Rashid Bashir

List of Publications by Year in Descending Order

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	Overcoming the limitations of COVID-19 diagnostics with nanostructures, nucleic acid engineering, and additive manufacturing. *Current Opinion in Solid State and Materials Science*, **2022**, 26, 100966	12	2
120	Principles for the design of multicellular engineered living systems.. *APL Bioengineering*, **2022**, 6, 010903	6.6	0
119	Ultra-sensitive dielectrophoretic surface charge multiplex detection inside a micro-dielectrophoretic device.. *Biosensors and Bioelectronics*, **2022**, 210, 114235	11.8	0
118	Droplet-assisted electrospray phase separation using an integrated silicon microfluidic platform.. *Lab on A Chip*, **2021**, 22, 40-46	7.2	2
117	Spatial mapping of cancer tissues by OMICS technologies. *Biochimica Et Biophysica Acta: Reviews on Cancer*, **2021**, 188663	11.2	1
116	Neuromuscular Junction Model Optimized for Electrical Platforms. *Tissue Engineering - Part C: Methods*, **2021**, 27, 242-252	2.9	1
115	Three-dimensional microscale hanging drop arrays with geometric control for drug screening and live tissue imaging. *Science Advances*, **2021**, 7,	14.3	7
114	Diagnostic and prognostic capabilities of a biomarker and EMR-based machine learning algorithm for sepsis. *Clinical and Translational Science*, **2021**, 14, 1578-1589	4.9	2
113	Compliant 3D frameworks instrumented with strain sensors for characterization of millimeter-scale engineered muscle tissues. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	6
112	COVID-19 Point-of-Care Diagnostics: Present and Future. *ACS Nano*, **2021**, 15, 7899-7906	16.7	23
111	Reverse Transcription Loop-Mediated Isothermal Amplification Assay for Ultrasensitive Detection of SARS-CoV-2 in Saliva and Viral Transport Medium Clinical Samples. *Analytical Chemistry*, **2021**, 93, 7797-7807	7.8	7
110	Computationally Assisted Design and Selection of Maneuverable Biological Walking Machines. *Advanced Intelligent Systems*, **2021**, 3, 2170049	6	
109	Computationally Assisted Design and Selection of Maneuverable Biological Walking Machines. *Advanced Intelligent Systems*, **2021**, 3, 2000237	6	3
108	Tip-Based Cleaning and Smoothing Improves Performance in Monolayer MoS Devices. *ACS Omega*, **2021**, 6, 4013-4021	3.9	2
107	Portable Pathogen Diagnostics Using Microfluidic Cartridges Made from Continuous Liquid Interface Production Additive Manufacturing. *Analytical Chemistry*, **2021**, 93, 10048-10055	7.8	3
106	Culture-free biphasic approach for sensitive detection of Escherichia coli O157:H7 from beef samples. *Biotechnology and Bioengineering*, **2021**, 118, 4516-4529	4.9	1
105	Ultrasensitive Detection of Dopamine, IL-6 and SARS-CoV-2 Proteins on Crumpled Graphene FET Biosensor.. *Advanced Materials Technologies*, **2021**, 6, 2100712	6.8	11

104	Droplet Microfluidics with MALDI-MS Detection: The Effects of Oil Phases in GABA Analysis.. *ACS Measurement Science Au*, **2021**, 1, 147-156		3
103	Label-free SARS-CoV-2 detection and classification using phase imaging with computational specificity. *Light: Science and Applications*, **2021**, 10, 176	16.7	5
102	Simultaneous electrical detection of IL-6 and PCT using a microfluidic biochip platform. *Biomedical Microdevices*, **2020**, 22, 36	3.7	5
101	High Sensitivity Graphene Field Effect Transistor-Based Detection of DNA Amplification. *Advanced Functional Materials*, **2020**, 30, 2001031	15.6	16
100	Rapid, multiplexed detection of biomolecules using electrically distinct hydrogel beads. *Lab on A Chip*, **2020**, 20, 2274-2283	7.2	4
