

Hilary Bart-Smith

List of Publications by Year in descending order

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Version: 2024-02-01

54
papers

2,776
citations

218677

26
h-index

243625

44
g-index

55
all docs

55
docs citations

55
times ranked

1982
citing authors

#	ARTICLE	IF	CITATIONS
1	On the mechanical performance of closed cell Al alloy foams. <i>Acta Materialia</i> , 1997, 45, 5245-5259.	7.9	385
2	Experimental analysis of deformation mechanisms in a closed-cell aluminum alloy foam. <i>Journal of the Mechanics and Physics of Solids</i> , 2000, 48, 301-322.	4.8	328
3	Tuna robotics: A high-frequency experimental platform exploring the performance space of swimming fishes. <i>Science Robotics</i> , 2019, 4, .	17.6	169
4	Measurement and analysis of the structural performance of cellular metal sandwich construction. <i>International Journal of Mechanical Sciences</i> , 2001, 43, 1945-1963.	6.7	130
5	Hydrodynamic Performance of Aquatic Flapping: Efficiency of Underwater Flight in the Manta. <i>Aerospace</i> , 2016, 3, 20.	2.2	128
6	A novel fabrication of ionic polymer-metal composite membrane actuator capable of 3-dimensional kinematic motions. <i>Sensors and Actuators A: Physical</i> , 2011, 168, 131-139.	4.1	122
7	Structural response of pyramidal core sandwich columns. <i>International Journal of Solids and Structures</i> , 2007, 44, 3533-3556.	2.7	103
8	The effects of post-fabrication annealing on the mechanical properties of freestanding nanoporous gold structures. <i>Acta Materialia</i> , 2007, 55, 4593-4602.	7.9	94
9	Investigation of clustered actuation in tensegrity structures. <i>International Journal of Solids and Structures</i> , 2009, 46, 3272-3281.	2.7	84
10	Bio-inspired robotic manta ray powered by ionic polymer-metal composite artificial muscles. <i>International Journal of Smart and Nano Materials</i> , 2012, 3, 296-308.	4.2	78
11	Tunable stiffness enables fast and efficient swimming in fish-like robots. <i>Science Robotics</i> , 2021, 6, .	17.6	75
12	Thrust producing mechanisms in ray-inspired underwater vehicle propulsion. <i>Theoretical and Applied Mechanics Letters</i> , 2015, 5, 54-57.	2.8	71
13	Tunabot Flex: a tuna-inspired robot with body flexibility improves high-performance swimming. <i>Bioinspiration and Biomimetics</i> , 2021, 16, 026019.	2.9	71
14	Batoid Fishes: Inspiration for the Next Generation of Underwater Robots. <i>Marine Technology Society Journal</i> , 2011, 45, 99-109.	0.4	70
15	Analytical predictions, optimization, and design of a tensegrity-based artificial pectoral fin. <i>International Journal of Solids and Structures</i> , 2011, 48, 3142-3159.	2.7	64
16	Bioinspired Propulsion Mechanisms Based on Manta Ray Locomotion. <i>Marine Technology Society Journal</i> , 2011, 45, 110-118.	0.4	61
17	Imperfection sensitivity of pyramidal core sandwich structures. <i>International Journal of Solids and Structures</i> , 2007, 44, 4690-4706.	2.7	59
18	Biomechanical model of batoid (skates and rays) pectoral fins predicts the influence of skeletal structure on fin kinematics: implications for bio-inspired design. <i>Bioinspiration and Biomimetics</i> , 2015, 10, 046002.	2.9	53

