

Rashid Bashir

List of Publications by Citations

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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.

121
papers

4,253
citations

38
h-index

62
g-index

143
ext. papers

5,482
ext. citations

9.2
avg, IF

5.7
L-index

#	Paper	IF	Citations
121	Three-dimensionally printed biological machines powered by skeletal muscle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 10125-30	11.5	262
120	Biohybrid actuators for robotics: A review of devices actuated by living cells. <i>Science Robotics</i> , 2017 , 2,	18.6	202
119	Rapid isothermal amplification and portable detection system for SARS-CoV-2. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 22727-22735	11.5	164
118	Optogenetic skeletal muscle-powered adaptive biological machines. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 3497-502	11.5	150
117	Development of miniaturized walking biological machines. <i>Scientific Reports</i> , 2012 , 2, 857	4.9	147
116	Patterning the differentiation of C2C12 skeletal myoblasts. <i>Integrative Biology (United Kingdom)</i> , 2011 , 3, 897-909	3.7	125
115	Ultrasensitive detection of nucleic acids using deformed graphene channel field effect biosensors. <i>Nature Communications</i> , 2020 , 11, 1543	17.4	123
114	Detection and quantification of methylation in DNA using solid-state nanopores. <i>Scientific Reports</i> , 2013 , 3, 1389	4.9	121
113	Microfluidic CD4+ and CD8+ T lymphocyte counters for point-of-care HIV diagnostics using whole blood. <i>Science Translational Medicine</i> , 2013 , 5, 214ra170	17.5	109
112	Silicon nanowires with high-k hafnium oxide dielectrics for sensitive detection of small nucleic acid oligomers. <i>ACS Nano</i> , 2012 , 6, 6150-64	16.7	102
111	Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics. <i>Advanced Functional Materials</i> , 2015 , 25, 1789-1797	15.6	101
110	Electrochemistry at the edge of a single graphene layer in a nanopore. <i>ACS Nano</i> , 2013 , 7, 834-43	16.7	95
109	Stereolithography-Based Hydrogel Microenvironments to Examine Cellular Interactions. <i>Advanced Functional Materials</i> , 2011 , 21, 3642-3651	15.6	95
108	A point-of-care microfluidic biochip for quantification of CD64 expression from whole blood for sepsis stratification. <i>Nature Communications</i> , 2017 , 8, 15949	17.4	91
107	Slowing DNA Transport Using Graphene-DNA Interactions. <i>Advanced Functional Materials</i> , 2015 , 25, 936-946	15.6	89
106	High-Resolution Projection Microstereolithography for Patterning of Neovasculature. <i>Advanced Healthcare Materials</i> , 2016 , 5, 610-9	10.1	87
105	Hands-free smartphone-based diagnostics for simultaneous detection of Zika, Chikungunya, and Dengue at point-of-care. <i>Biomedical Microdevices</i> , 2017 , 19, 73	3.7	81

