Ivan Giorgio

List of Publications by Year
in descending order

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95 papers	5,356 citations	53660 45 h-index	85405 71 g-index
96 all docs	96 docs citations	96 times ranked	1360 citing authors

#	Article	IF	Citations
1	Pantographic metamaterials: an example of mathematically driven design and of its technological challenges. Continuum Mechanics and Thermodynamics, 2019, 31, 851-884.	1.4	272
2	Large deformations of planar extensible beams and pantographic lattices: heuristic homogenization, experimental and numerical examples of equilibrium. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150790.	1.0	262
3	Advances in pantographic structures: design, manufacturing, models, experiments and image analyses. Continuum Mechanics and Thermodynamics, 2019, 31, 1231-1282.	1.4	212
4	Dynamic problems for metamaterials: Review of existing models and ideas for further research. International Journal of Engineering Science, 2014, 80, 153-172.	2.7	199
5	Homogenization Ã la Piola produces second gradient continuum models for linear pantographic lattices. International Journal of Engineering Science, 2015, 97, 148-172.	2.7	191
6	Higher-gradient continua: The legacy of Piola, Mindlin, Sedov and Toupin and some future research perspectives. Mathematics and Mechanics of Solids, 2017, 22, 852-872.	1.5	188
7	Linear pantographic sheets: Asymptotic micro-macro models identification. Mathematics and Mechanics of Complex Systems, 2017, 5, 127-162.	0.5	161
8	Identification of two-dimensional pantographic structure via a linear D4 orthotropic second gradient elastic model. Journal of Engineering Mathematics, 2017, 103, 1-21.	0.6	137
9	Reflection and transmission of plane waves at surfaces carrying material properties and embedded in second-gradient materials. Mathematics and Mechanics of Solids, 2014, 19, 555-578.	1.5	124
10	Numerical simulations of classical problems in two-dimensional (non) linear second gradient elasticity. International Journal of Engineering Science, 2016, 108, 34-50.	2.7	112
11	Multimode vibration control using several piezoelectric transducers shunted with a multiterminal network. Archive of Applied Mechanics, 2009, 79, 859-879.	1.2	96
12	Continuum modelling of pantographic sheets for out-of-plane bifurcation and vibrational analysis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170636.	1.0	96
13	Numerical identification procedure between a micro-Cauchy model and a macro-second gradient model for planar pantographic structures. Zeitschrift Fur Angewandte Mathematik Und Physik, 2016, 67, 1.	0.7	95
14	A visco-poroelastic model of functional adaptation in bones reconstructed with bio-resorbable materials. Biomechanics and Modeling in Mechanobiology, 2016, 15, 1325-1343.	1.4	94
15	Pantographic lattices with non-orthogonal fibres: Experiments and their numerical simulations. Composites Part B: Engineering, 2017, 118, 1-14.	5.9	92
16	Pantographic metamaterials show atypical Poynting effect reversal. Mechanics Research Communications, 2018, 89, 6-10.	1.0	87
17	Multi-scale concrete model with rate-dependent internal friction. European Journal of Environmental and Civil Engineering, 2017, 21, 821-839.	1.0	86
18	Piezo-electromechanical smart materials with distributed arrays of piezoelectric transducers: Current and upcoming applications. International Journal of Applied Electromagnetics and Mechanics, 2015, 47, 1051-1084.	0.3	84

