Islam S M Khalil

List of Publications by Year
in descending order

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71 papers	1,595 citations	361413 20 h-index	377865 34 g-index
79 all docs	79 docs citations	79 times ranked	1114 citing authors

#	Article	IF	Citations
1	MagnetoSperm: A microrobot that navigates using weak magnetic fields. Applied Physics Letters, 2014, 104, .	3.3	145
2	IRONSperm: Sperm-templated soft magnetic microrobots. Science Advances, 2020, 6, eaba5855.	10.3	137
3	Magnetic Actuation Methods in Bio/Soft Robotics. Advanced Functional Materials, 2021, 31, 2005137.	14.9	126
4	Mechanical Rubbing of Blood Clots Using Helical Robots Under Ultrasound Guidance. IEEE Robotics and Automation Letters, 2018, 3, 1112-1119.	5.1	66
5	Closed-loop control of magnetotactic bacteria. International Journal of Robotics Research, 2013, 32, 637-649.	8.5	62
6	The Control of Self-Propelled Microjets Inside a Microchannel With Time-Varying Flow Rates. IEEE Transactions on Robotics, 2014, 30, 49-58.	10.3	61
7	Magnetic propulsion of robotic sperms at low-Reynolds number. Applied Physics Letters, 2016, 109, .	3.3	59
8	Rubbing Against Blood Clots Using Helical Robots: Modeling and In Vitro Experimental Validation. IEEE Robotics and Automation Letters, 2017, 2, 927-934.	5.1	59
9	Three-dimensional closed-loop control of self-propelled microjets. Applied Physics Letters, 2013, 103, .	3.3	52
10	Contactless acoustic micro/nano manipulation: a paradigm for next generation applications in life sciences. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200621.	2.1	51
11	Magnetic localization and control of helical robots for clearing superficial blood clots. APL Bioengineering, 2019, 3, 026104.	6.2	49
12	Independent Actuation of Two-Tailed Microrobots. IEEE Robotics and Automation Letters, 2018, 3, 1703-1710.	5.1	43
13	Magnetic-based closed-loop control of paramagnetic microparticles using ultrasound feedback. , 2014, , .		41
14	Magnetic-Based Motion Control of Paramagnetic Microparticles With Disturbance Compensation. IEEE Transactions on Magnetics, 2014, 50, 1-10.	2.1	37
15	Biocompatible, accurate, and fully autonomous: a sperm-driven micro-bio-robot. Journal of Micro-Bio Robotics, 2014, 9, 79-86.	2.1	34
16	Swimming Back and Forth Using Planar Flagellar Propulsion at Low Reynolds Numbers. Advanced Science, 2018, 5, 1700461.	11.2	33
17	Impact of Segmented Magnetization on the Flagellar Propulsion of Spermâ€Templated Microrobots. Advanced Science, 2021, 8, 2004037.	11.2	29
18	Wireless Magnetic-Based Closed-Loop Control of Self-Propelled Microjets. PLoS ONE, 2014, 9, e83053.	2.5	27

#	Article	IF	Citations
19	Wireless magnetic-based control of paramagnetic microparticles. , 2012, , .		26
20	Precise Localization and Control of Catalytic Janus Micromotors Using Weak Magnetic Fields. International Journal of Advanced Robotic Systems, 2015, 12, 2.	2.1	26
21	Controllable switching between planar and helical flagellar swimming of a soft robotic sperm. PLoS ONE, 2018, 13, e0206456.	2.5	24
22	Resemblance between motile and magnetically actuated sperm cells. Applied Physics Letters, 2020, 116, .	3.3	20
23	Propulsion and steering of helical magnetic microrobots using two synchronized rotating dipole fields in three-dimensional space. , 2015, , .		19
24	Magnetic control of potential microrobotic drug delivery systems: Nanoparticles, magnetotactic bacteria and self-propelled microjets. , 2013, 2013, 5299-302.		18
25	Sperm-shaped magnetic microrobots: Fabrication using electrospinning, modeling, and characterization. , 2016, , .		18
26	Microassembly using a cluster of paramagnetic microparticles. , 2013, , .		17
27	Control of magnetotactic bacterium in a micro-fabricated maze. , 2013, , .		17
28	Magnetic-based motion control of sperm-shaped microrobots using weak oscillating magnetic fields. , 2014, , .		17
29	Robust and Optimal Control of Magnetic Microparticles inside Fluidic Channels with Time-Varying Flow Rates. International Journal of Advanced Robotic Systems, 2016, 13, 123.	2.1	17
30	In vitro validation of clearing clogged vessels using microrobots. , 2016, , .		17
31	Controlled Noncontact Manipulation of Nonmagnetic Untethered Microbeads Orbiting Two-Tailed Soft Microrobot. IEEE Transactions on Robotics, 2020, 36, 1320-1332.	10.3	15
32	Interaction force estimation during manipulation of microparticles. , 2012, , .		14
33	Magnetic-based motion control of a helical robot using two synchronized rotating dipole fields. , 2014, , .		14
34	Non-Contact manipulation of microbeads via pushing and pulling using magnetically controlled clusters of paramagnetic microparticles. , 2015, , .		14
35	Characterization and Control of Biological Microrobots. Springer Tracts in Advanced Robotics, 2013, , 617-631.	0.4	14
36	Magnetic Localization for an Electromagnetic-Based Haptic Interface. IEEE Magnetics Letters, 2019, 10, 1-5.	1.1	13