104	NeuronMuscle Interfaces: Matrix Topography Regulates Synaptic Transmission at the Neuromuscular Junction (Adv. Sci. 6/2019). <i>Advanced Science</i> , 2019 , 6, 1970032	13.6	78
103	Creating living cellular machines. <i>Annals of Biomedical Engineering</i> , 2014 , 42, 445-59	4.7	75
102	3D printing for preoperative planning and surgical training: a review. <i>Biomedical Microdevices</i> , 2018 , 20, 65	3.7	74
101	Perspective: The promise of multi-cellular engineered living systems. <i>APL Bioengineering</i> , 2018 , 2, 040906.6	4.6	74
100	Smartphone-based multiplex 30-minute nucleic acid test of live virus from nasal swab extract. <i>Lab on A Chip</i> , 2020 , 20, 1621-1627	7.2	68
99	Point-of-care sensors for the management of sepsis. <i>Nature Biomedical Engineering</i> , 2018 , 2, 640-648	1.9	67
98	Utilization and control of bioactuators across multiple length scales. <i>Lab on A Chip</i> , 2014 , 14, 653-70	7.2	64
97	Biodegradable Monocrystalline Silicon Photovoltaic Microcells as Power Supplies for Transient Biomedical Implants. <i>Advanced Energy Materials</i> , 2018 , 8, 1703035	21.8	63
96	Smartphone-Imaged HIV-1 Reverse-Transcription Loop-Mediated Isothermal Amplification (RT-LAMP) on a Chip from Whole Blood. <i>Engineering</i> , 2015 , 1, 324-335	9.7	62
95	Nanopore-based assay for detection of methylation in double-stranded DNA fragments. <i>ACS Nano</i> , 2015 , 9, 290-300	16.7	60
94	A microfabricated electrical differential counter for the selective enumeration of CD4+ T lymphocytes. <i>Lab on A Chip</i> , 2011 , 11, 1437-47	7.2	56
93	A modular approach to the design, fabrication, and characterization of muscle-powered biological machines. <i>Nature Protocols</i> , 2017 , 12, 519-533	18.8	55
92	Electron beam induced local crystallization of HfO2 nanopores for biosensing applications. <i>Nanoscale</i> , 2013 , 5, 10887-93	7.7	54
91	How far cardiac cells can see each other mechanically. <i>Soft Matter</i> , 2011 , 7, 6151	3.6	50
90	Mobile Platform for Multiplexed Detection and Differentiation of Disease-Specific Nucleic Acid Sequences, Using Microfluidic Loop-Mediated Isothermal Amplification and Smartphone Detection. <i>Analytical Chemistry</i> , 2017 , 89, 11219-11226	7.8	48
89	Neuromuscular actuation of biohybrid motile bots. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 19841-19847	11.5	47
88	A 3D-printed platform for modular neuromuscular motor units. <i>Microsystems and Nanoengineering</i> , 2017 , 3, 17015	7.7	43
87	Combining Biomarkers with EMR Data to Identify Patients in Different Phases of Sepsis. <i>Scientific Reports</i> , 2017 , 7, 10800	4.9	40

86	Resonant MEMS Mass Sensors for Measurement of Microdroplet Evaporation. <i>Journal of Microelectromechanical Systems</i> , 2012 , 21, 702-711	2.5	40
85	Damage, Healing, and Remodeling in Optogenetic Skeletal Muscle Bioactuators. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1700030	10.1	38
84	On-chip parallel detection of foodborne pathogens using loop-mediated isothermal amplification. <i>Biomedical Microdevices</i> , 2013 , 15, 821-30	3.7	38
83	Simulation and Fabrication of Stronger, Larger, and Faster Walking Biohybrid Machines. <i>Advanced Functional Materials</i> , 2018 , 28, 1801145	15.6	36
82	Graphene-based patterning and differentiation of C2C12 myoblasts. <i>Advanced Healthcare Materials</i> , 2014 , 3, 995-1000	10.1	36
81	Flow metering characterization within an electrical cell counting microfluidic device. <i>Lab on A Chip</i> , 2014 , 14, 1469-76	7.2	35
80	Monolayer MoS Nanoribbon Transistors Fabricated by Scanning Probe Lithography. <i>Nano Letters</i> , 2019 , 19, 2092-2098	11.5	33
79	Microfluidic differential immunocapture biochip for specific leukocyte counting. <i>Nature Protocols</i> , 2016 , 11, 714-26	18.8	30
78	Biomimicry, Biofabrication, and Biohybrid Systems: The Emergence and Evolution of Biological Design. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1700496	10.1	30
77	3D Printed Stem-Cell-Laden, Microchanneled Hydrogel Patch for the Enhanced Release of Cell-Secreting Factors and Treatment of Myocardial Infarctions. <i>ACS Biomaterials Science and Engineering</i> , 2017 , 3, 1980-1987	5.5	29
76	Coincidence detection of heterogeneous cell populations from whole blood with coplanar electrodes in a microfluidic impedance cytometer. <i>Lab on A Chip</i> , 2014 , 14, 4370-81	7.2	29
75	A microfluidic biochip for complete blood cell counts at the point-of-care. <i>Technology</i> , 2015 , 3, 201-213	3	26
74	Directed cell growth and alignment on protein-patterned 3D hydrogels with stereolithography. <i>Virtual and Physical Prototyping</i> , 2012 , 7, 219-228	10.1	26
73	Detection of methylation on dsDNA using nanopores in a MoS membrane. <i>Nanoscale</i> , 2017 , 9, 14836-14845	7.7	25
72	Nanoscale thickness double-gated field effect silicon sensors for sensitive pH detection in fluid. <i>Applied Physics Letters</i> , 2008 , 92, 193904	3.4	24
71	COVID-19 Point-of-Care Diagnostics: Present and Future. <i>ACS Nano</i> , 2021 , 15, 7899-7906	16.7	23
70	A microfluidic biochip platform for electrical quantification of proteins. <i>Lab on A Chip</i> , 2018 , 18, 1461-1470	10	19
69	Investigating the Life Expectancy and Proteolytic Degradation of Engineered Skeletal Muscle Biological Machines. <i>Scientific Reports</i> , 2017 , 7, 3775	4.9	17

