

R D Kamm

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.

253
papers

18,839
citations

74
h-index

131
g-index

287
ext. papers

22,425
ext. citations

7.7
avg, IF

7.15
L-index

#	Paper	IF	Citations
253	Migration of tumor cells in 3D matrices is governed by matrix stiffness along with cell-matrix adhesion and proteolysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 10889-94	11.5	913
252	Lamin A/C deficiency causes defective nuclear mechanics and mechanotransduction. <i>Journal of Clinical Investigation</i> , 2004 , 113, 370-378	15.9	712
251	Three-dimensional microfluidic model for tumor cell intravasation and endothelial barrier function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 13515-20	11.5	646
250	Distinct endothelial phenotypes evoked by arterial waveforms derived from atherosclerosis-susceptible and -resistant regions of human vasculature. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 14871-6	11.5	512
249	The impact of calcification on the biomechanical stability of atherosclerotic plaques. <i>Circulation</i> , 2001 , 103, 1051-6	16.7	473
248	Human 3D vascularized organotypic microfluidic assays to study breast cancer cell extravasation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 214-9	11.5	462
247	Lamin A/C deficiency causes defective nuclear mechanics and mechanotransduction. <i>Journal of Clinical Investigation</i> , 2004 , 113, 370-8	15.9	436
246	Cell migration into scaffolds under co-culture conditions in a microfluidic platform. <i>Lab on A Chip</i> , 2009 , 9, 269-75	7.2	414
245	Microfluidic assay for simultaneous culture of multiple cell types on surfaces or within hydrogels. <i>Nature Protocols</i> , 2012 , 7, 1247-59	18.8	383
244	A microfluidic 3D in vitro model for specificity of breast cancer metastasis to bone. <i>Biomaterials</i> , 2014 , 35, 2454-61	15.6	354
243	Interstitial flow influences direction of tumor cell migration through competing mechanisms. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 11115-20	11.5	329
242	3D self-organized microvascular model of the human blood-brain barrier with endothelial cells, pericytes and astrocytes. <i>Biomaterials</i> , 2018 , 180, 117-129	15.6	296
241	Impact of the physical microenvironment on tumor progression and metastasis. <i>Current Opinion in Biotechnology</i> , 2016 , 40, 41-48	11.4	295
240	Design, fabrication and implementation of a novel multi-parameter control microfluidic platform for three-dimensional cell culture and real-time imaging. <i>Lab on A Chip</i> , 2008 , 8, 1468-77	7.2	278
239	Mechanotransduction through growth-factor shedding into the extracellular space. <i>Nature</i> , 2004 , 429, 83-6	50.4	277
238	Neutrophils Suppress Intraluminal NK Cell-Mediated Tumor Cell Clearance and Enhance Extravasation of Disseminated Carcinoma Cells. <i>Cancer Discovery</i> , 2016 , 6, 630-49	24.4	257
237	A 3D neurovascular microfluidic model consisting of neurons, astrocytes and cerebral endothelial cells as a blood-brain barrier. <i>Lab on A Chip</i> , 2017 , 17, 448-459	7.2	246

