

Federico Carpi

List of Publications by Year in descending order

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159
papers

5,852
citations

147726

31
h-index

85498

71
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172
all docs

172
docs citations

172
times ranked

4409
citing authors

#	ARTICLE	IF	CITATIONS
1	Stretching Dielectric Elastomer Performance. <i>Science</i> , 2010, 330, 1759-1761.	6.0	471
2	Bioinspired Tunable Lens with Muscle-Like Electroactive Elastomers. <i>Advanced Functional Materials</i> , 2011, 21, 4152-4158.	7.8	361
3	Electroactive Polymer-Based Devices for e-Textiles in Biomedicine. <i>IEEE Transactions on Information Technology in Biomedicine</i> , 2005, 9, 295-318.	3.6	256
4	Standards for dielectric elastomer transducers. <i>Smart Materials and Structures</i> , 2015, 24, 105025.	1.8	245
5	Dielectric constant enhancement in a silicone elastomer filled with lead magnesium niobate-lead titanate. <i>Materials Science and Engineering C</i> , 2007, 27, 110-116.	3.8	236
6	Silicone-Poly(hexylthiophene) Blends as Elastomers with Enhanced Electromechanical Transduction Properties. <i>Advanced Functional Materials</i> , 2008, 18, 235-241.	7.8	231
7	Improvement of electromechanical actuating performances of a silicone dielectric elastomer by dispersion of titanium dioxide powder. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2005, 12, 835-843.	1.8	230
8	Electromechanical characterisation of dielectric elastomer planar actuators: comparative evaluation of different electrode materials and different counterloads. <i>Sensors and Actuators A: Physical</i> , 2003, 107, 85-95.	2.0	229
9	Ultrafast All-Polymer Electrically Tunable Silicone Lenses. <i>Advanced Functional Materials</i> , 2015, 25, 1656-1665.	7.8	222
10	Folded dielectric elastomer actuators. <i>Smart Materials and Structures</i> , 2007, 16, S300-S305.	1.8	193
11	Dielectric elastomer cylindrical actuators: electromechanical modelling and experimental evaluation. <i>Materials Science and Engineering C</i> , 2004, 24, 555-562.	3.8	181
12	Electroactive polymer actuators as artificial muscles: are they ready for bioinspired applications?. <i>Bioinspiration and Biomimetics</i> , 2011, 6, 045006.	1.5	173
13	Magnetically Controllable Gastrointestinal Steering of Video Capsules. <i>IEEE Transactions on Biomedical Engineering</i> , 2011, 58, 231-234.	2.5	159
14	Helical dielectric elastomer actuators. <i>Smart Materials and Structures</i> , 2005, 14, 1210-1216.	1.8	128
15	Perspectives for new dielectric elastomers with improved electromechanical actuation performance: composites versus blends. <i>Polymer International</i> , 2010, 59, 400-406.	1.6	117
16	Magnetic Maneuvering of Endoscopic Capsules by Means of a Robotic Navigation System. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 1482-1490.	2.5	113
17	Stereotaxis Niobe [®] magnetic navigation system for endocardial catheter ablation and gastrointestinal capsule endoscopy. <i>Expert Review of Medical Devices</i> , 2009, 6, 487-498.	1.4	92
18	Controlled Navigation of Endoscopic Capsules: Concept and Preliminary Experimental Investigations. <i>IEEE Transactions on Biomedical Engineering</i> , 2007, 54, 2028-2036.	2.5	89

