Ronald S Fearing

List of Publications by Year
in descending order

121 papers	11,587 citations	101543 36 h-index	133252 59 g-index
127 all docs	127 docs citations	127 times ranked	10178 citing authors

#	Article	IF	Citations
1	Precision Robotic Leaping and Landing Using Stance-Phase Balance. IEEE Robotics and Automation Letters, 2020, 5, 3422-3429.	5.1	33
2	Designing Dynamic Machines With Large-Scale Root Finding. IEEE Transactions on Robotics, 2020, 36, 1135-1152.	10.3	8
3	Body Lift and Drag for a Legged Millirobot in Compliant Beam Environment. , 2019, , .		1
4	Insect-scale fast moving and ultrarobust soft robot. Science Robotics, 2019, 4, .	17.6	282
5	Automatic Leg Regeneration for Robot Mobility Recovery. , 2019, , .		1
6	Adjustable Power Modulation For A Leg Mechanism Suitable For Running. , 2019, , .		3
7	Drift-free Roll and Pitch Estimation for High-acceleration Hopping. , 2019, , .		8
8	Team-Based Robot Righting via Pushing and Shell Design. , 2019, , .		1
9	JumpRoACH: A Trajectory-Adjustable Integrated Jumpingâ€“Crawling Robot. IEEE/ASME Transactions on Mechatronics, 2019, 24, 947-958.	5.8	46
10	Cockroach Milli-Robot With Improved Load Capacity. Journal of Mechanisms and Robotics, 2019, 11, .	2.2	5
11	Transition by head-on collision: mechanically mediated manoeuvres in cockroaches and small robots. Journal of the Royal Society Interface, 2018, 15, 20170664.	3.4	52
12	Thin-film repulsive-force electrostatic actuators. Sensors and Actuators A: Physical, 2018, 270, 252-261.	4.1	18
13	Towards a Soft Fingertip with Integrated Sensing and Actuation. , 2018, , .		27
14	Learning Image-Conditioned Dynamics Models for Control of Underactuated Legged Millirobots. , 2018, , .		15
15	Precision Jumping Limits from Flight-phase Control in Salto-1P. , 2018, , .		21
16	Steering of an Underactuated Legged Robot through Terrain Contact with an Active Tail. , 2018, , .		11
17	Self-Engaging Spined Gripper with Dynamic Penetration and Release for Steep Jumps. , 2018, , .		8
18	Bidirectional, Thin-Film Repulsive-/Attractive-Force Electrostatic Actuators for a Crawling Milli-Robot. , 2018, , .		7

#	Article	IF	Citations
19	Design Exploration and Kinematic Tuning of a Power Modulating Jumping Monopod. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	60
20	Finding Only Finite Roots to Large Kinematic Synthesis Systems. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	21
21	Mechanical principles of dynamic terrestrial self-righting using wings. Advanced Robotics, 2017, 31, 881-900.	1.8	21
22	Wearable Devices: Wearable Microfluidic Diaphragm Pressure Sensor for Health and Tactile Touch Monitoring (Adv. Mater. 39/2017). Advanced Materials, 2017, 29, .	21.0	6
23	Pop-up mars rover with textile-enhanced rigid-flex PCB body. , 2017, , .		29
24	Wearable Microfluidic Diaphragm Pressure Sensor for Health and Tactile Touch Monitoring. Advanced Materials, 2017, 29, 1701985.	21.0	431
25	High-rate controlled turning with a pair of miniature legged robots. , 2017, , .		4
26	Cooperative inchworm localization with a low cost team. , 2017, , .		5
27	A Study on Finding Finite Roots for Kinematic Synthesis. , 2017, , .		2
28	Dynamic terrestrial self-righting with a minimal tail. , 2017, , .		9
29	Repetitive extreme-acceleration (14-g) spatial jumping with Salto-1P. , 2017, , .		53
30	Modeling and control of an ornithopter for diving. , 2016, , .		6
31	Cockroach-inspired winged robot reveals principles of ground-based dynamic self-righting. , 2016, , .		11
32	A path planning algorithm for single-ended continuous planar robotic ribbon folding. , 2016, , .		1
33	A power modulating leg mechanism for monopedal hopping. , 2016, , .		22
34	Finding Only Finite Roots to Large Kinematic Synthesis Systems. , 2016, , .		2
35	Robotic folding of 2D and 3D structures from a ribbon. , 2016, , .		3
36	Step climbing cooperation primitives for legged robots with a reversible connection. , 2016, , .		12

