

# Emilio Barchiesi

## List of Publications by Year in descending order

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65  
papers

2,576  
citations

218381

26  
h-index

197535

49  
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66  
docs citations

66  
times ranked

555  
citing authors

#	ARTICLE	IF	CITATIONS
1	A numerical investigation on impulse-induced nonlinear longitudinal waves in pantographic beams. <i>Mathematics and Mechanics of Solids</i> , 2022, 27, 22-48.	1.5	17
2	A Partial Report on the Controversies About the Principle of VirtualWork: From Archytas of Tarentum to Lagrange, Piola, Mindlin and Toupin. <i>Advanced Structured Materials</i> , 2022, , 341-377.	0.3	7
3	Maximum mechano-damage power release-based phase-field modeling of mass diffusion in damaging deformable solids. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2022, 73, 1.	0.7	7
4	On a hemi-variational formulation for a 2D elasto-plastic-damage strain gradient solid with granular microstructure. <i>Mathematics in Engineering</i> , 2022, 5, 1-24.	0.5	15
5	In-plane dynamic buckling of duoskelion beam-like structures: discrete modeling and numerical results. <i>Mathematics and Mechanics of Solids</i> , 2022, 27, 1164-1184.	1.5	11
6	An Insight into Computational Challenges in Damage Mechanics: Analysis of a Softening Hookeâ€™s Spring. <i>Advanced Structured Materials</i> , 2022, , 537-564.	0.3	1
7	On Boundary Layers Observed in Some 1D Second-Gradient Theories. <i>Advanced Structured Materials</i> , 2022, , 359-376.	0.3	2
8	Nonlinear buckling analysis of double-layered graphene nanoribbons based on molecular mechanics. <i>Carbon Letters</i> , 2021, 31, 895-910.	3.3	7
9	Hemivariational continuum approach for granular solids with damage-induced anisotropy evolution. <i>Mathematics and Mechanics of Solids</i> , 2021, 26, 738-770.	1.5	54
10	The effect of a pre-existing nanovoid on martensite formation and interface propagation: a phase field study. <i>Mathematics and Mechanics of Solids</i> , 2021, 26, 90-109.	1.5	22
11	Additive manufacturing introduced substructure and computational determination of metamaterials parameters by means of the asymptotic homogenization. <i>Continuum Mechanics and Thermodynamics</i> , 2021, 33, 993-1009.	1.4	47
12	On the validation of homogenized modeling for bi-pantographic metamaterials via digital image correlation. <i>International Journal of Solids and Structures</i> , 2021, 208-209, 49-62.	1.3	38
13	Equilibria determination of elastic articulated duoskelion beams in 2D via a Riks-type algorithm. <i>International Journal of Non-Linear Mechanics</i> , 2021, 128, 103628.	1.4	36
14	Computation of brittle fracture propagation in strain gradient materials by the FEniCS library. <i>Mathematics and Mechanics of Solids</i> , 2021, 26, 325-340.	1.5	27
15	Inverse analysis of metamaterials and parameter determination by means of an automatized optimization problem. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2021, 101, e202000277.	0.9	19
16	Investigation of deformation behavior of PETG-FDM-printed metamaterials with pantographic substructures based on different slicing strategies. <i>Composites and Advanced Materials</i> , 2021, 30, 263498332110164.	0.5	6
17	A novel phase-field approach to brittle damage mechanics of gradient metamaterials combining action formalism and history variable. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2021, 101, e202000289.	0.9	23
18	Micromechanics-based elasto-plastic damage energy formulation for strain gradient solids with granular microstructure. <i>Continuum Mechanics and Thermodynamics</i> , 2021, 33, 2213-2241.	1.4	29