68	Pixelated spatial gene expression analysis from tissue. <i>Nature Communications</i> , 2018 , 9, 202	17.4	17
67	Biaxial Dielectrophoresis Force Spectroscopy: A Stoichiometric Approach for Examining Intermolecular Weak Binding Interactions. <i>ACS Nano</i> , 2016 , 10, 4011-9	16.7	17
66	Mechanical Characterization and Shape Optimization of Fascicle-Like 3D Skeletal Muscle Tissues Contracted with Electrical and Optical Stimuli. <i>Tissue Engineering - Part A</i> , 2015 , 21, 1848-58	3.9	16
65	High Sensitivity Graphene Field Effect Transistor-Based Detection of DNA Amplification. <i>Advanced Functional Materials</i> , 2020 , 30, 2001031	15.6	16
64	On-chip electrical detection of parallel loop-mediated isothermal amplification with DG-BioFETs for the detection of foodborne bacterial pathogens. <i>RSC Advances</i> , 2016 , 6, 103872-103887	3.7	16
63	Development of 3D neuromuscular bioactuators. <i>APL Bioengineering</i> , 2020 , 4, 016107	6.6	15
62	Integration of Graphene Electrodes with 3D Skeletal Muscle Tissue Models. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1901137	10.1	15
61	Localized Dielectric Loss Heating in Dielectrophoresis Devices. <i>Scientific Reports</i> , 2019 , 9, 18977	4.9	15
60	Long-Term Cryopreservation and Revival of Tissue-Engineered Skeletal Muscle. <i>Tissue Engineering - Part A</i> , 2019 , 25, 1023-1036	3.9	15
59	Interaction variability shapes succession of synthetic microbial ecosystems. <i>Nature Communications</i> , 2020 , 11, 309	17.4	14
58	Smartphone-imaged microfluidic biochip for measuring CD64 expression from whole blood. <i>Analyst, The</i> , 2019 , 144, 3925-3935	5	13
57	Engineering as a new frontier for translational medicine. <i>Science Translational Medicine</i> , 2015 , 7, 281fs13	17.5	13
56	Micro-Masonry of MEMS Sensors and Actuators. <i>Journal of Microelectromechanical Systems</i> , 2014 , 23, 308-314	2.5	13
55	Engineering geometrical 3-dimensional untethered in vitro neural tissue mimic. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 25932-25940	11.5	13
54	Effect of biointerfacing linker chemistries on the sensitivity of silicon nanowires for protein detection. <i>Analytical Chemistry</i> , 2013 , 85, 9493-500	7.8	12
53	Material-mediated proangiogenic factor release pattern modulates quality of regenerated blood vessels. <i>Journal of Controlled Release</i> , 2014 , 196, 363-9	11.7	11
52	Emergency ventilator for COVID-19. <i>PLoS ONE</i> , 2020 , 15, e0244963	3.7	11
51	Ultrasensitive Detection of Dopamine, IL-6 and SARS-CoV-2 Proteins on Crumpled Graphene FET Biosensor.. <i>Advanced Materials Technologies</i> , 2021 , 6, 2100712	6.8	11