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37	Fabrication of Magnetic Molecularly Imprinted Beaded Fibers for Rosmarinic Acid. Nanomaterials, 2020, 10, 1478.	4.1	13
38	Near-surface effects on the controlled motion of magnetotactic bacteria. , 2017, , .		10
39	Bidirectional Propulsion of Arcâ€Shaped Microswimmers Driven by Precessing Magnetic Fields. Advanced Intelligent Systems, 2020, 2, 2000064.	6.1	10
40	Magnetic-based minimum input motion control of paramagnetic microparticles in three-dimensional space. , 2013, , .		9
41	Modeling of Unidirectional-Overloaded Transition in Catalytic Tubular Microjets. Journal of Physical Chemistry C, 2017, 121, 14854-14863.	3.1	9
42	Paramagnetic microparticles sliding on a surface: Characterization and closed-loop motion control. , 2015, , .		8
43	Modeling of Spermbots in a Viscous Colloidal Suspension. Advanced Theory and Simulations, 2019, 2, 1900072.	2.8	8
44	Control Characteristics of Magnetotactic Bacteria: <italic>Magnetospirillum Magnetotacticum</italic> Strain MS-1 and <italic>Magnetospirillum Magneticum</italic> Strain AMB-1. IEEE Transactions on Magnetics, 2014, 50, 1-11.	2.1	7
45	Influence of the magnetic field on the two-dimensional control of Magnetospirillum gryphiswaldense strain MSR-1. , 2016, , .		7
46	Rendering 3D virtual objects in mid-air using controlled magnetic fields. , 2017, , .		7
47	Characterization of Flagellar Propulsion of Soft Microrobotic Sperm in a Viscous Heterogeneous Medium. Frontiers in Robotics and AI, 2019, 6, 65.	3.2	7
48	Serial imaging of micro-agents and cancer cell spheroids in a microfluidic channel using multicolor fluorescence microscopy. PLoS ONE, 2021, 16, e0253222.	2.5	7
49	Understanding Robustness of Magnetically Driven Helical Propulsion in Viscous Fluids Using Sensitivity Analysis. Advanced Theory and Simulations, 0, , 2100519.	2.8	7
50	A magnetic bilateral tele-manipulation system using paramagnetic microparticles for micromanipulation of nonmagnetic objects. , 2017, , .		6
51	Modeling and Characterization of the Passive Bending Stiffness of Nanoparticleâ€Coated Sperm Cells using Magnetic Excitation. Advanced Theory and Simulations, 2022, 5, .	2.8	5
52	Wireless motion control of paramagnetic microparticles using a magnetic-based robotic system with an open-configuration. , 2015, , .		4
53	Positioning of drug carriers using permanent magnet-based robotic system in three-dimensional space. , 2017, , .		4
54	Swimming in low reynolds numbers using planar and helical flagellar waves. , 2017, , .		4

#	Article	IF	Citations
55	An energy-based state observer for dynamical subsystems with inaccessible state variables. , 2012, , .		3
56	Targeted penetration of MCF-7 cells using iron-oxide nanoparticles in vitro. , 2016, , .		3
57	Realization of a Soft Microrobot with Multiple Flexible Flagella. , 2018, , .		3
58	Development of a Coil Driver for Magnetic Manipulation Systems. IEEE Magnetics Letters, 2019, 10, 1-5.	1.1	3
59	Characterization of Helical Propulsion Inside In Vitro and Ex Vivo Models of a Rabbit Aorta. , 2019, 2019, 5283-8286.		3
60	2D Magnetic Actuation and Localization of a Surface Milli-Roller in Low Reynolds Numbers. IEEE Robotics and Automation Letters, 2022, 7, 3874-3881.	5.1	3
61	Magnetotactic bacteria and microjets: A comparative study. , 2013, , .		2
62	Targeting of cell mockups using sperm-shaped microrobots in vitro. , 2016, , .		2
63	Feeling paramagnetic micro-particles trapped inside gas bubbles: A tele-manipulation study. , 2016, , .		2
64	Disturbance observer-based motion control of paramagnetic microparticles against time-varying flow rates. , 2016, , .		2
65	The Influence of Mechanical Rubbing on the Dissolution of Blood Clots. , 2018, 2018, 1660-1663.		2
66	Near Surface Effects on the Flagellar Propulsion of Soft Robotic Sperms. , 2018, , .		2
67	Manipulation of Non-Magnetic Microbeads Using Soft Microrobotic Sperm. , 2018, , .		1
68	Open-Loop Magnetic Actuation of Helical Robots using Position-Constrained Rotating Dipole Field. , 2021, , .		1
69	Experimental characterization of helical propulsion in Newtonian and viscoelastic mediums. , 2017, , .		0
70	An Investigation of the Sensing Capabilities of Magnetotactic Bacteria. , 2018, 2018, 1739-1742.		0
71	Control of Magnetically-Driven Screws in a Viscoelastic Medium. , 2020, , .		0