

Mary Frecker

List of Publications by Year in descending order

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63
papers

1,125
citations

394421

19
h-index

414414

32
g-index

65
all docs

65
docs citations

65
times ranked

853
citing authors

#	ARTICLE	IF	CITATIONS
1	A Nonlinear Model for Dielectric Elastomer Membranes. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 899-906.	2.2	150
2	Efficient Pareto Frontier Exploration using Surrogate Approximations. Optimization and Engineering, 2001, 2, 31-50.	2.4	127
3	Bistable compliant mechanism using magneto active elastomer actuation. Journal of Intelligent Material Systems and Structures, 2016, 27, 2049-2061.	2.5	62
4	Aircraft Structural Morphing using Tendon-Actuated Compliant Cellular Trusses. Journal of Aircraft, 2005, 42, 1614-1620.	2.4	61
5	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
6	Stress Relief in Contact-Aided Compliant Cellular Mechanisms. Journal of Mechanical Design, Transactions of the ASME, 2009, 131, .	2.9	47
7	Design Optimization of a Controllable Camber Rotor Airfoil. AIAA Journal, 2008, 46, 142-153.	2.6	40
8	Finite element analysis and validation of dielectric elastomer actuators used for active origami. Smart Materials and Structures, 2014, 23, 094002.	3.5	40
9	Dynamic Topology Optimization of Compliant Mechanisms and Piezoceramic Actuators. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 975-983.	2.9	33
10	Supporting knowledge exploration and discovery in multi-dimensional data with interactive multiscale visualisation. Journal of Engineering Design, 2012, 23, 23-47.	2.3	33
11	Design of a piezoelectric actuator and compliant mechanism combination for maximum energy efficiency. Smart Materials and Structures, 2005, 14, 1421-1430.	3.5	32
12	Multi-Field Responsive Origami Structures: Preliminary Modeling and Experiments. , 2013, , .		31
13	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
14	Compliant articulation structure using superelastic NiTiNOL. Smart Materials and Structures, 2013, 22, 094018.	3.5	27
15	Design of contact-aided compliant cellular mechanisms with curved walls. Journal of Intelligent Material Systems and Structures, 2012, 23, 1773-1785.	2.5	26
16	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
17	Trade Space Exploration of Magnetically Actuated Origami Mechanisms. Journal of Mechanisms and Robotics, 2016, 8, .	2.2	22
18	Design and Optimization of a Contact-Aided Compliant Mechanism for Passive Bending. Journal of Mechanisms and Robotics, 2014, 6, .	2.2	21

#	ARTICLE	IF	CITATIONS
19	Impact of response delay and training on user performance with text-based and graphical user interfaces for engineering design. <i>Research in Engineering Design - Theory, Applications, and Concurrent Engineering</i> , 2007, 18, 49-65.	2.1	19
20	Nonlinear Analysis and Optimization of Diamond Cell Morphing Wings. <i>Journal of Intelligent Material Systems and Structures</i> , 2009, 20, 815-824.	2.5	19
21	Design of a Comfortable Rotor Airfoil Using Distributed Piezoelectric Actuators. <i>AIAA Journal</i> , 2005, 43, 1684-1695.	2.6	14
22	Applying the proximity compatibility and the control-display compatibility principles to engineering design interfaces. <i>Human Factors and Ergonomics in Manufacturing</i> , 2006, 16, 61-81.	2.7	13
23	Design Innovation Size and Shape Optimization of a 1.0mm Multifunctional Forceps-Scissors Surgical Instrument. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2008, 2, .	0.7	11
24	Design, Fabrication, and Modeling of an Electrically-Magnetic Self-Folding Sheet. <i>Journal of Mechanisms and Robotics</i> , 2017, 9, .	2.2	11
25	Finite element analysis of electroactive and magnetoactive coupled behaviors in multi-field origami structures. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 3983-4000.	2.5	11
26	Free Flight Testing and Performance Evaluation of a Passively Morphing Ornithopter. <i>International Journal of Micro Air Vehicles</i> , 2015, 7, 21-40.	1.3	10
27	Finite element analysis of electroactive polymer and magnetoactive elastomer based actuation for origami folding. <i>Smart Materials and Structures</i> , 2017, 26, 105032.	3.5	10
28	Tuning of a Rigid-Body Dynamics Model of a Flapping Wing Structure With Compliant Joints. <i>Journal of Mechanisms and Robotics</i> , 2018, 10, .	2.2	10
29	Tailoring energy absorption with functional grading of a contact-aided compliant mechanism. <i>Smart Materials and Structures</i> , 2019, 28, 084003.	3.5	10
30	Compliant Mechanical Amplifier Design using Multiple Optimally Placed Actuators. <i>Journal of Intelligent Material Systems and Structures</i> , 2007, 18, 209-217.	2.5	9
31	Considering Mechanical Advantage in the Design and Actuation of an Origami-Based Mechanism. , 2015, , .		9
32	Analytical model and stability analysis of the leading edge spar of a passively morphing ornithopter wing. <i>Bioinspiration and Biomimetics</i> , 2015, 10, 065003.	2.9	9
33	Graphical User Interfaces for Engineering Design: Impact of Response Delay and Training on User Performance. , 2004, , .		9
34	Graphical and text-based design interfaces for parameter design of an I-beam, desk lamp, aircraft wing, and job shop manufacturing system. <i>Engineering With Computers</i> , 2007, 23, 93-107.	6.1	6
35	Multifunctional Forceps for Use in Endoscopic Surgery—Initial Design, Prototype, and Testing. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2011, 5, .	0.7	6
36	Characterization of Self-Folding Origami Structures Using Magneto-Active Elastomers. , 2016, , .		6