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19	Colours from electroactive polymers: Electrochromic, electroluminescent and laser devices based on organic materials. Optics and Laser Technology, 2006, 38, 292-305.	2.2	87
20	Electroactive Elastomeric Actuator for All-Polymer Linear Peristaltic Pumps. IEEE/ASME Transactions on Mechatronics, 2010, 15, 460-470.	3.7	79
21	Hydrostatically Coupled Dielectric Elastomer Actuators. IEEE/ASME Transactions on Mechatronics, 2010, 15, 308-315.	3.7	78
22	Soft dielectrics for capacitive sensing in robot skins: Performance of different elastomer types. Sensors and Actuators A: Physical, 2015, 226, 37-47.	2.0	60
23	Wearable Wireless Tactile Display for Virtual Interactions with Soft Bodies. Frontiers in Bioengineering and Biotechnology, 2014, 2, 31.	2.0	59
24	Enabling variable-stiffness hand rehabilitation orthoses with dielectric elastomer transducers. Medical Engineering and Physics, 2014, 36, 205-211.	0.8	58
25	Polymer based interfaces as bioinspired "smart skins"™. Advances in Colloid and Interface Science, 2005, 116, 165-178.	7.0	50
26	Computational Model of Hydrostatically Coupled Dielectric Elastomer Actuators. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	50
27	Dielectric Elastomers as Electromechanical Transducers. , 2008, , .		50
28	Magnetic shells for gastrointestinal endoscopic capsules as a means to control their motion. Biomedicine and Pharmacotherapy, 2006, 60, 370-374.	2.5	46
29	ENHANCING THE DIELECTRIC PERMITTIVITY OF ELASTOMERS. , 2008, , 51-68.		45
30	Millimetre-scale bubble-like dielectric elastomer actuators. Polymer International, 2010, 59, 407-414.	1.6	43
31	Electrically Tunable Lenses: A Review. Frontiers in Robotics and AI, 2021, 8, 678046.	2.0	37
32	Electroactive Elastomeric Haptic Displays of Organ Motility and Tissue Compliance for Medical Training and Surgical Force Feedback. IEEE Transactions on Biomedical Engineering, 2009, 56, 2327-2330.	2.5	33
33	MRI Compatibility of Silicone-Made Contractile Dielectric Elastomer Actuators. IEEE/ASME Transactions on Mechatronics, 2008, 13, 370-374.	3.7	32
34	Electromechanically Active Polymers. Polymer International, 2010, 59, 277-278.	1.6	30
35	Smart Lenses with Electrically Tuneable Astigmatism. Scientific Reports, 2019, 9, 16127.	1.6	30
36	Modeling and experimental validation of buckling dielectric elastomer actuators. Smart Materials and Structures, 2012, 21, 094005.	1.8	28

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37	Electrically tunable soft solid lens inspired by reptile and bird accommodation. <i>Bioinspiration and Biomimetics</i> , 2016, 11, 065003.	1.5	28
38	Tactile display of softness on fingertip. <i>Scientific Reports</i> , 2020, 10, 20491.	1.6	28
39	Bioinspired actuation of the eyeballs of an android robotic face: concept and preliminary investigations. <i>Bioinspiration and Biomimetics</i> , 2007, 2, S50-S63.	1.5	27
40	Prospects of brain-machine interfaces for space system control. <i>Acta Astronautica</i> , 2009, 64, 448-456.	1.7	27
41	Magnetic capsule endoscopy: the future is around the corner. <i>Expert Review of Medical Devices</i> , 2010, 7, 161-164.	1.4	26
42	Bioreactor With Electrically Deformable Curved Membranes for Mechanical Stimulation of Cell Cultures. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 22.	2.0	26
43	Granularly Coupled Dielectric Elastomer Actuators. <i>IEEE/ASME Transactions on Mechatronics</i> , 2011, 16, 16-23.	3.7	25
44	Guest Editorial Introduction to the Focused Section on Electroactive Polymer Mechatronics. <i>IEEE/ASME Transactions on Mechatronics</i> , 2011, 16, 1-8.	3.7	25
45	Active Compression Bandage Made of Electroactive Elastomers. <i>IEEE/ASME Transactions on Mechatronics</i> , 2018, 23, 2328-2337.	3.7	25
46	Enabling portable multiple-line refreshable Braille displays with electroactive elastomers. <i>Medical Engineering and Physics</i> , 2018, 60, 86-93.	0.8	24
47	Effects of plasticization of a soft silicone for dielectric elastomer actuation. <i>Smart Materials and Structures</i> , 2013, 22, 104020.	1.8	23
48	Galectin-3 detection on large-needle aspiration biopsy improves preoperative selection of thyroid nodules: A prospective cohort study. <i>Annals of Medicine</i> , 2010, 42, 70-78.	1.5	22
49	Seeking the "holy Braille"™ display: might electromechanically active polymers be the solution?. <i>Expert Review of Medical Devices</i> , 2011, 8, 529-532.	1.4	21
50	Realization of conducting polymer actuators using a controlled volume microsyringe system. <i>Smart Materials and Structures</i> , 2006, 15, 279-287.	1.8	20
51	Polyurethane unimorph bender microfabricated with Pressure Assisted Microsyringe (PAM) for biomedical applications. <i>Materials Science and Engineering C</i> , 2009, 29, 1835-1841.	3.8	20
52	Contractile folded dielectric elastomer actuators. , 2007, , .		19
53	A bioreactor with an electro-responsive elastomeric membrane for mimicking intestinal peristalsis. <i>Bioinspiration and Biomimetics</i> , 2017, 12, 016001.	1.5	19
54	Percutaneous large-needle aspiration biopsy histology of palpable thyroid nodules: technical and diagnostic performance. <i>Histopathology</i> , 2007, 51, 249-257.	1.6	18

