

# 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	Flow separation sensing on airfoil using a 3D printed biomimetic artificial hair sensor. <i>Bioinspiration and Biomimetics</i> , 2022, 17, 046003.	2.9	4
2	Jumping robot bests biology by enhancing stored energy. <i>Nature</i> , 2022, 604, 627-628.	27.8	0
3	Scalable Minimally Actuated Leg Extension Bipedal Walker Based on 3D Passive Dynamics. , 2022, , .		5
4	Pendulum-based measurements reveal impact dynamics at the scale of a trap-jaw ant. <i>Journal of Experimental Biology</i> , 2021, 224, .	1.7	3
5	WhiskSight: A Reconfigurable, Vision-Based, Optical Whisker Sensing Array for Simultaneous Contact, Airflow, and Inertia Stimulus Detection. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 3357-3364.	5.1	7
6	Bio-Inspired Large-Area Soft Sensing Skins to Measure UAV Wing Deformation in Flight. <i>Advanced Functional Materials</i> , 2021, 31, 2100679.	14.9	11
7	Fabrication and Characterization of 3D Printed Out-of-Plane Torsional Comb-Drive Actuators for Microrobotics. , 2021, , .		3
8	Use of a MEMS Differential Pressure Sensor to Detect Ground, Ceiling, and Walls on Small Quadrotors. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 4568-4575.	5.1	10
9	Keeping It Simple: Bio-Inspired Threshold-Based Strain Sensing for Micro-Aerial Vehicles. , 2021, , .		2
10	Multimaterial 3D Printing for Microrobotic Mechanisms. <i>Soft Robotics</i> , 2020, 7, 59-67.	8.0	37
11	Controlled Assembly of Liquid Metal Inclusions as a General Approach for Multifunctional Composites. <i>Advanced Materials</i> , 2020, 32, e2002929.	21.0	70
12	Increasing the Energy Efficiency of NiTi Unimorph Actuators With a 3D-Printed Passive Layer. <i>Journal of Microelectromechanical Systems</i> , 2020, 29, 797-803.	2.5	4
13	Hierarchical Integration of Thin-Film NiTi Actuators Using Additive Manufacturing for Microrobotics. <i>Journal of Microelectromechanical Systems</i> , 2020, 29, 867-873.	2.5	9
14	Latch-based control of energy output in spring actuated systems. <i>Journal of the Royal Society Interface</i> , 2020, 17, 20200070.	3.4	35
15	Electromechanical Characterization of 3D Printable Conductive Elastomer for Soft Robotics. , 2020, , .		7
16	Rapid Prototyping of Microactuators by Integrating 3D Printed Polymeric Structures with NiTi Thin Film. , 2020, , .		10
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	Viscoelastic legs for open-loop control of gram-scale robots. <i>Bioinspiration and Biomimetics</i> , 2020, 15, 055005.	2.9	5

#	ARTICLE	IF	CITATIONS
19	Biomimetic Soft Airflow Sensor with Printed Ionogel Conductor. , 2019, , .		10
20	Gesture Recognition Via Flexible Capacitive Touch Electrodes. , 2019, , .		4
21	Ground Reaction Force Sensing in Milligram-Scale Legged Microrobots. , 2019, , .		2
22	Measurement of shear forces during gripping tasks with a low-cost tactile sensing system. , 2019, , .		0
23	A Magnetically Transduced Whisker for Angular Displacement and Moment Sensing. , 2019, , .		8
24	Toward Autonomy in Sub-Gram Terrestrial Robots. Annual Review of Control, Robotics, and Autonomous Systems, 2019, 2, 231-252.	11.8	54
25	Characterization of a piezoelectric MEMS actuator surface toward motion-enabled reconfigurable RF circuits. Journal of Micromechanics and Microengineering, 2018, 28, 035001.	2.6	6
26	The principles of cascading power limits in small, fast biological and engineered systems. Science, 2018, 360, .	12.6	187
27	Effect of finger geometries on strain response of interdigitated capacitor based soft strain sensors. Applied Physics Letters, 2018, 112, .	3.3	8
28	Contact-Resistive Sensing of Touch and Airflow Using A Rat Whisker. , 2018, , .		4
29	A Lightweight, Compliant, Contact-Resistance-Based Airflow Sensor for Quadcopter Ground Effect Sensing. , 2018, , .		9
30	Gait Exploration of Sub-2 g Robots Using Magnetic Actuation. IEEE Robotics and Automation Letters, 2017, 2, 34-40.	5.1	34
31	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
32	Rapid Three-Dimensional Printing in Water Using Semiconductorâ€“Metal Hybrid Nanoparticles as Photoinitiators. Nano Letters, 2017, 17, 4497-4501.	9.1	83
33	3DFlex: A rapid prototyping approach for multi-material compliant mechanisms in millirobots. , 2017, , .		6
34	Magnetic actuation of thick film multi-material compliant mechanisms. Journal of Micromechanics and Microengineering, 2017, 27, 125021.	2.6	3
35	Rapid Manufacturing of Mechanoreceptive Skins for Slip Detection in Robotic Grasping. Advanced Materials Technologies, 2017, 2, 1600188.	5.8	39
36	Bridge risk investigation diagnostic grouped exploratory (BRIDGE) bot. , 2017, , .		5

