

Sarah Bergbreiter

List of Publications by Year in descending order

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64
papers

1,167
citations

516710

16
h-index

477307

29
g-index

64
all docs

64
docs citations

64
times ranked

1309
citing authors

#	ARTICLE	IF	CITATIONS
1	The principles of cascading power limits in small, fast biological and engineered systems. <i>Science</i> , 2018, 360, .	12.6	187
2	Rapid Three-Dimensional Printing in Water Using Semiconductor-Metal Hybrid Nanoparticles as Photoinitiators. <i>Nano Letters</i> , 2017, 17, 4497-4501.	9.1	83
3	Controlled Assembly of Liquid Metal Inclusions as a General Approach for Multifunctional Composites. <i>Advanced Materials</i> , 2020, 32, e2002929.	21.0	70
4	The First Launch of an Autonomous Thrust-Driven Microrobot Using Nanoporous Energetic Silicon. <i>Journal of Microelectromechanical Systems</i> , 2012, 21, 198-205.	2.5	58
5	Toward Autonomy in Sub-Gram Terrestrial Robots. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2019, 2, 231-252.	11.8	54
6	Design of an Autonomous Jumping Microrobot. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007, , .	0.0	52
7	A novel all-elastomer MEMS tactile sensor for high dynamic range shear and normal force sensing. <i>Journal of Micromechanics and Microengineering</i> , 2015, 25, 095009.	2.6	50
8	Rapid Manufacturing of Mechanoreceptive Skins for Slip Detection in Robotic Grasping. <i>Advanced Materials Technologies</i> , 2017, 2, 1600188.	5.8	39
9	Multimaterial 3D Printing for Microrobotic Mechanisms. <i>Soft Robotics</i> , 2020, 7, 59-67.	8.0	37
10	Latch-based control of energy output in spring actuated systems. <i>Journal of the Royal Society Interface</i> , 2020, 17, 20200070.	3.4	35
11	Gait Exploration of Sub-2 g Robots Using Magnetic Actuation. <i>IEEE Robotics and Automation Letters</i> , 2017, 2, 34-40.	5.1	34
12	Incorporating compliant elastomers for jumping locomotion in microrobots. <i>Smart Materials and Structures</i> , 2013, 22, 014010.	3.5	32
13	First leaps toward jumping microrobots. , 2011, , .		27
14	Characterization and Modeling of Elastomeric Joints in Miniature Compliant Mechanisms. <i>Journal of Mechanisms and Robotics</i> , 2013, 5, .	2.2	25
15	SOI/elastomer process for energy storage and rapid release. <i>Journal of Micromechanics and Microengineering</i> , 2010, 20, 104011.	2.6	23
16	An Ultracompact Dual-Stage Converter for Driving Electrostatic Actuators in Mobile Microrobots. <i>IEEE Transactions on Power Electronics</i> , 2014, 29, 2991-3000.	7.9	23
17	A Two-Step Fabrication Method for 3D Printed Microactuators: Characterization and Actuated Mechanisms. <i>Journal of Microelectromechanical Systems</i> , 2020, 29, 544-552.	2.5	22
18	Using an inertial tail for rapid turns on a miniature legged robot. , 2013, , .		20

#	ARTICLE	IF	CITATIONS
19	Effective and efficient locomotion for millimeter-sized microrobots. , 2008, , .		18
20	A paper-based electrostatic zipper actuator for printable robots. , 2014, , .		18
21	Multi-material compliant mechanisms for mobile millirobots. , 2011, , .		14
22	TinyTeRP: A Tiny Terrestrial Robotic Platform with modular sensing. , 2013, , .		13
23	Bioâ€Inspired Largeâ€Area Soft Sensing Skins to Measure UAV Wing Deformation in Flight. Advanced Functional Materials, 2021, 31, 2100679.	14.9	11
24	Biomimetic Soft Airflow Sensor with Printed Ionogel Conductor. , 2019, , .		10
25	Rapid Prototyping of Microactuators by Integrating 3D Printed Polymeric Structures with NiTi Thin Film. , 2020, , .		10
26	Use of a MEMS Differential Pressure Sensor to Detect Ground, Ceiling, and Walls on Small Quadrotors. IEEE Robotics and Automation Letters, 2021, 6, 4568-4575.	5.1	10
27	Toward fluidic microrobots using electrowetting. , 2012, , .		9
28	Efficiency and effectiveness analysis of a new direct drive miniature quadruped robot. , 2013, , .		9
29	Bio-inspired wind frame state sensing and estimation for MAV applications. , 2015, , .		9
30	The effect of porosity on energetic porous silicon solid propellant micro-propulsion. Journal of Micromechanics and Microengineering, 2015, 25, 115022.	2.6	9
31	A Lightweight, Compliant, Contact-Resistance-Based Airflow Sensor for Quadcopter Ground Effect Sensing. , 2018, , .		9
32	Hierarchical Integration of Thin-Film NiTi Actuators Using Additive Manufacturing for Microrobotics. Journal of Microelectromechanical Systems, 2020, 29, 867-873.	2.5	9
33	All-elastomer in-plane MEMS capacitive tactile sensor for normal force detection. , 2013, , .		8
34	Effect of finger geometries on strain response of interdigitated capacitor based soft strain sensors. Applied Physics Letters, 2018, 112, .	3.3	8
35	A Magnetically Transduced Whisker for Angular Displacement and Moment Sensing. , 2019, , .		8
36	Sensing skin for detecting wing deformation with embedded soft strain sensors. , 2016, , .		7

