

Roger D Kamm

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227
papers

20,815
citations

78
h-index

140
g-index

237
ext. papers

24,128
ext. citations

7.8
avg, IF

7.14
L-index

#	Paper	IF	Citations
227	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
226	Lamin A/C deficiency causes defective nuclear mechanics and mechanotransduction. <i>Journal of Clinical Investigation</i> , 2004 , 113, 370-378	15.9	712
225	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
224	Local myocardial insulin-like growth factor 1 (IGF-1) delivery with biotinylated peptide nanofibers improves cell therapy for myocardial infarction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 8155-60	11.5	517
223	Injectable self-assembling peptide nanofibers create intramyocardial microenvironments for endothelial cells. <i>Circulation</i> , 2005 , 111, 442-50	16.7	514
222	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
221	The impact of calcification on the biomechanical stability of atherosclerotic plaques. <i>Circulation</i> , 2001 , 103, 1051-6	16.7	473
220	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
219	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
218	Cell mechanics and mechanotransduction: pathways, probes, and physiology. <i>American Journal of Physiology - Cell Physiology</i> , 2004 , 287, C1-11	5.4	404
217	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
216	A microfluidic 3D in vitro model for specificity of breast cancer metastasis to bone. <i>Biomaterials</i> , 2014 , 35, 2454-61	15.6	354
215	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
214	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
213	Impact of the physical microenvironment on tumor progression and metastasis. <i>Current Opinion in Biotechnology</i> , 2016 , 40, 41-48	11.4	295
212	Endothelial cells promote cardiac myocyte survival and spatial reorganization: implications for cardiac regeneration. <i>Circulation</i> , 2004 , 110, 962-8	16.7	295
211	Mechanotransduction through growth-factor shedding into the extracellular space. <i>Nature</i> , 2004 , 429, 83-6	50.4	277

210	Left-Handed Helical Ribbon Intermediates in the Self-Assembly of a β -Sheet Peptide. <i>Nano Letters</i> , 2002 , 2, 295-299	11.5	276
209	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
208	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
207	Self-assembly of a beta-sheet protein governed by relief of electrostatic repulsion relative to van der Waals attraction. <i>Biomacromolecules</i> , 2000 , 1, 627-31	6.9	238
206	On the mechanism of mucosal folding in normal and asthmatic airways. <i>Journal of Applied Physiology</i> , 1997 , 83, 1814-21	3.7	230
205	Profiling of PD-1 Blockade Using Organotypic Tumor Spheroids. <i>Cancer Discovery</i> , 2018 , 8, 196-215	24.4	228
204	Control of self-assembling oligopeptide matrix formation through systematic variation of amino acid sequence. <i>Biomaterials</i> , 2002 , 23, 219-27	15.6	226
203	Noncontact three-dimensional mapping of intracellular hydromechanical properties by Brillouin microscopy. <i>Nature Methods</i> , 2015 , 12, 1132-4	21.6	223
202	Computational model for cell migration in three-dimensional matrices. <i>Biophysical Journal</i> , 2005 , 89, 1389-97	2.9	211
201	Computational modeling of cardiovascular response to orthostatic stress. <i>Journal of Applied Physiology</i> , 2002 , 92, 1239-54	3.7	202
200	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
199	Formation and optogenetic control of engineered 3D skeletal muscle bioactuators. <i>Lab on A Chip</i> , 2012 , 12, 4976-85	7.2	198
198	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
197	Microfluidic models of vascular functions. <i>Annual Review of Biomedical Engineering</i> , 2012 , 14, 205-30	12	184
196	Microfluidic platforms for mechanobiology. <i>Lab on A Chip</i> , 2013 , 13, 2252-67	7.2	180
195	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
194	In vitro model of tumor cell extravasation. <i>PLoS ONE</i> , 2013 , 8, e56910	3.7	173
193	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