236	Profiling of PD-1 Blockade Using Organotypic Tumor Spheroids. <i>Cancer Discovery</i> , 2018 , 8, 196-215	24.4	228
235	Noncontact three-dimensional mapping of intracellular hydromechanical properties by Brillouin microscopy. <i>Nature Methods</i> , 2015 , 12, 1132-4	21.6	223
234	On-chip human microvasculature assay for visualization and quantification of tumor cell extravasation dynamics. <i>Nature Protocols</i> , 2017 , 12, 865-880	18.8	199
233	Formation and optogenetic control of engineered 3D skeletal muscle bioactuators. <i>Lab on A Chip</i> , 2012 , 12, 4976-85	7.2	198
232	Mechanisms of tumor cell extravasation in an in vitro microvascular network platform. <i>Integrative Biology (United Kingdom)</i> , 2013 , 5, 1262-71	3.7	194
231	Microfluidic models of vascular functions. <i>Annual Review of Biomedical Engineering</i> , 2012 , 14, 205-30	12	184
230	Microfluidic platforms for mechanobiology. <i>Lab on A Chip</i> , 2013 , 13, 2252-67	7.2	180
229	Mechanotransduction of fluid stresses governs 3D cell migration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 2447-52	11.5	173
228	In vitro model of tumor cell extravasation. <i>PLoS ONE</i> , 2013 , 8, e56910	3.7	173
227	Microphysiological 3D model of amyotrophic lateral sclerosis (ALS) from human iPS-derived muscle cells and optogenetic motor neurons. <i>Science Advances</i> , 2018 , 4, eaat5847	14.3	172
226	Transport-mediated angiogenesis in 3D epithelial coculture. <i>FASEB Journal</i> , 2009 , 23, 2155-64	0.9	158
225	An investigation of transition to turbulence in bounded oscillatory Stokes flows Part 1. Experiments. <i>Journal of Fluid Mechanics</i> , 1991 , 225, 395-422	3.7	158
224	Generation of 3D functional microvascular networks with human mesenchymal stem cells in microfluidic systems. <i>Integrative Biology (United Kingdom)</i> , 2014 , 6, 555-63	3.7	152
223	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
222	Measuring molecular rupture forces between single actin filaments and actin-binding proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 9221-6	11.5	149
221	Cell contraction induces long-ranged stress stiffening in the extracellular matrix. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 4075-4080	11.5	146
220	Tumor cell migration in complex microenvironments. <i>Cellular and Molecular Life Sciences</i> , 2013 , 70, 1335-563	11.5	143
219	Microfluidic device for the formation of optically excitable, three-dimensional, compartmentalized motor units. <i>Science Advances</i> , 2016 , 2, e1501429	14.3	138

218	The bioprinting roadmap. <i>Biofabrication</i> , 2020 , 12, 022002	10.5	137
217	Control of perfusable microvascular network morphology using a multiculture microfluidic system. <i>Tissue Engineering - Part C: Methods</i> , 2014 , 20, 543-52	2.9	131
216	Microfluidic platforms for studies of angiogenesis, cell migration, and cell-cell interactions. Sixth International Bio-Fluid Mechanics Symposium and Workshop March 28-30, 2008 Pasadena, California. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 1164-77	4.7	128
215	A high-throughput microfluidic assay to study neurite response to growth factor gradients. <i>Lab on A Chip</i> , 2011 , 11, 497-507	7.2	125
214	Computational analysis of viscoelastic properties of crosslinked actin networks. <i>PLoS Computational Biology</i> , 2009 , 5, e1000439	5	124
213	Screening therapeutic EMT blocking agents in a three-dimensional microenvironment. <i>Integrative Biology (United Kingdom)</i> , 2013 , 5, 381-9	3.7	123
212	Warburg metabolism in tumor-conditioned macrophages promotes metastasis in human pancreatic ductal adenocarcinoma. <i>Oncotmunology</i> , 2016 , 5, e1191731	7.2	122
211	Microfluidics: A new tool for modeling cancer-immune interactions. <i>Trends in Cancer</i> , 2016 , 2, 6-19	12.5	122
210	In vitro 3D collective sprouting angiogenesis under orchestrated ANG-1 and VEGF gradients. <i>Lab on A Chip</i> , 2011 , 11, 2175-81	7.2	121
209	A 3D microfluidic model for preclinical evaluation of TCR-engineered T cells against solid tumors. <i>JCI Insight</i> , 2017 , 2,	9.9	113
208	MicroRNA delivery through nanoparticles. <i>Journal of Controlled Release</i> , 2019 , 313, 80-95	11.7	111
207	An investigation of transition to turbulence in bounded oscillatory Stokes flows Part 2. Numerical simulations. <i>Journal of Fluid Mechanics</i> , 1991 , 225, 423-444	3.7	109
206	Microfluidic devices for studying heterotypic cell-cell interactions and tissue specimen cultures under controlled microenvironments. <i>Biomicrofluidics</i> , 2011 , 5, 13406	3.2	108
205	3D microfluidic ex vivo culture of organotypic tumor spheroids to model immune checkpoint blockade. <i>Lab on A Chip</i> , 2018 , 18, 3129-3143	7.2	104
204	Elucidation of the Roles of Tumor Integrin $\beta 1$ in the Extravasation Stage of the Metastasis Cascade. <i>Cancer Research</i> , 2016 , 76, 2513-24	10.1	103
203	A novel microfluidic platform for high-resolution imaging of a three-dimensional cell culture under a controlled hypoxic environment. <i>Lab on A Chip</i> , 2012 , 12, 4855-63	7.2	103
202	Is airway closure caused by a liquid film instability?. <i>Respiration Physiology</i> , 1989 , 75, 141-56		101
201	Complex mechanics of the heterogeneous extracellular matrix in cancer. <i>Extreme Mechanics Letters</i> , 2018 , 21, 25-34	3.9	100

