Roger D Kamm

List of Publications by Year
in descending order

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228 papers	26,820 citations	4388 86 h-index	6836 155 g-index
237 all docs	237 docs citations	237 times ranked	25292 citing authors

#	Article	IF	Citations
1	Physiologic flow-conditioning limits vascular dysfunction in engineered human capillaries. Biomaterials, 2022, 280, 121248.	11.4	23
2	Microphysiological Neurovascular Barriers to Model the Inner Retinal Microvasculature. Journal of Personalized Medicine, 2022, 12, 148.	2.5	8
3	A computational modeling of invadopodia protrusion into an extracellular matrix fiber network. Scientific Reports, 2022, 12, 1231.	3.3	7
4	Engineered human bloodâ€“brain barrier microfluidic model for vascular permeability analyses. Nature Protocols, 2022, 17, 95-128.	12.0	79
5	Principles for the design of multicellular engineered living systems. APL Bioengineering, 2022, 6, 010903.	6.2	17
6	A Robust Method for Perfusable Microvascular Network Formation In Vitro. Small Methods, 2022, 6, e2200143.	8.6	23
7	A predictive microfluidic model of human glioblastoma to assess trafficking of bloodâ€“brain barrier-penetrant nanoparticles. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	46
8	Triâ€culture of spatially organizing human skeletal muscle cells, endothelial cells, and fibroblasts enhances contractile force and vascular perfusion of skeletal muscle tissues. FASEB Journal, 2022, 36, .	0.5	6
9	Integrating functional vasculature into organoid culture: A biomechanical perspective. APL Bioengineering, 2022, 6, .	6.2	6
10	In Pursuit of Designing Multicellular Engineered Living Systems: A Fluid Mechanical Perspective. Annual Review of Fluid Mechanics, 2021, 53, 411-437.	25.0	6
11	The effects of luminal and trans-endothelial fluid flows on the extravasation and tissue invasion of tumor cells in a 3D in vitro microvascular platform. Biomaterials, 2021, 265, 120470.	11.4	39
12	Rethinking organoid technology through bioengineering. Nature Materials, 2021, 20, 145-155.	27.5	150
13	A novel 3D vascular assay for evaluating angiogenesis across porous membranes. Biomaterials, 2021, 268, 120592.	11.4	14
14	Vascularized organoids on a chip: strategies for engineering organoids with functional vasculature. Lab on A Chip, 2021, 21, 473-488.	6.0	151
15	The cancer glycocalyx mediates intravascular adhesion and extravasation during metastatic dissemination. Communications Biology, 2021, 4, 255.	4.4	34
16	Tumor cell nuclei soften during transendothelial migration. Journal of Biomechanics, 2021, 121, 110400.	2.1	42
17	The CCL2-CCR2 astrocyte-cancer cell axis in tumor extravasation at the brain. Science Advances, 2021, 7, .	10.3	40
18	Biology and Models of the Bloodâ€“Brain Barrier. Annual Review of Biomedical Engineering, 2021, 23, 359-384.	12.3	68