#	ARTICLE	IF	CITATIONS
19	Influence of imperfections on the performance of metal foam core sandwich panels. <i>International Journal of Solids and Structures</i> , 2002, 39, 4999-5012.	2.7	44
20	Kinematics of swimming of the manta ray: three-dimensional analysis of open water maneuverability. <i>Journal of Experimental Biology</i> , 2018, 221, .	1.7	44
21	The Analysis of Tensegrity Structures for the Design of a Morphing Wing. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2007, 74, 668-676.	2.2	42
22	Scaling laws for the propulsive performance of three-dimensional pitching propulsors. <i>Journal of Fluid Mechanics</i> , 2019, 871, 1117-1138.	3.4	37
23	In-plane column response of metallic corrugated core sandwich panels. <i>International Journal of Solids and Structures</i> , 2012, 49, 3901-3914.	2.7	36
24	Kinematics and Hydrodynamics of Mobuliform Swimming: Oscillatory Winged Propulsion by Large Pelagic Batoids. <i>Marine Technology Society Journal</i> , 2017, 51, 35-47.	0.4	30
25	The effects of annealing prior to dealloying on the mechanical properties of nanoporous gold microbeams. <i>Acta Materialia</i> , 2008, 56, 324-332.	7.9	28
26	Surface Diffusion and Dissolution Kinetics in the Electrolyteâ€Metal Interface. <i>Journal of the Electrochemical Society</i> , 2010, 157, C328.	2.9	28
27	Investigating the Thrust Production of a Myliobatoid-Inspired Oscillating Wing. <i>Advances in Science and Technology</i> , 0, , .	0.2	27
28	Bio-Inspired Robotic Cownose Ray Propelled by Electroactive Polymer Pectoral Fin. , 2011, , .		27
29	Mitigation of tensile failure in released nanoporous metal microstructures via thermal treatment. <i>Applied Physics Letters</i> , 2006, 89, 133104.	3.3	25
30	The electro-mechanical response of elastomer membranes coated with ultra-thin metal electrodes. <i>Journal of the Mechanics and Physics of Solids</i> , 2005, 53, 2557-2578.	4.8	24
31	The electro-mechanical response of highly compliant substrates and thin stiff films with periodic cracks. <i>International Journal of Solids and Structures</i> , 2005, 42, 5259-5273.	2.7	23
32	A novel electroactive polymer buoyancy control device for bio-inspired underwater vehicles. , 2011, , .		22
33	Theoretical approach on the dynamic global buckling response of metallic corrugated core sandwich columns. <i>International Journal of Non-Linear Mechanics</i> , 2014, 65, 14-31.	2.6	18
34	Finite Element Modeling and Analysis of Large Pretensioned Space Structures. <i>Journal of Spacecraft and Rockets</i> , 2007, 44, 183-193.	1.9	15
35	Fracture of nanoscale copper films on elastomer substrates. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	14
36	Resonance entrainment of tensegrity structures via CPG control. <i>Automatica</i> , 2012, 48, 2791-2800.	5.0	14

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37	Formation of Silicon Nanoporous Structures Induced by Colloidal Gold Nanoparticles in HF/H ₂ O ₂ Solutions. <i>Chemistry of Materials</i> , 2009, 21, 2721-2726.	6.7	13
38	In-Plane Compression Response of Extruded Aluminum 6061-T6 Corrugated Core Sandwich Columns. <i>Journal of the American Ceramic Society</i> , 2011, 94, s76.	3.8	13
39	An analytical model for the face wrinkling failure prediction of metallic corrugated core sandwich columns in dynamic compression. <i>International Journal of Mechanical Sciences</i> , 2015, 92, 290-303.	6.7	13
40	PIDA Control of Buoyancy Device Enabled by Water Electrolysis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 1202-1210.	5.8	13
41	Tuna robotics: hydrodynamics of rapid linear accelerations. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2021, 288, 20202726.	2.6	13
42	Periodic response of fluidic networks with passive deformable features. <i>Applied Physics Letters</i> , 2009, 95, 203501.	3.3	12
43	Optimization of a tensegrity wing for biomimetic applications. , 2006, , .		11
44	Morphology of the core fibrous layer of the cetacean tail fluke. <i>Journal of Morphology</i> , 2018, 279, 757-765.	1.2	10
45	Dynamic effects on the lightweight design of metallic core sandwich columns. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 1335-1340.	1.5	8
46	The virginia nuddle school engineering education initiative: using a senior design course to develop engineering teaching kits. , 0, , .		6
47	CPG Control of a Tensegrity Morphing Structure for Biomimetic Applications. <i>Advances in Science and Technology</i> , 2008, 58, 137-142.	0.2	6
48	Modeling and control of artificial bladder enabled by Ionic Polymer-Metal Composite. , 2012, , .		6
49	Dynamic Buckling Response of Long Plates for the Prediction of Local Plate Buckling of Corrugated Core Sandwich Columns. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	2.2	4
50	Ionic Polymer-Metal Composite Artificial Muscles in Bio-Inspired Engineering Research: Underwater Propulsion. , 2012, , .		3
51	High velocity compressive response of metallic corrugated core sandwich columns. <i>International Journal of Mechanical Sciences</i> , 2016, 106, 78-94.	6.7	2
52	Thermo-Mechanical and Size-Dependent Behavior of Freestanding AuAg and Nanoporous-Au Beams. <i>Materials Research Society Symposia Proceedings</i> , 2006, 976, 1.	0.1	0
53	Compressive Stress Accumulation in Composite Nanoporous Gold and Silicone Bilayer Membranes: Underlying Mechanisms and Remedies. <i>Materials Research Society Symposia Proceedings</i> , 2007, 1052, 1.	0.1	0
54	Investigating Porosity and Stress Evolution in Nanoporous Gold Films by Timed Thermal Treatment. <i>ECS Transactions</i> , 2007, 6, 91-97.	0.5	0