

Short biography of Stefano Lenci

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1992 Degree in Civil and Building Engineering, University of Ancona, summa cum laude.
1993-1997... Ph.D. in “Structural Engineering”, University of Florence.
1998-2000... Post-doc, University Pierre et Marie Curie (Paris 6).
2000 Habilitation to “Maître de conférences” (associate professor) in France.
2000-2001... Assistant Professor, University of Roma “La Sapienza.”
2001-2005... Associate Professor, University of Ancona, now Polytechnic University of Marche (UNIVPM).
2005-..... Full Professor, UNIVPM, Ancona.
2006-2011... Head of the Ph.D. program in “Structural and Building Engineering,” UNIVPM.
2007-..... Editorial Board, *Int. J. of Non-Linear Mechanics*.
2007-2013... Member of the “Technical Committee on Control and Dynamics of Structures and Systems,” American Society of Mechanical Engineering (ASME).
2008-..... Full Member of the “Academy of Science of the Marche Region.”
2011-2017... Associate Editor, *ASME J. Computational and Nonlinear Dynamics*.
2011-2015... Head of the Department of Civil and Building Engineering, and Architecture (DICEA), UNIVPM.
2011-2012... Member of the Academic Senat, UNIVPM.
2011-..... Member of the “Technical Committee on Vibrations” of the International Federation for the Promotion of Mechanism and Machine Science (IFTToMM).
2012-2018... Associate Editor, *Meccanica*.
2012-2025... Member of the “Technical Committee on Multibody Systems and Nonlinear Dynamics,” American Society of Mechanical Engineering (ASME); 2017-19 Secretary; 2019-21 Vice-Chair; 2021-23 Chair of the Committee; 2023-25 Past President.
2012-2018... Member of the “Technical Committee on Vibration and Sound,” ASME.
2013-2014... Head of the PhD program in “Civil, Environmental, Building Engineering, and Architecture,” UNIVPM.
2013-2026... Associate Editor, *Nonlinear Theory and Its Applications (NOLTA)*.
2014-2021... Associate Editor, *Int. J. Dynamics and Control*.
2015 First recipient of the ASME Journal of Computational and Nonlinear Dynamics Distinguished Service as an Associate Editor Award.
2015-2018... Head of the Ph.D. program in “Civil, Environmental, Building Engineering, and Architecture,” UNIVPM.
2016-..... Contributing Editor, *Nonlinear Dynamics*. Since 2017 Associate Editor. Since 2025 Receiving Editor.
2017-2022... Associate Editor, *ASME J. Vibration and Acoustics*.
2017-..... Honorary Professor of the Sichuan University of Science and Engineering, Zigong, Sichuan, China.
2018-..... Member of the European Nonlinear Oscillation Conference (ENOC) Committee. From 1.1.2024 Chair.
2018-..... Editorial Board, *Int. J. of Mechanical Sciences*.
2018-..... Associate Editor, *Eur. J. Mechanics A/Solids*. Since 2025 Executive Editor.
2018-2021... President of the Italian Association of Theoretical and Applied Mechanics (AIMETA).
2018-2024... Member of the Board of Directors, UNIVPM.
2019-..... Fellow of the ASME.
2020-..... Editorial Board, *ZAMM*.
2022-..... Member of the Congress Committee of the Int. Union of Theoretical and Applied Mechanics (IUTAM).
2022-..... Member of the Executive Committee of the Design Engineering Division (DED), ASME.
2022-2025... Honors and Awards Chair for the DED, ASME.
2022-2025... Past- and Deputy President of the AIMETA.
2023-..... Editorial Board, *International Journal of Mechanical System Dynamics (IJMSD)*. From 2026 Associate Editor.
2023-..... Member of the European Academy of Sciences and Arts.
2024-..... Member of the Steering Committee of the Italian Society for Structural Engineering (Società Italiana di Scienza delle Costruzioni (SISCO)).
2024-..... Head of the PhD School “Engineering Science,” UNIVPM.
2025-..... Publication Executive of the DED, ASME.

