

Michael Goldfarb

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

107
papers

3,728
citations

31
h-index

58
g-index

116
ext. papers

4,506
ext. citations

3.6
avg, IF

5.7
L-index

#	Paper	IF	Citations
107	Design and Assist-As-Needed Control of a Lightly Powered Prosthetic Knee. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2022 , 1-1	3.1	2
106	A decade retrospective of medical robotics research from 2010 to 2020. <i>Science Robotics</i> , 2021 , 6, eabi80176	8.8	22
105	Effect of a Swing-Assist Knee Prosthesis on Stair Ambulation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021 , 29, 2046-2054	4.8	5
104	A Semi-Powered Ankle Prosthesis and Unified Controller for Level and Sloped Walking. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021 , 29, 320-329	4.8	6
103	A Single-Joint Implementation of Flow Control: Knee Joint Walking Assistance for Individuals With Mobility Impairment. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020 , 28, 934-942	4.8	4
102	Design of a Semi-Powered Stance-Control Swing-Assist Transfemoral Prosthesis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020 , 25, 175-184	5.5	19
101	Feasibility Study of a Fall Prevention Cold Gas Thruster 2020 ,		1
100	Swing-Assist for Enhancing Stair Ambulation in a Primarily-Passive Knee Prosthesis 2020 ,		4
99	Preliminary Assessment of a Hand and Arm Exoskeleton for Enabling Bimanual Tasks for Individuals With Hemiparesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020 , 28, 2214-2223	4.8	4
98	A novel system for introducing precisely-controlled, unanticipated gait perturbations for the study of stumble recovery. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2019 , 16, 69	5.3	7
97	Design, Control, and Preliminary Assessment of a Multifunctional Semipowered Ankle Prosthesis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2019 , 24, 1532-1540	5.5	17
96	A Velocity-Field-Based Controller for Assisting Leg Movement During Walking With a Bilateral Hip and Knee Lower Limb Exoskeleton. <i>IEEE Transactions on Robotics</i> , 2019 , 35, 307-316	6.5	19
95	A Stair Ascent and Descent Controller for a Powered Ankle Prosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018 , 26, 993-1002	4.8	27
94	Synergistic Elbow Control for a Myoelectric Transhumeral Prosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018 , 26, 468-476	4.8	12
93	. <i>IEEE Transactions on Robotics</i> , 2018 , 34, 183-193	6.5	32
92	A Unified Controller for Walking on Even and Uneven Terrain With a Powered Ankle Prosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018 , 26, 788-797	4.8	26
91	IMU-Based Wrist Rotation Control of a Transradial Myoelectric Prosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018 , 26, 419-427	4.8	29

90	A Phase Variable Approach for IMU-Based Locomotion Activity Recognition. <i>IEEE Transactions on Biomedical Engineering</i> , 2018 , 65, 1330-1338	5	34
89	Variable Geometry Stair Ascent and Descent Controller for a Powered Lower Limb Exoskeleton. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2018 , 12,	1.3	7
88	Impact of Powered Knee-Ankle Prosthesis on Low Back Muscle Mechanics in Transfemoral Amputees: A Case Series. <i>Frontiers in Neuroscience</i> , 2018 , 12, 134	5.1	21
87	Supplemental Stimulation Improves Swing Phase Kinematics During Exoskeleton Assisted Gait of SCI Subjects With Severe Muscle Spasticity. <i>Frontiers in Neuroscience</i> , 2018 , 12, 374	5.1	16
86	Design and Preliminary Assessment of Lightweight Swing-Assist Knee Prosthesis. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2018 , 2018, 3198-3201	0.9	6
85	A Velocity-Based Flow Field Control Approach for Reshaping Movement of Stroke-Impaired Individuals with a Lower-Limb Exoskeleton. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2018 , 2018, 2767-2770	0.9	0
84	On the design of power gear trains: Insight regarding number of stages and their respective ratios. <i>PLoS ONE</i> , 2018 , 13, e0198048	3.7	4
83	Control and Evaluation of a Powered Transfemoral Prosthesis for Stair Ascent. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2017 , 25, 917-924	4.8	27
82	Optimal Transmission Ratio Selection for Electric Motor Driven Actuators With Known Output Torque and Motion Trajectories. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2017 , 139,	1.6	10
81	Design of a simplified compliant anthropomorphic robot hand 2017 ,		8
80	Design and preliminary assessment of Vanderbilt hand exoskeleton. <i>IEEE International Conference on Rehabilitation Robotics</i> , 2017 , 2017, 1537-1542	1.3	19
79	Design of a power-asymmetric actuator for a transtibial prosthesis. <i>IEEE International Conference on Rehabilitation Robotics</i> , 2017 , 2017, 1531-1536	1.3	5
78	Design of a Myoelectric Transhumeral Prosthesis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016 , 21, 1868-1879	5.5	26
77	An assistive control approach for a lower-limb exoskeleton to facilitate recovery of walking following stroke. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2015 , 23, 441-9	4.8	87
76	Design and performance characterization of a hand orthosis prototype to aid activities of daily living in a post-stroke population. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2015 , 2015, 3877-80	0.9	14
75	Metabolics of stair ascent with a powered transfemoral prosthesis. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2015 , 2015, 5307-10	0.9	7
74	A Pneumatically Actuated Quadrupedal Walking Robot. <i>IEEE/ASME Transactions on Mechatronics</i> , 2014 , 19, 339-347	5.5	13
73	A preliminary assessment of legged mobility provided by a lower limb exoskeleton for persons with paraplegia. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2014 , 22, 482-90	4.8	126