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19	The driving role of the Cdk5/Tln1/FAKS732 axis in cancer cell extravasation dissected by human vascularized microfluidic models. Biomaterials, 2021, 276, 120975.	11.4	16
20	Bioengineered optogenetic model of human neuromuscular junction. Biomaterials, 2021, 276, 121033.	11.4	20
21	A robust vasculogenic microfluidic model using human immortalized endothelial cells and Thy1 positive fibroblasts. Biomaterials, 2021, 276, 121032.	11.4	27
22	Engineering approaches for studying immune-tumor cell interactions and immunotherapy. IScience, 2021, 24, 101985.	4.1	52
23	InÂvitro, primarily microfluidic models for atherosclerosis. , 2021, , 299-313.		1
24	Microphysiological models of neurological disorders for drug development. Current Opinion in Biomedical Engineering, 2020, 13, 119-126.	3.4	18
25	Tumor-Derived cGAMP Regulates Activation of the Vasculature. Frontiers in Immunology, 2020, 11, 2090.	4.8	37
26	Endothelial Regulation of Drug Transport in a 3D Vascularized Tumor Model. Advanced Functional Materials, 2020, 30, 2002444.	14.9	78
27	Microfluidic platform for three-dimensional cell culture under spatiotemporal heterogeneity of oxygen tension. APL Bioengineering, 2020, 4, 016106.	6.2	34
28	In vitro microfluidic modelling of the human blood-brain-barrier microvasculature and testing of nanocarrier transport. Biomedical Science and Engineering, 2020, 3, .	0.0	0
29	On-chip 3D neuromuscular model for drug screening and precision medicine in neuromuscular disease. Nature Protocols, 2020, 15, 421-449.	12.0	93
30	The Use of Microfluidic Platforms to Probe the Mechanism of Cancer Cell Extravasation. Advanced Healthcare Materials, 2020, 9, e1901410.	7.6	45
31	Cysteine cathepsins are altered by flow within an engineered in vitro microvascular niche. APL Bioengineering, 2020, 4, 046102.	6.2	7
32	Models for Monocytic Cells in the Tumor Microenvironment. Advances in Experimental Medicine and Biology, 2020, 1224, 87-115.	1.6	8
33	Studying nucleicÂenvelope and plasma membrane mechanics of eukaryotic cells using confocal reflectance interferometric microscopy. Nature Communications, 2019, 10, 3652.	12.8	20
34	Balance of interstitial flow magnitude and vascular endothelial growth factor concentration modulates three-dimensional microvascular network formation. APL Bioengineering, 2019, 3, 036102.	6.2	63
35	Application of Transmural Flow Across In Vitro Microvasculature Enables Direct Sampling of Interstitial Therapeutic Molecule Distribution. Small, 2019, 15, e1902393.	10.0	37
36	Quantitative screening of the effects of hyper-osmotic stress on cancer cells cultured in 2- or 3-dimensional settings. Scientific Reports, 2019, 9, 13782.	3.3	23

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37	Balance of mechanical forces drives endothelial gap formation and may facilitate cancer and immune-cell extravasation. PLoS Computational Biology, 2019, 15, e1006395.	3.2	53
38	Self-organization of hepatocyte morphogenesis depending on the size of collagen microbeads relative to hepatocytes. Biofabrication, 2019, 11, 035007.	7.1	7
39	Migration of vascular endothelial cells in monolayers under hypoxic exposure. Integrative Biology (United Kingdom), 2019, 11, 26-35.	1.3	20
40	Phthalimide Derivative Shows Anti-angiogenic Activity in a 3D Microfluidic Model and No Teratogenicity in Zebrafish Embryos. Frontiers in Pharmacology, 2019, 10, 349.	3.5	20
41	Dynamic filopodial forces induce accumulation, damage, and plastic remodeling of 3D extracellular matrices. PLoS Computational Biology, 2019, 15, e1006684.	3.2	74
42	Quantification of human neuromuscular function through optogenetics. Theranostics, 2019, 9, 1232-1246.	10.0	44
43	Platelet decoys inhibit thrombosis and prevent metastatic tumor formation in preclinical models. Science Translational Medicine, 2019, 11, .	12.4	55
44	Biohybrid valveless pump-bot powered by engineered skeletal muscle. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 1543-1548.	7.1	67
45	Construction of Continuous Capillary Networks Stabilized by Pericyte-like Perivascular Cells. Tissue Engineering - Part A, 2019, 25, 499-510.	3.1	40
46	Mentoring and Education: A Lifetime of Experience and Learning. Journal of Biomechanical Engineering, 2019, 141, .	1.3	2
47	Complex mechanics of the heterogeneous extracellular matrix in cancer. Extreme Mechanics Letters, 2018, 21, 25-34.	4.1	158
48	Vascularized microfluidic organ-chips for drug screening, disease models and tissue engineering. Current Opinion in Biotechnology, 2018, 52, 116-123.	6.6	95
49	Cell contraction induces long-ranged stress stiffening in the extracellular matrix. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4075-4080.	7.1	231
50	Computational modeling of three-dimensional ECM-rigidity sensing to guide directed cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E390-E399.	7.1	88
51	Cooperative Effects of Vascular Angiogenesis and Lymphangiogenesis. Regenerative Engineering and Translational Medicine, 2018, 4, 120-132.	2.9	51
52	Engineered 3D vascular and neuronal networks in a microfluidic platform. Scientific Reports, 2018, 8, 5168.	3.3	123
53	In Vitro Modeling of Mechanics in Cancer Metastasis. ACS Biomaterials Science and Engineering, 2018, 4, 294-301.	5.2	64
54	In Vitro Microfluidic Models for Neurodegenerative Disorders. Advanced Healthcare Materials, 2018, 7, 1700489.	7.6	98