99	Development of 3D neuromuscular bioactuators. *APL Bioengineering*, **2020**, 4, 016107	6.6	15
98	Ultrasensitive detection of nucleic acids using deformed graphene channel field effect biosensors. *Nature Communications*, **2020**, 11, 1543	17.4	123
97	Current understanding and emerging applications of 3D crumpling mediated 2D material-liquid interactions. *Current Opinion in Solid State and Materials Science*, **2020**, 24, 100836	12	5
96	Interaction variability shapes succession of synthetic microbial ecosystems. *Nature Communications*, **2020**, 11, 309	17.4	14
95	Integration of Graphene Electrodes with 3D Skeletal Muscle Tissue Models. *Advanced Healthcare Materials*, **2020**, 9, e1901137	10.1	15
94	Emergence of functional neuromuscular junctions in an engineered, multicellular spinal cord-muscle bioactuator. *APL Bioengineering*, **2020**, 4, 026104	6.6	6
93	Emergency ventilator for COVID-19. *PLoS ONE*, **2020**, 15, e0244963	3.7	11
92	Rapid Isothermal Amplification and Portable Detection System for SARS-CoV-2 **2020**,		8
91	Modulating electrophysiology of motor neural networks via optogenetic stimulation during neurogenesis and synaptogenesis. *Scientific Reports*, **2020**, 10, 12460	4.9	3
90	Simultaneous time-varying viscosity, elasticity, and mass measurements of single adherent cancer cells across cell cycle. *Scientific Reports*, **2020**, 10, 12803	4.9	6
89	Rapid isothermal amplification and portable detection system for SARS-CoV-2. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 22727-22735	11.5	164
88	Variable Membrane Dielectric Polarization Characteristic in Individual Live Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 7197-7203	6.4	3
87	Preoperative vascular surgery model using a single polymer tough hydrogel with controllable elastic moduli. *Soft Matter*, **2020**, 16, 8057-8068	3.6	2

86	On-Chip Electrical Monitoring of Real-Time Soft and Hard Protein Corona Formation on Carbon Nanoparticles. *Small Methods*, **2020**, 4, 2000099	12.8	9
85	Smartphone-based multiplex 30-minute nucleic acid test of live virus from nasal swab extract. *Lab on A Chip*, **2020**, 20, 1621-1627	7.2	68
84	Neuromuscular actuation of biohybrid motile bots. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 19841-19847	11.5	47
83	Smartphone-imaged microfluidic biochip for measuring CD64 expression from whole blood. *Analyst, The*, **2019**, 144, 3925-3935	5	13
82	Neuron Muscle Interfaces: Matrix Topography Regulates Synaptic Transmission at the Neuromuscular Junction (Adv. Sci. 6/2019). *Advanced Science*, **2019**, 6, 1970032	13.6	78
81	Monolayer MoS Nanoribbon Transistors Fabricated by Scanning Probe Lithography. *Nano Letters*, **2019**, 19, 2092-2098	11.5	33
80	Localized Dielectric Loss Heating in Dielectrophoresis Devices. *Scientific Reports*, **2019**, 9, 18977	4.9	15
79	Engineering geometrical 3-dimensional untethered in vitro neural tissue mimic. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 25932-25940	11.5	13
78	Long-Term Cryopreservation and Revival of Tissue-Engineered Skeletal Muscle. *Tissue Engineering - Part A*, **2019**, 25, 1023-1036	3.9	15
77	Simulation and Fabrication of Stronger, Larger, and Faster Walking Biohybrid Machines. *Advanced Functional Materials*, **2018**, 28, 1801145	15.6	36
76	A microfluidic biochip platform for electrical quantification of proteins. *Lab on A Chip*, **2018**, 18, 1461-1470	7.2	19
75	Detecting sepsis by observing neutrophil motility. *Nature Biomedical Engineering*, **2018**, 2, 197-198	19	4
