

Katia Bertoldi

List of Publications by Year in Descending Order

Source: <https://exaly.com/author-pdf/2413210/katia-bertoldi-publications-by-year.pdf>

Version: 2024-04-23

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92
papers

7,194
citations

40
h-index

84
g-index

97
ext. papers

9,115
ext. citations

13.8
avg, IF

6.63
L-index

#	Paper	IF	Citations
92	A buckling-sheet ring oscillator for electronics-free, multimodal locomotion.. <i>Science Robotics</i> , 2022 , 7, eabg5812	18.6	4
91	Curvilinear Kirigami Skins Let Soft Bending Actuators Slither Faster.. <i>Frontiers in Robotics and AI</i> , 2022 , 9, 872007	2.8	
90	Self-regulated non-reciprocal motions in single-material microstructures.. <i>Nature</i> , 2022 , 605, 76-83	50.4	8
89	Liquid-induced topological transformations of cellular microstructures. <i>Nature</i> , 2021 , 592, 386-391	50.4	21
88	Multistable inflatable origami structures at the metre scale. <i>Nature</i> , 2021 , 592, 545-550	50.4	40
87	Deployable Structures Based on Buckling of Curved Beams Upon a Rotational Input. <i>Advanced Functional Materials</i> , 2021 , 31, 2101144	15.6	3
86	Microstructural design for mechanical-optical multifunctionality in the exoskeleton of the flower beetle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	5
85	Programming nonreciprocity and reversibility in multistable mechanical metamaterials. <i>Nature Communications</i> , 2021 , 12, 3454	17.4	7
84	Mechanically robust lattices inspired by deep-sea glass sponges. <i>Nature Materials</i> , 2021 , 20, 237-241	27	46
83	Unfolding Textile-Based Pneumatic Actuators for Wearable Applications. <i>Soft Robotics</i> , 2021 ,	9.2	12
82	A Modeling Framework for Jamming Structures. <i>Advanced Functional Materials</i> , 2021 , 31, 2007554	15.6	7
81	Harnessing Mechanical Deformation to Reduce Spherical Aberration in Soft Lenses. <i>Physical Review Letters</i> , 2021 , 126, 084301	7.4	
80	Deployable Structures Based on Buckling of Curved Beams Upon a Rotational Input (Adv. Funct. Mater. 35/2021). <i>Advanced Functional Materials</i> , 2021 , 31, 2170261	15.6	
79	Mechanical and hydrodynamic analyses of helical strake-like ridges in a glass sponge. <i>Journal of the Royal Society Interface</i> , 2021 , 18, 20210559	4.1	3
78	Controlling Liquid Crystal Orientations for Programmable Anisotropic Transformations in Cellular Microstructures. <i>Advanced Materials</i> , 2021 , 33, e2105024	24	4
77	Mechanical Valves for On-Board Flow Control of Inflatable Robots. <i>Advanced Science</i> , 2021 , 8, e2101941	13.6	9
76	Universally bistable shells with nonzero Gaussian curvature for two-way transition waves. <i>Nature Communications</i> , 2021 , 12, 695	17.4	11

75	Snapping of hinged arches under displacement control: Strength loss and nonreciprocity. <i>Physical Review E</i> , 2020 , 101, 053004	2.4	5
74	Bioinspired kirigami metasurfaces as assistive shoe grips. <i>Nature Biomedical Engineering</i> , 2020 , 4, 778-786	35	
73	Inflatable soft jumper inspired by shell snapping. <i>Science Robotics</i> , 2020 , 5,	18.6	63
72	Octopus Arm-Inspired Tapered Soft Actuators with Suckers for Improved Grasping. <i>Soft Robotics</i> , 2020 , 7, 639-648	9.2	65
71	Kirigami-Inspired Inflatables with Programmable Shapes. <i>Advanced Materials</i> , 2020 , 32, e2001863	24	55
70	Programmable Hierarchical Kirigami: Programmable Hierarchical Kirigami (Adv. Funct. Mater. 6/2020). <i>Advanced Functional Materials</i> , 2020 , 30, 2070039	15.6	2
69	Navigating the landscape of nonlinear mechanical metamaterials for advanced programmability. <i>Physical Review B</i> , 2020 , 101,	3.3	9
68	Harnessing transition waves to realize deployable structures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 4015-4020	11.5	27
67	Guided transition waves in multistable mechanical metamaterials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 2319-2325	11.5	63
66	Geometric charges and nonlinear elasticity of two-dimensional elastic metamaterials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 10195-10202	11.5	10
65	A Soft, Modular, and Bi-stable Dome Actuator for Programmable Multi-Modal Locomotion 2020 ,		3
64	Optimal turbine blade design enabled by auxetic honeycomb. <i>Smart Materials and Structures</i> , 2020 , 29, 125004	3.4	4
63	Programmable Hierarchical Kirigami. <i>Advanced Functional Materials</i> , 2020 , 30, 1906711	15.6	40
62	Characterization, stability, and application of domain walls in flexible mechanical metamaterials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 31002-31009	11.5	13
61	Metamaterials: Kirigami-Inspired Inflatables with Programmable Shapes (Adv. Mater. 33/2020). <i>Advanced Materials</i> , 2020 , 32, 2070250	24	
60	Harnessing Viscous Flow to Simplify the Actuation of Fluidic Soft Robots. <i>Soft Robotics</i> , 2020 , 7, 1-9	9.2	31
59	Anomalous Collisions of Elastic Vector Solitons in Mechanical Metamaterials. <i>Physical Review Letters</i> , 2019 , 122, 044101	7.4	20
58	Additive Manufacturing of Nanostructures That Are Delicate, Complex, and Smaller than Ever. <i>Small</i> , 2019 , 15, e1902370	11	13

