

Curriculum Vitae et Studiorum

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1992..... Laurea in Ingegneria Civile Edile, Università di Ancona.
1993-1997... Dottorato di ricerca in “Ingegneria Strutturale,” Università di Firenze.
1998-2000... Post-dottorato, Università Pierre et Marie Curie (Parigi 6).
2000..... Abilitazione a “Maître de conférences” (equivalente di professore associato) in Francia.
2000-2001... Ricercatore, Università di Roma “La Sapienza”.
2001-2005... Professore Associato, Università di Ancona (ora Università Politecnica delle Marche – UNIVPM).
2005-2008... Professore Straordinario, UNIVPM, Ancona.
2006-2011... Coordinatore del Dottorato di Ricerca in “Architettura, Costruzioni e Strutture,” UNIVPM. Dal 2007
membro del Consiglio della Scuola di Dottorato in “Scienze dell’Ingegneria”
2007-..... membro dell’Editorial Board della rivista scientifica internazionale *Int. J. of Non-Linear Mechanics*.
2008-..... Professore Ordinario, UNIVPM, Ancona.
2008-..... Socio Effettivo dell’Accademia Marchigiana di Scienze, Lettere ed Arti.
2010-2018... Associate Editor della rivista scientifica internazionale *Mathematical Problems in Engineering*.
2011-2017... Associate Editor della rivista scientifica internazionale *ASME J. Computational and Nonlinear Dynamics*.
2011-2015... Direttore del Dipartimento di Ingegneria Civile, Edile e Architettura, UNIVPM.
2011-2012... Membro eletto del Senato Accademico, UNIVPM.
2011-..... membro del “Technical Committee on Vibrations” of the International Federation for the Promotion of
Mechanism and Machine Science (IFTOMM).
2012-2018... Associate Editor della rivista scientifica internazionale *Meccanica*.
2012-..... membro del “Technical Committee on Multibody Systems and Nonlinear Dynamics (MSND)” della
American Society of Mechanical Engineering (ASME); dal 2017 Segretario eletto.
2012-2018... membro del “Technical Committee on Vibration and Sound (TCVS)” della American Society of
Mechanical Engineering (ASME).
2012-2017... Associate Editor della rivista scientifica internazionale *J. Applied Nonlinear Dynamics*.
2013-2014... Coordinatore del Dottorato di Ricerca in “Ingegneria Civile, Ambientale, Edile e Architettura,” UNIVPM.
2013-..... Associate Editor della rivista scientifica internazionale *Nonlinear Theory and Its Applications (NOLTA)*.
2014-2018... Associate Editor della rivista scientifica internazionale *Int. J. Dynamics and Control*.
2014-..... Delegato del Rettore per la Gestione e la valorizzazione del patrimonio immobiliare, UNIVPM.
2015..... first recipient of the ASME Journal of Computational and Nonlinear Dynamics Distinguished Service as
an Associate Editor Award.
2015-2018... Coordinatore del Dottorato di Ricerca in “Ingegneria Civile, Ambientale, Edile e Architettura,” UNIVPM.
2016-..... Contributing Editor della rivista scientifica internazionale *Nonlinear Dynamics*. Dal 2017 Associate
Editor.
2017-..... Associate Editor della rivista scientifica internazionale *ASME J. Vibration and Acoustics*.
2018-..... Membro dell’European Nonlinear Oscillation Conference (ENOC) Committee.
2018-..... Editorial Board della rivista Scientifica internazionale *Int. J. of Mechanical Sciences*.
2018-..... Associate Editor della rivista Scientifica internazionale *Eur. J. Mechanics A/Solids*.
2018-2021... Presidente dell’Associazione Italiana di Meccanica Teorica e Applicata (AIMETA)
2018-..... Membro del Consiglio di Amministrazione dell’Università Politecnica delle Marche.
2019-..... Fellow of the American Society of Mechanical Engineers

Ha svolto attività di ricerca e didattica presso l'Università Politecnica delle Marche (ex Università di Ancona) e le Università di Camerino, Pisa, Roma "La Sapienza" e Parigi 6, dove ha soggiornato per un periodo di due anni e mezzo. E' autore di 111 articoli su riviste scientifiche internazionali e in totale di oltre 260 pubblicazioni, è stato Editor di numeri speciali di "Phil. Trans. Royal Soc. London," di "Nonlinear Dynamics," di "Meccanica," di "Int. J. Non-Linear Mech" e di "Math. Prob. Eng." E' membro di varie associazioni scientifiche nazionali ed internazionali, è revisore di libri e articoli per riviste scientifiche internazionali e per la American Mathematical Society, e di progetti di ricerca europei per varie istituzioni scientifiche. E' stato revisore internazionale per l'avanzamento di carriera di ricercatori di Università americane, inglesi e israeliane. E' stato il Presidente del Comitato Organizzatore del XIX Congresso Aimeta, tenutosi in Ancona dal 14 al 17 settembre 2009 e dell'Euromech Colloquium, tenutosi a Senigallia dal 3 al 6 giugno 2013.

Si occupa dello studio di molteplici aspetti della dinamica non lineare di modelli meccanici e di varie strutture, tra le quali travi, archi, pendolo invertito con barriere laterali, pendolo matematico, blocco rigido, travi infinite su suolo elastico unilaterale, oscillatori ad impatto ed attrito, accoppiamento cavo trave in strutture strallate, travi in composito a due strati, travi non omogenee. Ha contribuito allo sviluppo di un metodo originale per il controllo del caos e alla sua applicazione a vari modelli meccanici, evidenziando le proprietà "universali" del metodo. Si occupa anche di integrità dinamica, allo scopo di migliorare l'affidabilità in opera dei sistemi meccanici e di varie strutture. Specifici temi di ricerca sono lo studio del varo di condotte marine in acque profonde, la dinamica dei tergitristalli, vari aspetti del comportamento delle interfacce, e lo sviluppo di modelli per la descrizione del comportamento elastico e danneggiato dei compositi. Recentemente si è anche occupato del comportamento meccanico di materiali bio-ecosostenibili quali la terra cruda, nonché di oscillazioni non lineare di compositi e travi a rigidezza variabile.

