Daphne Attard

List of Publications by Year
in descending order

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67 papers	3,689 citations	136950 32 h-index	128289 60 g-index
68 all docs	68 docs citations	68 times ranked	1916 citing authors

#	Article	IF	Citations
1	Elastic constants of 3-, 4- and 6-connected chiral and anti-chiral honeycombs subject to uniaxial in-plane loading. Composites Science and Technology, 2010, 70, 1042-1048.	7.8	470
2	Tailoring Graphene to Achieve Negative Poisson's Ratio Properties. Advanced Materials, 2015, 27, 1455-1459.	21.0	275
3	Hierarchical Auxetic Mechanical Metamaterials. Scientific Reports, 2015, 5, 8395.	3.3	226
4	On the auxetic properties of rotating rhombi and parallelograms: A preliminary investigation. Physica Status Solidi (B): Basic Research, 2008, 245, 521-529.	1.5	144
5	Hexagonal Honeycombs with Zero Poisson's Ratios and Enhanced Stiffness. Advanced Engineering Materials, 2010, 12, 855-862.	3.5	140
6	Mechanical metamaterials with star-shaped pores exhibiting negative and zero Poisson's ratio. Materials and Design, 2018, 146, 28-37.	7.0	133
7	A Novel Process for the Manufacture of Auxetic Foams and for Their reâ€Conversion to Conventional Form. Advanced Engineering Materials, 2009, 11, 533-535.	3.5	121
8	Auxetic metamaterials exhibiting giant negative Poisson's ratios. Physica Status Solidi - Rapid Research Letters, 2015, 9, 425-430.	2.4	118
9	Negative linear compressibility of hexagonal honeycombs and related systems. Scripta Materialia, 2011, 65, 565-568.	5.2	113
10	Auxetic behaviour from rotating rhombi. Physica Status Solidi (B): Basic Research, 2008, 245, 2395-2404.	1.5	101
11	Auxetic behaviour from connected different-sized squares and rectangles. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 439-458.	2.1	90
12	Three-dimensional cellular structures with negative Poisson's ratio and negative compressibility properties. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 3121-3138.	2.1	85
13	A threeâ€dimensional rotating rigid units network exhibiting negative Poisson's ratios. Physica Status Solidi (B): Basic Research, 2012, 249, 1330-1338.	1.5	85
14	A realistic generic model for antiâ€tetrachiral systems. Physica Status Solidi (B): Basic Research, 2013, 250, 2012-2019.	1.5	85
15	On the auxetic properties of generic rotating rigid triangles. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 810-830.	2.1	81
16	Unimode metamaterials exhibiting negative linear compressibility and negative thermal expansion. Smart Materials and Structures, 2016, 25, 025009.	3.5	76
17	Influence of translational disorder on the mechanical properties of hexachiral honeycomb systems. Composites Part B: Engineering, 2015, 80, 84-91.	12.0	72
18	On rotating rigid parallelograms and their potential for exhibiting auxetic behaviour. Physica Status Solidi (B): Basic Research, 2009, 246, 2033-2044.	1.5	62

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19	Modelling of hexagonal honeycombs exhibiting zero Poisson's ratio. Physica Status Solidi (B): Basic Research, 2011, 248, 52-59.	1.5	59
20	Honeycomb composites with auxetic out-of-plane characteristics. Composite Structures, 2013, 106, 150-159.	5.8	59
21	On the properties of real finite-sized planar and tubular stent-like auxetic structures. Physica Status Solidi (B): Basic Research, 2014, 251, 321-327.	1.5	58
22	Auxetic behaviour from stretching connected squares. Journal of Materials Science, 2008, 43, 5962-5971.	3.7	55
23	Modeling auxetic foams through semi-rigid rotating triangles. Physica Status Solidi (B): Basic Research, 2014, 251, 297-306.	1.5	52
24	On the dynamics and control of mechanical properties of hierarchical rotating rigid unit auxetics. Scientific Reports, 2017, 7, 46529.	3.3	52
25	Trussâ€type systems exhibiting negative compressibility. Physica Status Solidi (B): Basic Research, 2008, 245, 2405-2414.	1.5	51
26	On the suitability of hexagonal honeycombs as stent geometries. Physica Status Solidi (B): Basic Research, 2014, 251, 328-337.	1.5	50
27	Starchiralsâ€“A novel class of auxetic hierarchal structures. International Journal of Mechanical Sciences, 2020, 179, 105631.	6.7	46
28	Implementation of periodic boundary conditions for loading of mechanical metamaterials and other complex geometric microstructures using finite element analysis. Engineering With Computers, 2021, 37, 1765.	6.1	42
29	On the properties of auxetic rotating stretching squares. Physica Status Solidi (B): Basic Research, 2009, 246, 2045-2054.	1.5	40
30	An Improved Analytical Model for the Elastic Constants of Auxetic and Conventional Hexagonal Honeycombs. Frontiers in Forests and Global Change, 2011, 30, 287-310.	1.1	38
31	An analytical and finite element study on the mechanical properties of irregular hexachiral honeycombs. Smart Materials and Structures, 2018, 27, 105016.	3.5	35
32	Negative linear compressibility from rotating rigid units. Physica Status Solidi (B): Basic Research, 2016, 253, 1410-1418.	1.5	34
33	Molecular networks with a near zero Poisson's ratio. Physica Status Solidi (B): Basic Research, 2011, 248, 111-116.	1.5	31
34	A Novel Mechanical Metamaterial Exhibiting Auxetic Behavior and Negative Compressibility. Materials, 2020, 13, 79.	2.9	31
35	Auxetic Behavior and Other Negative Thermomechanical Properties from Rotating Rigid Units. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	27
36	Adjustable and negative thermal expansion from multilayered systems. Physica Status Solidi - Rapid Research Letters, 2010, 4, 133-135.	2.4	26