74	Biodegradable Monocrystalline Silicon Photovoltaic Microcells as Power Supplies for Transient Biomedical Implants. *Advanced Energy Materials*, **2018**, 8, 1703035	21.8	63
73	Pixelated spatial gene expression analysis from tissue. *Nature Communications*, **2018**, 9, 202	17.4	17
72	Multivariate computational analysis of biosensor's data for improved CD64 quantification for sepsis diagnosis. *Lab on A Chip*, **2018**, 18, 1231-1240	7.2	8
71	3D printing for preoperative planning and surgical training: a review. *Biomedical Microdevices*, **2018**, 20, 65	3.7	74
70	Biomimetics: Simulation and Fabrication of Stronger, Larger, and Faster Walking Biohybrid Machines (Adv. Funct. Mater. 23/2018). *Advanced Functional Materials*, **2018**, 28, 1870159	15.6	1
69	Perspective: The promise of multi-cellular engineered living systems. *APL Bioengineering*, **2018**, 2, 040906	6.6	74

68	Point-of-care sensors for the management of sepsis. *Nature Biomedical Engineering*, **2018**, 2, 640-648	19	67
67	Robust label-free microRNA detection using one million ISFET array. *Biomedical Microdevices*, **2018**, 20, 45	3.7	9
66	3D Printed Stem-Cell-Laden, Microchanneled Hydrogel Patch for the Enhanced Release of Cell-Secreting Factors and Treatment of Myocardial Infarctions. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1980-1987	5.5	29
65	A modular approach to the design, fabrication, and characterization of muscle-powered biological machines. *Nature Protocols*, **2017**, 12, 519-533	18.8	55
64	Damage, Healing, and Remodeling in Optogenetic Skeletal Muscle Bioactuators. *Advanced Healthcare Materials*, **2017**, 6, 1700030	10.1	38
63	Characterization of a 1024 □1024 DG-BioFET platform. *Sensors and Actuators B: Chemical*, **2017**, 250, 100-110	8.5	10
62	A 3D-printed platform for modular neuromuscular motor units. *Microsystems and Nanoengineering*, **2017**, 3, 17015	7.7	43
61	Investigating the Life Expectancy and Proteolytic Degradation of Engineered Skeletal Muscle Biological Machines. *Scientific Reports*, **2017**, 7, 3775	4.9	17
60	A microfluidic technique to estimate antigen expression on particles. *APL Bioengineering*, **2017**, 1, 016103	3.6	4
59	Mobile biosensing using the sensing capabilities of smartphone cameras **2017**,		1
58	Hands-free smartphone-based diagnostics for simultaneous detection of Zika, Chikungunya, and Dengue at point-of-care. *Biomedical Microdevices*, **2017**, 19, 73	3.7	81
57	Mobile Platform for Multiplexed Detection and Differentiation of Disease-Specific Nucleic Acid Sequences, Using Microfluidic Loop-Mediated Isothermal Amplification and Smartphone Detection. *Analytical Chemistry*, **2017**, 89, 11219-11226	7.8	48
56	Combining Biomarkers with EMR Data to Identify Patients in Different Phases of Sepsis. *Scientific Reports*, **2017**, 7, 10800	4.9	40
55	Biomimicry, Biofabrication, and Biohybrid Systems: The Emergence and Evolution of Biological Design. *Advanced Healthcare Materials*, **2017**, 6, 1700496	10.1	30
54	Detection of methylation on dsDNA using nanopores in a MoS membrane. *Nanoscale*, **2017**, 9, 14836-14845	7.7	25
53	Biohybrid actuators for robotics: A review of devices actuated by living cells. *Science Robotics*, **2017**, 2,	18.6	202
52	A point-of-care microfluidic biochip for quantification of CD64 expression from whole blood for sepsis stratification. *Nature Communications*, **2017**, 8, 15949	17.4	91
51	On-chip electrical detection of parallel loop-mediated isothermal amplification with DG-BioFETs for the detection of foodborne bacterial pathogens. *RSC Advances*, **2016**, 6, 103872-103887	3.7	16