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55	Ex Vivo Profiling of PD-1 Blockade Using Organotypic Tumor Spheroids. Cancer Discovery, 2018, 8, 196-215.	9.4	392
56	Crosstalk between developing vasculature and optogenetically engineered skeletal muscle improves muscle contraction and angiogenesis. Biomaterials, 2018, 156, 65-76.	11.4	59
57	A 3D microvascular network model to study the impact of hypoxia on the extravasation potential of breast cell lines. Scientific Reports, 2018, 8, 17949.	3.3	62
58	Microphysiological 3D model of amyotrophic lateral sclerosis (ALS) from human iPS-derived muscle cells and optogenetic motor neurons. Science Advances, 2018, 4, eaat5847.	10.3	282
59	Perspective: The promise of multi-cellular engineered living systems. APL Bioengineering, 2018, 2, 040901.	6.2	110
60	Engineered Models of Metastasis with Application to Study Cancer Biomechanics. Advances in Experimental Medicine and Biology, 2018, 1092, 189-207.	1.6	5
61	3D microfluidic ex vivo culture of organotypic tumor spheroids to model immune checkpoint blockade. Lab on A Chip, 2018, 18, 3129-3143.	6.0	185
62	In vitro models of molecular and nano-particle transport across the blood-brain barrier. Biomicrofluidics, 2018, 12, 042213.	2.4	61
63	Interstitial flow promotes macrophage polarization toward an M2 phenotype. Molecular Biology of the Cell, 2018, 29, 1927-1940.	2.1	83
64	Studying TCR T cell anti-tumor activity in a microfluidic intrahepatic tumor model. Methods in Cell Biology, 2018, 146, 199-214.	1.1	9
65	Epithelial-Mesenchymal Transition Induces Podocalyxin to Promote Extravasation via Ezrin Signaling. Cell Reports, 2018, 24, 962-972.	6.4	51
66	3D self-organized microvascular model of the human blood-brain barrier with endothelial cells, pericytes and astrocytes. Biomaterials, 2018, 180, 117-129.	11.4	499
67	Hydrogel-incorporating unit in a well: 3D cell culture for high-throughput analysis. Lab on A Chip, 2018, 18, 2604-2613.	6.0	19
68	Influence of protein corona and caveolae-mediated endocytosis on nanoparticle uptake and transcytosis. Nanoscale, 2018, 10, 12386-12397.	5.6	68
69	Inflamed neutrophils sequestered at entrapped tumor cells via chemotactic confinement promote tumor cell extravasation. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7022-7027.	7.1	132
70	Integrated Analysis of Intracellular Dynamics of MenaINV Cancer Cells in a 3D Matrix. Biophysical Journal, 2017, 112, 1874-1884.	0.5	14
71	Endothelial monolayer permeability under controlled oxygen tension. Integrative Biology (United) Tj ETQq1 1 0.784314 rgBT /Overloc	1.3	37
72	A Facile Method to Probe the Vascular Permeability of Nanoparticles in Nanomedicine Applications. Scientific Reports, 2017, 7, 707.	3.3	49

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73	Emerging Trends in Micro- and Nanoscale Technologies in Medicine: From Basic Discoveries to Translation. ACS Nano, 2017, 11, 5195-5214.	14.6	104
74	On-chip human microvasculature assay for visualization and quantification of tumor cell extravasation dynamics. Nature Protocols, 2017, 12, 865-880.	12.0	297
75	Advances in on-chip vascularization. Regenerative Medicine, 2017, 12, 285-302.	1.7	125
76	A 3D neurovascular microfluidic model consisting of neurons, astrocytes and cerebral endothelial cells as a bloodâ€“brain barrier. Lab on A Chip, 2017, 17, 448-459.	6.0	338
77	Cellular Nanomechanics. Springer Handbooks, 2017, , 1069-1100.	0.6	2
78	Dynamic interplay between tumour, stroma and immune system can drive or prevent tumour progression. Convergent Science Physical Oncology, 2017, 3, 034002.	2.6	114
79	Macrophage-Secreted TNFÎ± and TGFÎ²1 Influence Migration Speed and Persistence of Cancer Cells in 3D Tissue Culture via Independent Pathways. Cancer Research, 2017, 77, 279-290.	0.9	86
80	A 3D microfluidic model for preclinical evaluation of TCR-engineered T cells against solid tumors. JCI Insight, 2017, 2, .	5.0	169
81	Morphological Transformation and Force Generation of Active Cytoskeletal Networks. PLoS Computational Biology, 2017, 13, e1005277.	3.2	48
82	Simultaneous or Sequential Orthogonal Gradient Formation in a 3D Cell Culture Microfluidic Platform. Small, 2016, 12, 612-622.	10.0	83
83	Engineering a 3D microfluidic culture platform for tumor-treating field application. Scientific Reports, 2016, 6, 26584.	3.3	73
84	Constructive remodeling of a synthetic endothelial extracellular matrix. Scientific Reports, 2016, 5, 18290.	3.3	28
85	Microfluidic models for adoptive cell-mediated cancer immunotherapies. Drug Discovery Today, 2016, 21, 1472-1478.	6.4	63
86	Neutrophils Suppress Intraluminal NK Cellâ€“Mediated Tumor Cell Clearance and Enhance Extravasation of Disseminated Carcinoma Cells. Cancer Discovery, 2016, 6, 630-649.	9.4	369
87	A Chemomechanical Model for Nuclear Morphology and Stresses during Cell Transendothelial Migration. Biophysical Journal, 2016, 111, 1541-1552.	0.5	112
88	Microfluidic device for the formation of optically excitable, three-dimensional, compartmentalized motor units. Science Advances, 2016, 2, e1501429.	10.3	192
89	Warburg metabolism in tumor-conditioned macrophages promotes metastasis in human pancreatic ductal adenocarcinoma. OncoImmunology, 2016, 5, e1191731.	4.6	178
90	Effects of 3D geometries on cellular gradient sensing and polarization. Physical Biology, 2016, 13, 036008.	1.8	21