Un importante filone di ricerca riguarda lo studio della vulnerabilità sismica di edifici e di centri storici.

Pubblicazioni (solo riviste scientifiche internazionali)

1. Lenci S., Tarantino A.M., 1994, "Influence of the excitation shape in the classical Duffing's equation," *Eur. J. Mech. A/Solids*, **13**(4), 569-579.
2. Lenci S., Menditto G., Tarantino A.M., 1994, "The chaotic resonance," *Eur. J. Mech. A/Solids*, **13**(6), 857-866.
3. Lenci S., Tarantino A.M., 1995, "Bifurcation and chaos in a bilinear constrained column. Part I: Stability analysis and nonlinear unperturbed dynamics," *Eur. J. Mech. A/Solids*, **14**(5), 773-788.
4. Lenci S., Tarantino A.M., 1995, "Bifurcation and chaos in a bilinear constrained column. Part II: chaotic dynamics," *Eur. J. Mech. A/Solids*, **14**(5), 789-806.
5. Lenci S., Lupini R., 1996, "Homoclinic and heteroclinic solutions for a class of two dimensional hamiltonian systems," *Zeit. Ang. Math. Phys. (ZAMP)*, **47**(1), 97-111.
6. Lupini R., Lenci S., Gardini L., 1996, "Poincarè maps of impulsed oscillators and two-dimensional dynamics," *Nuovo Cimento*, **111B**(4), 427-454.
7. Geymonat G., Krasucki F., Lenci S., 1996, "Analyse asymptotique du comportement d'un assemblage collé," *Comp. Ren. Ac. Sci. Paris*, **322-I**(11), 1107-1112.
8. Lenci S., Tarantino A.M., 1996, "Dynamics of shallow elastic arches. Part I: chaotic response of harmonically shaped arches," *Eur. J. Mech. A/Solids*, **15**(3), 513-528.
9. Lenci S., Tarantino A.M., 1996, "Dynamics of shallow elastic arches. Part II: optimal forms," *Eur. J. Mech. A/Solids*, **15**(3), 529-543.
10. Lenci S., Tarantino A.M., 1996, "Chaotic dynamics of an elastic beam resting on a Winkler-type soil," *Chaos, Sol. & Fract.*, **7**(10), 1601-1614.
11. Lupini R., Lenci S., Gardini L., 1997, "Bifurcation and multistability in a class of two-dimensional endomorphisms," *Nonlin. Anal. T. M. & A.*, **28**(1), 61-85.
12. Lenci S., Rega G., 1998, "A procedure for reducing the chaotic response region in an impact mechanical system," *Nonlin. Dyn.*, **15**(4), 391-409.
13. Lenci S., 1998, "On the suppression of chaos by means of bounded excitations in an inverted pendulum," *SIAM J. Appl. Math.*, **58**(4), 1116-1127.
14. Lenci S., Rega G., 1998, "Controlling nonlinear dynamics in a two-well impact system. Part I: Attractors and bifurcation scenario under symmetric excitations," *Int. J. Bif. Chaos*, **8**(12), 2387-2407.
15. Lenci S., Rega G., 1998, "Controlling nonlinear dynamics in a two-well impact system. Part II: Attractors and bifurcation scenario under unsymmetric optimal excitation," *Int. J. Bif. Chaos*, **8**(12), 2409-2424.
16. Lenci S., Menditto G., Tarantino A.M., 1999, "Homoclinic and heteroclinic bifurcations in the nonlinear dynamics of a beam resting on an elastic substrate," *Int. J. Non-Linear Mech.*, **34**(4), 615-632.
17. Geymonat G., Krasucki F., Lenci S., 1999, "Mathematical analysis of a bonded joint with soft thin adhesive," *Math. Mech. Solids*, **4**(2), 201-225.
18. Lenci S., 1999, "Bonded joints with nonhomogeneous adhesives," *J. Elasticity*, **53**(1), 23-35.

19. Krasucki F., Lenci S., 2000, "Analysis of interfaces of variable stiffness," *Int. J. Solids & Struct.*, **37**(26), 3619-3632.
20. Lenci S., Menditto G., 2000, "Weak interface in long fiber composites," *Int. J. Solids & Struct.*, **37**(31), 4239-4260.
21. Lenci S., 2000, "Melan's problems with weak interface," *ASME J. Appl. Mech.*, **66**(1), 22-28.
22. Krasucki F., Lenci S., 2000, "Yield design of bonded joints," *Eur. J. Mech. A/Solids*, **19**(4), 649-667.
23. Lenci S., Rega G., 2000, "Periodic solutions and bifurcations in an impact inverted pendulum under impulsive excitation," *Chaos, Sol. & Fract.*, **11**(15), 2453-2472.
24. Lenci S., Rega G., 2000, "Numerical control of impact dynamics of inverted pendulum through optimal feedback strategies," *J. Sound Vibr.*, **236**(3), 505-527.
25. Lenci S., 2000, "A limit model in the analysis of steel-concrete beams," *Math. Mod. Meth. Appl. Sci.*, **10**(8), 1233-1250.
26. Lenci S., 2000, "An existence theorem for the limit analysis problem," *Comp. Ren. Ac. Sci. Paris*, **328-IIIb**(10), 713-718.
27. Lenci S., Lupini R., 2001, "Chaotic linear maps," *Nonlin. Anal. T. M. & A.*, **45**(6), 707-721.
28. Lenci S., 2001, "Analysis of a crack at a weak interface," *Int. J. Fracture*, **108**(3), 275-290.
29. Lenci S., Rega G., 2003, "Optimal numerical control of single-well to cross-well chaos transition in mechanical systems," *Chaos, Sol. & Fract.*, **15**(1), 173-186.
