

Prof. Giuseppe Lacidogna - Short CV

Generalities

Giuseppe Lacidogna holds the National Academic Qualification as Full Professor in Structural Mechanics. He has been Associate Professor in Structural Mechanics at the Department of Structural, Geotechnical and Building Engineering (DISEG), Politecnico di Torino, Torino (Italy) since January 2011.

He received his PhD degree in Structural Engineering from Politecnico di Torino with a dissertation on: "Mathematical Modelling of the Viscoelastic Behaviour of Concrete" (1994), and then he has been working as Assistant Professor in Structural Mechanics in the DISEG Department (1997-2010). He graduated cum Laude in Architecture with a thesis entitled "Elastic Plastic Calculation of Plane Frames" at Politecnico di Torino (1985).

Professor Lacidogna is currently the Director of the Doctorate Course in Structural Engineering of the Politecnico di Torino, and an active member of several associations; among them: AIMETA, IA-FraMCoS, SEM, and RILEM.

He is member of the Editorial Board of several international journals.

Professor Lacidogna is author of about 300 publications, among which: seven monographs, more than 90 papers in refereed international journals (appearing on SCOPUS and ISI databases), 24 book chapters.

His areas of scientific interest include:

the characterization of the different forms of energy (acoustic, electromagnetic, particle) emitted by materials and structural systems during fracture propagation; Critical phenomena: from Structural Mechanics to Geophysics; Acoustic emission methods for the identification of cracking phenomena and the damage diagnosis in structures and construction materials (concrete, masonry and rocks); Mechanics of proteins and biomolecular structures; Raman optical activity for the vibrations frequency analysis of macromolecular structures; Theoretical and applied studies for static and dynamic analysis of high-rise buildings; Cracking evolution in masonry arch bridges, Energy dissipation in crushing and fragmentation; Creep behaviour of concrete structures.

Professor Lacidogna is currently or has been involved in teaching the following courses at the Politecnico di Torino: Structural Mechanics, Static and Dynamic Instability of Structures, Plasticity and Fracture, Static Analysis and Stability of Masonry Constructions. Moreover he holds the PhD Course on Structural Monitoring by the Acoustic Emission Technique.

Fellowship

Fellow of the European Academy of Sciences, Engineering Division, Liege, Belgium (<http://www.eurasc.org>), effective from July 4, 2018.

Social Memberships

- Member of the Italian Association of Theoretical and Applied Mechanics (AIMETA) (2003-2018).
- Member of Council on Tall Buildings and Urban Habitat (CTBUH) (2019).
- Member of the International Association of Fracture Mechanics for Concrete and Concrete Structures (IA-FraMCoS) (2004-2016).
- Member of the Society for Experimental Mechanics (SEM) (2009-2017).
- Member of the RILEM Technical Committee 269-IAM "Damage assessment in Consideration of Repair/ Retrofit-Recovery in Concrete and Masonry Structures by Means of Innovative NDT" (Chairman: Prof. T. Shiotani) (2016-).
- Member of the RILEM Technical Committee 239-MCM "On-site measurement of concrete and masonry structures by visualized NDT" (Chairman: Prof. M. Ohtsu) (2010-2016).
- Member of the RILEM Technical Committee 212-ACD "Acoustic emission and related NDE techniques for crack detection and damage evaluation in concrete" (Chairman: Prof. M. Ohtsu) (2004-2010).

Awards

- Award for the Best Paper at the 10th International Conference on Structural Faults & Repair, June 10-12, 2008, Edinburgh, Scotland (UK).
- Certificate Merit Award, received in 2018, by the European Society for Experimental Mechanics (EuraSEM) for the research activity carried out during the career.