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91	Single-Cell Migration in Complex Microenvironments: Mechanics and Signaling Dynamics. Journal of Biomechanical Engineering, 2016, 138, 021004.	1.3	74
92	Interplay of active processes modulates tension and drives phase transition in self-renewing, motor-driven cytoskeletal networks. Nature Communications, 2016, 7, 10323.	12.8	76
93	Elucidation of the Roles of Tumor Integrin Î²1 in the Extravasation Stage of the Metastasis Cascade. Cancer Research, 2016, 76, 2513-2524.	0.9	129
94	Microfluidics: A New Tool for Modeling Cancerâ€“Immune Interactions. Trends in Cancer, 2016, 2, 6-19.	7.4	163
95	Optogenetic skeletal muscle-powered adaptive biological machines. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3497-3502.	7.1	234
96	Impact of the physical microenvironment on tumor progression and metastasis. Current Opinion in Biotechnology, 2016, 40, 41-48.	6.6	437
97	Breast Cancer Cell Invasion into a Three Dimensional Tumor-Stroma Microenvironment. Scientific Reports, 2016, 6, 34094.	3.3	109
98	Multiscale mechanobiology: computational models for integrating molecules to multicellular systems. Integrative Biology (United Kingdom), 2015, 7, 1093-1108.	1.3	33
99	Multiscale impact of nucleotides and cations on the conformational equilibrium, elasticity and rheology of actin filaments and crosslinked networks. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1143-1155.	2.8	31
100	Noncontact three-dimensional mapping of intracellular hydromechanical properties by Brillouin microscopy. Nature Methods, 2015, 12, 1132-1134.	19.0	326
101	A quantitative microfluidic angiogenesis screen for studying anti-angiogenic therapeutic drugs. Lab on A Chip, 2015, 15, 301-310.	6.0	116
102	Human 3D vascularized organotypic microfluidic assays to study breast cancer cell extravasation. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 214-219.	7.1	616
103	Human Vascular Tissue Models Formed from Human Induced Pluripotent Stem Cell Derived Endothelial Cells. Stem Cell Reviews and Reports, 2015, 11, 511-525.	5.6	107
104	Cell Invasion Dynamics into a Three Dimensional Extracellular Matrix Fibre Network. PLoS Computational Biology, 2015, 11, e1004535.	3.2	60
105	Contact-dependent carcinoma aggregate dispersion by M2a macrophages via ICAM-1 and Î²2 integrin interactions. Oncotarget, 2015, 6, 25295-25307.	1.8	97
106	Identification of drugs as single agents or in combination to prevent carcinoma dissemination in a microfluidic 3D environment. Oncotarget, 2015, 6, 36603-36614.	1.8	57
107	Impact of Dimensionality and Network Disruption on Microrheology of Cancer Cells in 3D Environments. PLoS Computational Biology, 2014, 10, e1003959.	3.2	35
108	Multiscale analysis of cancer cell mechanics. , 2014, , .		0