30. Lenci S., Rega G., 2003, "Optimal control of homoclinic bifurcation: Theoretical treatment and practical reduction of safe basin erosion in the Helmholtz oscillator," *J. Vibr. Control*, **9**(3), 281-315.
31. Rega G., Lenci S., 2003, "Nonsmooth dynamics, bifurcation and control in an impact system," *Syst. Anal. Mod. Simul.*, **43**(3), 343-360.
32. Lenci S., Rega G., 2003, "Optimal control of nonregular dynamics in a Duffing oscillator," *Nonlin. Dyn.*, **33**(1), 71-86.
33. Lenci S., Rega G., 2003, "Regular nonlinear dynamics and bifurcations of an impacting system under general periodic excitation," *Nonlin. Dyn.*, **34**(3), 249-268.
34. Lenci S., Rega G., 2004, "Global optimal control and system-dependent solutions in the hardening Helmholtz-Duffing oscillator," *Chaos, Sol. & Fract.*, **21**(5), 1031-1046.
35. Lenci S., Rega G., 2004, "Higher-order Melnikov functions for single-d.o.f. oscillators: Theoretical treatment and applications," *Math. Prob. Eng.*, **2004**(2), 145-168.
36. Lenci S., Rega G., 2004, "A unified control framework of the nonregular dynamics of mechanical oscillators," *J. Sound Vibr.*, **278**, 1051-1080.
37. Lenci S., 2004, "Elastic and damage longitudinal shear behaviour of highly concentrated long fiber composites," *Meccanica*, **39**(5), 415-439.
38. Lenci S., Callegari M., 2005, "Simple analytical models for the J-lay problem," *Acta Mech.*, **178**, 23-39.
39. Lenci S., Rega G., 2005, "Heteroclinic bifurcations and optimal control in the nonlinear rocking dynamics of generic and slender rigid blocks," *Int. J. Bif. Chaos*, **15**(6), 1901-1918.
40. Rega G., Lenci S., 2005, "Identifying, evaluating, and controlling dynamical integrity measures in nonlinear mechanical oscillators," *Nonlin. Anal. T. M. & A.*, **63**, 902-914.
41. Lenci S., Demeio L., Petrini M., 2005, "Response scenario and non-smooth features in the nonlinear dynamics of an impacting inverted pendulum," *ASME J. Comp. Nonlin. Dyn.*, **1**(1), 56-64.
42. Lenci S., Rega G., 2006, "A dynamical systems approach to the overturning of rocking blocks," *Chaos, Sol. & Fract.*, **28**(2), 527-542.
43. 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.
44. Lenci S., Rega G., 2006, "Control of pull-in dynamics in a nonlinear thermoelastic electrically actuated microbeam," *J. Micromech. Microeng.*, **16**(2), 390-401.
45. Demeio L., Lenci S., 2006, "Asymptotic analysis of chattering oscillations for an impacting inverted pendulum," *Quart. J. Mech. Appl. Math.*, **59**(3), 419-434.
46. Xu X., Pavlovskaja E., Wiercigroch M., Romeo F., Lenci S., 2007, "Dynamic interactions between parametric pendulum and electrodynamic shaker," *ZAMM-Z. Angew. Math. Mech.*, **87**(2), 172-186.
47. 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.
48. Lancioni G., Lenci S., 2007, "Forced nonlinear oscillations of a semi-infinite beam resting on a unilateral elastic soil: analytical and numerical solutions," *ASME J. Comp. Nonlin. Dyn.*, **2**(2), 155-166.
49. Lenci S., Rega G., 2007, "Dimension reduction of homoclinic orbits of buckled beams via the nonlinear normal modes technique," *Int. J. Non-Linear Mech.*, **42**(3), 515-528.
50. Lenci S., Pavlovskaja E., Rega G., Wiercigroch M., 2008, "Rotating solutions and stability of parametric pendulum by perturbation method," *J. Sound Vibr.*, **310**(1-2), 243-259.

51. Rega G., Lenci S., 2008, "Dynamical integrity and control of nonlinear mechanical oscillators," *J. Vibr. Control*, **14**(1-2), 159-179.
52. Serpilli M., Lenci S., 2008, "Limit models in the analysis of three different layered elastic strips," *Eur. J. Mech. A/Solids*, **27**, 247-268.
53. Lenci S., Rega G., 2008, "Control of the homoclinic bifurcation in buckled beams: infinite dimensional vs reduced order modeling," *Int. J. Non-Linear Mech.*, **43**(6), 474-489.
54. Demeio L., Lenci S., 2008, "Second-order solutions for the dynamics of a semi-infinite cable on a unilateral substrate," *J. Sound Vibr.*, **315**(3), 414-432.
55. Clementi F., Lenci S., Sadowski T., 2008, "Fracture characteristics of unfired earth," *Int. J. Fracture*, **149**(2), 193-198.
56. Lenci S., Rega G., 2008, "Competing dynamic solutions in a parametrically excited pendulum: attractor robustness and basin integrity," *ASME J. Comp. Nonlin. Dyn.*, **3**(4), 41010-1-9.
57. Lancioni G., Lenci S., Galvanetto U., 2009, "Non-linear dynamics of a mechanical system with a frictional unilateral constraint," *Int. J. Non-Linear Mech.*, **44**(6), 658-674.
58. Lenci S., Ruzziconi L., 2009, "Nonlinear phenomena in the single-mode dynamics of a cable-supported beam," *Int. J. Bif. Chaos*, **19**(3), 923-945.
59. Lenci S., Clementi F., 2009, "Simple mechanical model of curved beams by a 3D approach," *ASCE J. Eng. Mech.*, **135**(7), 597-613.
60. Chacon R., Martinez P.J., Martinez J.A., Lenci S., 2009, "Chaos suppression and desynchronization phenomena in periodically coupled pendula subjected to localized heterogeneous forces," *Chaos, Sol. & Fract.*, **42**(4), 2342-2350.