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55	Elastomeric contractile actuators for hand rehabilitation splints. , 2008, , .		18
56	Concept design of novel bio-inspired distributed actuators for space applications. Acta Astronautica, 2009, 65, 825-833.	1.7	17
57	Soft wearable non-vibratory tactile displays. , 2018, , .		17
58	FACE: facial automaton for conveying emotions. Applied Bionics and Biomechanics, 2004, 1, 91-100.	0.5	16
59	Conjugated Polymer Actuators: Fundamentals. , 0, , 193-227.		16
60	Magnetic robotic manoeuvring of gastrointestinal video capsules: preliminary phantom tests. Biomedicine and Pharmacotherapy, 2008, 62, 546-549.	2.5	15
61	Grand challenges in magnetic capsule endoscopy. Expert Review of Medical Devices, 2013, 10, 433-436.	1.4	15
62	LEAP Motion Technology and Psychology: A Mini-Review on Hand Movements Sensing for Neurodevelopmental and Neurocognitive Disorders. International Journal of Environmental Research and Public Health, 2021, 18, 4006.	1.2	15
63	Contractile dielectric elastomer actuator with folded shape. , 2006, , .		14
64	High-strain dielectric elastomer for actuation. , 2003, , .		13
65	Optics: Bioinspired Tunable Lens with Muscle-Like Electroactive Elastomers (Adv. Funct. Mater. 21/2011). Advanced Functional Materials, 2011, 21, 4002-4002.	7.8	12
66	Correction to "Electroactive Polymer-Based Devices for e-Textiles in Biomedicine" IEEE Transactions on Information Technology in Biomedicine, 2005, 9, 574-574.	3.6	11
67	Pattern reconfigurable antenna based on moving V-shaped parasitic elements actuated by dielectric elastomer. Electronics Letters, 2010, 46, 886.	0.5	11
68	Electroactive polymer patches for wearable haptic interfaces. , 2011, 2011, 8369-72.		11
69	Electrical breakdown of dielectric elastomers: influence of compression, electrode's curvature and environmental humidity. Proceedings of SPIE, 2016, , .	0.8	11
70	A Soft Touch: Wearable Tactile Display of Softness Made of Electroactive Elastomers. Advanced Materials Technologies, 2021, 6, 2100016.	3.0	11
71	Non-invasive electroretinography. Biomedicine and Pharmacotherapy, 2006, 60, 375-379.	2.5	10
72	Real-time control of dielectric elastomer actuators via bioelectric and biomechanical signals. Polymer International, 2010, 59, 422-429.	1.6	10