200	A quantitative microfluidic angiogenesis screen for studying anti-angiogenic therapeutic drugs. <i>Lab on A Chip</i> , 2015 , 15, 301-10	7.2	94
199	Blood-Brain Barrier Dysfunction in a 3D In Vitro Model of Alzheimer's Disease. <i>Advanced Science</i> , 2019 , 6, 1900962	13.6	94
198	Sprouting angiogenesis under a chemical gradient regulated by interactions with an endothelial monolayer in a microfluidic platform. <i>Analytical Chemistry</i> , 2011 , 83, 8454-9	7.8	92
197	3D matrix microenvironment for targeted differentiation of embryonic stem cells into neural and glial lineages. <i>Biomaterials</i> , 2013 , 34, 5995-6007	15.6	90
196	Engineered 3D vascular and neuronal networks in a microfluidic platform. <i>Scientific Reports</i> , 2018 , 8, 5168	4.9	87
195	Inflamed neutrophils sequestered at entrapped tumor cells via chemotactic confinement promote tumor cell extravasation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 7022-7027	11.5	85
194	Mechanism of a flow-gated angiogenesis switch: early signaling events at cell-matrix and cell-cell junctions. <i>Integrative Biology (United Kingdom)</i> , 2012 , 4, 863-74	3.7	84
193	Flow in collapsible tubes: a brief review. <i>Journal of Biomechanical Engineering</i> , 1989 , 111, 177-9	2.1	83
192	Human vascular tissue models formed from human induced pluripotent stem cell derived endothelial cells. <i>Stem Cell Reviews and Reports</i> , 2015 , 11, 511-25	6.4	82
191	A Chemomechanical Model for Nuclear Morphology and Stresses during Cell Transendothelial Migration. <i>Biophysical Journal</i> , 2016 , 111, 1541-1552	2.9	82
190	Advances in on-chip vascularization. <i>Regenerative Medicine</i> , 2017 , 12, 285-302	2.5	81
189	Breast Cancer Cell Invasion into a Three Dimensional Tumor-Stroma Microenvironment. <i>Scientific Reports</i> , 2016 , 6, 34094	4.9	81
188	Contact-dependent carcinoma aggregate dispersion by M2a macrophages via ICAM-1 and α integrin interactions. <i>Oncotarget</i> , 2015 , 6, 25295-307	3.3	80
187	Emerging Trends in Micro- and Nanoscale Technologies in Medicine: From Basic Discoveries to Translation. <i>ACS Nano</i> , 2017 , 11, 5195-5214	16.7	78
186	Ensemble analysis of angiogenic growth in three-dimensional microfluidic cell cultures. <i>PLoS ONE</i> , 2012 , 7, e37333	3.7	78
185	Molecular responses of rat tracheal epithelial cells to transmembrane pressure. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2000 , 278, L1264-72	5.8	78
184	The nonlinear growth of surface-tension-driven instabilities of a thin annular film. <i>Journal of Fluid Mechanics</i> , 1991 , 233, 141-156	3.7	78
183	A versatile assay for monitoring in vivo-like transendothelial migration of neutrophils. <i>Lab on A Chip</i> , 2012 , 12, 3861-5	7.2	77