61. Quagliarini E., Lenci S., Iorio M., 2010, "Mechanical properties of adobe walls in a Roman Republican domus at Suasa," *J. Cult. Heritage*, **11**(2), 130-137.
62. Quagliarini E., Lenci S., 2010, "The influence of natural stabilizers and natural fibers on the mechanical properties of ancient Roman adobe bricks," *J. Cult. Heritage*, **11**(3), 309-314.
63. Marcheggiani L., Lenci S., 2010, "On a model for the pedestrians-induced lateral vibrations of footbridges," *Meccanica*, **45**(4), 531-551.
64. Lancioni G., Lenci S., 2010, "Dynamics of a semi-infinite beam on unilateral springs: Touch Down-Points motion and detached bubbles propagation," *Int. J. Non-Linear Mech.*, **45**, 876-887.
65. Lenci S., Rega G., 2011, "Detecting stable-unstable nonlinear invariant manifold and homoclinic orbits in mechanical systems," *Nonlin. Dyn.*, **63**(1), 83-94.
66. Goncalves P.B., Silva F.M.A., Rega G., Lenci S., 2011, "Global dynamics and integrity of a two-dof model of a parametrically excited cylindrical shell," *Nonlin. Dyn.*, **63**(1), 61-82.
67. Piattoni Q., Quagliarini E., Lenci S., 2011, "Experimental analysis and modelling of the mechanical behaviour of earthen bricks," *Constr. Build. Materials*, **25**(4), 2067-2075.
68. 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.
69. Ruzziconi L., Litak G., Lenci S., 2011, "Nonlinear oscillations, transition to chaos and escape in the Duffing system with non-classical damping," *J. Vibroengineering*, **13**(1), 22-38.
70. Orlando D., Goncalves P.B., Rega G., Lenci S., 2011, "Influence of modal coupling on the nonlinear dynamics of Augusti's model," *ASME J. Comp. Nonlin. Dyn.*, **6**(4), 41014-1-11. DOI: 10.1115/1.4003880
71. Lenci S., Rega G., 2011, "Load carrying capacity of systems within a global safety perspective. Part I: Robustness of stable equilibria under imperfections," *Int. J. Non-Linear Mech.*, **46**, 1232-1239.
72. Lenci S., Rega G., 2011, "Load carrying capacity of systems within a global safety perspective. Part II: Attractor/basin integrity under dynamic excitations," *Int. J. Non-Linear Mech.*, **46**, 1240-1251.
73. Orlando D., Goncalves P.B., Rega G., Lenci S., 2011, "Non-linear dynamics and imperfection sensitivity of Augusti's model," *J. Mech. Mat. Struct.*, **6**(7-8), 1065-1078.
74. Lenci S., Marcheggiani L., 2011, "Critical threshold and underlying dynamical phenomena in the pedestrians-induced lateral vibrations of footbridges," *J. Mech. Mat. Struct.*, **6**(7-8), 1031-1051.
75. Demeio L., Lancioni G., Lenci S., 2011, "Nonlinear resonances in infinitely long 1D continua on a tensionless substrate," *Nonlin. Dyn.*, **66**(3), 271-284. DOI: 10.1007/s11071-011-0016-4.
76. Lenci S., Piattoni Q., Clementi F., Sadowski T., 2011, "An experimental study on damage evolution of unfired dry earth under compression," *Int. J. Fracture*, **172**, 193-200.
77. Pavlovskaja E., Horton B., Lenci S., Wiercigroch M., Rega G., 2012, "Approximate rotational solutions of pendulum under combined vertical and horizontal excitation," *Int. J. Bif. Chaos.*, **22**(5), 1250100-1-13. DOI: 10.1142/S0218127412501003
78. Lenci S., Brocchini M., Lorenzoni C., 2012, "Experimental rotations of a pendulum on water waves," *ASME J. Comp. Nonlin. Dyn.*, **7**(1), 11007-1-9. DOI: 10.1115/1.4004547
79. Quagliarini E., Lenci S., Seri E., 2012, "On the damage of frescoes and stuccoes on the lower surface of historical flat suspended light vaults," *J. Cult. Heritage*, **13**(3), 293-303.

80. Serpilli M., Lenci S., 2012, "Asymptotic modeling of the linear dynamics of laminated beams," *Int. J. Solids and Structures*, **49**(9), 1147-1157.
81. Quagliarini E., Monni F., Lenci S., Bondioli F., 2012, "Tensile characterization of basalt fibre ropes and rods: a first contribution," *Constr. Build. Materials*, **34**, 372-380.
82. Lenci S., Clementi F., Sadowski T., 2012, "Experimental determination of the fracture properties of unfired dry earth," *Engineering Fracture Mechanics*, **87**, 62-72.
83. Lenci S., Clementi F., 2012, "Effects of shear stiffness, rotatory and axial inertia, and interface stiffness on free vibrations of a two-layer beam," *J. Sound Vibr.*, **331**, 5247-5267.
84. 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
85. Lenci S., Orlando D., Rega G., Goncalves P.B., 2012, "Controlling Practical Stability and Safety of Mechanical Systems by Exploiting Chaos Properties," *Chaos*, **22**, 047502-1-15.
86. Demeio L., Lenci S., 2013, "Nonlinear resonances of a semi-infinite cable on a nonlinear elastic foundation," *Comm. Nonlinear Sci. Num. Sim.*, **18**(3), 785-798.
87. Ruzziconi L., Younis M.I., Lenci S., 2013, "An Efficient Reduced-Order Model to Investigate the Behavior of an Imperfect Microbeam Under Axial Load and Electric Excitation," *ASME J. Comp. Nonlin. Dyn.*, **8**(1), 011014-1-9.