192	Self-assembling short oligopeptides and the promotion of angiogenesis. <i>Biomaterials</i> , 2005 , 26, 4837-4615.6	15.6	164
191	Kinetic control of dimer structure formation in amyloid fibrillogenesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 12916-21	11.5	160
190	Transport-mediated angiogenesis in 3D epithelial coculture. <i>FASEB Journal</i> , 2009 , 23, 2155-64	0.9	158
189	A three-dimensional viscoelastic model for cell deformation with experimental verification. <i>Biophysical Journal</i> , 2003 , 85, 3336-49	2.9	157
188	Mechanotransduction in cardiac myocytes. <i>Annals of the New York Academy of Sciences</i> , 2004 , 1015, 53-70.5	7.5	153
187	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
186	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
185	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
184	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
183	Tumor cell migration in complex microenvironments. <i>Cellular and Molecular Life Sciences</i> , 2013 , 70, 1335-1363	16.3	143
182	Microfluidic device for the formation of optically excitable, three-dimensional, compartmentalized motor units. <i>Science Advances</i> , 2016 , 2, e1501429	14.3	138
181	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
180	Force-induced activation of talin and its possible role in focal adhesion mechanotransduction. <i>Journal of Biomechanics</i> , 2007 , 40, 2096-106	2.9	131
179	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
178	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
177	Computational analysis of viscoelastic properties of crosslinked actin networks. <i>PLoS Computational Biology</i> , 2009 , 5, e1000439	5	124
176	Screening therapeutic EMT blocking agents in a three-dimensional microenvironment. <i>Integrative Biology (United Kingdom)</i> , 2013 , 5, 381-9	3.7	123
175	Warburg metabolism in tumor-conditioned macrophages promotes metastasis in human pancreatic ductal adenocarcinoma. <i>Oncotmunology</i> , 2016 , 5, e1191731	7.2	122

174	Microfluidics: A new tool for modeling cancer-immune interactions. <i>Trends in Cancer</i> , 2016 , 2, 6-19	12.5	122
173	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
172	A 3D microfluidic model for preclinical evaluation of TCR-engineered T cells against solid tumors. <i>JCI Insight</i> , 2017 , 2,	9.9	113
171	Microfluidic devices for studying heterotypic cell-cell interactions and tissue specimen cultures under controlled microenvironments. <i>Biomicrofluidics</i> , 2011 , 5, 13406	3.2	108
170	Cellular fluid mechanics and mechanotransduction. <i>Annals of Biomedical Engineering</i> , 2005 , 33, 1719-23	4.7	108
169	Unsteady flow in a collapsible tube subjected to external pressure or body forces. <i>Journal of Fluid Mechanics</i> , 1979 , 95, 1-78	3.7	105
168	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
167	Elucidation of the Roles of Tumor Integrin β in the Extravasation Stage of the Metastasis Cascade. <i>Cancer Research</i> , 2016 , 76, 2513-24	10.1	103
166	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
165	Complex mechanics of the heterogeneous extracellular matrix in cancer. <i>Extreme Mechanics Letters</i> , 2018 , 21, 25-34	3.9	100
164	A quantitative microfluidic angiogenesis screen for studying anti-angiogenic therapeutic drugs. <i>Lab on A Chip</i> , 2015 , 15, 301-10	7.2	94
163	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
162	Supramolecular structure of helical ribbons self-assembled from a β -sheet peptide. <i>Journal of Chemical Physics</i> , 2003 , 118, 389-397	3.9	91
161	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
160	Stress transmission in the lung: pathways from organ to molecule. <i>Annual Review of Physiology</i> , 2006 , 68, 507-41	23.1	90
159	Mechanical deformation of neutrophils into narrow channels induces pseudopod projection and changes in biomechanical properties. <i>Journal of Applied Physiology</i> , 2005 , 98, 1930-9	3.7	89
158	Engineered 3D vascular and neuronal networks in a microfluidic platform. <i>Scientific Reports</i> , 2018 , 8, 5168	4.9	87
157	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