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73	Buckling dielectric elastomer actuators and their use as motors for the eyeballs of an android face. , 2006, , .		9
74	Active Microcatheter and Biomedical Soft Devices Based on IPMC Actuators. , 0, , 121-136.		9
75	Eyeball pseudo-muscular actuators for an android face. , 2005, , .		8
76	A new contractile linear actuator made of dielectric elastomers (Invited Paper). , 2005, 5759, 64.		8
77	Electroactive fabrics and wearable manâ€“machine interfaces. , 2005, , 59-80.		8
78	Martian jumping rover equipped with electroactive polymer actuators: A preliminary study. IEEE Transactions on Aerospace and Electronic Systems, 2007, 43, 79-92.	2.6	8
79	Contractile and Buckling Actuators Based on Dielectric Elastomers: Devices and Applications. Advances in Science and Technology, 2008, 61, 186-191.	0.2	8
80	Wearable kinesthetic systems and emerging technologies in actuation for upperlimb neurorehabilitation. , 2009, 2009, 6830-3.		8
81	Opportunities of hydrostatically coupled dielectric elastomer actuators for haptic interfaces. Proceedings of SPIE, 2011, , .	0.8	8
82	Effects of Corona treatment on electrical and mechanical properties of a porous dielectric elastomer. IEEE Transactions on Dielectrics and Electrical Insulation, 2012, 19, 1203-1207.	1.8	8
83	A dielectric elastomer actuator-based tactile display for multiple fingertip interaction with virtual soft bodies. , 2017, , .		8
84	Polymers responding to electrical or electrochemical stimuli for linear actuators. European Journal of Control, 2004, 29, 55-64.	1.6	8
85	Functional Materials for Wearable Sensing, Actuating and Energy Harvesting. Advances in Science and Technology, 0, , .	0.2	7
86	Actuated Pins for Braille Displays. , 0, , 265-277.		7
87	Wearable Detection of Trunk Flexions: Capacitive Elastomeric Sensors Compared to Inertial Sensors. Sensors, 2021, 21, 5453.	2.1	7
88	Electrically tunable directional light scattering from soft thin membranes. Optics Express, 2020, 28, 20669.	1.7	7
89	Enhancing the Electro-Mechanical Response of Maxwell Stress Actuators. Advances in Science and Technology, 2008, 61, 46-53.	0.2	6
90	Dynamic Splint-Like Hand Orthosis for Finger Rehabilitation. , 0, , 443-461.		6

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91	MRI Compatible Device for Robotic Assisted Interventions to Prostate Cancer. , 0 , 411-425.		6
92	A Braille Display System for the Visually Disabled Using a Polymer Based Soft Actuator. , 0 , 427-442.		6
93	Hydrostatically coupled dielectric elastomer actuators for tactile displays and cutaneous stimulators. Proceedings of SPIE, 2010, , .	0.8	6
94	Predictive stressâ€“stretch models of elastomers up to the characteristic flex. Smart Materials and Structures, 2013, 22, 104011.	1.8	6
95	Enhancement of the electromechanical transduction properties of a silicone elastomer by blending with a conjugated polymer. , 2008, , .		5
96	Silicone Made Contractile Dielectric Elastomer Actuators Inside 3-Tesla MRI Environment. , 2008, , .		5
97	BUCKLING ACTUATORS WITH INTEGRATED DISPLACEMENT SENSOR. , 2008, , 132-140.		5
98	Walking with springs. , 2011, , .		5
99	Small-Strain Modeling of Helical Dielectric Elastomer Actuators. IEEE/ASME Transactions on Mechatronics, 2012, 17, 318-325.	3.7	5
100	Stretchable optical device with electrically tunable absorbance and fluorescence. Smart Materials and Structures, 2014, 23, 015009.	1.8	5
101	Electrical breakdown of an acrylic dielectric elastomer: effects of hemispherical probing electrodeâ€™s size and force. International Journal of Smart and Nano Materials, 2015, 6, 290-303.	2.0	5
102	Microfabricated Conjugated Polymer Actuators for Microvalves, Cell Biology, and Microrobotics. , 0 , 249-264.		4
103	Bio-Responsive Hydrogels for Biomedical Applications. , 0 , 43-59.		4
104	Electroactive elastomeric actuators for biomedical and bioinspired systems. , 2012, , .		4
105	Contractile Hydrostatically Coupled Dielectric Elastomer Actuators. IEEE/ASME Transactions on Mechatronics, 2012, 17, 987-994.	3.7	4
106	Tunable Optics: Ultrafast Allâ€“Polymer Electrically Tunable Silicone Lenses (Adv. Funct. Mater. 11/2015). Advanced Functional Materials, 2015, 25, 1614-1614.	7.8	4
107	Natural and artificial helical structures. WIT Transactions on Ecology and the Environment, 2010, , .	0.0	4
108	Novel bio-inspired distributed actuator for space applications. , 2006, , .		3