88. Orlando D., Goncalves P.B., Rega G., Lenci S., 2013, "Influence of Symmetries and Imperfections on the Nonlinear Vibration Modes of Archetypal Structural Systems," *Int. J. Non-Linear Mech.*, **49**, 175-195. DOI: 10.1016/j.ijnonlinmec.2012.10.004
89. Ruzziconi L., Lenci S., Younis M.I., 2013, "An Imperfect Microbeam Under Axial Load and Electric Excitation: Nonlinear Phenomena and Dynamical Integrity," *Int. J. Bif. Chaos*, **23**(2), 1350026-1-17.
90. 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
91. Horton B., Lenci S., Pavlovskaja E., Romeo F., Rega G., 2013, "Stability boundaries of period-1 rotation for a pendulum under combined vertical and horizontal excitation," *J. Appl. Nonlin. Dyn.* **2**(2), 103-126. DOI: 10.5890/JAND.2013.04.001
92. Ruzziconi L., Bataineh A.M., Younis M.I., Cui W., Lenci S., 2013, "Nonlinear dynamics of an electrically actuated imperfect microbeam resonator: experimental investigation and reduced-order modeling," *J. Micromech. Microeng.*, **23**, 075012-1-14. DOI: 10.1088/0960-1317/23/7/075012
93. Ruzziconi L., Younis M.I., Lenci S., 2013, "An electrically actuated imperfect microbeam: dynamical integrity for interpreting and predicting the device response," *Meccanica*, **48**(7), 1761-1775. DOI: 10.1007/s11012-013-9707-x
94. Lancioni G., Piattoni Q., Lenci S., Quagliarini E., 2013, "Dynamics of ancient masonry buildings using the NSCD method: failure mechanisms of S. Maria in Portuno's Church subjected to seismic loadings," *Eng. Struct.*, **56**, 1527-1546. DOI: 10.1016/j.engstruct.2013.07.027
95. Lenci S., Rega G., 2013, "An asymptotic model for the free vibrations of a two-layer beam," *Eur. J. Mechanics A/Solids*, **42**, 441-453. DOI: 10.1016/j.euromechsol.2013.07.007
96. Ruzziconi L., Younis M.I., Lenci S., 2013, "Parameter identification of an electrically actuated imperfect microbeam," *Int. J. Non-Linear Mechanics*, **57**, 208-219. DOI: 10.1016/j.ijnonlinmec.2013.08.003
97. Ruzziconi L., Younis M.I., Lenci S., 2013, "Multistability in an electrically actuated carbon nanotube: a dynamical integrity perspective," *Nonlin. Dyn.*, **74**, 533-549. DOI: 10.1007/s11071-013-0986-5
98. Lenci S., Clementi F., Mazzilli C.E.N., 2013, "Simple formulas for the natural frequencies of non-uniform cables and beams," *Int. J. Mech. Sci.*, **77**, 155-163. DOI: 10.1016/j.ijmecsci.2013.09.028
99. Belardinelli P., Brocchini M., Demeio L., Lenci S., 2013, "Dynamical characteristics of an electrically actuated microbeam under the effects of squeeze-film and thermoelastic damping," *Int. J. Eng. Sci.*, **69**, 16-32. DOI: 10.1016/j.ijengsci.2013.03.011
100. Quagliarini E., Lenci S., Piattoni Q., Bondioli F., Bernabei I., Lepore G., Zaccaria M., 2014, "Experimental analysis of romanesque masonries made by tile and brick fragments found at the archaeological site of S. Maria in Portuno," *Int. J. Architect. Heritage*, **8**(2), 161-184. DOI: 10.1080/15583058.2012.683132
101. D'Orazio M., Lenci S., Graziani L., 2014, "Relationship between fracture toughness and porosity of clay brick panels used in ventilated façades: initial investigation," *Engineering Fracture Mechanics*, **116**, 108-121. DOI: 10.1016/j.engfracmech.2013.12.003
102. Quagliarini E., Revel G.M., Lenci S., Seri E., Cavuto A., Pandarese G., 2014, "Historical Plasters on light thin vaults: State of conservation assessment by a hybrid ultrasonic method," *J. Cult. Heritage*, **15**, 104-111. DOI: 10.1016/j.culher.2013.04.008
103. Belardinelli P., Lenci S., Brocchini M., 2014, "Modeling and analysis of an electrically actuated microbeam based on nonclassical beam theory," *ASME J. Comp. Nonlinear Dyn.*, **9**(3), 031016-1-10. DOI: 10.1115/1.4026223

104. Syta A., Litak G., Lenci S., Scheffler M., 2014, "Chaotic Vibrations of the Duffing System with Fractional Damping," *Chaos*, **24**, 013107. DOI: 10.1063/1.4861942
105. Lenci S., 2014, "On the production of energy from sea waves by a rotating pendulum: a preliminary experimental study," *J. Appl. Nonlin. Dyn.*, **3**(2), 187-201. DOI: 10.5890/JAND.2014.06.008
106. 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
107. Graziani L., Kneć M., Sadowski T., D'Orazio M., Lenci S., 2014, "Measurement of R-curve in clay brick blocks using Optical Measuring Technique," *Engineering Fracture Mechanics*, **121-122**, 1-10. DOI: 10.1016/j.engfracmech.2014.04.007
108. Borowiec M., Litak G., Lenci S., 2014, "Noise effected energy harvesting in a beam with stopper," *Int. J. Struct. Stab. Dyn.*, **14**(8), 1440020-1-10. DOI: 10.1142/S0219455414400203
109. Belardinelli P., Lenci S., Demeio L., 2014, "A comparison of different semi-analytical techniques to determine the nonlinear oscillations of a slender microbeam," *Meccanica*, **49**, 1821-1831. DOI: 10.1007/s11012-014-9951-8
110. Martarelli M., Castellini P., Quagliarini E., Seri E., Lenci S., Tomasini E.P., 2014, "Non-destructive evaluation of plasters on historical thin vaults by scanning laser Doppler vibrometers," *Research in Nondestructive Evaluation*, **25**(4), 218-234, DOI: 10.1080/09349847.2014.896964
111. Ruzziconi L., Ramini A.H., M.I. Younis M.I., Lenci S., 2014, "Theoretical prediction of experimental jump and pull-in dynamics in a MEMS sensor," *sensors*, **14**, 17089-17111 (Special Issue "Modeling, Testing and Reliability Issues in MEMS Engineering 2013" edited by S. Mariani). DOI: 10.3390/s140917089
112. Lenci S., Clementi F., Warminski J., 2014, "Nonlinear free dynamics of a two-layer composite beam with different boundary conditions," *Meccanica*, **50**, 675-688 (special issue "Advances in Dynamics, Stability and Control of Mechanical Systems" edited by A. Luongo). DOI: 10.1007/s11012-014-9945-6