156	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
155	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
154	A Chemomechanical Model for Nuclear Morphology and Stresses during Cell Transendothelial Migration. <i>Biophysical Journal</i> , 2016 , 111, 1541-1552	2.9	82
153	Advances in on-chip vascularization. <i>Regenerative Medicine</i> , 2017 , 12, 285-302	2.5	81
152	Breast Cancer Cell Invasion into a Three Dimensional Tumor-Stroma Microenvironment. <i>Scientific Reports</i> , 2016 , 6, 34094	4.9	81
151	Mechanical properties of a self-assembling oligopeptide matrix. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1998 , 9, 297-312	3.5	80
150	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
149	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
148	Ensemble analysis of angiogenic growth in three-dimensional microfluidic cell cultures. <i>PLoS ONE</i> , 2012 , 7, e37333	3.7	78
147	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
146	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
145	Surface-treatment-induced three-dimensional capillary morphogenesis in a microfluidic platform. <i>Advanced Materials</i> , 2009 , 21, 4863-7	24	77
144	Creating living cellular machines. <i>Annals of Biomedical Engineering</i> , 2014 , 42, 445-59	4.7	75
143	Perspective: The promise of multi-cellular engineered living systems. <i>APL Bioengineering</i> , 2018 , 2, 040906.6	6.6	74
142	Effects of systematic variation of amino acid sequence on the mechanical properties of a self-assembling, oligopeptide biomaterial. <i>Journal of Biomaterials Science, Polymer Edition</i> , 2002 , 13, 225-36	3.5	70
141	Neutrophil transit times through pulmonary capillaries: the effects of capillary geometry and fMLP-stimulation. <i>Biophysical Journal</i> , 2002 , 83, 1917-33	2.9	70
140	Computational modeling of RBC and neutrophil transit through the pulmonary capillaries. <i>Journal of Applied Physiology</i> , 2001 , 90, 545-64	3.7	69
139	Simultaneous or Sequential Orthogonal Gradient Formation in a 3D Cell Culture Microfluidic Platform. <i>Small</i> , 2016 , 12, 612-22	11	69

138	Dynamic interplay between tumour, stroma and immune system can drive or prevent tumour progression. <i>Convergent Science Physical Oncology</i> , 2017 , 3,		68
137	Engineering of in vitro 3D capillary beds by self-directed angiogenic sprouting. <i>PLoS ONE</i> , 2012 , 7, e50582	3.7	67
136	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
135	Differentiation of embryonic stem cells into cardiomyocytes in a compliant microfluidic system. <i>Annals of Biomedical Engineering</i> , 2011 , 39, 1840-7	4.7	66
134	Mechanical analysis of atherosclerotic plaques based on optical coherence tomography. <i>Annals of Biomedical Engineering</i> , 2004 , 32, 1494-503	4.7	66
133	Hot embossing for fabrication of a microfluidic 3D cell culture platform. <i>Biomedical Microdevices</i> , 2011 , 13, 325-33	3.7	62
132	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
131	Oxygen levels in thermoplastic microfluidic devices during cell culture. <i>Lab on A Chip</i> , 2014 , 14, 459-62	7.2	61
130	Airway wall mechanics. <i>Annual Review of Biomedical Engineering</i> , 1999 , 1, 47-72	12	61
129	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
128	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
127	In Vitro Microfluidic Models for Neurodegenerative Disorders. <i>Advanced Healthcare Materials</i> , 2018 , 7, 1700489	10.1	59
126	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
125	Three-dimensional cellular deformation analysis with a two-photon magnetic manipulator workstation. <i>Biophysical Journal</i> , 2002 , 82, 2211-23	2.9	58
124	Engineering a 3D microfluidic culture platform for tumor-treating field application. <i>Scientific Reports</i> , 2016 , 6, 26584	4.9	57
123	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
122	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
121	Single-Cell Migration in Complex Microenvironments: Mechanics and Signaling Dynamics. <i>Journal of Biomechanical Engineering</i> , 2016 , 138, 021004	2.1	54