Twenty selected papers

1. Lenci S., Rega G., 2006, "Optimal control and anti-control of the nonlinear dynamics of a rigid block," *Phil. Trans. R. Soc. A*, **364**(1846), 2353-2381.
2. Demeio L., Lenci S., 2007, "Forced nonlinear oscillations of semi-infinite cables and beams resting on a unilateral elastic substrate," *Nonlin. Dyn.*, **49**, 203-215.
3. Rega G., Lenci S., 2008, "Dynamical integrity and control of nonlinear mechanical oscillators," *J. Vibr. Control*, **14**(1-2), 159-179.
4. Marcheggiani L., Lenci S., 2010, "On a model for the pedestrians-induced lateral vibrations of footbridges," *Meccanica*, **45**(4), 531-551.
5. Lenci S., Rega G., 2011, "Experimental vs theoretical robustness of rotating solutions in a parametrically excited pendulum: a dynamical integrity perspective," *Physica D*, **240**(9-10), 814-824.
6. Lenci S., Warminski J., 2012, "Free and forced nonlinear oscillations of a two-layer composite beam with interface slip," *Nonlin. Dyn.*, **70**(3), 2071-2087. DOI: 10.1007/s11071-012-0599-4
7. Lenci S., Rega G., Ruzziconi L., 2013, "The dynamical integrity concept for interpreting/predicting experimental behaviour: from macro- to nano-mechanics," *Phil. Trans. R. Soc. A*, **371**, 20120423. DOI: 10.1098/rsta.2012.0423
8. Marcheggiani L., Chacon R., Lenci S., 2014, "On the synchronization of chains of nonlinear pendula connected by linear springs," *Eur. Phys. J. Sp. Topics*, **223**(4), 729-756. DOI: 10.1140/epjst/e2014-02138-6
9. Rega G., Lenci S., 2015, "A global dynamics perspective for system safety from macro- to nano-mechanics: Analysis, control and design engineering," *Appl. Mech. Rev.*, **67**, 050802-1-19. DOI: 10.1115/1.4031705
10. Lancioni G., Lenci S., Galvanetto U., 2016, "Dynamics of windscreen wiper blades: Squeal noise, reversal noise and chattering," *Int. J. of Non-linear Mechanics*, **80**, 132-143. DOI: 10.1016/j.ijnonlinmec.2015.10.003
11. Kecik K., Mitura A., Lenci S., Warminski J., 2017, "Energy harvesting from a magnetic levitation system," *Int. J. Non-Linear Mech.*, **94**, 200-206. DOI: 10.1016/j.ijnonlinmec.2017.03.021
12. Kovacic I., Lenci S., 2018, "Externally excited purely nonlinear oscillators: insights into their response at different excitation frequencies," *Nonlinear Dynamics*, **93**, 119-132. DOI: 10.1007/s11071-017-3741-5
13. Orlando D., Goncalves P.B., Rega G., Lenci S., 2019, "Influence of transient escape and added load noise on the dynamic integrity of multistable systems," *Int. J. Non-Linear Mechanics*, **109**, 140-154, DOI: 10.1016/j.ijnonlinmec.2018.12.001
14. Rega G., Settini V., Lenci S., 2020, "Chaos in Onedimensional Structural Mechanics," *Nonlinear Dynamics* (Special Issue on "Chaos theory and applications: A retrospective on lessons learned and missed or new opportunities"), **102**(2), 785-834. DOI: 10.1007/s11071-020-05849-3
15. Lenci S., Clementi F., Kloda L., Warminski J., Rega G., 2021, "Longitudinal-transversal internal resonances in Timoshenko beams with an axial elastic boundary condition," *Nonlinear Dynamics*, **103**(4), 3489-3513. DOI: 10.1007/s11071-020-05912-z
16. Lenci S., 2022, "Exact solutions for coupled Duffing oscillators," *Mechanical Systems and Signal Processing*, **165**, 108299. DOI: 10.1016/j.ymssp.2021.108299
17. Lenci S., 2023, "Along-wind and cross-wind coupled nonlinear oscillations of wind turbines towers close to 1:1 internal resonance," *Renewable & Sustainable Energy Reviews*, **187**, 113698. DOI: 10.1016/j.rser.2023.113698
18. Lenci S., Benedetti K.C.B., Rega G., Goncalves P.B., 2024, "Stochastic basins of attraction for uncertain initial conditions," *Journal of Sound and Vibration*, **587**, 118488. DOI: 10.1016/j.jsv.2024.118488
19. Lenci S., Kloda L., 2025, "Nonlinear vibrations of kinematically exact curved beams," *Journal of Sound and Vibration*, **602**, 118951. DOI: 10.1016/j.jsv.2025.118951
20. Luciani M., Lenci S., 2026, "Nonlinear Oscillations of Spar-type Floating Offshore Wind Turbines under Parametric Sea Wave Excitation," *International Journal of Mechanical Sciences*, **319**, 111539. DOI: 10.1016/j.ijmecsci.2026.111539

List of main developments in nonlinear dynamics

Investigation of the chaotic dynamics of various mechanical systems.

Development of a new (passive) method to control (i.e. eliminate) chaos.

Investigating the nonlinear dynamics of non-smooth systems, including those with unilateral contact.

Energy harvesting exploiting nonlinear dynamics (in particular from rotating pendulum and magnetic levitation).

Development of the dynamical integrity concept. Long lasting study of the robustness of solutions of dynamical systems, extending the classical definition of Lyapunov stability for assessing the reliability of dynamical outcome in practical applications, including the definition of various dynamical integrity measures.

Basins of attraction in dimension larger than 2, where the computational efforts become challenging and where there is also the problem of representation and determination of dynamical integrity measures.

Application of Multiple Time Scale Methods to complete partial differential equations of motion (i.e. without a priori reduced order model) of many mechanical systems, assessing their nonlinear oscillations behaviour and showing how reduced order models can lead to erroneous results.

Study of various internal resonances in dynamical systems.

Bibliometric indexes

Scopus (accessed 28/4/2026):
Citations: 7663 (from 4662 documents)
h-index: 46
documents: 411

Web of Science (accessed 28/4/2026):
Citations: 7001 (from 4612 documents)
h-index: 44
documents: 386