72	A Multigrasp Hand Prosthesis for Providing Precision and Conformal Grasps. <i>IEEE/ASME Transactions on Mechatronics</i> , 2014 , PP, 1-8	5.5	52
71	Impedance & Admittance-Based Coordination Control Strategies for Robotic Lower Limb Prostheses. <i>Mechanical Engineering</i> , 2014 , 136, S12-S17	0.9	11
70	A Robotic Leg Prosthesis: Design, Control, and Implementation. <i>IEEE Robotics and Automation Magazine</i> , 2014 , 21, 70-81	3.4	134
69	Realizing the promise of robotic leg prostheses. <i>Science Translational Medicine</i> , 2013 , 5, 210ps15	17.5	72
68	Preliminary evaluation of a walking controller for a powered ankle prosthesis 2013 ,		25
67	Control of stair ascent and descent with a powered transfemoral prosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2013 , 21, 466-73	4.8	132
66	Functional assessment of a Multigrasp Myoelectric prosthesis: An amputee case study 2013 ,		4
65	Evaluation of a coordinated control system for a pair of powered transfemoral prostheses 2013 ,		9
64	A method for the control of multigrasp myoelectric prosthetic hands. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2012 , 20, 58-67	4.8	91
63	Design of a Multigrasp Transradial Prosthesis. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2011 , 5,	1.3	26
62	Design of a Multidisc Electromechanical Brake. <i>IEEE/ASME Transactions on Mechatronics</i> , 2011 , 16, 985-993	3	11
61	Upslope walking with a powered knee and ankle prosthesis: initial results with an amputee subject. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2011 , 19, 71-8	4.8	190
60	Enhanced Performance and Stability in Pneumatic Servosystems With Supplemental Mechanical Damping. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2010 , 132,	1.6	6
59	Multiclass real-time intent recognition of a powered lower limb prosthesis. <i>IEEE Transactions on Biomedical Engineering</i> , 2010 , 57, 542-51	5	274
58	A controller for dynamic walking in bipedal robots 2009 ,		4
57	A Control Approach for Actuated Dynamic Walking in Biped Robots. <i>IEEE Transactions on Robotics</i> , 2009 , 25, 1292-1303	6.5	75
56	Actuated dynamic walking in biped robots: Control approach, robot design and experimental validation 2009 ,		2
55	Design of a multifunctional anthropomorphic prosthetic hand with extrinsic actuation 2009 ,		12

54	Preliminary Evaluations of a Self-Contained Anthropomorphic Transfemoral Prosthesis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2009 , 14, 667-676	5.5	213
53	Design of a Multifunctional Anthropomorphic Prosthetic Hand With Extrinsic Actuation. <i>IEEE/ASME Transactions on Mechatronics</i> , 2009 , 14, 699-706	5.5	148
52	Guest Editorial Introduction to the Focused Section on Anthropomorphism in Mechatronic Systems. <i>IEEE/ASME Transactions on Mechatronics</i> , 2009 , 14, 641-646	5.5	
51	A Gas-Actuated Anthropomorphic Prosthesis for Transhumeral Amputees 2008 , 24, 159-169		46
50	Design and control of a biomimetic hexapedal walker 2008 ,		2
49	Decomposition-Based Control for a Powered Knee and Ankle Transfemoral Prosthesis 2007 ,		10
48	Real-time Intent Recognition for a Powered Knee and Ankle Transfemoral Prosthesis 2007 ,		14
47	Progress Towards the Development of a Highly Functional Anthropomorphic Transhumeral Prosthesis 2007 ,		1
46	Energy Saving in Pneumatic Servo Control Utilizing Interchamber Cross-Flow. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2007 , 129, 303-310	1.6	28
45	Simultaneous Force and Stiffness Control of a Pneumatic Actuator. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2007 , 129, 425-434	1.6	48
44	Design and Control of a Powered Knee and Ankle Prosthesis. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007 ,		35
43	A Biologically Inspired Approach to the Coordination of Hexapedal Gait. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007 ,		3
42	Nonlinear Model-Based Control of Pulse Width Modulated Pneumatic Servo Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 663-669	1.6	54
41	A Unified Force Controller for a Proportional-Injector Direct-Injection Monopropellant-Powered Actuator. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 159-164	1.6	16
40	Dynamic Constraint-Based Energy-Saving Control of Pneumatic Servo Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 655-662	1.6	23
39	Predictive Control for Time-Delayed Switching Control Systems. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 999-1004	1.6	1
38	On the enhanced passivity of pneumatically actuated impedance-type haptic interfaces 2006 , 22, 470-480		19
37	Multivariable Loop-Shaping in Bilateral Telemanipulation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2006 , 128, 482-488	1.6	3