120	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
119	Rethinking organoid technology through bioengineering. <i>Nature Materials</i> , 2021 , 20, 145-155	27	52
118	Dynamic mechanisms of cell rigidity sensing: insights from a computational model of actomyosin networks. <i>PLoS ONE</i> , 2012 , 7, e49174	3.7	51
117	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
116	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
115	Passive and active microrheology for cross-linked F-actin networks in vitro. <i>Acta Biomaterialia</i> , 2010 , 6, 1207-18	10.8	48
114	Cell Invasion Dynamics into a Three Dimensional Extracellular Matrix Fibre Network. <i>PLoS Computational Biology</i> , 2015 , 11, e1004535	5	48
113	Microfluidic models for adoptive cell-mediated cancer immunotherapies. <i>Drug Discovery Today</i> , 2016 , 21, 1472-1478	8.8	48
112	In Vitro Modeling of Mechanics in Cancer Metastasis. <i>ACS Biomaterials Science and Engineering</i> , 2018 , 4, 294-301	5.5	45
111	Nuclear mechanics and methods. <i>Methods in Cell Biology</i> , 2007 , 83, 269-94	1.8	45
110	models of molecular and nano-particle transport across the blood-brain barrier. <i>Biomicrofluidics</i> , 2018 , 12, 042213	3.2	45
109	Dynamic filopodial forces induce accumulation, damage, and plastic remodeling of 3D extracellular matrices. <i>PLoS Computational Biology</i> , 2019 , 15, e1006684	5	43
108	Biomechanical Regulation of Endothelium-dependent Events Critical for Adaptive Remodeling. <i>Journal of Biological Chemistry</i> , 2009 , 284, 8412-20	5.4	43
107	Atomistic simulation approach to a continuum description of self-assembled beta-sheet filaments. <i>Biophysical Journal</i> , 2006 , 90, 2510-24	2.9	43
106	Influence of protein corona and caveolae-mediated endocytosis on nanoparticle uptake and transcytosis. <i>Nanoscale</i> , 2018 , 10, 12386-12397	7.7	42
105	Microvessel Growth and Remodeling within a Three-dimensional Microfluidic Environment. <i>Cellular and Molecular Bioengineering</i> , 2014 , 7, 15-25	3.9	42
104	Synergistic effects of tethered growth factors and adhesion ligands on DNA synthesis and function of primary hepatocytes cultured on soft synthetic hydrogels. <i>Biomaterials</i> , 2010 , 31, 4657-71	15.6	42
103	Interstitial flow promotes macrophage polarization toward an M2 phenotype. <i>Molecular Biology of the Cell</i> , 2018 , 29, 1927-1940	3.5	41

102	Cytoskeletal remodeling and cellular activation during deformation of neutrophils into narrow channels. <i>Journal of Applied Physiology</i> , 2005 , 99, 2323-30	3.7	41
101	Mucosal folding in biologic vessels. <i>Journal of Biomechanical Engineering</i> , 2002 , 124, 334-41	2.1	39
100	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
99	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
98	Crosstalk between developing vasculature and optogenetically engineered skeletal muscle improves muscle contraction and angiogenesis. <i>Biomaterials</i> , 2018 , 156, 65-76	15.6	38
97	Endothelial Regulation of Drug Transport in a 3D Vascularized Tumor Model. <i>Advanced Functional Materials</i> , 2020 , 30, 2002444	15.6	37
96	Cooperative Effects of Vascular Angiogenesis and Lymphangiogenesis. <i>Regenerative Engineering and Translational Medicine</i> , 2018 , 4, 120-132	2.4	35
95	A Facile Method to Probe the Vascular Permeability of Nanoparticles in Nanomedicine Applications. <i>Scientific Reports</i> , 2017 , 7, 707	4.9	34
94	Microfabrication and microfluidics for muscle tissue models. <i>Progress in Biophysics and Molecular Biology</i> , 2014 , 115, 279-93	4.7	34
93	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
92	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. <i>Science Translational Medicine</i> , 2019 , 11,	17.5	32
91	A low resistance microfluidic system for the creation of stable concentration gradients in a defined 3D microenvironment. <i>Biomedical Microdevices</i> , 2010 , 12, 1027-41	3.7	31
90	Quantification of human neuromuscular function through optogenetics. <i>Theranostics</i> , 2019 , 9, 1232-1246	62.1	30
89	The Use of Microfluidic Platforms to Probe the Mechanism of Cancer Cell Extravasation. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1901410	10.1	30
88	Morphological Transformation and Force Generation of Active Cytoskeletal Networks. <i>PLoS Computational Biology</i> , 2017 , 13, e1005277	5	29
87	Multiscale mechanobiology: computational models for integrating molecules to multicellular systems. <i>Integrative Biology (United Kingdom)</i> , 2015 , 7, 1093-108	3.7	29
86	Numerical simulation of enhanced external counterpulsation. <i>Annals of Biomedical Engineering</i> , 2001 , 29, 284-97	4.7	29
85	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

