



**UNIVERSITÀ
DI PARMA**

DIPARTIMENTO DI INGEGNERIA
E ARCHITETTURA

Luca Collini

Brief CV



Personal data

Born in 1975, Luca Collini is Associate Professor since 2014 at the Department of Engineering and Architecture of the University of Parma, Italy.

He's graduated in Mechanical Engineering in 2000 at the University of Parma, discussing a thesis on the dynamical behavior of F3 competition tires and F3 handling.

In 2004 he got the PhD in Industrial Engineering discussing the thesis "*Micromechanical modeling of the elasto-plastic behavior of heterogeneous nodular cast iron*".

In the same year 2004 he becomes researcher at the Department of Engineering and Architecture of the University of Parma, Italy.

Research activity

His research activity is actually focused on the mechanical behavior of materials, including fatigue and fracture strength and particularly on the micromechanics simulation, on the development of mechanical design methodologies and analysis, and on nondestructive techniques based on mechanical vibrations.

He is author of about 150 papers of which about 40 published on international journals.

Teaching activity

He currently teaches Industrial Design for master students in Management Engineering, and Mechanics of Materials and Structural Integrity at the master degree course in Mechanical Engineering.

He is coordinator of the Exchange program Erasmus+ KA1 with the Russia Federation.

Scientific activity

Prof. Collini is expert for the Italian Ministry of Education for the evaluation of scientific programs about industrial development and technological research; he is actually reviewer of the international journals: Journal of Materials: Design and Application; Journal of Mechanical Engineering Science, Metals, and is member of the Editorial Board of the journal Fracture and Structural Integrity (FIS). He has been editor of the book "Copper Alloys Early Applications and Current Performance - Enhancing Processes", ISBN 978-953-51-0160-4.

Awards

- Award for best paper 2013 *Journal of Strain Analysis for Engineering Design*, "Collini L., Bonardi A., A micromechanical model of the evolution of stress & strain fields in ultrafine-grained metal structures under tension";
- 2014 Best Paper Award *Case Studies in Non-destructive Testing and Evaluation*, "Collini L., Degasperis F., MRT detection of fretting fatigue cracks in a cableway locked coil rope".

Relevant publications

<u>Design and Additive Manufacturing of Closed Cells from Supportless Lattice Structure</u>	A. Kumar, L. Collini, A. Daurel, J.-Y. Jeng.	2020	<u>Additive Manufacturing</u> Available online 19 March 2020, 101168
<u>Optimal design of shape memory alloy composite under deflection constraint</u>	Gandhi, Y., Pirondi, A., Collini, L.	2019	<u>Materials</u> 12(11),1733 Open Access
<u>Detection of cracks in axially loaded tie-rods by vibration analysis</u>	Collini, L., Garziera, R., Riabova, K.	2019	<u>Nondestructive Testing and Evaluation</u> Article in Press
<u>Design of an instrumentation for the automated damage detection in ceilings</u>	Belletti, B., Berardengo, M., Collini, L., Foresti, R., Garziera, R.	2018	<u>NDT and E International</u> 94, pp. 31-37
<u>Measurements of loudspeakers with a laser doppler vibrometer and the exponential sine sweep excitation technique</u>	Bellini, M.C., Collini, L., Farina, A., Pinardi, D., Riabova, K.	2018	<u>AES: Journal of the Audio Engineering Society</u> 65(7-8), pp. 600-612
<u>Mechanical vibrations applied to nondestructive evaluation of materials and structures</u>	Collini, L., Gasparini, G., Palermo, M., Russo, S.	2017	<u>Shock and Vibration</u> 2017,3769401 Open Access
<u>Fatigue crack growth analysis in porous ductile cast iron microstructure</u>	Collini, L., Pirondi, A.	2014	<u>International Journal of Fatigue</u> 62, pp. 258-265
<u>Modal tests on buildings: Correlating large amounts of acquisitions with different space-time collocations</u>	Garziera, R., Collini, L., Manconi, E.	2013	<u>Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering</u> 227(7), pp. 577-587
<u>A contact-less diagnosis system for frescoes. Part two: Acoustic excitation-acoustic response</u>	Collini, L., Garziera, R.	2013	<u>NDT and E International</u> 56, pp. 76-81
<u>Thermomechanical stress analysis of dissimilar welded joints in pipe supports: Structural assessment and design optimization</u>	Collini, L., Giglio, M., Garziera, R.	2012	<u>Engineering Failure Analysis</u> 26, pp. 31-49

Scopus database link

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