



Professor Andrea Spagnoli

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Associate Professor of Structural Mechanics
Department of Civil and Environmental Engineering and Architecture (DICATEA)
Università degli Studi di Parma, Parma, Italy

Brief Curriculum Vitae:

M.Sc. (Laurea) in Civil Engineering at University of Parma, 1992.

Registered Structural Engineer, Parma (since 1992).

D.I.C. (Diploma of Imperial College), in Structural Engineering at the Dept. of Civil Engineering of Imperial College, University of London, 1997.

Ph.D. in Structural Engineering at the Dept. of Civil Engineering of Imperial College, University of London, 1997.

Post-Doctoral Fellow at the Dept. of Civil Engineering, University of Parma, 1997-99.

Assistant Professor, Faculty of Engineering, University of Parma, 2000-05.

Associate Professor, Faculty of Engineering, University of Parma, 2005-.

Main Research Activities:

Fracture mechanics and fatigue of engineering materials and structures

Stability of structures

Analysis of ancient masonry structures

Teaching Activities:

Scienza delle Costruzioni A

Progettazione Strutturale Avanzata A

Analisi Non Lineare delle Strutture

Dinamica delle Strutture

Some Recent Publications (chapters in books and research papers in refereed journals):

Size Effect in Beams with Rounded-Tip V-Notches, *Materials Science*, Vol. 32, No. 3, pp. 325-331, 1996 (with A. Carpinteri and R. Brighenti).

The Influence of Radial Edge Constraint on the Stability of Stiffened Conical Shells in Compression, *Thin-Walled Structures*, Vol. 27, No. 2, pp. 147-163, 1997 (with M.K. Chryssanthopoulos).

Part-through cracks in pipes under cyclic bending, *Nuclear Engineering and Design*, 1998, Vol. 185, pp. 1-10 (with A. Carpinteri and R. Brighenti).

Buckling design of conical shells based on validated numerical models, *Thin-Walled Structures*, Vol. 31, No. 1-3, pp. 257-270, 1998 (with M.K. Chryssanthopoulos and C. Poggi).

Surface flaws in cylindrical shafts under rotary bending, *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 21, No. 9, pp. 1027-1035, 1998 (with A. Carpinteri and R. Brighenti).

Expected fracture plane for multiaxial random stress state - Part I: Theoretical aspects of the weight function method, *International Journal of Fatigue*, Vol. 21, No. 1, pp. 83-88, 1999 (with A. Carpinteri, E. Macha and R. Brighenti).

Expected fracture plane for multiaxial random stress state - Part II: Numerical simulation and experimental assessment through the weight function method, *International Journal of Fatigue*, Vol. 21, No. 1, pp. 89-96, 1999 (with A. Carpinteri, E. Macha and R. Brighenti).

Buckling design of stiffened conical shells in compression, *Journal of Structural Engineering*, ASCE, Vol. 125, pp. 40-48, 1999 (with M.K. Chryssanthopoulos).

Elastic buckling and postbuckling behaviour of widely-stiffened conical shells under axial compression, *Engineering Structures*, Vol. 21, pp. 845-855, 1999 (with M.K. Chryssanthopoulos).

Experimental response of glass-reinforced plastic cylinders under axial compression, *Marine Structures*, Vol. 11, pp. 347-371, 1999 (with A.Y. Elghazouli and M.K. Chryssanthopoulos).

Multiaxial fatigue fracture criteria for metallic structures, *Journal of Structural Engineering*, Vol. 26, No. 1, pp. 1-10, 1999 (with A. Carpinteri).

Fatigue growth simulation of part-through flaws in thick-walled pipes under rotary bending, *International Journal of Fatigue*, Vol. 22, No. 1, pp. 1-9, 2000.

A fracture plane approach in multiaxial high-cycle fatigue of metals, *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 23, No. 4, pp. 355-364, 2000 (with A. Carpinteri and R. Brighenti).

External surface cracks in shells under cyclic internal pressure, *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 23, No. 6, pp. 467-476, 2000 (with A. Carpinteri and R. Brighenti).

Numerical simulation of glass-reinforced plastic cylinders under axial compression, *Marine Structures*, Vol. 14, No. 3, pp. 353-374, 2001 (with A.Y. Elghazouli and M.K. Chryssanthopoulos).

Multiaxial high-cycle fatigue criterion for hard metals, *International Journal of Fatigue*, Vol. 23, pp. 135-145, 2001 (with A. Carpinteri).

Sulla stabilità strutturale della Rocca Sanvitale in Fontanellato, *Costruire in Laterizio*, No. 78, November/Dicember, pp. 70-75, 2000 (in Italian) (with G.P. Giani, I. Iori, L. Montrasio and S. Tagliavini).

A new high-cycle fatigue criterion applied to out-of-phase biaxial stress state, *International Journal of Mechanical Sciences*, Vol. 43, No. 11, pp. 2581-2595, 2001.

Different buckling modes in axially stiffened conical shells, *Engineering Structures*, Vol. 23, No. 8, pp. 957-965, 2001.

An approach to size effect in fatigue of metals using fractal theories, *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 25, No. 7, pp. 619-627, 2002 (with A. Carpinteri and S. Vantadori).

A new non-contacting nondestructive testing method for defect detection in concrete, *NDT & E International*, Vol. 35, No. 6, pp. 399-406, 2002 (with K. Mori, Y. Murakami, G. Kondo and I. Torigoe).

A fractal analysis of size effect on fatigue crack growth, *International Journal of Fatigue*, Vol. 26, pp. 125-133, 2004 (con An. Carpinteri).

A multiaxial fatigue criterion for random loading, *Fatigue and Fracture of Engineering Materials and Structures (Special Issue)*, Vol. 26, No. 6, pp. 515-522, 2003 (con An. Carpinteri, S. Vantadori).

Koiter circles in the buckling of axially compressed conical shells, *International Journal of Solids and Structures*, Vol. 40, No. 22, pp. 6095-6109, 2003.

Fractality in the threshold condition of fatigue crack growth: an interpretation of the Kitagawa diagram, *Chaos, Solitons and Fractals*, Vol. 22, pp. 589-598, 2004.

Self-similarity and fractals in the Paris range of fatigue crack growth, *Mechanics of Materials*, Vol. 37, pp. 519-529, 2005.

Signal processing procedure for non-destructive test of concrete structure integrity, *NDT & E International*, Vol. 38, pp. 575-581, 2005 (con I. Torigoe, K. Mori).

A fracture mechanics model for a composite beam with multiple reinforcements under cyclic bending, *International Journal of Solids and Structures*, Vol. 41, pp. 5499-5515, 2004 (con An. Carpinteri, S. Vantadori).

Mechanical damage of ordinary or prestressed reinforced concrete beams under cyclic bending, *Engineering Fracture Mechanics*, Vol. 72, pp. 1313-1328, 2005 (con A. Carpinteri, S. Vantadori).

An elastic-plastic crack bridging model for brittle-matrix fibrous composite beams under cyclic loading, *International Journal of Solids and Structures*, (in press), 2005 (con An. Carpinteri, S. Vantadori).