113. Clementi F., Demeio L., Mazzilli C.E.N., Lenci S., 2015, "Nonlinear vibrations of non-uniform beams by the MTS asymptotic expansion method," *Continuum Mechanics and Thermodynamics*, **27**, 703-717 (special issue in honor of Angelo Luongo, guest editors F. Dell'Isola and G. Piccardo). DOI: 10.1007/s00161-014-0368-3
114. Davtalab S., Woo K.-C., Pagwiwoko C.P., Lenci S., 2015, "Nonlinear vibrations of a multi-span continuous beam subject to periodic impact excitation," *Meccanica*, **50**, 1227-1237. DOI: 10.1007/s11012-014-0092-x
115. Belardinelli P., Lenci S., Demeio L., 2015, "Vibration frequency analysis of an electrically-actuated microbeam resonator accounting for thermoelastic coupling effect," *Int. J. Dynamics and Control*, **3**(2), 157-172 (Special Issue on "Appl. of Nonlinear Resonances to Microscale and Nanoscale Systems," guest editor H. Yabuno). DOI: 10.1007/s40435-014-0132-3
116. Clementi F., Maracchini G., Quagliarini E., Lenci S., 2015, "Post-World War II Italian School Buildings: typical and specific seismic vulnerabilities," *J. Build. Eng.*, **4**, 152-166. DOI: 10.1016/j.job.2015.09.008
117. 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
118. Lenci S., Consolini L., Clementi F., 2015, "On the experimental determination of dynamical properties of laminated glass," *Annals of Solid and Structural Mechanics*, **7**, 27-43 (Special Issue edited by G. Royer-Carfagni). DOI: 10.1007/s12356-015-0040-z
119. Isidori D., Concettoni E., Cristalli C., Soria L., Lenci S., 2016, "Proof of concept of the Structural Health Monitoring of framed structures by a novel combined experimental and theoretical approach," *Struct. Contr. Health Monit.*, **23**, 802-824. DOI: 10.1002/stc.1811
120. Serpilli M., Lenci S., 2016, "An overview of different asymptotic models for anisotropic three-layer plates with soft adhesive," *Int. J. Solids Struct.*, **81**, 130-140. DOI: 10.1016/j.ijsolstr.2015.11.020
121. Pierdicca A., Clementi F., Isidori D., Concettoni E., Cristalli C., Lenci S., 2016, "Numerical model upgrading of a historical masonry palace monitored with a wireless sensor network," *Int. J. Masonry Res. Inn.*, **1**, 74-99 (Best Paper Award).
122. 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 (Special Issue "Dynamics, Stability, and Control of Flexible Structures"). DOI: 10.1016/j.ijnonlinmec.2015.10.003
123. Belardinelli P., Lenci S., 2016, "A first parallel programming approach in basins of attraction computation," *Int. J. of Non-linear Mechanics*, **80**, 76-81 (Special Issue "Dynamics, Stability, and Control of Flexible Structures"). DOI: 10.1016/j.ijnonlinmec.2015.10.016
124. Quagliarini E., Monni F., Bondioli F., Lenci S., 2016, "Basalt fiber ropes and rods: durability tests for their use in building engineering," *J. Build. Eng.*, **5**, 142-150. DOI: 10.1016/j.job.2015.12.003
125. Lenci S., Clementi F., Rega G., 2016, "A comprehensive analysis of hardening/softening behaviour of shearable planar beams with whatever axial boundary constraint," *Meccanica*, **51**(11), 2589-2606 (Special Issue "Nonlinear Dynamics, Identification and Monitoring of Structures" in memory of Francesco Benedettini). DOI: 10.1007/s11012-016-0374-6
126. Lancioni G., Gentilucci D., Quagliarini E., Lenci S., 2016, "Seismic vulnerability of ancient stone arches

- through the Non-Smooth Contact Dynamics Method,” *Eng. Struct.*, **119**, 110-121. DOI: 10.1016/j.engstruct.2016.04.001
127. Lenci S., Rega G., 2016, “Axial-transversal coupling in the free nonlinear vibrations of Timoshenko beams with arbitrary slenderness and axial boundary conditions,” *Proc. Royal Soc. A*, **472**, 20160057. DOI: 10.1098/rspa.2016.0057
 128. Belardinelli P., Lenci S., 2016, “An efficient parallel implementation of Cell mapping methods for MDOF systems,” *Nonlinear Dynamics*, **86**, 2279-2290 (Special Issue Euromech Colloquium Sperlonga). DOI: 10.1007/s11071-016-2849-3
 129. Clementi F., Scalbi A., Lenci S., 2016, “Seismic performance of precast reinforced concrete buildings with dowel pin connections,” *Journal of Building Engineering*, **7**, 224-238. DOI: 10.1016/j.jobe.2016.06.013
 130. Orlando D., Goncalves P.B., Lenci S., Rega G., 2016, “Increasing Practical Safety of Von Mises Truss via Control of Dynamic Escape,” *Applied Mechanics and Materials*, **849**, 46-56. DOI: 10.4028/www.scientific.net/AMM.849.46
 131. Pierdicca A., Clementi F., Maracci D., Isidori D., Lenci S., 2016, “Damage detection in a precast structure subjected to an earthquake: a numerical approach,” *Engineerig Structures*, **127**, 447-458. DOI: 10.1016/j.engstruct.2016.08.058
 132. Clementi F., Gazzani V., Poiani M., Lenci S., 2016, “Assessment of seismic behaviour of heritage masonry buildings using numerical modelling,” *Journal of Building Engineering*, **8**, 29-47. DOI: 10.1016/j.jobe.2016.09.005
 133. Quagliarini E., Scalbi A., Monni F., Lenci S., 2017, “A novel and sustainable application of basalt fibers for strengthening unreinforced masonry walls,” *J. Natural Fibers*, **14**(1), 97-111. DOI: 10.1080/15440478.2016.1163763
 134. Lenci S., Consolini L., Clementi F., 2017, “The use of the Fitting Time Histories method to detect the nonlinear behaviour of laminated glass,” *J. Vibration Testing and System Dynamics*, **1**(1), 1-14. DOI: 10.5890/JVTSD.2017.03.001
 135. Lenci S., Mazzilli C.E.N., 2017, “Asynchronous free oscillations of linear mechanical systems: a general appraisal and a digression on a column with a follower force,” *Int. J. Non-Linear Mech.* (Special Issue “Nonlinear Dynamics: A Conspectus and a festschrift for Professors G. Rega and F. Vestroni”), **94**, 223-234. DOI: 10.1016/j.ijnonlinmec.2017.02.017.