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109	Creating Living Cellular Machines. Annals of Biomedical Engineering, 2014, 42, 445-459.	2.5	92
110	Quantifying intracellular protein binding thermodynamics during mechanotransduction based on FRET spectroscopy. Methods, 2014, 66, 208-221.	3.8	3
111	A microfluidic 3D inÂvitro model for specificity of breast cancer metastasis to bone. Biomaterials, 2014, 35, 2454-2461.	11.4	440
112	Rapid Prototyping of Concave Microwells for the Formation of 3D Multicellular Cancer Aggregates for Drug Screening. Advanced Healthcare Materials, 2014, 3, 609-616.	7.6	77
113	In Vitro Microvessel Growth and Remodeling within a Three-Dimensional Microfluidic Environment. Cellular and Molecular Bioengineering, 2014, 7, 15-25.	2.1	49
114	Image-based modeling for better understanding and assessment of atherosclerotic plaque progression and vulnerability: Data, modeling, validation, uncertainty and predictions. Journal of Biomechanics, 2014, 47, 834-846.	2.1	59
115	Control of Perfusable Microvascular Network Morphology Using a Multiculture Microfluidic System. Tissue Engineering - Part C: Methods, 2014, 20, 543-552.	2.1	188
116	Oxygen levels in thermoplastic microfluidic devices during cell culture. Lab on A Chip, 2014, 14, 459-462.	6.0	71
117	Validating Antimetastatic Effects of Natural Products in an Engineered Microfluidic Platform Mimicking Tumor Microenvironment. Molecular Pharmaceutics, 2014, 11, 2022-2029.	4.6	40
118	Microfabrication and microfluidics for muscle tissue models. Progress in Biophysics and Molecular Biology, 2014, 115, 279-293.	2.9	43
119	Generation of 3D functional microvascular networks with human mesenchymal stem cells in microfluidic systems. Integrative Biology (United Kingdom), 2014, 6, 555-563.	1.3	195
120	USNCTAM perspectives on mechanics in medicine. Journal of the Royal Society Interface, 2014, 11, 20140301.	3.4	35
121	Mechanotransduction of fluid stresses governs 3D cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2447-2452.	7.1	214
122	Probabilistic Voxel-Fe model for single cell motility in 3D. In Silico Cell and Tissue Science, 2014, 1, 2.	2.6	26
123	A three-dimensional microfluidic tumor cell migration assay to screen the effect of anti-migratory drugs and interstitial flow. Microfluidics and Nanofluidics, 2013, 14, 969-981.	2.2	33
124	Extracellular Matrix Heterogeneity Regulates Threeâ€Dimensional Morphologies of Breast Adenocarcinoma Cell Invasion. Advanced Healthcare Materials, 2013, 2, 790-794.	7.6	33
125	Microfluidic Platforms for Evaluating Angiogenesis and Vasculogenesis. , 2013, , 385-403.		0
126	Mechanisms of tumor cell extravasation in an in vitro microvascular network platform. Integrative Biology (United Kingdom), 2013, 5, 1262.	1.3	244

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127	Screening therapeutic EMT blocking agents in a three-dimensional microenvironment. Integrative Biology (United Kingdom), 2013, 5, 381-389.	1.3	150
128	Complementary effects of ciclopirox olamine, a prolyl hydroxylase inhibitor and sphingosine 1-phosphate on fibroblasts and endothelial cells in driving capillary sprouting. Integrative Biology (United Kingdom), 2013, 5, 1474.	1.3	22
129	Microfluidic Devices for Angiogenesis. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2013, , 93-120.	1.0	2
130	Microfluidic platforms for mechanobiology. Lab on A Chip, 2013, 13, 2252.	6.0	226
131	Tumor cell migration in complex microenvironments. Cellular and Molecular Life Sciences, 2013, 70, 1335-1356.	5.4	183
132	3D matrix microenvironment for targeted differentiation of embryonic stem cells into neural and glial lineages. Biomaterials, 2013, 34, 5995-6007.	11.4	99
133	Mechanical characterization of selfâ€assembling peptide hydrogels by microindentation. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2013, 101B, 981-990.	3.4	15
134	The Stabilization Effect of Mesenchymal Stem Cells on the Formation of Microvascular Networks in a Microfluidic Device. Journal of Biomechanical Science and Engineering, 2013, 8, 114-128.	0.3	14
135	In Vitro Model of Tumor Cell Extravasation. PLoS ONE, 2013, 8, e56910.	2.5	201
136	Three-dimensional microfluidic model for tumor cell intravasation and endothelial barrier function. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13515-13520.	7.1	744
137	Microfluidic Models of Vascular Functions. Annual Review of Biomedical Engineering, 2012, 14, 205-230.	12.3	208
138	A novel microfluidic platform for high-resolution imaging of a three-dimensional cell culture under a controlled hypoxic environment. Lab on A Chip, 2012, 12, 4855.	6.0	134
139	Mechanism of a flow-gated angiogenesis switch: early signaling events at cellâ€“matrix and cellâ€“cell junctions. Integrative Biology (United Kingdom), 2012, 4, 863.	1.3	103
140	Nascent vessel elongation rate is inversely related to diameter in in vitro angiogenesis. Integrative Biology (United Kingdom), 2012, 4, 1081.	1.3	19
141	Three-dimensional extracellular matrix-mediated neural stem cell differentiation in a microfluidic device. Lab on A Chip, 2012, 12, 2305.	6.0	61
142	Formation and optogenetic control of engineered 3D skeletal muscle bioactuators. Lab on A Chip, 2012, 12, 4976.	6.0	253
143	Microfluidic assay for simultaneous culture of multiple cell types on surfaces or within hydrogels. Nature Protocols, 2012, 7, 1247-1259.	12.0	518
144	A versatile assay for monitoring in vivo-like transendothelial migration of neutrophils. Lab on A Chip, 2012, 12, 3861.	6.0	93