Organization of Major Events

- Member of the Scientific Organizing Committee of Mechanics of Masonry Structures Strengthened with Composite Materials Conference (MuRiCo6), Bologna, Italy, June 26-28, 2019.
- Chairman and Co-organizer of the Special Session "Inspection techniques for damage detection in civil engineering structures", in the 18th International Conference on Experimental Mechanics (ICEM18), Brussels, Belgium, July 1-5, 2018.
- Chairman and Organizer of the Symposium "Signal processing and analysis for fracture monitoring", in the 14th International Conference on Fracture (ICF14), Rhodes, Greece, June 18-23, 2017.
- President of the Organizing Committee of the XXI National Conference of Italian Association of Theoretical and Applied Mechanics (AIMETA), Politecnico di Torino, Torino, Italy, September 17- 20, 2013.
- Co-organizer of the Track 2 "Role of Experimental Mechanics on Emerging Energy Systems & Materials", in the Society for Experimental Mechanics Annual Conference & Exposition (SEM 2010), Indianapolis, Indiana USA, June 7-10, 2010.
- Co-organizer of the Track 2 "Fracture/Damage Simulation, Prediction and Detection", in the Society for Experimental Mechanics Annual Conference & Exposition (SEM 2009), Albuquerque, New Mexico USA, June 1-4, 2009.

- Co-organizer of the Post-Conference Workshop “Acoustic Emission and Critical Phenomena: From Structural Mechanics to Geophysics”, in the 6th International Conference on Fracture Mechanics of Concrete and Concrete Structures (FraMCoS-6), Catania, Italy, June 17-22, 2007.
- Member of the Local Organizing Committee of 6th International Conference on Fracture Mechanics of Concrete and Concrete Structures (FraMCoS-6), Catania, Italy, 17-22 June, 2007.
- Member of the Local Organizing Committee of 11th International Conference on Fracture (ICF11), Torino, Italy, March 20-25, 2005.

Commissions of Trust

- Expert Panel Member, in the Scientific Domain W&T9: Science and Technology of Construction and the Built Environment, for The Research Foundation - Flanders (FWO), Belgium (<http://www.fwo.be/en/the-fwo>), effective from January 1st, 2018.
- Nominator of Global Energy Prize, Association on development of the international researches and projects in the field of energy «Global Energy», Moscow, Russia, (<http://www.globalenergyprize.org>), effective from September 18, 2018.

Editorial Activities: International Journals

- Former Managing Editor of the International Journal Meccanica (2012-2014).
- Associate Editor of the Applied Sciences-Basel Journal (2016-).
- Associate Editor of The Open Construction and Building Technology Journal (2017-).
- Member of the Editorial Advisory Board of Curved & Layered Structures Journal (2018-).
- Member of the Advisory Board of the New Multidisciplinary Journal Sci (2018-).
- Member of the Advisory Board of the International Journal of Architectural Engineering Technology (2018-).
- Guest Editor for the Special Issue "Application of Acoustic Emission Techniques in Fracture Mechanics" of the Journal Engineering Fracture Mechanics (2018).
- Guest Editor for the Special Issue "Inspection Techniques for Damage Detection in Civil Engineering Structures" of the Journal Construction and Building Materials (2018).
- Guest Editor of the Special Issue "Non-destructive Testing (NDT)" of the Journal Applied Sciences-Basel (2019).

Editorial Activities: Volumes

- Carpinteri A., Lacidogna G. (Editors): *Earthquakes and Acoustic Emission*, Taylor & Francis, London (2007), X+199.
- Carpinteri A., Lacidogna G. (Editors): *Acoustic Emission and Critical Phenomena: From Structural Mechanics to Geophysics*, CRC Press, Boca Raton (2008), X+271.
- Carpinteri A., Lacidogna G., Manuello A. (Editors): *Acoustic, Electromagnetic, Neutron Emissions from Fracture and Earthquakes*, Springer International Publishing Switzerland (2015), VIII+264.

Citations and H-Index (May 2018)

- SCOPUS. Documents: 201; 2650 total citations by 1202 documents; H-Index: 31; <http://orcid.org/0000-0002-0192-3793>.
- The complete list of publications is in the following link: [http://www.diseg.polito.it/en/personale/scheda/\(nominativo\)/giuseppe.lacidogna](http://www.diseg.polito.it/en/personale/scheda/(nominativo)/giuseppe.lacidogna).

