Elliot W Hawkes

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Bio-inspired geotechnical engineering: principles, current work, opportunities and challenges. Geotechnique, 2022, 72, 687-705.	4.0	74
2	Geometric Solutions for General Actuator Routing on Inflated-Beam Soft Growing Robots. IEEE Transactions on Robotics, 2022, 38, 1820-1840.	10.3	8
3	Soft, Wearable Robotics and Haptics: Technologies, Trends, and Emerging Applications. Proceedings of the IEEE, 2022, 110, 246-272.	21.3	40
4	Engineered jumpers overcome biological limits via work multiplication. Nature, 2022, 604, 657-661.	27.8	51
5	A Multimodal, Enveloping Soft Gripper: Shape Conformation, Bioinspired Adhesion, and Expansion-Driven Suction. IEEE Transactions on Robotics, 2021, 37, 350-362.	10.3	71
6	Forcing the issue: testing gecko-inspired adhesives. Journal of the Royal Society Interface, 2021, 18, 20200730.	3.4	11
7	Hybrid Vine Robot With Internal Steering-Reeling Mechanism Enhances System-Level Capabilities. IEEE Robotics and Automation Letters, 2021, 6, 5437-5444.	5.1	12
8	Mechanism and function of root circumnutation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	45
9	Hard questions for soft robotics. Science Robotics, 2021, 6, .	17.6	70
10	VINE Catheter for Endovascular Surgery. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 384-391.	3.2	14
11	Controlling subterranean forces enables a fast, steerable, burrowing soft robot. Science Robotics, 2021, 6, .	17.6	75
12	Soft Retraction Device and Internal Camera Mount for Everting Vine Robots. , 2021, , .		8
13	SPHR: A Soft Pneumatic Hybrid Robot with extreme shape changing and lifting abilities. , 2021, , .		0
14	Vine Robots. IEEE Robotics and Automation Magazine, 2020, 27, 120-132.	2.0	97
15	Fluidic Fabric Muscle Sheets for Wearable and Soft Robotics. Soft Robotics, 2020, 7, 179-197.	8.0	95
16	Tunable Photothermal Actuation Enabled by Photoswitching of Donorâ€"Acceptor Stenhouse Adducts. ACS Applied Materials & Interfaces, 2020, 12, 54075-54082.	8.0	31
17	Design, Modeling, Control, and Application of Everting Vine Robots. Frontiers in Robotics and AI, 2020, 7, 548266.	3.2	33
18	Robust navigation of a soft growing robot by exploiting contact with the environment. International Journal of Robotics Research, 2020, 39, 1724-1738.	8.5	42

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19	An untethered isoperimetric soft robot. Science Robotics, 2020, 5, .	17.6	72
20	Simple, Low-Hysteresis, Foldable, Fabric Pneumatic Artificial Muscle. IEEE Robotics and Automation Letters, 2020, 5, 3406-3413.	5.1	48
21	3D Electromagnetic Reconfiguration Enabled by Soft Continuum Robots. IEEE Robotics and Automation Letters, 2020, 5, 1704-1711.	5.1	12
22	Upper Extremity Exomuscle for Shoulder Abduction Support. IEEE Transactions on Medical Robotics and Bionics, 2020, 2, 474-484.	3.2	26
23	Connecting the legs with a spring improves human running economy. Journal of Experimental Biology, 2019, 222, .	1.7	41
24	Nutation Aids Heterogeneous Substrate Exploration in a Robophysical Root. , 2019, , .		12
25	Eversion and Retraction of a Soft Robot Towards the Exploration of Coral Reefs. , 2019, , .		50
26	Low-Cost, Continuously Variable, Strain Wave Transmission Using Gecko-Inspired Adhesives. IEEE Robotics and Automation Letters, 2019, 4, 894-901.	5.1	11
27	Spatially variant microstructured adhesive with one-way friction. Journal of the Royal Society Interface, 2019, 16, 20180705.	3.4	12
28	Characterizing Environmental Interactions for Soft Growing Robots. , 2019, , .		22
29	A Soft, Steerable Continuum Robot That Grows via Tip Extension. Soft Robotics, 2019, 6, 95-108.	8.0	130
30	Design of Materials and Mechanisms for Responsive Robots. Annual Review of Control, Robotics, and Autonomous Systems, 2018, 1, 359-384.	11.8	17
31	A Tip-Extending Soft Robot Enables Reconfigurable and Deployable Antennas. IEEE Robotics and Automation Letters, 2018, 3, 949-956.	5.1	66
32	Grasping Without Squeezing: Design and Modeling of Shear-Activated Grippers. IEEE Transactions on Robotics, 2018, 34, 303-316.	10.3	57
33	A Soft, Controllable, High Force Density Linear Brake Utilizing Layer Jamming. IEEE Robotics and Automation Letters, 2018, 3, 450-457.	5.1	58
34	Development and Evaluation of an Intuitive Flexible Interface for Teleoperating Soft Growing Robots. , 2018, , .		29
35	Soft Robotic Burrowing Device with Tip-Extension and Granular Fluidization. , 2018, , .		33
36	Obstacle-Aided Navigation of a Soft Growing Robot. , 2018, , .		35

