

Mingming Wu

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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.

54
papers

3,427
citations

30
h-index

57
g-index

57
ext. papers

3,971
ext. citations

5.6
avg, IF

5.27
L-index

#	Paper	IF	Citations
54	A mechanical metamaterial made from a DNA hydrogel. <i>Nature Nanotechnology</i> , 2012 , 7, 816-20	28.7	378
53	A hydrogel-based microfluidic device for the studies of directed cell migration. <i>Lab on A Chip</i> , 2007 , 7, 763-9	7.2	276
52	A three-channel microfluidic device for generating static linear gradients and its application to the quantitative analysis of bacterial chemotaxis. <i>Lab on A Chip</i> , 2006 , 6, 381-8	7.2	194
51	Scaling law in liquid drop coalescence driven by surface tension. <i>Physics of Fluids</i> , 2004 , 16, L51-L54	4.4	193
50	Fibrous nonlinear elasticity enables positive mechanical feedback between cells and ECMs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 14043-14048	11.5	181
49	Experimental studies on the shape and path of small air bubbles rising in clean water. <i>Physics of Fluids</i> , 2002 , 14, L49	4.4	175
48	Logarithmic sensing in Escherichia coli bacterial chemotaxis. <i>Biophysical Journal</i> , 2009 , 96, 2439-48	2.9	166
47	Dendritic cell chemotaxis in 3D under defined chemokine gradients reveals differential response to ligands CCL21 and CCL19. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 5614-9	11.5	154
46	An agarose-based microfluidic platform with a gradient buffer for 3D chemotaxis studies. <i>Biomedical Microdevices</i> , 2009 , 11, 827-35	3.7	133
45	Collective bacterial dynamics revealed using a three-dimensional population-scale defocused particle tracking technique. <i>Applied and Environmental Microbiology</i> , 2006 , 72, 4987-94	4.8	103
44	Three-dimensional fluorescent particle tracking at micron-scale using a single camera. <i>Experiments in Fluids</i> , 2005 , 38, 461-465	2.5	100
43	Assessing adhesion forces of type I and type IV pili of Xylella fastidiosa bacteria by use of a microfluidic flow chamber. <i>Applied and Environmental Microbiology</i> , 2007 , 73, 2690-6	4.8	95
42	Effects of gel thickness on microscopic indentation measurements of gel modulus. <i>Biophysical Journal</i> , 2011 , 101, 643-50	2.9	84
41	Hydrodynamic tracer diffusion in suspensions of swimming bacteria. <i>Physics of Fluids</i> , 2014 , 26, 081901	4.4	78
40	Cooperative roles of SDF-1 and EGF gradients on tumor cell migration revealed by a robust 3D microfluidic model. <i>PLoS ONE</i> , 2013 , 8, e68422	3.7	76
39	Responses of Escherichia coli bacteria to two opposing chemoattractant gradients depend on the chemoreceptor ratio. <i>Journal of Bacteriology</i> , 2010 , 192, 1796-800	3.5	74
38	Designing compartmentalized hydrogel microparticles for cell encapsulation and scalable 3D cell culture. <i>Journal of Materials Chemistry B</i> , 2015 , 3, 353-360	7.3	73

37	Microfluidics for mammalian cell chemotaxis. <i>Annals of Biomedical Engineering</i> , 2012 , 40, 1316-27	4.7	71
36	Toward single cell traction microscopy within 3D collagen matrices. <i>Experimental Cell Research</i> , 2013 , 319, 2396-408	4.2	66
35	Emergence of upstream swimming via a hydrodynamic transition. <i>Physical Review Letters</i> , 2015 , 114, 108102	7.4	65
34	Cooperative roles of biological flow and surface topography in guiding sperm migration revealed by a microfluidic model. <i>Lab on A Chip</i> , 2014 , 14, 1348-56	7.2	61
33	Fluid viscoelasticity promotes collective swimming of sperm. <i>Scientific Reports</i> , 2017 , 7, 3152	4.9	59
32	Microgrooves and fluid flows provide preferential passageways for sperm over pathogen <i>Tritrichomonas foetus</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 5431-6	11.5	57
31	Pair velocity correlations among swimming <i>Escherichia coli</i> bacteria are determined by force-quadrupole hydrodynamic interactions. <i>Physics of Fluids</i> , 2007 , 19, 061701	4.4	56
30	Interstitial flows promote amoeboid over mesenchymal motility of breast cancer cells revealed by a three dimensional microfluidic model. <i>Integrative Biology (United Kingdom)</i> , 2015 , 7, 1402-11	3.7	47
29	Microfluidic modeling of the biophysical microenvironment in tumor cell invasion. <i>Lab on A Chip</i> , 2017 , 17, 3221-3233	7.2	36
28	Modeling tumor microenvironments in vitro. <i>Journal of Biomechanical Engineering</i> , 2014 , 136, 021011	2.1	35
27	Gravity and surface tension effects on the shape change of soft materials. <i>Langmuir</i> , 2013 , 29, 8665-74	4	35
26	Mapping three-dimensional stress and strain fields within a soft hydrogel using a fluorescence microscope. <i>Biophysical Journal</i> , 2012 , 102, 2241-50	2.9	33
25	Dynamics of Bovine Sperm Interaction with Epithelium Differ Between Oviductal Isthmus and Ampulla. <i>Biology of Reproduction</i> , 2016 , 95, 90	3.9	30
24	A contact line pinning based microfluidic platform for modelling physiological flows. <i>Lab on A Chip</i> , 2013 , 13, 3876-85	7.2	26
23	Dynamic self-organization of microwell-aggregated cellular mixtures. <i>Soft Matter</i> , 2016 , 12, 5739-46	3.6	25
22	Different migration patterns of sea urchin and mouse sperm revealed by a microfluidic chemotaxis device. <i>PLoS ONE</i> , 2013 , 8, e60587	3.7	23
21	A microfluidic platform for profiling biomechanical properties of bacteria. <i>Lab on A Chip</i> , 2014 , 14, 2491-8.2	8.2	22
20	Oxygen Tension and Riboflavin Gradients Cooperatively Regulate the Migration of MR-1 Revealed by a Hydrogel-Based Microfluidic Device. <i>Frontiers in Microbiology</i> , 2016 , 7, 1438	5.7	18