50	Microcantilevers track single-cell mass. *Nature Biotechnology*, **2016**, 34, 1125-1126	44.5	2
49	Design and integration of a problem-based biofabrication course into an undergraduate biomedical engineering curriculum. *Journal of Biological Engineering*, **2016**, 10, 10	6.3	8
48	Biaxial Dielectrophoresis Force Spectroscopy: A Stoichiometric Approach for Examining Intermolecular Weak Binding Interactions. *ACS Nano*, **2016**, 10, 4011-9	16.7	17
47	Optogenetic skeletal muscle-powered adaptive biological machines. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 3497-502	11.5	150
46	Magnetophoretic-based microfluidic device for DNA Concentration. *Biomedical Microdevices*, **2016**, 18, 28	3.7	7
45	Microfluidic differential immunocapture biochip for specific leukocyte counting. *Nature Protocols*, **2016**, 11, 714-26	18.8	30
44	High-Resolution Projection Microstereolithography for Patterning of Neovasculature. *Advanced Healthcare Materials*, **2016**, 5, 610-9	10.1	87
43	Bioprinting: High-Resolution Projection Microstereolithography for Patterning of Neovasculature (Adv. Healthcare Mater. 5/2016). *Advanced Healthcare Materials*, **2016**, 5, 622-622	10.1	1
42	Mechanical Characterization and Shape Optimization of Fascicle-Like 3D Skeletal Muscle Tissues Contracted with Electrical and Optical Stimuli. *Tissue Engineering - Part A*, **2015**, 21, 1848-58	3.9	16
41	Tip-Based Nanofabrication of Arbitrary Shapes of Graphene Nanoribbons for Device Applications. *RSC Advances*, **2015**, 5, 37006-37012	3.7	9
40	Engineering as a new frontier for translational medicine. *Science Translational Medicine*, **2015**, 7, 281fs13	17.5	13
39	Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics. *Advanced Functional Materials*, **2015**, 25, 1789-1797	15.6	101
38	Transient Eletronics: Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics (Adv. Funct. Mater. 12/2015). *Advanced Functional Materials*, **2015**, 25, 1904-1904	15.6	
37	Smartphone-Imaged HIV-1 Reverse-Transcription Loop-Mediated Isothermal Amplification (RT-LAMP) on a Chip from Whole Blood. *Engineering*, **2015**, 1, 324-335	9.7	62
36	A microfluidic biochip for complete blood cell counts at the point-of-care. *Technology*, **2015**, 3, 201-213	3	26
35	Slowing DNA Transport Using Graphene-DNA Interactions. *Advanced Functional Materials*, **2015**, 25, 936-946	15.6	89
34	Nanopore-based assay for detection of methylation in double-stranded DNA fragments. *ACS Nano*, **2015**, 9, 290-300	16.7	60
33	Micro-Masonry of MEMS Sensors and Actuators. *Journal of Microelectromechanical Systems*, **2014**, 23, 308-314	2.5	13

32	Material-mediated proangiogenic factor release pattern modulates quality of regenerated blood vessels. *Journal of Controlled Release*, **2014**, 196, 363-9	11.7	11
31	Coincidence detection of heterogeneous cell populations from whole blood with coplanar electrodes in a microfluidic impedance cytometer. *Lab on A Chip*, **2014**, 14, 4370-81	7.2	29
30	Flow metering characterization within an electrical cell counting microfluidic device. *Lab on A Chip*, **2014**, 14, 1469-76	7.2	35
29	Utilization and control of bioactuators across multiple length scales. *Lab on A Chip*, **2014**, 14, 653-70	7.2	64
28	Three-dimensionally printed biological machines powered by skeletal muscle. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 10125-30	11.5	262
27	Graphene-based patterning and differentiation of C2C12 myoblasts. *Advanced Healthcare Materials* , **2014**, 3, 995-1000	10.1	36
26	Creating living cellular machines. *Annals of Biomedical Engineering*, **2014**, 42, 445-59	4.7	75