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19	Viscous second gradient porous materials for bones reconstructed with bio-resorbable grafts. Extreme Mechanics Letters, 2017, 13, 141-147.	2.0	81
20	A 2â€Ð continuum model of a mixture of bone tissue and bioâ€resorbable material for simulating mass density redistribution under load slowly variable in time. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 978-1000.	0.9	77
21	Three-dimensional instabilities of pantographic sheets with parabolic lattices: numerical investigations. Zeitschrift Fur Angewandte Mathematik Und Physik, 2016, 67, 1.	0.7	77
22	In-depth gaze at the astonishing mechanical behavior of bone: A review for designing bio-inspired hierarchical metamaterials. Mathematics and Mechanics of Solids, 2021, 26, 1074-1103.	1.5	77
23	Buckling modes in pantographic lattices. Comptes Rendus - Mecanique, 2016, 344, 487-501.	2.1	75
24	Pattern formation in the three-dimensional deformations of fibered sheets. Mechanics Research Communications, 2015, 69, 164-171.	1.0	74
25	Continuum and discrete models for structures including (quasi-) inextensible elasticae with a view to the design and modeling of composite reinforcements. International Journal of Solids and Structures, 2015, 59, 1-17.	1.3	70
26	Finite-Element Analysis of Polyhedra under Point and Line Forces in Second-Strain Gradient Elasticity. Journal of Engineering Mechanics - ASCE, 2017, 143, .	1.6	70
27	Elastic pantographic 2D lattices: a numerical analysis on the static response and wave propagation. Proceedings of the Estonian Academy of Sciences, 2015, 64, 219.	0.9	69
28	Propagation of linear compression waves through plane interfacial layers and mass adsorption in second gradient fluids. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2013, 93, 914-927.	0.9	68
29	Modeling of the interaction between bone tissue and resorbable biomaterial as linear elastic materials with voids. Zeitschrift Fur Angewandte Mathematik Und Physik, 2015, 66, 209-237.	0.7	67
30	On mechanically driven biological stimulus for bone remodeling as a diffusive phenomenon. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1639-1663.	1.4	66
31	King post truss as a motif for internal structure of (meta)material with controlled elastic properties. Royal Society Open Science, 2017, 4, 171153.	1.1	65
32	Wrinkling in engineering fabrics: a comparison between two different comprehensive modelling approaches. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180063.	1.0	65
33	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
34	Material characterization and computations of a polymeric metamaterial with a pantographic substructure. Zeitschrift Fur Angewandte Mathematik Und Physik, 2018, 69, 1.	0.7	62
35	Metamaterials with relative displacements in their microstructure: technological challenges in 3D printing, experiments and numerical predictions. Continuum Mechanics and Thermodynamics, 2019, 31, 1015-1034.	1.4	62
36	A simple non-linear model for internal friction in modified concrete. International Journal of Engineering Science, 2014, 80, 136-152.	2.7	61

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37	Dynamics of 1D nonlinear pantographic continua. Nonlinear Dynamics, 2017, 88, 21-31.	2.7	61
38	A discrete formulation of Kirchhoff rods in large-motion dynamics. Mathematics and Mechanics of Solids, 2020, 25, 1081-1100.	1.5	61
39	A low-power circuit for piezoelectric vibration control by synchronized switching on voltage sources. Sensors and Actuators A: Physical, 2010, 161, 245-255.	2.0	60
40	Pantographic 2D sheets: Discussion of some numerical investigations and potential applications. International Journal of Non-Linear Mechanics, 2016, 80, 200-208.	1.4	60
41	Numerical identification of constitutive parameters in reduced-order bi-dimensional models for pantographic structures: application to out-of-plane buckling. Archive of Applied Mechanics, 2019, 89, 1333-1358.	1.2	60
42	A study about the impact of the topological arrangement of fibers on fiber-reinforced composites: Some guidelines aiming at the development of new ultra-stiff and ultra-soft metamaterials. International Journal of Solids and Structures, 2020, 203, 73-83.	1.3	54
43	Lattice shells composed of two families of curved Kirchhoff rods: an archetypal example, topology optimization of a cycloidal metamaterial. Continuum Mechanics and Thermodynamics, 2021, 33, 1063-1082.	1.4	54
44	Chirality in 2D Cosserat media related to stretch-micro-rotation coupling with links to granular micromechanics. International Journal of Solids and Structures, 2020, 202, 28-38.	1.3	53
45	Interfaces in micromorphic materials: Wave transmission and reflection with numerical simulations. Mathematics and Mechanics of Solids, 2016, 21, 37-51.	1.5	47
46	Energy-based trajectory tracking and vibration control for multilink highly flexible manipulators. Mathematics and Mechanics of Complex Systems, 2019, 7, 159-174.	0.5	45
47	Modeling of a non-local stimulus for bone remodeling process under cyclic load: Application to a dental implant using a bioresorbable porous material. Mathematics and Mechanics of Solids, 2017, 22, 1790-1805.	1.5	42
48	Wave reflection at a free interface in an anisotropic pyroelectric medium with nonclassical thermoelasticity. Continuum Mechanics and Thermodynamics, 2016, 28, 67-84.	1.4	39
49	A Biotâ€“Cosserat two-dimensional elastic nonlinear model for a micromorphic medium. Continuum Mechanics and Thermodynamics, 2020, 32, 1357-1369.	1.4	39
50	Towards the design of an enriched concrete with enhanced dissipation performances. Cement and Concrete Research, 2016, 84, 48-61.	4.6	37
51	The influence of different loads on the remodeling process of a bone and bioresorbable material mixture with voids. Continuum Mechanics and Thermodynamics, 2016, 28, 21-40.	1.4	37
52	Nonlinear dynamics of uniformly loaded Elastica: Experimental and numerical evidence of motion around curled stable equilibrium configurations. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2019, 99, e201800121.	0.9	37
53	Non-Linear Lumped-Parameter Modeling of Planar Multi-Link Manipulators with Highly Flexible Arms. Robotics, 2018, 7, 60.	2.1	36
54	The mathematical model of reflection and refraction of longitudinal waves in thermo-piezoelectric materials. Archive of Applied Mechanics, 2014, 84, 1229-1248.	1.2	35