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109	Biomimetic Dielectric Elastomer Actuators. , 0, , .		3
110	Tunable Dielectric Resonator Antennas Using Voltage-Controlled Mechanical Deformation. Advances in Science and Technology, 2008, 56, 614-619.	0.2	3
111	Bio-Inspired Distributed Electroactive Polymer Actuators for Possible Space Applications: Concept Design. Advances in Science and Technology, 2008, 61, 180-185.	0.2	3
112	IPMC Based Tactile Displays for Pressure and Texture Presentation on a Human Finger. , 0, , 161-174.		3
113	Biomedical Applications of Dielectric Elastomer Actuators. , 0, , 395-410.		3
114	Dielectric Elastomers as EAPs: Applications. , 2016, , 739-765.		3
115	Electrical breakdown detection system for dielectric elastomer actuators. Proceedings of SPIE, 2017, , .	0.8	3
116	Piezoelectric and Electrostrictive Polymer Actuators: Fundamentals. , 0, , 317-334.		3
117	Actuators in Adaptronics. , 2007, , 95-300.		3
118	Electroactive polymer artificial muscles: an overview. WIT Transactions on Ecology and the Environment, 2010, , .	0.0	3
119	Monitoring Flexions and Torsions of the Trunk via Gyroscope-Calibrated Capacitive Elastomeric Wearable Sensors. Sensors, 2021, 21, 6706.	2.1	3
120	Electroactive fabrics and wearable manâ€™machine interfaces. , 2005, , .		3
121	Recruited dielectric elastomer motor units as pseudomuscular actuator. , 2003, , .		2
122	CONTRACTILE MONOLITHIC LINEAR ACTUATORS. , 2008, , 123-131.		2
123	Nanostructured Conducting Polymer Biomaterials and their Applications in Controlled Drug Delivery. , 0, , 279-299.		2
124	Electroretinographic wet electrode. Medical Engineering and Physics, 2009, 31, 923-929.	0.8	2
125	Non-invasive Wet Electrocochleography. IEEE Transactions on Biomedical Engineering, 2009, 56, 2744-2747.	2.5	2
126	Hydrostatically Coupled Dielectric Elastomer Actuators: New Opportunities for Haptics. Materials Research Society Symposia Proceedings, 2011, 1312, 1.	0.1	2