#	ARTICLE	IF	CITATIONS
37	Electromechanical Characterization of 3D Printable Conductive Elastomer for Soft Robotics. , 2020, , .		7
38	WhiskSight: A Reconfigurable, Vision-Based, Optical Whisker Sensing Array for Simultaneous Contact, Airflow, and Inertia Stimulus Detection. IEEE Robotics and Automation Letters, 2021, 6, 3357-3364.	5.1	7
39	Microfabrication of compliant all-polymer MEMS thermal actuators. Sensors and Actuators A: Physical, 2012, 177, 16-22.	4.1	6
40	3DFlex: A rapid prototyping approach for multi-material compliant mechanisms in millirobots. , 2017, , .		6
41	Characterization of a piezoelectric MEMS actuator surface toward motion-enabled reconfigurable RF circuits. Journal of Micromechanics and Microengineering, 2018, 28, 035001.	2.6	6
42	A multi-material milli-robot prototyping process. , 2009, , .		5
43	Integrated silicon-PDMS process for microrobot mechanisms. , 2010, , .		5
44	Magnetic actuation of ultra-compliant micro robotic mechanisms. , 2014, , .		5
45	A soft microfabricated capacitive sensor for high dynamic range strain sensing. , 2016, , .		5
46	Bridge risk investigation diagnostic grouped exploratory (BRIDGE) bot. , 2017, , .		5
47	Viscoelastic legs for open-loop control of gram-scale robots. Bioinspiration and Biomimetics, 2020, 15, 055005.	2.9	5
48	Scalable Minimally Actuated Leg Extension Bipedal Walker Based on 3D Passive Dynamics. , 2022, , .		5
49	Batch fabricated bidirectional dielectric elastomer actuators. , 2011, , .		4
50	Contact-Resistive Sensing of Touch and Airflow Using A Rat Whisker. , 2018, , .		4
51	Gesture Recognition Via Flexible Capacitive Touch Electrodes. , 2019, , .		4
52	Increasing the Energy Efficiency of NiTi Unimorph Actuators With a 3D-Printed Passive Layer. Journal of Microelectromechanical Systems, 2020, 29, 797-803.	2.5	4
53	Flow separation sensing on airfoil using a 3D printed biomimetic artificial hair sensor. Bioinspiration and Biomimetics, 2022, 17, 046003.	2.9	4
54	Soft polymer MEMS. , 2011, , .		3

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55	Magnetic actuation of thick film multi-material compliant mechanisms. Journal of Micromechanics and Microengineering, 2017, 27, 125021.	2.6	3
56	Pendulum-based measurements reveal impact dynamics at the scale of a trap-jaw ant. Journal of Experimental Biology, 2021, 224, .	1.7	3
57	Fabrication and Characterization of 3D Printed Out-of-Plane Torsional Comb-Drive Actuators for Microrobotics. , 2021, , .		3
58	Development and Experimental Validation of a Non-Linear, All-Elastomer In-Plane Capacitive Pressure Sensor Model. IEEE Sensors Journal, 2017, 17, 274-285.	4.7	2
59	Ground Reaction Force Sensing in Milligram-Scale Legged Microrobots. , 2019, , .		2
60	Keeping It Simple: Bio-Inspired Threshold-Based Strain Sensing for Micro-Aerial Vehicles. , 2021, , .		2
61	Large area all-elastomer capacitive tactile arrays. , 2013, , .		1
62	Dynamics and scaling of magnetically folding multi-material structures. , 2016, , .		1
63	Measurement of shear forces during gripping tasks with a low-cost tactile sensing system. , 2019, , .		0
64	Jumping robot bests biology by enhancing stored energy. Nature, 2022, 604, 627-628.	27.8	0