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37	APAM: Antagonistic Pneumatic Artificial Muscle. , 2018, , .		34
38	Helical actuation on a soft inflated robot body. , 2018, , .		31
39	Toward the Design of Personalized Continuum Surgical Robots. Annals of Biomedical Engineering, 2018, 46, 1522-1533.	2.5	23
40	Design of a Compact Actuation and Control System for Flexible Medical Robots. IEEE Robotics and Automation Letters, 2017, 2, 1579-1585.	5.1	29
41	A Multimodal Robot for Perching and Climbing on Vertical Outdoor Surfaces. IEEE Transactions on Robotics, 2017, 33, 38-48.	10.3	105
42	A soft robot that navigates its environment through growth. Science Robotics, 2017, 2, .	17.6	603
43	Series pneumatic artificial muscles (sPAMs) and application to a soft continuum robot. , 2017, 2017, 5503-5510.		111
44	Pneumatic Reel Actuator: Design, modeling, and implementation. , 2017, , .		40
45	Passive returning mechanism for twisted string actuators. , 2017, , .		5
46	Exomuscle: An inflatable device for shoulder abduction support. , 2017, , .		35
47	A robotic device using gecko-inspired adhesives can grasp and manipulate large objects in microgravity. Science Robotics, 2017, 2, .	17.6	196
48	Modeling of Bioinspired Apical Extension in a Soft Robot. Lecture Notes in Computer Science, 2017, , 522-531.	1.3	39
49	Design and implementation of a 300% strain soft artificial muscle. , 2016, , .		91
50	Aggressive Flight With Quadrotors for Perching on Inclined Surfaces. Journal of Mechanisms and Robotics, 2016, 8, .	2.2	68
51	Wolverine: A wearable haptic interface for grasping in virtual reality. , 2016, , .		135
52	Fruit fly scale robots can hover longer with flapping wings than with spinning wings. Journal of the Royal Society Interface, 2016, 13, 20160730.	3.4	25
53	Free-flyer acquisition of spinning objects with gecko-inspired adhesives. , 2016, , .		27
54	One Motor, Two Degrees of Freedom Through Dynamic Response Switching. IEEE Robotics and Automation Letters, 2016, 1, 969-975.	5.1	4

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55	μTugs: Enabling microrobots to deliver macro forces with controllable adhesives. , 2015, , .		27
56	Perching failure detection and recovery with onboard sensing. , 2015, , .		6
57	Scaling controllable adhesives to grapple floating objects in space. , 2015, , .		36
58	Surface and Shape Deposition Manufacturing for the Fabrication of a Curved Surface Gripper. Journal of Mechanisms and Robotics, 2015, 7, .	2.2	42
59	Human climbing with efficiently scaled gecko-inspired dry adhesives. Journal of the Royal Society Interface, 2015, 12, 20140675.	3.4	96
60	The Geckoâ€™s Toe: Scaling Directional Adhesives for Climbing Applications. IEEE/ASME Transactions on Mechatronics, 2013, 18, 518-526.	5.8	87
61	Dynamic surface grasping with directional adhesion. , 2013, , .		47
62	Scaling walls: Applying dry adhesives to the real world. , 2011, , .		25
63	Sampling heuristics for optimal motion planning in high dimensions. , 2011, , .		6