50	Characterization of a 1024 × 1024 DG-BioFET platform. <i>Sensors and Actuators B: Chemical</i> , 2017 , 250, 100-110	8.5	10
49	Tip-Based Nanofabrication of Arbitrary Shapes of Graphene Nanoribbons for Device Applications. <i>RSC Advances</i> , 2015 , 5, 37006-37012	3.7	9
48	Piezoresistive Microcantilevers From Ultrananocrystalline Diamond. <i>Journal of Microelectromechanical Systems</i> , 2010 , 19, 1234-1242	2.5	9
47	On-Chip Electrical Monitoring of Real-Time Soft and Hard Protein Corona Formation on Carbon Nanoparticles. <i>Small Methods</i> , 2020 , 4, 2000099	12.8	9
46	Robust label-free microRNA detection using one million ISFET array. <i>Biomedical Microdevices</i> , 2018 , 20, 45	3.7	9
45	Multivariate computational analysis of biosensor's data for improved CD64 quantification for sepsis diagnosis. <i>Lab on A Chip</i> , 2018 , 18, 1231-1240	7.2	8
44	Design and integration of a problem-based biofabrication course into an undergraduate biomedical engineering curriculum. <i>Journal of Biological Engineering</i> , 2016 , 10, 10	6.3	8
43	Rapid Isothermal Amplification and Portable Detection System for SARS-CoV-2 2020 ,		8
42	Magnetophoretic-based microfluidic device for DNA Concentration. <i>Biomedical Microdevices</i> , 2016 , 18, 28	3.7	7
41	Localized heating and thermal characterization of high electrical resistivity silicon-on-insulator sensors using nematic liquid crystals. <i>Applied Physics Letters</i> , 2008 , 93, 131908	3.4	7
40	Three-dimensional microscale hanging drop arrays with geometric control for drug screening and live tissue imaging. <i>Science Advances</i> , 2021 , 7,	14.3	7
39	Reverse Transcription Loop-Mediated Isothermal Amplification Assay for Ultrasensitive Detection of SARS-CoV-2 in Saliva and Viral Transport Medium Clinical Samples. <i>Analytical Chemistry</i> , 2021 , 93, 7797-7807	7.8	7
38	Emergence of functional neuromuscular junctions in an engineered, multicellular spinal cord-muscle bioactuator. <i>APL Bioengineering</i> , 2020 , 4, 026104	6.6	6
37	Simultaneous time-varying viscosity, elasticity, and mass measurements of single adherent cancer cells across cell cycle. <i>Scientific Reports</i> , 2020 , 10, 12803	4.9	6
36	Compliant 3D frameworks instrumented with strain sensors for characterization of millimeter-scale engineered muscle tissues. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	6
35	Simultaneous electrical detection of IL-6 and PCT using a microfluidic biochip platform. <i>Biomedical Microdevices</i> , 2020 , 22, 36	3.7	5
34	Current understanding and emerging applications of 3D crumpling mediated 2D material-liquid interactions. <i>Current Opinion in Solid State and Materials Science</i> , 2020 , 24, 100836	12	5
33	MEMS-based resonant sensor with uniform mass sensitivity 2009 ,		5