182	Surface-treatment-induced three-dimensional capillary morphogenesis in a microfluidic platform. <i>Advanced Materials</i> , 2009 , 21, 4863-7	24	77
181	Controlled electromechanical cell stimulation on-a-chip. <i>Scientific Reports</i> , 2015 , 5, 11800	4.9	75
180	Creating living cellular machines. <i>Annals of Biomedical Engineering</i> , 2014 , 42, 445-59	4.7	75
179	Perspective: The promise of multi-cellular engineered living systems. <i>APL Bioengineering</i> , 2018 , 2, 040906	4.6	74
178	Computational Analysis of a Cross-linked Actin-like Network. <i>Experimental Mechanics</i> , 2009 , 49, 91-104	2.6	73
177	Cellular fluid mechanics. <i>Annual Review of Fluid Mechanics</i> , 2002 , 34, 211-32	2.2	73
176	Computational modeling of RBC and neutrophil transit through the pulmonary capillaries. <i>Journal of Applied Physiology</i> , 2001 , 90, 545-64	3.7	69
175	Simultaneous or Sequential Orthogonal Gradient Formation in a 3D Cell Culture Microfluidic Platform. <i>Small</i> , 2016 , 12, 612-22	1.1	69
174	The effects of monocytes on tumor cell extravasation in a 3D vascularized microfluidic model. <i>Biomaterials</i> , 2019 , 198, 180-193	15.6	69
173	Dynamic interplay between tumour, stroma and immune system can drive or prevent tumour progression. <i>Convergent Science Physical Oncology</i> , 2017 , 3,		68
172	Engineering of in vitro 3D capillary beds by self-directed angiogenic sprouting. <i>PLoS ONE</i> , 2012 , 7, e50582	3.7	67
171	Cell-Extracellular Matrix Mechanobiology: Forceful Tools and Emerging Needs for Basic and Translational Research. <i>Nano Letters</i> , 2018 , 18, 1-8	11.5	67
170	Macrophage-Secreted TNF α and TGF β Influence Migration Speed and Persistence of Cancer Cells in 3D Tissue Culture via Independent Pathways. <i>Cancer Research</i> , 2017 , 77, 279-290	10.1	66
169	Contrasting effects of vasculogenic induction upon biaxial bioreactor stimulation of mesenchymal stem cells and endothelial progenitor cells cocultures in three-dimensional scaffolds under in vitro and in vivo paradigms for vascularized bone tissue engineering. <i>Tissue Engineering - Part A</i> , 2013 , 19, 893-904	3.9	63
168	Vasculogenic and osteogenesis-enhancing potential of human umbilical cord blood endothelial colony-forming cells. <i>Stem Cells</i> , 2012 , 30, 1911-24	5.8	63
167	Interplay of active processes modulates tension and drives phase transition in self-renewing, motor-driven cytoskeletal networks. <i>Nature Communications</i> , 2016 , 7, 10323	17.4	61
166	Oxygen levels in thermoplastic microfluidic devices during cell culture. <i>Lab on A Chip</i> , 2014 , 14, 459-62	7.2	61
165	Airway wall mechanics. <i>Annual Review of Biomedical Engineering</i> , 1999 , 1, 47-72	1.2	61