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127	Electrically tuning soft membranes to both a higher and a lower transparency. Scientific Reports, 2019, 9, 20125.	1.6	2
128	Electroactive Polymers as Smart Materials with Intrinsic Actuation Properties. , 2008, , 483-503.		2
129	Wearable Kinematic Monitoring System Based on Piezocapacitive Sensors. Studies in Health Technology and Informatics, 2019, 261, 103-108.	0.2	2
130	<title>Dielectric elastomer planar actuators for small-scale applications</title>. , 2003, , .		1
131	Activation of dielectric elastomer actuators by means of human electrophysiological signals. , 2006, , .		1
132	Thermally Driven Hydrogel Actuator for Controllable Flow Rate Pump in Long-Term Drug Delivery. , 0, , 89-99.		1
133	Chapter 1 Emgâ€Based and Gazeâ€Trackingâ€Based Manâ€Machine Interfaces. International Review of Neurobiology, 2009, 86, 3-21.	0.9	1
134	Dielectric elastomer actuators with hydrostatic coupling. , 2009, , .		1
135	A new concept for dielectric elastomer actuators: hydrostatic coupling. Proceedings of SPIE, 2009, , .	0.8	1
136	IPMC Assisted Infusion Micropumps. , 0, , 175-191.		1
137	Miniature High Frequency Focused Ultrasonic Transducers for Minimally Invasive Imaging Procedures. , 0, , 335-356.		1
138	Piezoelectric Poly(Vinylidene) Fluoride (PVDF) in Biomedical Ultrasound Exosimetry. , 0, , 369-383.		1
139	Dielectric Elastomer Actuators: Fundamentals. , 0, , 385-393.		1
140	Dielectric elastomer actuators with granular coupling. Proceedings of SPIE, 2011, , .	0.8	1
141	Front Matter: Volume 7976. Proceedings of SPIE, 2011, , .	0.8	1
142	Electromechanically active polymer transducers: research in Europe. Smart Materials and Structures, 2013, 22, 100301.	1.8	1
143	BIOINSPIRED ARTIFICIAL MUSCLES BASED ON DIELECTRIC ELASTOMERS. World Scientific Series in Nanoscience and Nanotechnology, 2014, , 17-30.	0.1	1
144	Enabling Wearable Soft Tactile Displays with Electroactive Smart Elastomers. Lecture Notes in Computer Science, 2016, , 326-334.	1.0	1

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145	Dielectric Elastomers as EAPs: Applications. , 2016, , 1-27.		1
146	IPMC Actuators: Fundamentals. , 0, , 101-119.		1
147	Electromechanically Active Polymers: New Opportunities for Biomaterials and Tissue Engineering. IFMBE Proceedings, 2009, , 53-56.	0.2	1
148	An Unexpected Mossotti: His Formula at the Basis of Dielectrophoresis in Modern Molecular Biology. URSI Radio Science Bulletin, 2020, 2020, 83-85.	0.2	1
149	Bioinspired Electromechanically Active Polymer-Based Robotics. , 2020, , 1-19.		1
150	Bioinspired Macromolecular Actuators. Materials Science Forum, 2004, 455-456, 406-410.	0.3	0
151	Stimuli-Responsive and "Active"™ Polymers in Drug Delivery. , 0, , 61-88.		0
152	Catheters for Thrombosis Sample Exfoliation in Blood Vessels Using Piezoelectric Polymer Fibers. , 0, , 357-368.		0
153	Modelling and Experimental Validation of Buckling Dielectric Elastomer Actuators. , 2011, , .		0
154	Soft elastomeric electrets for electro-active polymers. , 2011, , .		0
155	Special section on biomimetics of movement. Bioinspiration and Biomimetics, 2011, 6, 040201.	1.5	0
156	A Novel Platform for Simultaneous Mechanical Stimulation and Characterization of Single Cells Based on Dielectric Elastomers and Atomic Force Microscopy. Biophysical Journal, 2014, 106, 798a.	0.2	0
157	CARPI, FEDERICO / ORTELLS, M. (editores). Oralidad y escritura en un proceso civil eficiente. Revista De Derecho, 2009, 22, .	0.0	0
158	The vectorial organization of the human myocardium is designed for optimal electrical and contractile activity: clinical implications of its alterations. , 2010, , .		0
159	Electroactive Polymers as Smart Materials. , 0, , 3155-3168.		0