#	Article	IF	Citations
37	An integrated jumping-crawling robot using height-adjustable jumping module. , 2016, , .		50
38	Anisotropic collapsible leg spines for increased millirobot traction. , 2015, , .		18
39	VLR: Cockroach millirobot with load decoupling structure. , 2015, , .		2
40	Controlled In-Plane Locomotion of a Hexapod Using a Single Actuator. IEEE Transactions on Robotics, 2015, 31, 157-167.	10.3	37
41	Coordinated launching of an ornithopter with a hexapedal robot. , 2015, , .		11
42	Force sensing shell using a planar sensor for miniature legged robots. , 2015, , .		7
43	Terradynamically streamlined shapes in animals and robots enhance traversability through densely cluttered terrain. Bioinspiration and Biomimetics, 2015, 10, 046003.	2.9	73
44	Integrated Manufacture of Exoskeletons and Sensing Structures for Folded Millirobots. Journal of Mechanisms and Robotics, 2015, 7, .	2.2	38
45	Running beyond the bio-inspired regime. , 2015, , .		30
46	Dynamic legged locomotion for palm-size robots. Proceedings of SPIE, 2015, , .	0.8	1
47	Roll oscillation modulated turning in dynamic millirobots. , 2014, , .		12
48	Comparison of ornithopter wind tunnel force measurements with free flight. , 2014, , .		15
49	Planning with the STAR(s). , 2014, , .		21
50	Photoactuators and motors based on carbon nanotubes with selective chirality distributions. Nature Communications, 2014, 5, 2983.	12.8	269
51	Detection of slippery terrain with a heterogeneous team of legged robots. , 2014, , .		8
52	1STAR, A one-actuator steerable robot. , 2014, , .		8
53	Angled microfiber arrays as low-modulus, low Poisson's ratio compliant substrates. Journal of Micromechanics and Microengineering, 2014, 24, 065016.	2.6	3
54	Simulation of synthetic gecko arrays shearing on rough surfaces. Journal of the Royal Society Interface, 2014, 11, 20140021.	3.4	17

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55	Controllable Particle Adhesion with a Magnetically Actuated Synthetic Gecko Adhesive. Advanced Functional Materials, 2013, 23, 3256-3261.	14.9	86
56	Gecko toe and lamellar shear adhesion on macroscopic, engineered rough surfaces. Journal of Experimental Biology, 2013, 217, 283-9.	1.7	57
57	STAR, a sprawl tuned autonomous robot. , 2013, , .		36
58	Dry Self-Cleaning Properties of Hard and Soft Fibrillar Structures. ACS Applied Materials & Interfaces, 2013, 5, 6081-6088.	8.0	42
59	Friction Characteristics of Polymeric Nanofiber Arrays against Substrates with Tailored Geometry. Langmuir, 2013, 29, 8395-8401.	3.5	9
60	Ground fluidization promotes rapid running of a lightweight robot. International Journal of Robotics Research, 2013, 32, 859-869.	8.5	30
61	Cost of locomotion of a dynamic hexapedal robot. , 2013, , .		9
62	Animal-inspired design and aerodynamic stabilization of a hexapedal millirobot. , 2013, , .		65
63	Automatic identification of dynamic piecewise affine models for a running robot. , 2013, , .		10
64	Rapid-manufacturable hair sensor array for legged millirobots. , 2012, , .		3
65	Performance analysis and terrain classification for a legged robot over rough terrain. , 2012, , .		39
66	Compliance-based dynamic steering for hexapods. , 2012, , .		12
67	Dynamic climbing of near-vertical smooth surfaces. , 2012, , .		31
68	Wet Self-Cleaning of Superhydrophobic Microfiber Adhesives Formed from High Density Polyethylene. Langmuir, 2012, 28, 15372-15377.	3.5	39
69	Role of Counter-substrate Surface Energy in Macroscale Friction of Nanofiber Arrays. Langmuir, 2012, 28, 2922-2927.	3.5	12
70	Maneuverability and mobility in palm-sized legged robots. , 2012, , .		5
71	Rapid Inversion: Running Animals and Robots Swing like a Pendulum under Ledges. PLoS ONE, 2012, 7, e38003.	2.5	19
72	MEDIC: A legged millirobot utilizing novel obstacle traversal. , 2011, , .		26

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73	Optically- and Thermally-Responsive Programmable Materials Based on Carbon Nanotube-Hydrogel Polymer Composites. Nano Letters, 2011, 11, 3239-3244.	9.1	476
74	Carbon Nanotube Active-Matrix Backplanes for Conformal Electronics and Sensors. Nano Letters, 2011, 11, 5408-5413.	9.1	270
75	Shear Adhesion Strength of Thermoplastic Gecko-Inspired Synthetic Adhesive Exceeds Material Limits. Langmuir, 2011, 27, 11278-11281.	3.5	52
76	Effect of Fiber Geometry on Macroscale Friction of Ordered Low-Density Polyethylene Nanofiber Arrays. Langmuir, 2011, 27, 11008-11016.	3.5	31
77	Exact motion planning solution for principally kinematic systems. , 2011, , .		0
78	Fitting conics to noisy data using stochastic linearization. , 2011, , .		0
79	Flight control for target seeking by 13 gram ornithopter. , 2011, , .		46
80	Experimental dynamics of wing assisted running for a bipedal ornithopter. , 2011, , .		33
81	Flight control for target seeking by 13 gram ornithopter. , 2011, , .		2
82	Nanowire active-matrix circuitry for low-voltage macroscale artificial skin. Nature Materials, 2010, 9, 821-826.	27.5	1,162
83	Systematic study of the performance of small robots on controlled laboratory substrates. Proceedings of SPIE, 2010, , .	0.8	18
84	Flight forces and altitude regulation of 12 gram I-Bird. , 2010, , .		18
85	Optical flow on a flapping wing robot. , 2009, , .		15
86	Wet and Dry Adhesion Properties of Selfâ€Selective Nanowire Connectors. Advanced Functional Materials, 2009, 19, 3098-3102.	14.9	31
87	Gecko-Inspired Combined Lamellar and Nanofibrillar Array for Adhesion on Nonplanar Surface. Langmuir, 2009, 25, 12449-12453.	3.5	84
88	Efficient resonant drive of flapping-wing robots. , 2009, , .		71
89	Dynamometer Power Output Measurements of Miniature Piezoelectric Actuators. IEEE/ASME Transactions on Mechatronics, 2009, 14, 1-10.	5.8	25
90	Hybrid Coreâ"Shell Nanowire Forests as Self-Selective Chemical Connectors. Nano Letters, 2009, 9, 2054-2058.	9.1	59