164	Detection of weakly absorbing gases using a resonant optoacoustic method. <i>Journal of Applied Physics</i> , 1976 , 47, 3550-3558	2.5	61
163	Vascularized microfluidic organ-chips for drug screening, disease models and tissue engineering. <i>Current Opinion in Biotechnology</i> , 2018 , 52, 116-123	11.4	60
162	Computational modeling of three-dimensional ECM-rigidity sensing to guide directed cell migration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E390-E399	11.5	59
161	In Vitro Microfluidic Models for Neurodegenerative Disorders. <i>Advanced Healthcare Materials</i> , 2018 , 7, 1700489	10.1	59
160	Steady, supercritical flow in collapsible tubes. Part 1. Experimental observations. <i>Journal of Fluid Mechanics</i> , 1981 , 109, 367-389	3.7	59
159	Rapid prototyping of concave microwells for the formation of 3D multicellular cancer aggregates for drug screening. <i>Advanced Healthcare Materials</i> , 2014 , 3, 609-16	10.1	58
158	In vitro models of the metastatic cascade: from local invasion to extravasation. <i>Drug Discovery Today</i> , 2014 , 19, 735-42	8.8	57
157	Engineering a 3D microfluidic culture platform for tumor-treating field application. <i>Scientific Reports</i> , 2016 , 6, 26584	4.9	57
156	Vascularized organoids on a chip: strategies for engineering organoids with functional vasculature. <i>Lab on A Chip</i> , 2021 , 21, 473-488	7.2	56
155	Characterizing the Role of Monocytes in T Cell Cancer Immunotherapy Using a 3D Microfluidic Model. <i>Frontiers in Immunology</i> , 2018 , 9, 416	8.4	55
154	Image-based modeling for better understanding and assessment of atherosclerotic plaque progression and vulnerability: data, modeling, validation, uncertainty and predictions. <i>Journal of Biomechanics</i> , 2014 , 47, 834-46	2.9	55
153	Interstitial fluid flow intensity modulates endothelial sprouting in restricted Src-activated cell clusters during capillary morphogenesis. <i>Tissue Engineering - Part A</i> , 2009 , 15, 175-85	3.9	55
152	Single-Cell Migration in Complex Microenvironments: Mechanics and Signaling Dynamics. <i>Journal of Biomechanical Engineering</i> , 2016 , 138, 021004	2.1	54
151	Three-dimensional extracellular matrix-mediated neural stem cell differentiation in a microfluidic device. <i>Lab on A Chip</i> , 2012 , 12, 2305-8	7.2	52
150	Rethinking organoid technology through bioengineering. <i>Nature Materials</i> , 2021 , 20, 145-155	27	52
149	Dynamic mechanisms of cell rigidity sensing: insights from a computational model of actomyosin networks. <i>PLoS ONE</i> , 2012 , 7, e49174	3.7	51
148	On-chip 3D neuromuscular model for drug screening and precision medicine in neuromuscular disease. <i>Nature Protocols</i> , 2020 , 15, 421-449	18.8	50
147	Identification of drugs as single agents or in combination to prevent carcinoma dissemination in a microfluidic 3D environment. <i>Oncotarget</i> , 2015 , 6, 36603-14	3.3	50

146	Dynamic modeling of cell migration and spreading behaviors on fibronectin coated planar substrates and micropatterned geometries. <i>PLoS Computational Biology</i> , 2013 , 9, e1002926	5	49
145	The effect of secondary motion on axial transport in oscillatory tube flow. <i>Journal of Fluid Mechanics</i> , 1988 , 193, 347	3.7	48
144	Cell Invasion Dynamics into a Three Dimensional Extracellular Matrix Fibre Network. <i>PLoS Computational Biology</i> , 2015 , 11, e1004535	5	48
143	Microfluidic models for adoptive cell-mediated cancer immunotherapies. <i>Drug Discovery Today</i> , 2016 , 21, 1472-1478	8.8	48
142	Mechano-sensing and cell migration: a 3D model approach. <i>Physical Biology</i> , 2011 , 8, 066008	3	46
141	In Vitro Modeling of Mechanics in Cancer Metastasis. <i>ACS Biomaterials Science and Engineering</i> , 2018 , 4, 294-301	5.5	45
140	models of molecular and nano-particle transport across the blood-brain barrier. <i>Biomicrofluidics</i> , 2018 , 12, 042213	3.2	45
139	A microfluidics assay to study invasion of human placental trophoblast cells. <i>Journal of the Royal Society Interface</i> , 2017 , 14,	4.1	43
138	Dynamic filopodial forces induce accumulation, damage, and plastic remodeling of 3D extracellular matrices. <i>PLoS Computational Biology</i> , 2019 , 15, e1006684	5	43
137	Biomechanical Regulation of Endothelium-dependent Events Critical for Adaptive Remodeling. <i>Journal of Biological Chemistry</i> , 2009 , 284, 8412-20	5.4	43
136	Activatable and Cell-Penetrable Multiplex FRET Nanosensor for Profiling MT1-MMP Activity in Single Cancer Cells. <i>Nano Letters</i> , 2015 , 15, 5025-32	11.5	42
135	Influence of protein corona and caveolae-mediated endocytosis on nanoparticle uptake and transcytosis. <i>Nanoscale</i> , 2018 , 10, 12386-12397	7.7	42
134	Microvessel Growth and Remodeling within a Three-dimensional Microfluidic Environment. <i>Cellular and Molecular Bioengineering</i> , 2014 , 7, 15-25	3.9	42
133	Interstitial flow promotes macrophage polarization toward an M2 phenotype. <i>Molecular Biology of the Cell</i> , 2018 , 29, 1927-1940	3.5	41
132	An on-chip model of protein paracellular and transcellular permeability in the microcirculation. <i>Biomaterials</i> , 2019 , 212, 115-125	15.6	39
131	Integrating focal adhesion dynamics, cytoskeleton remodeling, and actin motor activity for predicting cell migration on 3D curved surfaces of the extracellular matrix. <i>Integrative Biology (United Kingdom)</i> , 2012 , 4, 1386-97	3.7	38
130	Steady, supercritical flow in collapsible tubes. Part 2. Theoretical studies. <i>Journal of Fluid Mechanics</i> , 1981 , 109, 391-415	3.7	38
129	On-chip assessment of human primary cardiac fibroblasts proliferative responses to uniaxial cyclic mechanical strain. <i>Biotechnology and Bioengineering</i> , 2016 , 113, 859-69	4.9	38