 136. Graziani L., Quagliarini E., D’Orazio M., Lenci S., Scalbi A., 2017, “A more sustainable way for producing RC sandwich panels on-site and in developing countries,” *Sustainability*, **9**, 472-1-14. DOI: 10.3390/su9030472
 137. Quagliarini E., Monni F., Greco F., Lenci S., 2017, “Flexible repointing of historical facing-masonry column-type specimens with basalt fibers: a first insight,” *J. Cultural Heritage*, **24**(1), 165-170. DOI: 10.1016/j.culher.2016.11.003
 138. Babilio E., Lenci S., 2017, “On the notion of curvature and its mechanical meaning in a geometrically exact plane beam theory,” *Int. J. Mechanical Science*, **128-129**, 277-293. DOI: 10.1016/j.ijmecsci.2017.03.031
 139. Kecik K., Mitura A., Lenci S., Warminski J., 2017, “Energy harvesting from a magnetic levitation system,” *Int. J. Non-Linear Mech.* (Special Issue “Nonlinear Dynamics: A Conspectus and a festschrift for Professors G. Rega and F. Vestroni”), **94**, 200-206. DOI: 10.1016/j.ijnonlinmec.2017.03.021
 140. Lenci S., Mazzilli C.E.N., 2017, “Asynchronous modes of vibrations in linear conservative systems: an illustrative discussion of plane framed structures,” *Meccanica* (Special Issue “New Trends in Dynamic and Stability” on the GADeS activities. Eds: Sandra Carillo e Walter D’Ambrogio), **52**(13), 3131-3147. DOI: 10.1007/s11012-017-0670-9
 141. Mancini E., Isidori D., Sasso M., Cristalli C., Amodio D., Lenci S., 2017, “Characterization of the cyclic-plastic behavior of flexible structures by applying the Chaboche model,” *Arch. Civil Mech. Eng.*, **17**, 761-775. DOI: 10.1016/j.acme.2017.02.003
 142. Clementi F., Lenci S., Rega G., 2017, “Cross-checking asymptotics and numerics in the hardening/softening behavior of Timoshenko beams with axial end spring and variable slenderness,” *Archive of Applied Mechanics*, **87**(5), 865-880 (Special Issue post DSTA2015 in Lodz). DOI: 10.1007/s00419-016-1159-z
 143. Pierro A., Tinti E., Lenci S., Brocchini M., Colicchio G., 2017, “Investigation of the dynamic loads on a vertically-oscillating circular cylinder close to the sea bed: the role of viscosity,” *ASME Journal of Offshore Mechanics and Arctic Engineering*, **139**, 061101-1-12. DOI: 10.1115/1.4037247
 144. Lenci S., Clementi F., Rega G., 2017, “Reply to the Discussion on ‘A comprehensive analysis of hardening/softening behavior of shearable planar beams with whatever axial boundary constraint’, by D. Genovese”, *Meccanica*, **52**(11), 3005-3008. DOI: 10.1007/s11012-016-0614-9
 145. Clementi F., Pierdicca A., Formisano A., Catinari F., Lenci S., 2017, “Numerical model upgrading of a historical masonry palace damaged during the 2016 italian earthquakes: the case study of palazzo del Podestà in Montelupone (Italy),” *J. Civil Structural Health Monitoring*, **7**(5), 703-717. DOI: 10.1007/s13349-017-0253-4
 146. Mezzapelle P.A., Scalbi A., Clementi F., Lenci S., 2017, “The influence of dowel-pin connections on the seismic fragility assessment of RC precast industrial buildings,” *The Open Civil Engineering Journal* (Special Issue

- “Open challenges in seismic design of new structures and vulnerability reduction of existing buildings”), **11**, 1138-1157. DOI: 10.2174/1874149501711011138
147. Clementi F., Quagliarini E., Monni F., Giordano E., Lenci S., 2017, “Cultural heritage and earthquake: The case study of “Santa Maria della Carità” in Ascoli Piceno,” *The Open Civil Engineering Journal* (Special Issue “Open challenges in seismic design of new structures and vulnerability reduction of existing buildings”), **11**, 1079-1105. DOI: 10.2174/1874149501711011079
 148. Belardinelli P., Lenci S., Rega S., 2018, “Seamless variation of symmetric and anisometric dynamical integrity measures in basins’s erosion,” *Communications in Nonlinear Science and Numerical Simulations*, **56**, 499-507. DOI: 10.1016/j.cnsns.2017.08.030
 149. Formentini M., Lenci S., 2018, “An innovative building envelop (kinetics façade) with Shape Memory Alloys used as actuators and sensors,” *Automation in Construction*, **85**, 220-231. DOI: 10.1016/j.autcon.2017.10.006
 150. Stazi F., Saltarelli F., Tittarelli F., Chiappini G., Cerri G., Lenci S., 2018, “Carbon nanofibers in polyurethane foams: experimental evaluation of thermo-hygrometric and mechanical performance,” *Polymer Testing*, **67**, 234-245. DOI: 10.1016/j.polymertesting.2018.01.028