84	Epithelial-Mesenchymal Transition Induces Podocalyxin to Promote Extravasation via Ezrin Signaling. <i>Cell Reports</i> , 2018 , 24, 962-972	10.6	28
83	USNCTAM perspectives on mechanics in medicine. <i>Journal of the Royal Society Interface</i> , 2014 , 11, 20140301	4.01	28
82	Extracellular matrix heterogeneity regulates three-dimensional morphologies of breast adenocarcinoma cell invasion. <i>Advanced Healthcare Materials</i> , 2013 , 2, 790-4	10.1	28
81	Impact of dimensionality and network disruption on microrheology of cancer cells in 3D environments. <i>PLoS Computational Biology</i> , 2014 , 10, e1003959	5	28
80	Dynamic role of cross-linking proteins in actin rheology. <i>Biophysical Journal</i> , 2011 , 101, 1597-603	2.9	28
79	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
78	A microfluidic system with optical laser tweezers to study mechanotransduction and focal adhesion recruitment. <i>Lab on A Chip</i> , 2011 , 11, 684-94	7.2	27
77	Molecular Biomechanics: The Molecular Basis of How Forces Regulate Cellular Function. <i>Cellular and Molecular Bioengineering</i> , 2010 , 3, 91-105	3.9	27
76	Biology and Models of the Blood-Brain Barrier. <i>Annual Review of Biomedical Engineering</i> , 2021 , 23, 359-384	3.4	27
75	Endothelial monolayer permeability under controlled oxygen tension. <i>Integrative Biology (United Kingdom)</i> , 2017 , 9, 529-538	3.7	26
74	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
73	Probabilistic Voxel-FE model for single cell motility in 3D 2014 , 1, 2		26
72	Fast fluorescence laser tracking microrheometry, II: quantitative studies of cytoskeletal mechanotransduction. <i>Biophysical Journal</i> , 2008 , 95, 895-909	2.9	26
71	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
70	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
69	Constructive remodeling of a synthetic endothelial extracellular matrix. <i>Scientific Reports</i> , 2015 , 5, 18290	4.9	23
68	Application of Transmural Flow Across In Vitro Microvasculature Enables Direct Sampling of Interstitial Therapeutic Molecule Distribution. <i>Small</i> , 2019 , 15, e1902393	11	22
67	A microfluidic platform for studying the effects of small temperature gradients in an incubator environment. <i>Biomicrofluidics</i> , 2008 , 2, 34106	3.2	21

66	In vitro angiogenesis assay for the study of cell-encapsulation therapy. <i>Lab on A Chip</i> , 2012 , 12, 2942-50	7.2	20
65	Cytoskeletal Deformation at High Strains and the Role of Cross-link Unfolding or Unbinding. <i>Cellular and Molecular Bioengineering</i> , 2009 , 2, 28-38	3.9	19
64	Fast fluorescence laser tracking microrheometry. I: instrument development. <i>Biophysical Journal</i> , 2008 , 94, 1459-69	2.9	19
63	Effects of 3D geometries on cellular gradient sensing and polarization. <i>Physical Biology</i> , 2016 , 13, 036008		18
62	Complementary effects of ciclopirox olamine, a prolyl hydroxylase inhibitor and sphingosine 1-phosphate on fibroblasts and endothelial cells in driving capillary sprouting. <i>Integrative Biology (United Kingdom)</i> , 2013 , 5, 1474-84	3.7	17
61	Microfluidic platform for three-dimensional cell culture under spatiotemporal heterogeneity of oxygen tension. <i>APL Bioengineering</i> , 2020 , 4, 016106	6.6	15
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