57	Frequency-doubling effect in acoustic reflection by a nonlinear, architected rotating-square metasurface. <i>Physical Review E</i> , 2019 , 99, 052209	2.4	10
56	Propagation of pop ups in kirigami shells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 8200-8205	11.5	51
55	Programming soft robots with flexible mechanical metamaterials. <i>Science Robotics</i> , 2019 , 4,	18.6	58
54	Reconfigurable soft body trajectories using unidirectionally stretchable composite laminae. <i>Nature Communications</i> , 2019 , 10, 3464	17.4	38
53	Direct Laser Writing: Additive Manufacturing of Nanostructures That Are Delicate, Complex, and Smaller than Ever (Small 33/2019). <i>Small</i> , 2019 , 15, 1970173	11	4
52	Focusing and Mode Separation of Elastic Vector Solitons in a 2D Soft Mechanical Metamaterial. <i>Physical Review Letters</i> , 2019 , 123, 024101	7.4	19
51	Kirigami skins make a simple soft actuator crawl. <i>Science Robotics</i> , 2018 , 3,	18.6	248
50	Manipulating acoustic wave reflection by a nonlinear elastic metasurface. <i>Journal of Applied Physics</i> , 2018 , 123, 124901	2.5	13
49	Metamaterials with amplitude gaps for elastic solitons. <i>Nature Communications</i> , 2018 , 9, 3410	17.4	55
48	Rational design of reconfigurable prismatic architected materials. <i>Nature</i> , 2017 , 541, 347-352	50.4	166
47	Buckling-Induced Kirigami. <i>Physical Review Letters</i> , 2017 , 118, 084301	7.4	134
46	Harnessing Geometric Frustration to Form Band Gaps in Acoustic Channel Lattices. <i>Physical Review Letters</i> , 2017 , 118, 084302	7.4	21
45	Harnessing Instabilities to Design Tunable Architected Cellular Materials. <i>Annual Review of Materials Research</i> , 2017 , 47, 51-61	12.8	85
44	Motion microscopy for visualizing and quantifying small motions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 11639-11644	11.5	31
43	A Biologically Inspired, Functionally Graded End Effector for Soft Robotics Applications. <i>Soft Robotics</i> , 2017 , 4, 317-323	9.2	33
42	Flexible mechanical metamaterials. <i>Nature Reviews Materials</i> , 2017 , 2,	73.3	551
41	Stability of Lattice Materials 2017 , 139-153		0
40	Tensile Instability in a Thick Elastic Body. <i>Physical Review Letters</i> , 2016 , 117, 094301	7.4	13

