

Hilary Bart-Smith

List of Publications by Year in descending order

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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	Tuna robotics: hydrodynamics of rapid linear accelerations. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20202726.	2.6	13
2	Tunabot Flex: a tuna-inspired robot with body flexibility improves high-performance swimming. Bioinspiration and Biomimetics, 2021, 16, 026019.	2.9	71
3	Tunable stiffness enables fast and efficient swimming in fish-like robots. Science Robotics, 2021, 6, .	17.6	75
4	PIDA Control of Buoyancy Device Enabled by Water Electrolysis. IEEE/ASME Transactions on Mechatronics, 2020, 25, 1202-1210.	5.8	13
5	Tuna robotics: A high-frequency experimental platform exploring the performance space of swimming fishes. Science Robotics, 2019, 4, .	17.6	169
6	Scaling laws for the propulsive performance of three-dimensional pitching propulsors. Journal of Fluid Mechanics, 2019, 871, 1117-1138.	3.4	37
7	Morphology of the core fibrous layer of the cetacean tail fluke. Journal of Morphology, 2018, 279, 757-765.	1.2	10
8	Kinematics of swimming of the manta ray: three-dimensional analysis of open water maneuverability. Journal of Experimental Biology, 2018, 221, .	1.7	44
9	Kinematics and Hydrodynamics of Mobuliform Swimming: Oscillatory Winged Propulsion by Large Pelagic Batoids. Marine Technology Society Journal, 2017, 51, 35-47.	0.4	30
10	Hydrodynamic Performance of Aquatic Flapping: Efficiency of Underwater Flight in the Manta. Aerospace, 2016, 3, 20.	2.2	128
11	High velocity compressive response of metallic corrugated core sandwich columns. International Journal of Mechanical Sciences, 2016, 106, 78-94.	6.7	2
12	Dynamic Buckling Response of Long Plates for the Prediction of Local Plate Buckling of Corrugated Core Sandwich Columns. Journal of Applied Mechanics, Transactions ASME, 2015, 82, .	2.2	4
13	Thrust producing mechanisms in ray-inspired underwater vehicle propulsion. Theoretical and Applied Mechanics Letters, 2015, 5, 54-57.	2.8	71
14	An analytical model for the face wrinkling failure prediction of metallic corrugated core sandwich columns in dynamic compression. International Journal of Mechanical Sciences, 2015, 92, 290-303.	6.7	13
15	Biomechanical model of batoid (skates and rays) pectoral fins predicts the influence of skeletal structure on fin kinematics: implications for bio-inspired design. Bioinspiration and Biomimetics, 2015, 10, 046002.	2.9	53
16	Dynamic effects on the lightweight design of metallic core sandwich columns. Journal of Mechanical Science and Technology, 2015, 29, 1335-1340.	1.5	8
17	Theoretical approach on the dynamic global buckling response of metallic corrugated core sandwich columns. International Journal of Non-Linear Mechanics, 2014, 65, 14-31.	2.6	18
18	Modeling and control of artificial bladder enabled by Ionic Polymer-Metal Composite. , 2012, , .		6

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19	Resonance entrainment of tensegrity structures via CPG control. <i>Automatica</i> , 2012, 48, 2791-2800.	5.0	14
20	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
21	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
22	Ionic Polymer-Metal Composite Artificial Muscles in Bio-Inspired Engineering Research: Underwater Propulsion. , 2012, , .		3
23	A novel electroactive polymer buoyancy control device for bio-inspired underwater vehicles. , 2011, , .		22
24	Batoid Fishes: Inspiration for the Next Generation of Underwater Robots. <i>Marine Technology Society Journal</i> , 2011, 45, 99-109.	0.4	70
25	Bioinspired Propulsion Mechanisms Based on Manta Ray Locomotion. <i>Marine Technology Society Journal</i> , 2011, 45, 110-118.	0.4	61
26	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
27	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
28	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
29	Bio-Inspired Robotic Cownose Ray Propelled by Electroactive Polymer Pectoral Fin. , 2011, , .		27
30	Surface Diffusion and Dissolution Kinetics in the Electrolyte-Metal Interface. <i>Journal of the Electrochemical Society</i> , 2010, 157, C328.	2.9	28
31	Fracture of nanoscale copper films on elastomer substrates. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	14
32	Periodic response of fluidic networks with passive deformable features. <i>Applied Physics Letters</i> , 2009, 95, 203501.	3.3	12
33	Investigation of clustered actuation in tensegrity structures. <i>International Journal of Solids and Structures</i> , 2009, 46, 3272-3281.	2.7	84
34	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
35	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
36	CPG Control of a Tensegrity Morphing Structure for Biomimetic Applications. <i>Advances in Science and Technology</i> , 2008, 58, 137-142.	0.2	6

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37	Finite Element Modeling and Analysis of Large Pretensioned Space Structures. <i>Journal of Spacecraft and Rockets</i> , 2007, 44, 183-193.	1.9	15
38	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
39	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
40	Investigating Porosity and Stress Evolution in Nanoporous Gold Films by Timed Thermal Treatment. <i>ECS Transactions</i> , 2007, 6, 91-97.	0.5	0
41	Structural response of pyramidal core sandwich columns. <i>International Journal of Solids and Structures</i> , 2007, 44, 3533-3556.	2.7	103
42	Imperfection sensitivity of pyramidal core sandwich structures. <i>International Journal of Solids and Structures</i> , 2007, 44, 4690-4706.	2.7	59
43	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
44	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
45	Optimization of a tensegrity wing for biomimetic applications. , 2006, , .		11
46	Mitigation of tensile failure in released nanoporous metal microstructures via thermal treatment. <i>Applied Physics Letters</i> , 2006, 89, 133104.	3.3	25
47	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
48	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
49	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
50	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
51	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
52	On the mechanical performance of closed cell Al alloy foams. <i>Acta Materialia</i> , 1997, 45, 5245-5259.	7.9	385
53	The virginia nuddle school engineering education initiative: using a senior design course to develop engineering teaching kits. , 0, , .		6
54	Investigating the Thrust Production of a Myliobatoid-Inspired Oscillating Wing. <i>Advances in Science and Technology</i> , 0, , .	0.2	27