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91	Challenges for 100 Milligram Flapping Flight. , 2009, , 219-229.		3
92	Contact Self-Cleaning of Synthetic Gecko Adhesive from Polymer Microfibers. Langmuir, 2008, 24, 10587-10591.	3.5	119
93	Sliding-induced adhesion of stiff polymer microfibre arrays. I. Macroscale behaviour. Journal of the Royal Society Interface, 2008, 5, 835-844.	3.4	116
94	Sliding-induced adhesion of stiff polymer microfibre arrays. II. Microscale behaviour. Journal of the Royal Society Interface, 2008, 5, 845-853.	3.4	80
95	Fast scale prototyping for folded millirobots. , 2008, , .		44
96	Reducing Contact Resistance Using Compliant Nickel Nanowire Arrays. IEEE Transactions on Components and Packaging Technologies, 2008, 31, 859-868.	1.3	13
97	RoACH: An autonomous 2.4g crawling hexapod robot. , 2008, , .		147
98	Mechanics of a Novel Shear-activated Microfiber Array Adhesive. Materials Research Society Symposia Proceedings, 2008, 1086, 1.	0.1	1
99	Fast scale prototyping for folded millirobots. , 2008, , .		25
100	Macromodel for the mechanics of gecko hair adhesion. , 2008, , .		2
101	Adhesion of an elastic plate to a sphere. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 1309-1317.	2.1	33
102	Directional adhesion of gecko-inspired angled microfiber arrays. Applied Physics Letters, 2008, 93, .	3.3	146
103	Rapidly Prototyped Orthotweezers for Automated Microassembly. , 2007, , .		20
104	Towards friction and adhesion from high modulus microfiber arrays. Journal of Adhesion Science and Technology, 2007, 21, 1297-1315.	2.6	45
105	Challenges for Efffective Millirobots. , 2006, , .		7
106	Foot design and integration for bioinspired climbing robots. , 2006, 6230, 426.		17
107	Effective elastic modulus of isolated gecko setal arrays. Journal of Experimental Biology, 2006, 209, 3558-3568.	1.7	284
108	Optimal energy density piezoelectric bending actuators. Sensors and Actuators A: Physical, 2005, 119, 476-488.	4.1	217

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109	Robotics in scansorial environments. , 2005, , .		89
110	Attachment of fiber array adhesive through side contact. Journal of Applied Physics, 2005, 98, 103521.	2.5	70
111	Efficient charge recovery method for driving piezoelectric actuators with quasi-square waves. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2003, 50, 237-244.	3.0	90
112	Synthetic gecko foot-hair micro/nano-structures as dry adhesives. Journal of Adhesion Science and Technology, 2003, 17, 1055-1073.	2.6	456
113	Evidence for van der Waals adhesion in gecko setae. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12252-12256.	7.1	1,617
114	Adhesive force of a single gecko foot-hair. Nature, 2000, 405, 681-685.	27.8	2,387
115	Tracking fast inverted trajectories of the underactuated Acrobot. IEEE Transactions on Automation Science and Engineering, 1999, 15, 740-750.	2.3	139
116	Applications of micromechatronics in minimally invasive surgery. IEEE/ASME Transactions on Mechatronics, 1998, 3, 34-42.	5.8	91
117	Sliding and hopping gaits for the underactuated Acrobot. IEEE Transactions on Automation Science and Engineering, 1998, 14, 629-634.	2.3	84
118	<title>Alignment of microparts using force-controlled pushing</title>. , 1998, , .		47
119	Micro-Actuators for Micro-Robots: Electric and Magnetic**This work was funded in part by: NSF-PYI grant IRI-9157051.. Handbook of Sensors and Actuators, 1998, 6, 161-179.	0.0	6
120	Microfabricated hinges. Sensors and Actuators A: Physical, 1992, 33, 249-256.	4.1	286
121	Basic Solid Mechanics for Tactile Sensing. International Journal of Robotics Research, 1985, 4, 40-54.	8.5	110