36	Design and energetic characterization of a proportional-injector monopropellant-powered actuator. <i>IEEE/ASME Transactions on Mechatronics</i> , 2006 , 11, 196-204	5.5	34
35	Design, control, and energetic characterization of a solenoid-injected monopropellant-powered actuator. <i>IEEE/ASME Transactions on Mechatronics</i> , 2006 , 11, 477-487	5.5	21
34	An implementation of loop-shaping compensation for multidegree-of-freedom macro-microscaled telemanipulation. <i>IEEE Transactions on Control Systems Technology</i> , 2005 , 13, 459-464	4.8	11
33	Loop Shaping for Transparency and Stability Robustness in Time-Delayed Bilateral Telemanipulation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2004 , 126, 650-656	1.6	9
32	The effect of virtual surface stiffness on the haptic perception of detail. <i>IEEE/ASME Transactions on Mechatronics</i> , 2004 , 9, 448-454	5.5	22
31	Loop shaping for transparency and stability robustness in bilateral telemanipulation. <i>IEEE Transactions on Automation Science and Engineering</i> , 2004 , 20, 620-624		33
30	Nonlinear averaging applied to the control of pulse width modulated (PWM) pneumatic systems 2004 ,		2
29	Control Design for Relative Stability in a PWM-Controlled Pneumatic System. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2003 , 125, 504-508	1.6	21
28	Design and energetic characterization of a liquid-propellant-powered actuator for self-powered robots. <i>IEEE/ASME Transactions on Mechatronics</i> , 2003 , 8, 254-262	5.5	74
27	Preliminary evaluation of a controlled-brake orthosis for FES-aided gait. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2003 , 11, 241-8	4.8	69
26	Sliding mode approach to PWM-controlled pneumatic systems 2002 ,		19
25	The effect of force saturation on the haptic perception of detail. <i>IEEE/ASME Transactions on Mechatronics</i> , 2002 , 7, 280-288	5.5	33
24	Corner-Filletted Flexure Hinges. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2001 , 123, 346-352		223
23	Transparency and Stability Robustness in Two-Channel Bilateral Telemanipulation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2001 , 123, 400-407	1.6	55
22	A compliant-mechanism-based three degree-of-freedom manipulator for small-scale manipulation. <i>Robotica</i> , 2000 , 18, 95-104	2.1	33
21	A Well-Behaved Revolute Flexure Joint for Compliant Mechanism Design. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 1999 , 121, 424-429	3	62
20	On the Efficiency of Electric Power Generation With Piezoelectric Ceramic. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1999 , 121, 566-571	1.6	100
19	Design of a PZT-actuated proportional drum brake. <i>IEEE/ASME Transactions on Mechatronics</i> , 1999 , 4, 409-416	5.5	13

18	Similarity and Invariance in Scaled Bilateral Telemanipulation. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1999 , 121, 79-87	1.6	8
17	A flexure-based gripper for small-scale manipulation. <i>Robotica</i> , 1999 , 17, 181-187	2.1	89
16	Eliminating non-smooth nonlinearities with compliant manipulator design 1998 ,		3
15	A Lumped Parameter Electromechanical Model for Describing the Nonlinear Behavior of Piezoelectric Actuators. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1997 , 119, 478-485	1.6	156
14	Design of a controlled-brake orthosis for FES-aided gait. <i>IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society</i> , 1996 , 4, 13-24		60
13	Development of a hot gas actuator for self-powered robots		3
12	Energy saving control for pneumatic servo systems		4
11	Design and Energetic Characterization of a Solenoid Injected Liquid Monopropellant Powered Actuator for Self-Powered Robots		5
10	Independent Stiffness and Force Control of Pneumatic Actuators for Contact Stability during Robot Manipulation		14
9	Implementation of loop-shaping compensators to increase the transparency bandwidth of a scaled telemanipulation system		7
8	Monopropellant powered actuators for use in autonomous human-scaled robotics		7
7	A method for simultaneously increasing transparency and stability robustness in bilateral telemanipulation		12
6	Force saturation, system bandwidth, information transfer, and surface quality in haptic interfaces		7
5	Dimensional analysis and selective distortion in scaled bilateral telemanipulation		25
4	Position control of a compliant mechanism based micromanipulator		12
3	Analysis and design approach to inchworm robotic insects		2
2	Behavioral implications of piezoelectric stack actuators for control of micromanipulation		19
1	The role of pressure sensors in the servo control of pneumatic actuators		1