128	Biohybrid valveless pump-bot powered by engineered skeletal muscle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 1543-1548	11.5	38
127	Crosstalk between developing vasculature and optogenetically engineered skeletal muscle improves muscle contraction and angiogenesis. <i>Biomaterials</i> , 2018 , 156, 65-76	15.6	38
126	A process engineering approach to increase organoid yield. <i>Development (Cambridge)</i> , 2017 , 144, 1128-1136	16.36	37
125	Endothelial Regulation of Drug Transport in a 3D Vascularized Tumor Model. <i>Advanced Functional Materials</i> , 2020 , 30, 2002444	15.6	37
124	Dispersion in a curved tube during oscillatory flow. <i>Journal of Fluid Mechanics</i> , 1991 , 223, 537	3.7	37
123	Cooperative Effects of Vascular Angiogenesis and Lymphangiogenesis. <i>Regenerative Engineering and Translational Medicine</i> , 2018 , 4, 120-132	2.4	35
122	A Facile Method to Probe the Vascular Permeability of Nanoparticles in Nanomedicine Applications. <i>Scientific Reports</i> , 2017 , 7, 707	4.9	34
121	Microfabrication and microfluidics for muscle tissue models. <i>Progress in Biophysics and Molecular Biology</i> , 2014 , 115, 279-93	4.7	34
120	Pericytes Contribute to Dysfunction in a Human 3D Model of Placental Microvasculature through VEGF-Ang-Tie2 Signaling. <i>Advanced Science</i> , 2019 , 6, 1900878	13.6	33
119	Validating antimetastatic effects of natural products in an engineered microfluidic platform mimicking tumor microenvironment. <i>Molecular Pharmaceutics</i> , 2014 , 11, 2022-9	5.6	33
118	Modeling Nanocarrier Transport across a 3D In Vitro Human Blood-Brain-Barrier Microvasculature. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1901486	10.1	32
117	Human cardiac fibroblasts adaptive responses to controlled combined mechanical strain and oxygen changes in vitro. <i>ELife</i> , 2017 , 6,	8.9	32
116	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. <i>Science Translational Medicine</i> , 2019 , 11,	17.5	32
115	Quantification of human neuromuscular function through optogenetics. <i>Theranostics</i> , 2019 , 9, 1232-1246	22.1	30
114	The Use of Microfluidic Platforms to Probe the Mechanism of Cancer Cell Extravasation. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1901410	10.1	30
113	Tension, free space, and cell damage in a microfluidic wound healing assay. <i>PLoS ONE</i> , 2011 , 6, e24283	3.7	30
112	A versatile microfluidic device for high throughput production of microparticles and cell microencapsulation. <i>Lab on A Chip</i> , 2017 , 17, 2067-2075	7.2	29
111	Morphological Transformation and Force Generation of Active Cytoskeletal Networks. <i>PLoS Computational Biology</i> , 2017 , 13, e1005277	5	29

