Christoph Keplinger

List of Publications by Year
in descending order

64 papers	10,644 citations	101496 36 h-index	189801 50 g-index
66 all docs	66 docs citations	66 times ranked	10065 citing authors

#	Article	IF	Citations
1	Stretchable, Transparent, Ionic Conductors. Science, 2013, 341, 984-987.	6.0	1,396
2	A highly stretchable autonomous self-healing elastomer. Nature Chemistry, 2016, 8, 618-624.	6.6	1,133
3	Pneumatic Networks for Soft Robotics that Actuate Rapidly. Advanced Functional Materials, 2014, 24, 2163-2170.	7.8	1,125
4	Ionic skin. Advanced Materials, 2014, 26, 7608-7614.	11.1	992
5	25th Anniversary Article: A Soft Future: From Robots and Sensor Skin to Energy Harvesters. Advanced Materials, 2014, 26, 149-162.	11.1	732
6	Hydraulically amplified self-healing electrostatic actuators with muscle-like performance. Science, 2018, 359, 61-65.	6.0	674
7	A Transparent, Selfâ€Healing, Highly Stretchable Ionic Conductor. Advanced Materials, 2017, 29, 1605099.	11.1	447
8	Harnessing snap-through instability in soft dielectrics to achieve giant voltage-triggered deformation. Soft Matter, 2012, 8, 285-288.	1.2	373
9	Peano-HASEL actuators: Muscle-mimetic, electrohydraulic transducers that linearly contract on activation. Science Robotics, 2018, 3, .	9.9	336
10	Dielectric Elastomer Generators: How Much Energy Can Be Converted?. IEEE/ASME Transactions on Mechatronics, 2011, 16, 33-41.	3.7	303
11	Giant voltage-induced deformation in dielectric elastomers near the verge of snap-through instability. Journal of the Mechanics and Physics of Solids, 2013, 61, 611-628.	2.3	298
12	Buckling Pneumatic Linear Actuators Inspired by Muscle. Advanced Materials Technologies, 2016, 1, 1600055.	3.0	226
13	Inkjet Printing of Conductive Inks with High Lateral Resolution on Omniphobic â€œR^F Paperâ€• for Paperâ€Based Electronics and MEMS. Advanced Materials, 2014, 26, 4677-4682.	11.1	216
14	RÃ¶ntgenâ€™s electrode-free elastomer actuators without electromechanical pull-in instability. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4505-4510.	3.3	203
15	Soft Actuators and Robots that Are Resistant to Mechanical Damage. Advanced Functional Materials, 2014, 24, 3003-3010.	7.8	197
16	Flexible ferroelectret field-effect transistor for large-area sensor skins and microphones. Applied Physics Letters, 2006, 89, 073501.	1.5	177
17	Flexible-foam-based capacitive sensor arrays for object detection at low cost. Applied Physics Letters, 2008, 92, .	1.5	157
18	An Easyâ€toâ€Implement Toolkit to Create Versatile and Highâ€Performance HASEL Actuators for Untethered Soft Robots. Advanced Science, 2019, 6, 1900178.	5.6	132

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19	Capacitive extensometry for transient strain analysis of dielectric elastomer actuators. Applied Physics Letters, 2008, 92, .	1.5	126
20	Stretch dependence of the electrical breakdown strength and dielectric constant of dielectric elastomers. Smart Materials and Structures, 2013, 22, 104012.	1.8	126
21	Natural rubber for sustainable high-power electrical energy generation. RSC Advances, 2014, 4, 27905-27913.	1.7	125
22	Method for measuring energy generation and efficiency of dielectric elastomer generators. Applied Physics Letters, 2011, 99, .	1.5	106
23	HASEL Artificial Muscles for a New Generation of Lifelike Robotsâ€"Recent Progress and Future Opportunities. Advanced Materials, 2021, 33, e2003375.	11.1	97
24	Performance of dissipative dielectric elastomer generators. Journal of Applied Physics, 2012, 111, .	1.1	85
25	Towards enduring autonomous robots via embodied energy. Nature, 2022, 602, 393-402.	13.7	84
26	Shaping the future of robotics through materials innovation. Nature Materials, 2021, 20, 1582-1587.	13.3	65
27	An analytical model for the design of Peano-HASEL actuators with drastically improved performance. Extreme Mechanics Letters, 2019, 29, 100449.	2.0	61
28	A Lesson from Plants: Highâ€Speed Soft Robotic Actuators. Advanced Science, 2020, 7, 1903391.	5.6	55
29	Highâ€Strain Peanoâ€HASEL Actuators. Advanced Functional Materials, 2020, 30, 1908821.	7.8	50
30	Liquid Crystal Elastomers with Enhanced Directional Actuation to Electric Fields. Advanced Materials, 2021, 33, e2103806.	11.1	49
31	High-performance electromechanical transduction using laterally-constrained dielectric elastomers part I: Actuation processes. Journal of the Mechanics and Physics of Solids, 2017, 105, 81-94.	2.3	46
32	Dynamically Actuated Liquidâ€Infused Poroelastic Film with Precise Control over Droplet Dynamics. Advanced Functional Materials, 2018, 28, 1802632.	7.8	46
33	Spiderâ€Inspired Electrohydraulic Actuators for Fast, Softâ€Actuated Joints. Advanced Science, 2021, 8, e2100916.	5.6	46
34	Dynamics of electrohydraulic soft actuators. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16207-16213.	3.3	42
35	Electric-field-tuned color in photonic crystal elastomers. Applied Physics Letters, 2012, 100, 101902.	1.5	40
36	Stretchable Conductive Composites Based on Metal Wools for Use as Electrical Vias in Soft Devices. Advanced Functional Materials, 2015, 25, 1418-1425.	7.8	35