39	A three-dimensional actuated origami-inspired transformable metamaterial with multiple degrees of freedom. <i>Nature Communications</i> , 2016 , 7, 10929	17.4	219
38	Elastic metamaterials for tuning circular polarization of electromagnetic waves. <i>Scientific Reports</i> , 2016 , 6, 28273	4.9	10
37	Harnessing Deformation to Switch On and Off the Propagation of Sound. <i>Advanced Materials</i> , 2016 , 28, 1631-5	24	110
36	Architected Materials with Ultra-Low Porosity for Vibration Control. <i>Advanced Materials</i> , 2016 , 28, 5943-84	24	43
35	Structure, biomimetics, and fluid dynamics of fish skin surfaces*. <i>Physical Review Fluids</i> , 2016 , 1,	2.8	52
34	Peridynamic Modeling of Ruptures in Biomembranes. <i>PLoS ONE</i> , 2016 , 11, e0165947	3.7	17
33	Harnessing Buckling to Design Architected Materials that Exhibit Effective Negative Swelling. <i>Advanced Materials</i> , 2016 , 28, 6619-24	24	78
32	Acoustic Switches: Harnessing Deformation to Switch On and Off the Propagation of Sound (Adv. Mater. 8/2016). <i>Advanced Materials</i> , 2016 , 28, 1630-1630	24	2
31	Stable propagation of mechanical signals in soft media using stored elastic energy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 9722-7	11.5	162
30	Characterization of a Mechanically Tunable Gyroid Photonic Crystal Inspired by the Butterfly <i>Parides Sesostris</i> . <i>Advanced Optical Materials</i> , 2016 , 4, 99-105	8.1	29
29	SOFT ROBOTICS. A 3D-printed, functionally graded soft robot powered by combustion. <i>Science</i> , 2015 , 349, 161-5	33.3	608
28	Mechanical Programming of Soft Actuators by Varying Fiber Angle. <i>Soft Robotics</i> , 2015 , 2, 26-32	9.2	262
27	Microfluidic fabrication and micromechanics of permeable and impermeable elastomeric microbubbles. <i>Langmuir</i> , 2015 , 31, 3489-93	4	14
26	Amplifying the response of soft actuators by harnessing snap-through instabilities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 10863-8	11.5	120
25	Honeycomb phononic crystals with self-similar hierarchy. <i>Physical Review B</i> , 2015 , 92,	3.3	87
24	Topological Phononic Crystals with One-Way Elastic Edge Waves. <i>Physical Review Letters</i> , 2015 , 115, 104302	7.2	452
23	Dielectric Elastomer Based "Grippers" for Soft Robotics. <i>Advanced Materials</i> , 2015 , 27, 6814-9	24	282
22	Multistable Architected Materials for Trapping Elastic Strain Energy. <i>Advanced Materials</i> , 2015 , 27, 4296-301	24	391

21	Discontinuous Buckling of Wide Beams and Metabeams. <i>Physical Review Letters</i> , 2015 , 115, 044301	7.4	66
20	Locally resonant band gaps in periodic beam lattices by tuning connectivity. <i>Physical Review B</i> , 2015 , 91,	3.3	53
19	Hierarchical honeycomb auxetic metamaterials. <i>Scientific Reports</i> , 2015 , 5, 18306	4.9	93
18	Dimpled elastic sheets: a new class of non-porous negative Poisson's ratio materials. <i>Scientific Reports</i> , 2015 , 5, 18373	4.9	40
17	Complex ordered patterns in mechanical instability induced geometrically frustrated triangular cellular structures. <i>Physical Review Letters</i> , 2014 , 112, 098701	7.4	92
16	Pneumatic Networks for Soft Robotics that Actuate Rapidly. <i>Advanced Functional Materials</i> , 2014 , 24, 2163-2170	15.6	763
15	Harnessing buckling to design tunable locally resonant acoustic metamaterials. <i>Physical Review Letters</i> , 2014 , 113, 014301	7.4	351
14	Harnessing Multiple Folding Mechanisms in Soft Periodic Structures for Tunable Control of Elastic Waves. <i>Advanced Functional Materials</i> , 2014 , 24, 4935-4942	15.6	130
13	Harnessing fluid-structure interactions to design self-regulating acoustic metamaterials. <i>Journal of Applied Physics</i> , 2014 , 115, 034907	2.5	25
12	Structural transition from helices to hemihelices. <i>PLoS ONE</i> , 2014 , 9, e93183	3.7	44
11	Harnessing instabilities for design of soft reconfigurable auxetic/chiral materials. <i>Soft Matter</i> , 2013 , 9, 8198	3.6	128
10	Effects of geometric and material nonlinearities on tunable band gaps and low-frequency directionality of phononic crystals. <i>Physical Review B</i> , 2013 , 88,	3.3	122
9	Metamaterials: 3D Soft Metamaterials with Negative Poisson's Ratio (Adv. Mater. 36/2013). <i>Advanced Materials</i> , 2013 , 25, 5116-5116	24	4
8	Spontaneous and deterministic three-dimensional curling of pre-strained elastomeric bi-strips. <i>Soft Matter</i> , 2012 , 8, 6291	3.6	48
7	A Combined Finite Element-Multiple Criteria Optimization Approach for Materials Selection of Gas Turbine Components. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012 , 79,	2.7	9
6	Some Remarks on the Effect of Interphases on the Mechanical Response and Stability of Fiber-Reinforced Elastomers. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012 , 79,	2.7	13
5	Osmotic collapse of a void in an elastomer: breathing, buckling and creasing. <i>Soft Matter</i> , 2010 , 6, 5770	3.6	57
4	Inverse Design of Inflatable Soft Membranes Through Machine Learning. <i>Advanced Functional Materials</i> , 2111610	15.6	4

- 3 A Modular and Self-Contained Fluidic Engine for Soft Actuators. *Advanced Intelligent Systems*,2100094 6 1
- 2 Architected Multimaterial Lattices with Thermally Programmable Mechanical Response. *Advanced Functional Materials*,2105128 15.6 4
- 1 Inflatable Origami: Multimodal Deformation via Multistability. *Advanced Functional Materials*,2201891 15.6 2