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37	Composites with needle-like inclusions exhibiting negative thermal expansion: A preliminary investigation. Composites Science and Technology, 2010, 70, 2248-2252.	7.8	26
38	On the effect of heat and solvent exposure on the microstructure properties of auxetic foams: A preliminary study. Physica Status Solidi (B): Basic Research, 2011, 248, 39-44.	1.5	26
39	Giant Auxetic Behaviour in Engineered Graphene. Annalen Der Physik, 2018, 530, 1700330.	2.4	24
40	The Multidirectional Auxeticity and Negative Linear Compressibility of a 3D Mechanical Metamaterial. Materials, 2020, 13, 2193.	2.9	24
41	Analysis of the Deformation Behavior and Mechanical Properties of Slitâ€Perforated Auxetic Metamaterials. Physica Status Solidi (B): Basic Research, 2019, 256, 1800153.	1.5	23
42	On the mechanical properties and auxetic potential of various organic networked polymers. Molecular Simulation, 2008, 34, 1149-1158.	2.0	22
43	Unusual Thermoelastic Properties of Methanol Monohydrate. Science, 2011, 331, 687-688.	12.6	21
44	Auxetic mechanical metamaterials with diamond and elliptically shaped perforations. Acta Mechanica, 2021, 232, 779-791.	2.1	21
45	On the role of rotating tetrahedra for generating auxetic behavior in NAT and related systems. Journal of Non-Crystalline Solids, 2008, 354, 4214-4220.	3.1	20
46	Modelling and testing of a foldable macrostructure exhibiting auxetic behaviour. Physica Status Solidi (B): Basic Research, 2011, 248, 117-122.	1.5	20
47	On the Compressibility Properties of the Wineâ€Rackâ€Like Carbon Allotropes and Related Poly(phenylacetylene) Systems. Physica Status Solidi (B): Basic Research, 2019, 256, 1800572.	1.5	20
48	On the Mechanical Properties of Graphyne, Graphdiyne, and Other Poly(Phenylacetylene) Networks. Physica Status Solidi (B): Basic Research, 2017, 254, 1700380.	1.5	18
49	Smart Honeycomb â€œMechanical Metamaterialsâ€•with Tunable Poisson's Ratios. Physica Status Solidi (B): Basic Research, 2020, 257, 1900707.	1.5	17
50	Out-of-plane doming behaviour from constrained auxetics. Smart Materials and Structures, 2018, 27, 015020.	3.5	15
51	Filtration Properties of Auxetics with Rotating Rigid Units. Materials, 2018, 11, 725.	2.9	15
52	On the behaviour of bi-material strips when subjected to changes in external hydrostatic pressure. Scripta Materialia, 2009, 60, 65-67.	5.2	13
53	Negative thermal expansion from disc, cylindrical, and needle shaped inclusions. Physica Status Solidi (B): Basic Research, 2013, 250, 2051-2056.	1.5	13
54	On the mechanical properties of centroâ€symmetric honeycombs with Tâ€shaped joints. Physica Status Solidi (B): Basic Research, 2013, 250, 2002-2011.	1.5	13

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55	Auxetic metamaterials inspired from wine-racks. Journal of Materials Science, 2018, 53, 5079-5091.	3.7	12
56	External rib structure can be predicted using mathematical models: An anatomical study with application to understanding fractures and intercostal muscle function. Clinical Anatomy, 2015, 28, 512-519.	2.7	9
57	Nano networks exhibiting negative linear compressibility. Physica Status Solidi (B): Basic Research, 2016, 253, 1419-1427.	1.5	9
58	The Auxetic Behavior of a General Starâ€4 Structure. Physica Status Solidi (B): Basic Research, 2021, 258, 2100158.	1.5	9
59	Mathematical modeling of auxetic systems: bridging the gap between analytical models and observation. International Journal of Mechanical and Materials Engineering, 2021, 16, .	2.2	7
60	A hypothesis for reactivation of pulmonary tuberculosis: How thoracic wall shape affects the epidemiology of tuberculosis. Clinical Anatomy, 2015, 28, 614-620.	2.7	6
61	Blisters and Calluses from Rowing: Prevalence, Perceptions and Pain Tolerance. Medicina (Lithuania), 2022, 58, 77.	2.0	5
62	Internal rib structure can be predicted using mathematical models: An anatomic study comparing the chest to a shell dome with application to understanding fractures. Clinical Anatomy, 2015, 28, 1008-1016.	2.7	4
63	On the Design of Multimaterial Honeycombs and Structures with Tâ€Shaped Joints Having Tunable Thermal and Compressibility Properties. Physica Status Solidi (B): Basic Research, 2020, 257, 1900633.	1.5	4
64	Negative Mechanical Materials and Metamaterials: Giant Out-of-Plane Auxeticity from Multi-Dimensional Wine-Rack-like Motifs. MRS Advances, 2020, 5, 717-725.	0.9	4
65	Auxetic-Inspired Honeycomb Macrostructures With Anomalous Tailormade Thermal Expansion Properties Including â€œNegativeâ€•Heat-Shrinking Characteristics. Frontiers in Materials, 2021, 8, .	2.4	4
66	Molecular-Level Deformations in Auxetic Organic Networked Polymers. ACS Symposium Series, 2010, , 197-214.	0.5	1
67	The Auxetic Behavior of a General Starâ€4 Structure. Physica Status Solidi (B): Basic Research, 2021, 258, .	1.5	1