19	Tumor spheroids under perfusion within a 3D microfluidic platform reveal critical roles of cell-cell adhesion in tumor invasion. <i>Scientific Reports</i> , 2020 , 10, 9648	4.9	14
18	Bacterial collective motion near the contact line of an evaporating sessile drop. <i>Physics of Fluids</i> , 2014 , 26, 111703	4.4	14
17	Glycation of collagen matrices promotes breast tumor cell invasion. <i>Integrative Biology (United Kingdom)</i> , 2019 ,	3.7	12
16	A 3D in situ cell counter reveals that breast tumor cell (MDA-MB-231) proliferation rate is reduced by the collagen matrix density. <i>Biotechnology Progress</i> , 2015 , 31, 990-996	2.8	12
15	On the mechanics of cardiac function of Drosophila embryo. <i>PLoS ONE</i> , 2008 , 3, e4045	3.7	12
14	An adaptive algorithm for tracking 3D bead displacements: application in biological experiments. <i>Measurement Science and Technology</i> , 2014 , 25,	2	10
13	An array microhabitat system for high throughput studies of microalgal growth under controlled nutrient gradients. <i>Lab on A Chip</i> , 2015 , 15, 3687-94	7.2	9
12	Biologically inspired micro-robotic swimmers remotely controlled by ultrasound waves. <i>Lab on A Chip</i> , 2021 , 21, 4095-4103	7.2	9
11	Physical confinement induces malignant transformation in mammary epithelial cells. <i>Biomaterials</i> , 2019 , 217, 119307	15.6	8
10	Epidermal growth factor promotes a mesenchymal over an amoeboid motility of MDA-MB-231 cells embedded within a 3D collagen matrix. <i>European Physical Journal Plus</i> , 2016 , 131, 1	3.1	6
9	Assessing neural stem cell motility using an agarose gel-based microfluidic device. <i>Journal of Visualized Experiments</i> , 2008 ,	1.6	4
8	The architecture of co-culture spheroids regulates tumor invasion within a 3D extracellular matrix. <i>Biophysical Reviews and Letters</i> , 2020 , 15, 131-141	1.2	4
7	Nanobiotechnology for the Environment: Innovative Solutions for the Management of Harmful Algal Blooms. <i>Journal of Agricultural and Food Chemistry</i> , 2018 , 66, 6474-6479	5.7	4
6	Lymphoidal chemokine CCL19 promoted the heterogeneity of the breast tumor cell motility within a 3D microenvironment revealed by a Lévy distribution analysis. <i>Integrative Biology (United Kingdom)</i> , 2020 , 12, 12-20	3.7	3
5	An array microhabitat device with dual gradients revealed synergistic roles of nitrogen and phosphorous in the growth of microalgae. <i>Lab on A Chip</i> , 2020 , 20, 798-805	7.2	3
4	Generation of a <i>Gluconobacter oxydans</i> knockout collection for improved extraction of rare earth elements. <i>Nature Communications</i> , 2021 , 12, 6693	17.4	2
3	Microfluidic and mathematical modeling of aquatic microbial communities. <i>Analytical and Bioanalytical Chemistry</i> , 2021 , 413, 2331-2344	4.4	2
2	The Architecture of Co-Culture Spheroids Regulates Tumor Invasion Within a 3D Extracellular Matrix 2020 , 197-207		1

- 1 Spatial and temporal dynamics of RhoA activities of single breast tumor cells in a 3D environment revealed by a machine learning-assisted FRET technique. *Experimental Cell Research*, **2021**, 112939 4.2 ○