#	ARTICLE	IF	CITATIONS
37	Metamodel-Driven Interfaces for Engineering Design: Impact of Delay and Problem Size on User Performance. , 2005, , .		5
38	Finite Element Analysis of Electroactive Polymer and Magnetoactive Elastomer Based Actuation for Origami-Inspired Folding. , 2016, , .		5
39	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
40	A bistable mechanism for chord extension morphing rotors. , 2009, , .		4
41	Target Shape Optimization of Functionally Graded Shape Memory Alloy Compliant Mechanism. , 2016, , .		4
42	Design of a Compliant Endoscopic Ultrasound-Guided Radiofrequency Ablation Probe. , 2016, , .		4
43	Design for Additive Manufacturing of Cellular Compliant Mechanism Using Thermal History Feedback. , 2018, , .		4
44	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
45	Optimal Morphing-Wing Design Using Parallel Nondominated Sorting Genetic Algorithm II. AIAA Journal, 2009, 47, 1627-1634.	2.6	3
46	Design Optimization of a Twist Compliant Mechanism With Nonlinear Stiffness. , 2013, , .		3
47	Optimization of an Endoscopic Radiofrequency Ablation Electrode. Journal of Medical Devices, Transactions of the ASME, 2018, 12, .	0.7	3
48	Multi-objective optimization of a multi-field actuated, multilayered, segmented flexible composite beam. Smart Materials and Structures, 2020, 29, 024001.	3.5	3
49	Multifunctional Li(Ni0.5Co0.2Mn0.3) O2-Si batteries with self-actuation and self-sensing. Journal of Intelligent Material Systems and Structures, 2020, 31, 860-868.	2.5	3
50	Design, fabrication, and testing of contact-aided compliant cellular mechanisms with curved walls. , 2011, , .		2
51	Origami-Inspired Folding and Unfolding of Structures: Fundamental Investigations of Dielectric Elastomer-Based Active Materials. , 2013, , .		2
52	Optimization of a Bend-Twist-and-Sweep Compliant Mechanism. , 2014, , .		2
53	Finite Element Analysis of Electroactive and Magnetoactive Coupled Behaviors in Multi-Field Origami Structures. , 2017, , .		2
54	Optimization of Spatially Distributed Contact-Aided Compliant Mechanisms in a Dynamic Structure. , 2017, , .		2

#	ARTICLE	IF	CITATIONS
55	Functionally Graded Cellular Contact-Aided Compliant Mechanism for Energy Absorption. , 2018, , .		2
56	Pseudo rigid body model for a nonlinear folding compliant mechanism. Mechanism and Machine Theory, 2022, 176, 105017.	4.5	2
57	Design and Optimization of a Bend-and-Sweep Compliant Mechanism. , 2013, , .		1
58	A Dynamic Spar Numerical Model for Passive Shape Change. , 2015, , .		1
59	Parameter Study of a Multi-Field Actuated, Multilayered, Segmented Flexible Composite Beam. , 2018, , .		1
60	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
61	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
62	Nonlinear Analysis and Optimization of Diamond Cell Morphing Wings. , 2006, , .		1
63	Optimization of a Forward-Swept Compliant Mechanism. , 2017, , .		0