32	Hydrodynamic loading and viscous damping of patterned perforations on microfabricated resonant structures. <i>Applied Physics Letters</i> , 2012 , 100, 154107	3.4	5
31	Effects of inlet/outlet configurations on the electrostatic capture of airborne nanoparticles and viruses. <i>Measurement Science and Technology</i> , 2008 , 19, 065204	2	5
30	Label-free SARS-CoV-2 detection and classification using phase imaging with computational specificity. <i>Light: Science and Applications</i> , 2021 , 10, 176	16.7	5
29	A microfluidic technique to estimate antigen expression on particles. <i>APL Bioengineering</i> , 2017 , 1, 016103.6		4
28	Rapid, multiplexed detection of biomolecules using electrically distinct hydrogel beads. <i>Lab on A Chip</i> , 2020 , 20, 2274-2283	7.2	4
27	Detecting sepsis by observing neutrophil motility. <i>Nature Biomedical Engineering</i> , 2018 , 2, 197-198	19	4
26	Modulating electrophysiology of motor neural networks via optogenetic stimulation during neurogenesis and synaptogenesis. <i>Scientific Reports</i> , 2020 , 10, 12460	4.9	3
25	Variable Membrane Dielectric Polarization Characteristic in Individual Live Cells. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 7197-7203	6.4	3
24	Computationally Assisted Design and Selection of Maneuverable Biological Walking Machines. <i>Advanced Intelligent Systems</i> , 2021 , 3, 2000237	6	3
23	Portable Pathogen Diagnostics Using Microfluidic Cartridges Made from Continuous Liquid Interface Production Additive Manufacturing. <i>Analytical Chemistry</i> , 2021 , 93, 10048-10055	7.8	3
22	Droplet Microfluidics with MALDI-MS Detection: The Effects of Oil Phases in GABA Analysis.. <i>ACS Measurement Science Au</i> , 2021 , 1, 147-156		3
21	Microcantilevers track single-cell mass. <i>Nature Biotechnology</i> , 2016 , 34, 1125-1126	44.5	2
20	Droplet-assisted electrospray phase separation using an integrated silicon microfluidic platform.. <i>Lab on A Chip</i> , 2021 , 22, 40-46	7.2	2
19	Overcoming the limitations of COVID-19 diagnostics with nanostructures, nucleic acid engineering, and additive manufacturing. <i>Current Opinion in Solid State and Materials Science</i> , 2022 , 26, 100966	12	2
18	Preoperative vascular surgery model using a single polymer tough hydrogel with controllable elastic moduli. <i>Soft Matter</i> , 2020 , 16, 8057-8068	3.6	2
17	Diagnostic and prognostic capabilities of a biomarker and EMR-based machine learning algorithm for sepsis. <i>Clinical and Translational Science</i> , 2021 , 14, 1578-1589	4.9	2
16	Tip-Based Cleaning and Smoothing Improves Performance in Monolayer MoS Devices. <i>ACS Omega</i> , 2021 , 6, 4013-4021	3.9	2
15	Mobile biosensing using the sensing capabilities of smartphone cameras 2017 ,		1

14	Biomimetics: Simulation and Fabrication of Stronger, Larger, and Faster Walking Biohybrid Machines (Adv. Funct. Mater. 23/2018). <i>Advanced Functional Materials</i> , 2018 , 28, 1870159	15.6	1
13	Graphene nanopores for nucleic acid analysis 2012 ,		1
12	Hydrogel Microstructures: Characterization of Mass and Swelling of Hydrogel Microstructures using MEMS Resonant Mass Sensor Arrays (Small 16/2012). <i>Small</i> , 2012 , 8, 2450-2450	11	1
11	Spatial mapping of cancer tissues by OMICS technologies. <i>Biochimica Et Biophysica Acta: Reviews on Cancer</i> , 2021 , 188663	11.2	1
10	RT-LAMP assay for ultra-sensitive detection of SARS-CoV-2 in saliva and VTM clinical samples		1
9	Neuromuscular Junction Model Optimized for Electrical Platforms. <i>Tissue Engineering - Part C: Methods</i> , 2021 , 27, 242-252	2.9	1
8	Bioprinting: High-Resolution Projection Microstereolithography for Patterning of Neovasculature (Adv. Healthcare Mater. 5/2016). <i>Advanced Healthcare Materials</i> , 2016 , 5, 622-622	10.1	1
7	Culture-free biphasic approach for sensitive detection of Escherichia coli O157:H7 from beef samples. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 4516-4529	4.9	1
6	Principles for the design of multicellular engineered living systems.. <i>APL Bioengineering</i> , 2022 , 6, 0109036.6		o
5	Ultra-sensitive dielectrophoretic surface charge multiplex detection inside a micro-dielectrophoretic device.. <i>Biosensors and Bioelectronics</i> , 2022 , 210, 114235	11.8	o
4	Research Highlights: Highlights from the latest articles in nanomedicine. <i>Nanomedicine</i> , 2013 , 8, 1369-1376		o
3	Hydrogels: In Situ Self-Folding Assembly of a Multi-Walled Hydrogel Tube for Uniaxial Sustained Molecular Release (Adv. Mater. 39/2013). <i>Advanced Materials</i> , 2013 , 25, 5522-5522	24	
2	Transient Eletronics: Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics (Adv. Funct. Mater. 12/2015). <i>Advanced Functional Materials</i> , 2015 , 25, 1904-1904	15.6	
1	Computationally Assisted Design and Selection of Maneuverable Biological Walking Machines. <i>Advanced Intelligent Systems</i> , 2021 , 3, 2170049	6	