25	On-chip parallel detection of foodborne pathogens using loop-mediated isothermal amplification. *Biomedical Microdevices*, **2013**, 15, 821-30	3.7	38
24	Research Highlights: Highlights from the latest articles in nanomedicine. *Nanomedicine*, **2013**, 8, 1369-1376	5.6	
23	Microfluidic CD4+ and CD8+ T lymphocyte counters for point-of-care HIV diagnostics using whole blood. *Science Translational Medicine*, **2013**, 5, 214ra170	17.5	109
22	Effect of biointerfacing linker chemistries on the sensitivity of silicon nanowires for protein detection. *Analytical Chemistry*, **2013**, 85, 9493-500	7.8	12
21	Hydrogels: In Situ Self-Folding Assembly of a Multi-Walled Hydrogel Tube for Uniaxial Sustained Molecular Release (Adv. Mater. 39/2013). *Advanced Materials*, **2013**, 25, 5522-5522	24	
20	Electron beam induced local crystallization of HfO2 nanopores for biosensing applications. *Nanoscale*, **2013**, 5, 10887-93	7.7	54
19	Detection and quantification of methylation in DNA using solid-state nanopores. *Scientific Reports*, **2013**, 3, 1389	4.9	121
18	Electrochemistry at the edge of a single graphene layer in a nanopore. *ACS Nano*, **2013**, 7, 834-43	16.7	95
17	Graphene nanopores for nucleic acid analysis **2012**,		1
16	Resonant MEMS Mass Sensors for Measurement of Microdroplet Evaporation. *Journal of Microelectromechanical Systems*, **2012**, 21, 702-711	2.5	40
15	Development of miniaturized walking biological machines. *Scientific Reports*, **2012**, 2, 857	4.9	147

14	Hydrogel Microstructures: Characterization of Mass and Swelling of Hydrogel Microstructures using MEMS Resonant Mass Sensor Arrays (Small 16/2012). *Small*, **2012**, 8, 2450-2450	11	1
13	Silicon nanowires with high-k hafnium oxide dielectrics for sensitive detection of small nucleic acid oligomers. *ACS Nano*, **2012**, 6, 6150-64	16.7	102
12	Directed cell growth and alignment on protein-patterned 3D hydrogels with stereolithography. *Virtual and Physical Prototyping*, **2012**, 7, 219-228	10.1	26
11	Hydrodynamic loading and viscous damping of patterned perforations on microfabricated resonant structures. *Applied Physics Letters*, **2012**, 100, 154107	3.4	5
10	Stereolithography-Based Hydrogel Microenvironments to Examine Cellular Interactions. *Advanced Functional Materials*, **2011**, 21, 3642-3651	15.6	95
9	Patterning the differentiation of C2C12 skeletal myoblasts. *Integrative Biology (United Kingdom)*, **2011**, 3, 897-909	3.7	125
8	A microfabricated electrical differential counter for the selective enumeration of CD4+ T lymphocytes. *Lab on A Chip*, **2011**, 11, 1437-47	7.2	56
7	How far cardiac cells can see each other mechanically. *Soft Matter*, **2011**, 7, 6151	3.6	50
6	Piezoresistive Microcantilevers From Ultrananocrystalline Diamond. *Journal of Microelectromechanical Systems*, **2010**, 19, 1234-1242	2.5	9
5	MEMS-based resonant sensor with uniform mass sensitivity **2009**,		5
4	Effects of inlet/outlet configurations on the electrostatic capture of airborne nanoparticles and viruses. *Measurement Science and Technology*, **2008**, 19, 065204	2	5
3	Localized heating and thermal characterization of high electrical resistivity silicon-on-insulator sensors using nematic liquid crystals. *Applied Physics Letters*, **2008**, 93, 131908	3.4	7
2	Nanoscale thickness double-gated field effect silicon sensors for sensitive pH detection in fluid. *Applied Physics Letters*, **2008**, 92, 193904	3.4	24
1	RT-LAMP assay for ultra-sensitive detection of SARS-CoV-2 in saliva and VTM clinical samples		1