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55	A model for elastic flexoelectric materials including strain gradient effects. Mathematics and Mechanics of Solids, 2016, 21, 242-254.	1.5	35
56	A rate-independent internal friction to describe the hysteretic behavior of pantographic structures under cyclic loads. Mechanics Research Communications, 2021, 116, 103761.	1.0	35
57	A two-dimensional continuum model of pantographic sheets moving in a 3D space and accounting for the offset and relative rotations of the fibers. Mathematics and Mechanics of Complex Systems, 2019, 7, 311-325.	0.5	34
58	The influence of different geometries of matrix/scaffold on the remodeling process of a bone and bioresorbable material mixture with voids. Mathematics and Mechanics of Solids, 2017, 22, 969-987.	1.5	33
59	A micro-structural model for dissipation phenomena in the concrete. International Journal for Numerical and Analytical Methods in Geomechanics, 2015, 39, 2037-2052.	1.7	31
60	Euromech 563 Cisterna di Latina 17â€“21 March 2014 Generalized continua and their applications to the design of composites and metamaterials: A review of presentations and discussions. Mathematics and Mechanics of Solids, 2017, 22, 144-157.	1.5	31
61	Bias extension test on an unbalanced woven composite reinforcement: Experiments and modeling via a second-gradient continuum approach. Journal of Composite Materials, 2017, 51, 153-170.	1.2	30
62	Axisymmetric deformations of a 2nd grade elastic cylinder. Mechanics Research Communications, 2018, 94, 45-48.	1.0	28
63	ExtensionalÂElastica in large deformation as $$Gamma $$ Î“ -limit of a discrete 1D mechanical system. Zeitschrift Fur Angewandte Mathematik Und Physik, 2017, 68, 1.	0.7	26
64	Virtual spring damper method for nonholonomic robotic swarm self-organization and leader following. Continuum Mechanics and Thermodynamics, 2018, 30, 1091-1102.	1.4	26
65	Buckling of an elastic hemispherical shell with an obstacle. Continuum Mechanics and Thermodynamics, 2013, 25, 443-467.	1.4	24
66	Equilibrium of Two-Dimensional Cycloidal Pantographic Metamaterials in Three-Dimensional Deformations. Symmetry, 2019, 11, 1523.	1.1	24
67	Two layers pantographs: A 2D continuum model accounting for the beamsâ€™ offset and relative rotations as averages in SO(3) Lie groups. International Journal of Solids and Structures, 2021, 216, 43-58.	1.3	24
68	In plane shear and bending for first gradient inextensible pantographic sheets: numerical study of deformed shapes and global constraint reactions. Mathematics and Mechanics of Solids, 2017, 22, 1950-1975.	1.5	23
69	Bio-Inspired Design of a Porous Resorbable Scaffold for Bone Reconstruction: A Preliminary Study. Biomimetics, 2021, 6, 18.	1.5	23
70	Investigating the mechanical response of microscale pantographic structures fabricated by multiphoton lithography. Extreme Mechanics Letters, 2021, 43, 101202.	2.0	22
71	Electrical analogs of curved beams and application to piezoelectric network damping. Mathematics and Mechanics of Solids, 2022, 27, 578-601.	1.5	19
72	A review of recent developments in mathematical modeling of bone remodeling. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2020, 234, 273-281.	1.0	17