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19	Granular micromechanics-based identification of isotropic strain gradient parameters for elastic geometrically nonlinear deformations. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2021, 101, e202100059.	0.9	21
20	Identification of a geometrically nonlinear micromorphic continuum via granular micromechanics. Zeitschrift Fur Angewandte Mathematik Und Physik, 2021, 72, 1.	0.7	29
21	Two-Dimensional Analysis of Size Effects in Strain-Gradient Granular Solids with Damage-Induced Anisotropy Evolution. Journal of Engineering Mechanics - ASCE, 2021, 147, 04021098.	1.6	10
22	A block-based variational elasto-damage model for masonry analysis inspired from granular micromechanics: Preliminary study. Mechanics Research Communications, 2021, 118, 103802.	1.0	4
23	Do We Really Need Pantographic Structures?. Advanced Structured Materials, 2021, , 253-268.	0.3	0
24	A second gradient continuum formulation for bi-pantographic fabrics. Proceedings in Applied Mathematics and Mechanics, 2021, 21, .	0.2	1
25	Kinematically triggered nonlinear vibrations of Hencky-type pantographic sheets. Mathematics and Mechanics of Complex Systems, 2021, 9, 311-335.	0.5	4
26	Heuristic Homogenization of Euler and Pantographic Beams. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2020, , 123-155.	0.3	15
27	On the dependence of standard and gradient elastic material constants on a field of defects. Mathematics and Mechanics of Solids, 2020, 25, 35-45.	1.5	21
28	Two-dimensional continua capable of large elastic extension in two independent directions: Asymptotic homogenization, numerical simulations and experimental evidence. Mechanics Research Communications, 2020, 103, 103466.	1.0	35
29	Large in-plane elastic deformations of bi-pantographic fabrics: asymptotic homogenization and experimental validation. Mathematics and Mechanics of Solids, 2020, 25, 739-767.	1.5	72
30	Discrete versus homogenized continuum modeling in finite deformation bias extension test of bi-pantographic fabrics. Continuum Mechanics and Thermodynamics, 2020, , 1.	1.4	13
31	Three-point bending test of pantographic blocks: numerical and experimental investigation. Mathematics and Mechanics of Solids, 2020, 25, 1965-1978.	1.5	49
32	Symmetric-in-Plane Compression of Polyamide Pantographic Fabrics—Modelling, Experiments and Numerical Exploration. Symmetry, 2020, 12, 693.	1.1	17
33	Multi-scale and multi-physics: towards next-generation engineering materials. Continuum Mechanics and Thermodynamics, 2020, 32, 541-554.	1.4	4
34	A Lagrangian Hencky-type non-linear model suitable for metamaterials design of shearable and extensible slender deformable bodies alternative to Timoshenko theory. International Journal of Non-Linear Mechanics, 2020, 123, 103481.	1.4	63
35	Experimental Investigations of 3D-Deformations in Additively Manufactured Pantographic Structures. Lecture Notes in Mechanical Engineering, 2020, , 101-114.	0.3	1
36	Variational Methods in Continuum Damage and Fracture Mechanics. , 2020, , 2634-2643.		8

