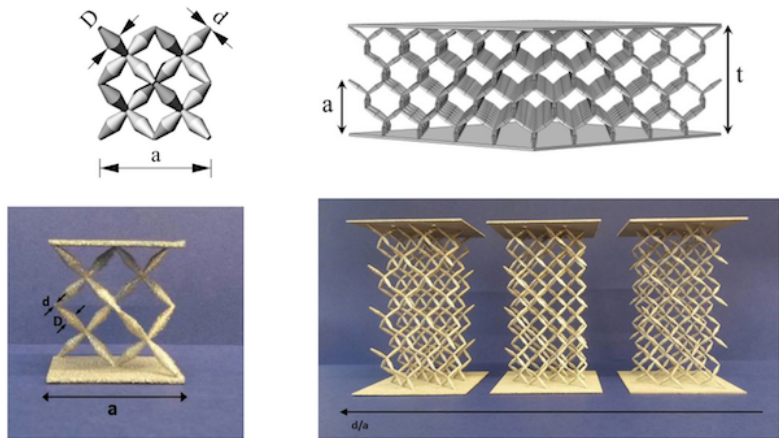




Professor Fernando Fraternali



From: F. Fraternali, G. Carpentieri, R. Montuori, A. Amendola and G. Benzoni, "On the use of cellular materials for the design of innovative seismic isolations devices", 5th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2015), 25-27 May 2015, Crete Island, Greece

See:

<http://www.fernandofraternaliresearch.com/>

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<https://scholar.google.com/citations?user=5vfFr9cAAAAJ&hl=en>

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Biography:

Fernando Fraternali is Professor of Structural Mechanics in the Department of Civil Engineering at the University of Salerno, Italy. He received his B.Sc. and M.Sc. degrees in Civil and Environmental Engineering from the University of Salerno, and a Ph.D. in Multiscale Mechanics from King's College London. F. Fraternali has participated as a PI or co-PI in various research projects funded by the Italian National Research Council, the Ministry of Education, the Ministry of Foreign Affairs (Italy-USA scientific cooperation), and US research agencies. Most of his research work concerns computational mechanics; multiscale numerical modeling and simulation of materials and structures; and the computational design and engineering of innovative materials, such as highly nonlinear phononic crystals, environmentally compatible composite materials, nanomaterials and biomaterials. Prof. Fraternali was awarded a Fulbright Research Scholarship for the academic year 2005/06 and has been Visiting Professor at the Graduate Aerospace Laboratories of the California Institute of Technology since September 2005 (several periods), and the Department of Mechanical and Aerospace Engineering, University of California, San Diego, USA, from August 2012 through to the present. Recently, he received the "Bdr2017 Award - Category Green Economy" for the University of Salerno spin-off Newmatt, (founder and CEO) within the Startup Competition on Innovation and Entrepreneurship "Borsa della Ricerca 2017" (Fisciano, May 2017); the "2015 Hetenyi Award" from the Society for Experimental Mechanics, Inc. (Bethel, CT 06801, USA; June 2014); the "Contributions to the Variational Theory of Fracture" Award from the Vibration and Wave Propagation Laboratory of the Georgia Institute of Technology (Sept. 2012); and the "Contributions to Understanding the Behavior of Waves in Granular Systems" Award from the Granular Science Laboratory of the New Jersey Institute of Technology (Aug. 2012). Prof. Fraternali is on the Board of Editors of the

International Journals: *Mechanics Research Communications* (Elsevier, ISSN: 0093-6413); *World Journal of Engineering* (Multi-Science Publishing Co. Ltd, ISSN: 1708-5284); *Frontiers in Materials* (Frontiers Publishing, ISSN: 2296-8016); *Curved and Layered Structures* (De Gruyter Open, ISSN: 2353-7396); and *Ingegneria Sismica - International Journal of Earthquake Engineering* (Patron Editore, ISSN: 0393-1420). F. Fraternali is Guest Editor of the following special issues: "Multi-Scale Modeling and Characterization of Innovative Materials and Structures" , *Mechanics Research Communications* (Volume 58, Pages 1-156, June 2014); "Composite Lattices and Multiscale Innovative Materials and Structures" , *Composites Part B: Engineering* (Volume 115, Pages 1-504, April 2017).

Selected Publications:

- Fraternali F., Reddy J.N.: A penalty model for the analysis of laminated composite shells. *Int. J. Solids Struct.* 30, 3337–3355 (1993)
- Fraternali F, Feo L. On a moderate rotation theory of thin-walled composite beams. *Composite Part B* 2000;31:141–158
- Elsayed T, Mota A, Fraternali F, Ortiz M. A variational constitutive model for soft biological tissues. *J Biomech* 2008;41:1458–1466.
- Fraternali F, Blesgen T, Amendola A, Daraio C. Multiscale mass-spring models of carbon nanotube foams. *J Mech Phys Solid* 2011;59:89–102.
- Fraternali F, Marino A, Elsayed T, Della Cioppa A. Structural shape optimization via variational methods and evolutionary algorithms. *Mech Adv Mater Struct* 2011;18:225–243
- Raney JR, Fraternali F, Amendola A, Daraio C. Modeling and in situ identification of material parameters for layered structures based on carbon nanotube arrays. *Compos Struct* 2011;93:3013–3018.
- Schmidt B, Fraternali F. Universal formulae for the limiting elastic energy of membrane networks. *J Mech Phys Solid* 2012;60:172–180
- Blesgen T, Fraternali F, Raney JR, Amendola A, Daraio C. Continuum limits of bistable spring models of carbon nanotube arrays accounting for material damage. *Mech Res Commun* 2012;45:58–63.
- F. Fraternali, J.R. Raney and C. Daraio, "Modeling microscale instabilities in compressed carbon nanotube bundles using multistable spring models", *Composite Structures*, Vol. 96, pp 745-750, 2013
- F. Fraternali, G. Carpentieri, R. Montuori, A. Amendola and G. Benzoni, "On the use of cellular materials for the design of innovative seismic isolations devices", 5th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPdyn 2015), 25-27 May 2015, Crete Island, Greece, 2015