

Mary Frecker

List of Publications by Year in descending order

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63
papers

1,125
citations

394421

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414414

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g-index

65
all docs

65
docs citations

65
times ranked

853
citing authors

#	ARTICLE	IF	CITATIONS
1	A two-stage design optimization framework for multifield origami-inspired structures. Journal of Intelligent Material Systems and Structures, 2022, 33, 46-69.	2.5	1
2	Pseudo rigid body model for a nonlinear folding compliant mechanism. Mechanism and Machine Theory, 2022, 176, 105017.	4.5	2
3	Multi-objective optimization of a multi-field actuated, multilayered, segmented flexible composite beam. Smart Materials and Structures, 2020, 29, 024001.	3.5	3
4	Multifunctional Li(Ni _{0.5} Co _{0.2} Mn _{0.3}) O ₂ -Si batteries with self-actuation and self-sensing. Journal of Intelligent Material Systems and Structures, 2020, 31, 860-868.	2.5	3
5	Tailoring energy absorption with functional grading of a contact-aided compliant mechanism. Smart Materials and Structures, 2019, 28, 084003.	3.5	10
6	When high viscosity of pancreatic cysts precludes effective EUS-FNA: a benchtop comparison of negative pressure devices. Endoscopy International Open, 2019, 07, E594-E599.	1.8	1
7	Target shape optimization of functionally graded shape memory alloy compliant mechanisms. Journal of Intelligent Material Systems and Structures, 2019, 30, 1385-1396.	2.5	5
8	Tuning of a Rigid-Body Dynamics Model of a Flapping Wing Structure With Compliant Joints. Journal of Mechanisms and Robotics, 2018, 10, .	2.2	10
9	Optimization of an Endoscopic Radiofrequency Ablation Electrode. Journal of Medical Devices, Transactions of the ASME, 2018, 12, .	0.7	3
10	Functionally Graded Cellular Contact-Aided Compliant Mechanism for Energy Absorption. , 2018, , .		2
11	Parameter Study of a Multi-Field Actuated, Multilayered, Segmented Flexible Composite Beam. , 2018, , .		1
12	Design for Additive Manufacturing of Cellular Compliant Mechanism Using Thermal History Feedback. , 2018, , .		4
13	Finite element analysis of electroactive and magnetoactive coupled behaviors in multi-field origami structures. Journal of Intelligent Material Systems and Structures, 2018, 29, 3983-4000.	2.5	11
14	Design, Fabrication, and Modeling of an Electricâ€Magnetic Self-Folding Sheet. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	11
15	Finite Element Analysis of Electroactive and Magnetoactive Coupled Behaviors in Multi-Field Origami Structures. , 2017, , .		2
16	Optimization of Spatially Distributed Contact-Aided Compliant Mechanisms in a Dynamic Structure. , 2017, , .		2
17	Optimization of a Forward-Swept Compliant Mechanism. , 2017, , .		0
18	Finite element analysis of electroactive polymer and magnetoactive elastomer based actuation for origami folding. Smart Materials and Structures, 2017, 26, 105032.	3.5	10

#	ARTICLE	IF	CITATIONS
19	Characterization of Self-Folding Origami Structures Using Magneto-Active Elastomers. , 2016, , .		6
20	Finite Element Analysis of Electroactive Polymer and Magnetoactive Elastomer Based Actuation for Origami-Inspired Folding. , 2016, , .		5
21	Target Shape Optimization of Functionally Graded Shape Memory Alloy Compliant Mechanism. , 2016, , .		4
22	Bistable compliant mechanism using magneto active elastomer actuation. Journal of Intelligent Material Systems and Structures, 2016, 27, 2049-2061.	2.5	62
23	Design of a Compliant Endoscopic Ultrasound-Guided Radiofrequency Ablation Probe. , 2016, , .		4
24	Trade Space Exploration of Magnetically Actuated Origami Mechanisms. Journal of Mechanisms and Robotics, 2016, 8, .	2.2	22
25	A Dynamic Spar Numerical Model for Passive Shape Change. , 2015, , .		1
26	Considering Mechanical Advantage in the Design and Actuation of an Origami-Based Mechanism. , 2015, , .		9
27	Analytical model and stability analysis of the leading edge spar of a passively morphing ornithopter wing. Bioinspiration and Biomimetics, 2015, 10, 065003.	2.9	9
28	Development and Validation of a Dynamic Model of Magneto-Active Elastomer Actuation of the Origami Waterbomb Base. Journal of Mechanisms and Robotics, 2015, 7, .	2.2	58
29	Free Flight Testing and Performance Evaluation of a Passively Morphing Ornithopter. International Journal of Micro Air Vehicles, 2015, 7, 21-40.	1.3	10
30	Optimization of a Bend-Twist-and-Sweep Compliant Mechanism. , 2014, , .		2
31	Design and Optimization of a Contact-Aided Compliant Mechanism for Passive Bending. Journal of Mechanisms and Robotics, 2014, 6, .	2.2	21
32	Finite element analysis and validation of dielectric elastomer actuators used for active origami. Smart Materials and Structures, 2014, 23, 094002.	3.5	40
33	Origami-Inspired Folding and Unfolding of Structures: Fundamental Investigations of Dielectric Elastomer-Based Active Materials. , 2013, , .		2
34	Design Optimization of a Twist Compliant Mechanism With Nonlinear Stiffness. , 2013, , .		3
35	Multi-Field Responsive Origami Structures: Preliminary Modeling and Experiments. , 2013, , .		31
36	Compliant articulation structure using superelastic NiTiNOL. Smart Materials and Structures, 2013, 22, 094018.	3.5	27