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37	Bone Mechanics and Cell Populations: Mathematical Description and Parametric Study of the Model. <i>Advanced Structured Materials</i> , 2020, , 107-126.	0.3	2
38	International Conference on Nonlinear Solid Mechanics 2019: General Topics and Review of Plenary Lectures. <i>Advanced Structured Materials</i> , 2020, , 1-13.	0.3	0
39	Pantographic metamaterials: an example of mathematically driven design and of its technological challenges. <i>Continuum Mechanics and Thermodynamics</i> , 2019, 31, 851-884.	1.4	272
40	Simulation results for damage with evolving microstructure and growing strain gradient moduli. <i>Continuum Mechanics and Thermodynamics</i> , 2019, 31, 1143-1163.	1.4	71
41	Pantographic beam: a complete second gradient 1D-continuum in plane. <i>Zeitschrift Fur Angewandte Mathematik Und Physik</i> , 2019, 70, 1.	0.7	63
42	Advances in pantographic structures: design, manufacturing, models, experiments and image analyses. <i>Continuum Mechanics and Thermodynamics</i> , 2019, 31, 1231-1282.	1.4	212
43	Non-linear Dynamics of Pantographic Fabrics: Modelling and Numerical Study. <i>Advanced Structured Materials</i> , 2019, , 241-254.	0.3	14
44	A novel structural resilience index: Definition and applications to frame structures. <i>Mechanics Research Communications</i> , 2019, 99, 52-57.	1.0	17
45	Variational asymptotic homogenization of beam-like square lattice structures. <i>Mathematics and Mechanics of Solids</i> , 2019, 24, 3295-3318.	1.5	32
46	The Effect of Mechanical Load-induced Intraosseous Pressure Gradients on Bone Remodeling. <i>Advanced Structured Materials</i> , 2019, , 29-49.	0.3	1
47	Analytical Solutions of 2-dimensional Second Gradient Linear Elasticity for Continua with Cubic-D4 Microstructure. <i>Advanced Structured Materials</i> , 2019, , 383-401.	0.3	12
48	Equilibrium paths of Hencky pantographic beams in a three-point bending problem. <i>Mathematics and Mechanics of Complex Systems</i> , 2019, 7, 287-310.	0.5	46
49	Numerical identification of constitutive parameters in reduced-order bi-dimensional models for pantographic structures: application to out-of-plane buckling. <i>Archive of Applied Mechanics</i> , 2019, 89, 1333-1358.	1.2	60
50	Out-of-plane buckling of pantographic fabrics in displacement-controlled shear tests: experimental results and model validation. <i>Continuum Mechanics and Thermodynamics</i> , 2019, 31, 33-45.	1.4	70
51	Mechanical metamaterials: a state of the art. <i>Mathematics and Mechanics of Solids</i> , 2019, 24, 212-234.	1.5	261
52	A Multi-disciplinary Approach for Mechanical Metamaterial Synthesis: A Hierarchical Modular Multiscale Cellular Structure Paradigm. <i>Advanced Structured Materials</i> , 2019, , 485-505.	0.3	36
53	Extensible Beam Models in Large Deformation Under Distributed Loading: A Numerical Study on Multiplicity of Solutions. <i>Advanced Structured Materials</i> , 2019, , 19-41.	0.3	5
54	Introductory remarks about the Volume II of the Complete Works of Gabrio Piola. <i>Advanced Structured Materials</i> , 2019, , 1-22.	0.3	2

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55	Energy approach to brittle fracture in strain-gradient modelling. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20170878.	1.0	102
56	A 1D Continuum Model for Beams with Pantographic Microstructure: Asymptotic Micro-Macro Identification and Numerical Results. Advanced Structured Materials, 2018, , 43-74.	0.3	38
57	Two-dimensional strain gradient damage modeling: a variational approach. Zeitschrift Fur Angewandte Mathematik Und Physik, 2018, 69, 1.	0.7	107
58	First experimental observation of the dynamical behavior of a pantographic metamaterial. Mechanics Research Communications, 2018, 94, 125-127.	1.0	45
59	Wave dispersion in non-linear pantographic beams. Mechanics Research Communications, 2018, 94, 128-132.	1.0	39
60	A strain gradient variational approach to damage: a comparison with damage gradient models and numerical results. Mathematics and Mechanics of Complex Systems, 2018, 6, 77-100.	0.5	156
61	An Inverse Method to Get Further Analytical Solutions for a Class of Metamaterials Aimed to Validate Numerical Integrations. Advanced Structured Materials, 2017, , 193-210.	0.3	20
62	A Review on Models for the 3D Statics and 2D Dynamics of Pantographic Fabrics. Advanced Structured Materials, 2017, , 239-258.	0.3	39
63	Identification of Two-Dimensional Pantographic Structures with a Linear D4 Orthotropic Second Gradient Elastic Model Accounting for External Bulk Double Forces. Advanced Structured Materials, 2017, , 211-232.	0.3	19
64	A review on 2D models for the description of pantographic fabrics. Zeitschrift Fur Angewandte Mathematik Und Physik, 2016, 67, 1.	0.7	96
65	Coupled phase field and nonlocal integral elasticity analysis of stress-induced martensitic transformations at the nanoscale: boundary effects, limitations and contradictions. Continuum Mechanics and Thermodynamics, 0, , 1.	1.4	4