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73	Generalized beam model for the analysis of wave propagation with a symmetric pattern of deformation in planar pantographic sheets. Wave Motion, 2022, 113, 102986.	1.0	16
74	Effective strain gradient continuum model of metamaterials and size effects analysis. Continuum Mechanics and Thermodynamics, 2023, 35, 775-797.	1.4	14
75	Parameter identification of a second-gradient model for the description of pantographic structures in dynamic regime. Zeitschrift Fur Angewandte Mathematik Und Physik, 2021, 72, 1.	0.7	14
76	Shear rupture mechanism and dissipation phenomena in bias-extension test of pantographic sheets: Numerical modeling and experiments. Mathematics and Mechanics of Solids, 2022, 27, 2170-2188.	1.5	14
77	Variational Feedback Control for a nonlinear beam under an earthquake excitation. Mathematics and Mechanics of Solids, 2016, 21, 1234-1246.	1.5	13
78	Can a Hencky-Type Model Predict the Mechanical Behaviour of Pantographic Lattices?. Advanced Structured Materials, 2017, , 285-311.	0.3	13
79	A numerical comparison of the uniformly valid asymptotic plate equations with a 3D model: Clamped rectangular incompressible elastic plates. Mathematics and Mechanics of Solids, 2022, 27, 1370-1396.	1.5	13
80	Modelling flexible multi-link robots for vibration control: Numerical simulations and real-time experiments. Mathematics and Mechanics of Solids, 2019, 24, 52-71.	1.5	12
81	A mathematical model for longitudinal wave propagation in a magnetoelastic hollow circular cylinder of anisotropic material under the influence of initial hydrostatic stress. Mathematics and Mechanics of Solids, 2016, 21, 104-118.	1.5	11
82	Edge effects in Hypar nets. Comptes Rendus - Mecanique, 2019, 347, 114-123.	2.1	10
83	Modeling Deformable Bodies Using Discrete Systems with Centroid-Based Propagating Interaction: Fracture and Crack Evolution. Advanced Structured Materials, 2017, , 59-88.	0.3	9
84	Dynamics of pantographic sheet around the clamping region: experimental and numerical analysis. Mathematics and Mechanics of Solids, 2021, 26, 1515-1537.	1.5	9
85	Mesoscale modeling and experimental analyses for pantographic cells: Effect of hinge deformation. Mechanics of Materials, 2021, 160, 103924.	1.7	9
86	Bone Remodeling Process Based on Hydrostatic and Deviatoric Strain Mechano-Sensing. Biomimetics, 2022, 7, 59.	1.5	7
87	Modeling and designing micro- and nano-structured metamaterials: Towards the application of exotic behaviors. Mathematics and Mechanics of Solids, 2017, 22, 873-884.	1.5	5
88	Spectral properties of 2D pantographic metamaterial: Experimental results. Mechanics Research Communications, 2020, 109, 103613.	1.0	5
89	On Boundary Layers Observed in Some 1D Second-Gradient Theories. Advanced Structured Materials, 2022, , 359-376.	0.3	2
90	The Effect of Mechanical Load-induced Intraosseous Pressure Gradients on Bone Remodeling. Advanced Structured Materials, 2019, , 29-49.	0.3	1

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91	Variational Principles in Numerical Practice. , 2018, , 1-8.		0
92	DYNAMICS OF POROVISCOELASTIC PRISMATIC SOLID FOR VARIOUS VALUES OF MATERIAL PERMEABILITY. Problems of Strength and Plasticity, 2019, 81, 416-428.	0.1	0
93	Large Oscillations Around Curled Equilibrium Configurations of Uniformly Loaded Eulerâ€“Bernoulli Beams: Numerical and Experimental Evidences. Advanced Structured Materials, 2019, , 65-78.	0.3	0
94	A Diffusion Model for Stimulus Propagation in Remodeling Bone Tissues. Advanced Structured Materials, 2019, , 69-94.	0.3	0
95	Variational Principles in Numerical Practice. , 2020, , 2662-2670.		0