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37	How inhomogeneous zipping increases the force output of Peano-HASEL actuators. Extreme Mechanics Letters, 2019, 31, 100542.	2.0	26
38	Design of a High-Speed Prosthetic Finger Driven by Peano-HASEL Actuators. Frontiers in Robotics and AI, 2020, 7, 586216.	2.0	22
39	Rapid 3D Printing of Electrohydraulic (HASEL) Tentacle Actuators. Advanced Functional Materials, 2020, 30, 2005244.	7.8	22
40	Miniaturized Circuitry for Capacitive Self-Sensing and Closed-Loop Control of Soft Electrostatic Transducers. Soft Robotics, 2021, 8, 673-686.	4.6	19
41	Charge localization instability in a highly deformable dielectric elastomer. Applied Physics Letters, 2014, 104, 022905.	1.5	17
42	Identification and Control of a Nonlinear Soft Actuator and Sensor System. IEEE Robotics and Automation Letters, 2020, 5, 3783-3790.	3.3	17
43	A Pocketâ€Sized Tenâ€Channel High Voltage Power Supply for Soft Electrostatic Actuators. Advanced Materials Technologies, 2022, 7, .	3.0	14
44	System Identification and Closed-Loop Control of a Hydraulically Amplified Self-Healing Electrostatic (HASEL) Actuator. , 2018, , .		11
45	Mechanicalâ€toâ€Electrical Energy Conversion with Variable Electric Double Layers. Energy Technology, 2019, 7, 1801007.	1.8	8
46	Electro-Hydraulic Rolling Soft Wheel: Design, Hybrid Dynamic Modeling, and Model Predictive Control. IEEE Transactions on Robotics, 2022, 38, 3044-3063.	7.3	8
47	Dielectric elastomers: from the beginning of modern science to applications in actuators and energy harvesters. , 2011, , .		7
48	Electromechanics of planar HASEL actuators. Extreme Mechanics Letters, 2021, 48, 101408.	2.0	7
49	Hasel Actuators: HASEL Artificial Muscles for a New Generation of Lifelike Robotsâ€"Recent Progress and Future Opportunities (Adv. Mater. 19/2021). Advanced Materials, 2021, 33, 2170149.	11.1	5
50	Electriflow: Soft Electrohydraulic Building Blocks for Prototyping Shape-changing Interfaces. , 2021, , .		5
51	Simulation-driven design to reduce pull-in voltage of donut HASEL actuators. , 2019, , .		3
52	Analysis of safe and failure mode regimes of dielectric elastomer actuators. , 2008, , .		2
53	Cellular ferroelectrets for electroactive polymer hybrid systems: soft matter integrated devices with advanced functionality. , 2008, , .		2
54	Area-of-Effect Softbots (AoES) for Asteroid Proximity Operations. , 2019, , .		2

#	Article	IF	Citations
55	Soft Electrohydraulic Actuators for Origami Inspired Shape-Changing Interfaces. , 2021, , .		2
56	Modeling guided design of dielectric elastomer generators and actuators. Proceedings of SPIE, 2012, , .	0.8	1
57	Linear Actuators: Buckling Pneumatic Linear Actuators Inspired by Muscle (Adv. Mater. Technol.) Tj ETQq1 1 0.784314 rgBT /Overlock	3.0	1
58	Simulating Electrohydraulic Soft Actuator Assemblies Via Reduced Order Modeling. , 2022, , .		1
59	Piezoelectric polymers. Materials Research Society Symposia Proceedings, 2005, 889, 1.	0.1	0
60	Cellular ferroelectrets for soft matter integrated devices with advanced functionality. , 2008, , .		0
61	Modeling of Inhomogeneous Deformation in a Dielectric Elastomer Generator for Energy Harvesting. , 2010, , .		0
62	Droplet Dynamics: Dynamically Actuated Liquid-Infused Poroelastic Film with Precise Control over Droplet Dynamics (Adv. Funct. Mater. 39/2018). Advanced Functional Materials, 2018, 28, 1870277.	7.8	0
63	Electrohydraulic Tentacle Actuators: Rapid 3D Printing of Electrohydraulic (HASEL) Tentacle Actuators (Adv. Funct. Mater. 40/2020). Advanced Functional Materials, 2020, 30, 2070266.	7.8	0
64	Dielectric-elastomer actuators deliver clean energy. SPIE Newsroom, 0, , .	0.1	0