16 Most significant publications

- [1] Carpinteri A., Lacidogna G., Pugno N. Structural damage diagnosis and life-time assessment by acoustic emission monitoring. *Engineering Fracture Mechanics* 2007; 74: 273-289 (155 citations).
- [2] Carpinteri A., Lacidogna G., Niccolini G., Puzzi S. Critical defect size distributions in concrete structures detected by the acoustic emission technique. *Meccanica* 2008; 43: 349-363 (93 citations).
- [3] Carpinteri A., Invernizzi S., Lacidogna G. In situ damage assessment and nonlinear modelling of a historical masonry tower. *Engineering Structures* 2005; 3: 387-395 (84 citations).
- [4] Carpinteri A., Lacidogna G., Puzzi S. From criticality to final collapse: Evolution of the "b-value" from 1.5 to 1.0. *Chaos, Solitons and Fractals* 2009; 41: 843-853 (82 citations).
- [5] Carpinteri A., Lacidogna G. Damage evaluation of three masonry towers by acoustic emission. *Engineering Structures* 2007; 29: 1569-1579 (73 citations).
- [6] Lacidogna G., Carpinteri A., *et al.* Acoustic and electromagnetic emissions as precursor phenomena in failure processes. *Strain* 2011; 47 (Suppl.2) 144-152 (72 citations).
- [7] Carpinteri A., Cardone F., Lacidogna G. Energy Emissions from Failure Phenomena: Mechanical, Electromagnetic, Nuclear. *Experimental Mechanics* 2010; 50: 1235-1243 (47 citations).
- [8] Carpinteri A., Lacidogna G., Pugno N. Scaling of energy dissipation in crushing and fragmentation: A fractal and statistical analysis based on particle size distribution. *International Journal of Fracture* 2004; 129: 131-139 (39 citations).
- [9] Niccolini G., Carpinteri A., Lacidogna G., Manuello A. Acoustic emission monitoring of the Syracuse Athena temple: Scale invariance in the timing of ruptures. *Physical Review Letters* 2011; 106: Article number 108503 (Impact Factor 8.462; 32 citations).
- [10] Carpinteri A., Lacidogna G., Puzzi S. A global approach for three-dimensional analysis of tall buildings. *Structural Design of Tall and Special Buildings* 2010; 19: 518-536 (15 citations).
- [11] Lacidogna G., Tarantino M. Approximate expressions for the ageing coefficient and the relaxation function in the viscoelastic analysis of concrete structures. *Materials and Structures* 1996; 29: 131-140 (8 citations).
- [12] Accornero F., Lacidogna G., Carpinteri A. Evolutionary fracture analysis of masonry arches: Effects of shallowness ratio and size scale. *Comptes Rendus Mecanique* 2016; 344: 623-630 (6 citations).

- [13] Lacidogna G. Tall buildings: Secondary effects on the structural behaviour. *Proceedings of the Institution of Civil Engineers: Structures and Buildings* 2017; 170: 391-405 (4 citations).
- [14] Lacidogna G., Piana G., Bassani A., Carpinteri A. Raman spectroscopy of Na/K-ATPase with special focus on low-frequency vibrations. *Vibrational Spectroscopy* 2017; 92: 298-30 (1 citations).
- [15] Carpinteri A., Lacidogna G., Piana G., Bassani A. Terahertz mechanical vibrations in lysozyme: Raman spectroscopy vs modal analysis. *Journal of Molecular Structure* 2017; 1139: 222-230 (2 citations).
- [16] Carpinteri A., Piana G., Bassani A., Lacidogna G. Terahertz vibration modes in Na/K-ATPase. *Journal of Biomolecular Structure and Dynamics* 2018; 1-9. DOI: 10.1080/07391102.2018.1425638 (1 citations).

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