 151. Brzeski P., Belardinelli P., Lenci S., Perlikowski P., 2018, “Revealing compactness of basins of attraction of multi-DoF dynamical systems,” *Mechanical Systems and Signal Processing*, **111**, 348-361. DOI: 10.1016/j.ymsp.2018.04.005
 152. Kovacic I., Lenci S., 2018, “Externally excited purely nonlinear oscillators: insights into their response at different excitation frequencies,” *Nonlinear Dynamics*, **93**, 119-132 (Special Issue “Multiscale Mechanics and Physics: new approaches and phenomena” edited by Yuri Mikhlin). DOI: 10.1007/s11071-017-3741-5
 153. Lenci S., 2018, “Isochronous beams by an inclined roller support,” *ASME J. Applied Mechanics*, **85**, 091008-1-11. DOI: 10.1115/1.4040453
 154. Lenci S., Clementi F., 2018, “Axial-transversal coupling in the nonlinear dynamics of a beam with an inclined roller,” *Int. J. Mech Sciences*, **144**, 490-501. DOI: 10.1016/j.ijmecsci.2018.06.007
 155. Clementi F., Gazzani V., Poiani M., Mezzapelle P.A., Lenci S., 2018, “Seismic Assessment of a monumental building through nonlinear analyses of a 3D solid model,” *Journal of Earthquake Engineering*, **22**, 35-61. DOI: 10.1080/13632469.2017.1297268
 156. Kloda L., Lenci S., Warminski J., 2018, “Nonlinear dynamics of a planar beam-spring system: analytical and numerical approaches,” *Nonlinear Dynamics*, **94**(3), 1721-1738. DOI: 10.1007/s11071-018-4452-2
 157. Belardinelli P., Sajadi B., Lenci S., Alijani F., 2019, “Global dynamics and integrity of a micro-plate pressure sensor,” *Communications in Nonlinear Science and Numerical Simulation*, **69**, 432-444. DOI: 10.1016/j.cnsns.2018.09.027
 158. Demeio L., Lenci S., 2019, “Dynamic analysis of a ball bouncing on a flexible beam,” *Journal of Sound and Vibrations*, **441**, 152-164. DOI: 10.1016/j.jsv.2018.10.024
 159. 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
 160. Giordano E., Clementi F., Nespeca A., Lenci S., 2019, “Damage assessment by numerical modelling of Sant’Agostino’s sanctuary in Offida during the central Italy 2016-2017 seismic sequence,” *Frontiers in Built Environment*, accepted. DOI: 10.3389/fbuil.2018.00087
 161. Maracci D., Alfano G., Serpieri R., Lenci S., 2019, “Characterising interfaces for reinforced concrete: experiments and multiplane cohesive zone modelling for Titanium alloy rebars,” *Eur. J. Mechanics A/Solids*, **75**, 258-276, DOI: 10.1016/j.euromechsol.2019.01.019
 162. Pierdicca A., Clementi F., Fortunati A., Lenci S., 2019, “Tracking modal parameters evolution of a school building during retrofitting works,” *Bulletin of Earthquake Engineering*, **17**(2), 1029-1052. DOI: 10.1007/s10518-018-0483-9
 163. Ribeiro E.A.R., Mazzilli C.E.N., Lenci S., 2019, “Influence of Geometric Non-Linearities on the Asynchronous Modes of an Articulated Prestressed Slender Structure,” *ASME J. Vibration and Acoustics*, **141**(2), 021007-1-9. DOI: 10.1115/1.4041305
 164. Clementi F., Ferrante A., Giordano E., Dubois F., Lenci S., 2019, “Damage assessment of ancient masonry churches stroked by the Central Italy Earthquakes of 2016 by the Non-Smooth Contact Dynamics method,” *Bulletin of Earthquake Engineering*, in press. DOI: 10.1007/s10518-019-00613-4
 165. Lenci S., Clementi F., 2019, “Flexural wave propagation in infinite beams on a unilateral elastic foundation,” *Nonlinear Dynamics*, in press (Special Issues in Memory of Professor Ali H. Nayfeh). DOI: 10.1007/s11071-019-04944-4
 166. Postacchini M., Zitti G., Giordano E., Clementi F., Darvini G., Lenci S., 2019, “Flood impacts on masonry buildings: the effect of flow characteristics and incidence angle,” *Journal of Fluids and Structures*, **88**, 48-70. DOI: 10.1016/j.jfluidstructs.2019.04.004
 167. Chieffo N., Clementi F., Formisano A., Lenci S., 2019, “Comparative fragility methods for seismic assessment of masonry building located in Muccia (Italy),” *J. Building Eng.*, in press. DOI: 10.1016/j.job.2019.100813

168. Andonovski N., Lenci S., 2019, "Six dimensional basins of attraction computation on small clusters with semi-parallelized SCM method," *Int. J. Dynamics and Control*, in press. DOI: 10.1007/s40435-019-00557-2
169. Gazzani V., Poiani M., Clementi F., Pace G., Lenci S., 2019, "Influence of FE modelling approaches on vulnerabilities of RC school buildings and proposal of a CFRP retrofitting intervention", *The Open Construction & Building Technology Journal*, in press.