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37	Dynamics and scaling of magnetically folding multi-material structures. , 2016, , .		1
38	A soft microfabricated capacitive sensor for high dynamic range strain sensing. , 2016, , .		5
39	Sensing skin for detecting wing deformation with embedded soft strain sensors. , 2016, , .		7
40	A novel all-elastomer MEMS tactile sensor for high dynamic range shear and normal force sensing. Journal of Micromechanics and Microengineering, 2015, 25, 095009.	2.6	50
41	Bio-inspired wind frame state sensing and estimation for MAV applications. , 2015, , .		9
42	The effect of porosity on energetic porous silicon solid propellant micro-propulsion. Journal of Micromechanics and Microengineering, 2015, 25, 115022.	2.6	9
43	A paper-based electrostatic zipper actuator for printable robots. , 2014, , .		18
44	Magnetic actuation of ultra-compliant micro robotic mechanisms. , 2014, , .		5
45	An Ultracompact Dual-Stage Converter for Driving Electrostatic Actuators in Mobile Microrobots. IEEE Transactions on Power Electronics, 2014, 29, 2991-3000.	7.9	23
46	Incorporating compliant elastomers for jumping locomotion in microrobots. Smart Materials and Structures, 2013, 22, 014010.	3.5	32
47	TinyTeRP: A Tiny Terrestrial Robotic Platform with modular sensing. , 2013, , .		13
48	Large area all-elastomer capacitive tactile arrays. , 2013, , .		1
49	All-elastomer in-plane MEMS capacitive tactile sensor for normal force detection. , 2013, , .		8
50	Characterization and Modeling of Elastomeric Joints in Miniature Compliant Mechanisms. Journal of Mechanisms and Robotics, 2013, 5, .	2.2	25
51	Efficiency and effectiveness analysis of a new direct drive miniature quadruped robot. , 2013, , .		9
52	Using an inertial tail for rapid turns on a miniature legged robot. , 2013, , .		20
53	Toward fluidic microrobots using electrowetting. , 2012, , .		9
54	Microfabrication of compliant all-polymer MEMS thermal actuators. Sensors and Actuators A: Physical, 2012, 177, 16-22.	4.1	6

#	ARTICLE	IF	CITATIONS
55	The First Launch of an Autonomous Thrust-Driven Microrobot Using Nanoporous Energetic Silicon. Journal of Microelectromechanical Systems, 2012, 21, 198-205.	2.5	58
56	Soft polymer MEMS. , 2011, , .		3
57	First leaps toward jumping microrobots. , 2011, , .		27
58	Multi-material compliant mechanisms for mobile millirobots. , 2011, , .		14
59	Batch fabricated bidirectional dielectric elastomer actuators. , 2011, , .		4
60	Integrated silicon-PDMS process for microrobot mechanisms. , 2010, , .		5
61	SOI/elastomer process for energy storage and rapid release. Journal of Micromechanics and Microengineering, 2010, 20, 104011.	2.6	23
62	A multi-material milli-robot prototyping process. , 2009, , .		5
63	Effective and efficient locomotion for millimeter-sized microrobots. , 2008, , .		18
64	Design of an Autonomous Jumping Microrobot. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	52