110	Multiscale mechanobiology: computational models for integrating molecules to multicellular systems. <i>Integrative Biology (United Kingdom)</i> , 2015 , 7, 1093-108	3.7	29
109	Modular aspects of kinesin force generation machinery. <i>Biophysical Journal</i> , 2013 , 104, 1969-78	2.9	29
108	Numerical simulation of enhanced external counterpulsation. <i>Annals of Biomedical Engineering</i> , 2001 , 29, 284-97	4.7	29
107	A 3D microvascular network model to study the impact of hypoxia on the extravasation potential of breast cell lines. <i>Scientific Reports</i> , 2018 , 8, 17949	4.9	29
106	Epithelial-Mesenchymal Transition Induces Podocalyxin to Promote Extravasation via Ezrin Signaling. <i>Cell Reports</i> , 2018 , 24, 962-972	10.6	28
105	USNCTAM perspectives on mechanics in medicine. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20140301	4.0	28
104	Extracellular matrix heterogeneity regulates three-dimensional morphologies of breast adenocarcinoma cell invasion. <i>Advanced Healthcare Materials</i> , 2013 , 2, 790-4	10.1	28
103	Impact of dimensionality and network disruption on microrheology of cancer cells in 3D environments. <i>PLoS Computational Biology</i> , 2014 , 10, e1003959	5	28
102	Dynamic role of cross-linking proteins in actin rheology. <i>Biophysical Journal</i> , 2011 , 101, 1597-603	2.9	28
101	ADAM8 expression in breast cancer derived brain metastases: Functional implications on MMP-9 expression and transendothelial migration in breast cancer cells. <i>International Journal of Cancer</i> , 2018 , 142, 779-791	7.5	27
100	Balance of interstitial flow magnitude and vascular endothelial growth factor concentration modulates three-dimensional microvascular network formation. <i>APL Bioengineering</i> , 2019 , 3, 036102	6.6	27
99	Molecular Biomechanics: The Molecular Basis of How Forces Regulate Cellular Function. <i>Cellular and Molecular Bioengineering</i> , 2010 , 3, 91-105	3.9	27
98	Biology and Models of the Blood-Brain Barrier. <i>Annual Review of Biomedical Engineering</i> , 2021 , 23, 359-384	3.4	27
97	Endothelial monolayer permeability under controlled oxygen tension. <i>Integrative Biology (United Kingdom)</i> , 2017 , 9, 529-538	3.7	26
96	Multiscale impact of nucleotides and cations on the conformational equilibrium, elasticity and rheology of actin filaments and crosslinked networks. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 1143-55	3.8	26
95	Probabilistic Voxel-Fe model for single cell motility in 3D 2014 , 1, 2		26
94	Concentration gradients in microfluidic 3D matrix cell culture systems. <i>International Journal of Micro-nano Scale Transport</i> , 2010 , 1, 27-36		26
93	Cell adhesion during bullet motion in capillaries. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2016 , 311, H395-403	5.2	25

92	Balance of mechanical forces drives endothelial gap formation and may facilitate cancer and immune-cell extravasation. <i>PLoS Computational Biology</i> , 2019 , 15, e1006395	5	23
91	A three-dimensional microfluidic tumor cell migration assay to screen the effect of anti-migratory drugs and interstitial flow. <i>Microfluidics and Nanofluidics</i> , 2013 , 14, 969-981	2.8	23
90	Constructive remodeling of a synthetic endothelial extracellular matrix. <i>Scientific Reports</i> , 2015 , 5, 18290	4.9	23
89	Application of Transmural Flow Across In Vitro Microvasculature Enables Direct Sampling of Interstitial Therapeutic Molecule Distribution. <i>Small</i> , 2019 , 15, e1902393	11	22
88	Modeling the Blood-Brain Barrier in a 3D triple co-culture microfluidic system. <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, 338-41	0.9	22
87	Receptor-based differences in human aortic smooth muscle cell membrane stiffness. <i>Hypertension</i> , 2001 , 38, 1158-61	8.5	22
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1 Neurovascular models for organ-on-a-chips. *In Vitro Models*, 1