*, 55 (2014) pp. 114-127 (with Badalassi, Royer and Salvatore).
36. Long Term Response of Glass-PVB Double-Lap Joints, *Composites Part B: Engineering*, 63 (2014) pp. 41-49, (Cagnacci, Orlando and Rosati).
37. Opening and Mixed Mode Fracture Processes in a Quasi-Brittle Material via Digital Imaging, *Engineering Fracture Mechanics*, *Engineering Fracture Mechanics* 131 (2014) 176–193, DOI: 10.1016/j.engfracmech.2014.07.028, (with Lin and Labuz).
38. Pull out of FRP reinforcement from masonry pillars: Experimental and numerical results, *Composites: Part B* 69 (2015) 516–525, (with G. Barbieri, M. Bocciarelli, L. Cattaneo, S.).