#	ARTICLE	IF	CITATIONS
37	Design and Optimization of a Bend-and-Sweep Compliant Mechanism. , 2013, , .		1
38	Supporting knowledge exploration and discovery in multi-dimensional data with interactive multiscale visualisation. Journal of Engineering Design, 2012, 23, 23-47.	2.3	33
39	Design of contact-aided compliant cellular mechanisms with curved walls. Journal of Intelligent Material Systems and Structures, 2012, 23, 1773-1785.	2.5	26
40	Design, fabrication, and testing of contact-aided compliant cellular mechanisms with curved walls. , 2011, , .		2
41	Multifunctional Forceps for Use in Endoscopic Surgeryâ€™Initial Design, Prototype, and Testing. Journal of Medical Devices, Transactions of the ASME, 2011, 5, .	0.7	6
42	Optimal Morphing-Wing Design Using Parallel Nondominated Sorting Genetic Algorithm II. AIAA Journal, 2009, 47, 1627-1634.	2.6	3
43	Nonlinear Analysis and Optimization of Diamond Cell Morphing Wings. Journal of Intelligent Material Systems and Structures, 2009, 20, 815-824.	2.5	19
44	Stress Relief in Contact-Aided Compliant Cellular Mechanisms. Journal of Mechanical Design, Transactions of the ASME, 2009, 131, .	2.9	47
45	A bistable mechanism for chord extension morphing rotors. , 2009, , .		4
46	Design Innovation Size and Shape Optimization of a 1.0mm Multifunctional Forceps-Scissors Surgical Instrument. Journal of Medical Devices, Transactions of the ASME, 2008, 2, .	0.7	11
47	Design Optimization of a Controllable Camber Rotor Airfoil. AIAA Journal, 2008, 46, 142-153.	2.6	40
48	Compliant Mechanical Amplifier Design using Multiple Optimally Placed Actuators. Journal of Intelligent Material Systems and Structures, 2007, 18, 209-217.	2.5	9
49	Impact of response delay and training on user performance with text-based and graphical user interfaces for engineering design. Research in Engineering Design - Theory, Applications, and Concurrent Engineering, 2007, 18, 49-65.	2.1	19
50	Graphical and text-based design interfaces for parameter design of an I-beam, desk lamp, aircraft wing, and job shop manufacturing system. Engineering With Computers, 2007, 23, 93-107.	6.1	6
51	Applying the proximity compatibility and the control-display compatibility principles to engineering design interfaces. Human Factors and Ergonomics in Manufacturing, 2006, 16, 61-81.	2.7	13
52	Nonlinear Analysis and Optimization of Diamond Cell Morphing Wings. , 2006, , .		1
53	A Nonlinear Model for Dielectric Elastomer Membranes. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 899-906.	2.2	150
54	Design of a piezoelectric actuator and compliant mechanism combination for maximum energy efficiency. Smart Materials and Structures, 2005, 14, 1421-1430.	3.5	32

#	ARTICLE	IF	CITATIONS
55	Design of a Comfortable Rotor Airfoil Using Distributed Piezoelectric Actuators. AIAA Journal, 2005, 43, 1684-1695.	2.6	14
56	Aircraft Structural Morphing using Tendon-Actuated Compliant Cellular Trusses. Journal of Aircraft, 2005, 42, 1614-1620.	2.4	61
57	Metamodel-Driven Interfaces for Engineering Design: Impact of Delay and Problem Size on User Performance. , 2005, , .		5
58	Dynamic Topology Optimization of Compliant Mechanisms and Piezoceramic Actuators. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 975-983.	2.9	33
59	Graphical User Interfaces for Engineering Design: Impact of Response Delay and Training on User Performance. , 2004, , .		9
60	Assessing the Impact of Graphical Design Interfaces on Design Efficiency and Effectiveness. Journal of Computing and Information Science in Engineering, 2003, 3, 144-154.	2.7	24
61	Efficient Pareto Frontier Exploration using Surrogate Approximations. Optimization and Engineering, 2001, 2, 31-50.	2.4	127
62	Optimal Design and Experimental Validation of Compliant Mechanical Amplifiers for Piezoceramic Stack Actuators. Journal of Intelligent Material Systems and Structures, 2000, 11, 360-369.	2.5	28
63	Optimal Design and Experimental Validation of Compliant Mechanical Amplifiers for Piezoceramic Stack Actuators. Journal of Intelligent Material Systems and Structures, 2000, 11, 360-369.	2.5	4