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145	In vitro angiogenesis assay for the study of cell-encapsulation therapy. Lab on A Chip, 2012, 12, 2942.	6.0	21
146	Integrating focal adhesion dynamics, cytoskeleton remodeling, and actin motor activity for predicting cell migration on 3D curved surfaces of the extracellular matrix. Integrative Biology (United Kingdom), 2012, 4, 1386.	1.3	48
147	Ensemble Analysis of Angiogenic Growth in Three-Dimensional Microfluidic Cell Cultures. PLoS ONE, 2012, 7, e37333.	2.5	102
148	Dynamic Mechanisms of Cell Rigidity Sensing: Insights from a Computational Model of Actomyosin Networks. PLoS ONE, 2012, 7, e49174.	2.5	57
149	Engineering of In Vitro 3D Capillary Beds by Self-Directed Angiogenic Sprouting. PLoS ONE, 2012, 7, e50582.	2.5	78
150	Interstitial flow influences direction of tumor cell migration through competing mechanisms. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11115-11120.	7.1	412
151	A high-throughput microfluidic assay to study neurite response to growth factor gradients. Lab on A Chip, 2011, 11, 497-507.	6.0	145
152	Sprouting Angiogenesis under a Chemical Gradient Regulated by Interactions with an Endothelial Monolayer in a Microfluidic Platform. Analytical Chemistry, 2011, 83, 8454-8459.	6.5	102
153	Dynamic Role of Cross-Linking Proteins in Actin Rheology. Biophysical Journal, 2011, 101, 1597-1603.	0.5	37
154	Spectrally resolved multidepth fluorescence imaging. Journal of Biomedical Optics, 2011, 16, 096015.	2.6	17
155	A microfluidic system with optical laser tweezers to study mechanotransduction and focal adhesion recruitment. Lab on A Chip, 2011, 11, 684-694.	6.0	33
156	In vitro 3D collective sprouting angiogenesis under orchestrated ANG-1 and VEGF gradients. Lab on A Chip, 2011, 11, 2175.	6.0	142
157	Hot embossing for fabrication of a microfluidic 3D cell culture platform. Biomedical Microdevices, 2011, 13, 325-333.	2.8	83
158	Differentiation of Embryonic Stem Cells into Cardiomyocytes in a Compliant Microfluidic System. Annals of Biomedical Engineering, 2011, 39, 1840-1847.	2.5	77
159	Microfluidic devices for studying heterotypic cell-cell interactions and tissue specimen cultures under controlled microenvironments. Biomicrofluidics, 2011, 5, 013406.	2.4	117
160	Synergistic effects of tethered growth factors and adhesion ligands on DNA synthesis and function of primary hepatocytes cultured on soft synthetic hydrogels. Biomaterials, 2010, 31, 4657-4671.	11.4	43
161	Microfluidic Platforms for Studies of Angiogenesis, Cell Migration, and Cellâ€“Cell Interactions. Annals of Biomedical Engineering, 2010, 38, 1164-1177.	2.5	140
162	Molecular Biomechanics: The Molecular Basis of How Forces Regulate Cellular Function. Cellular and Molecular Bioengineering, 2010, 3, 91-105.	2.1	37

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163	A low resistance microfluidic system for the creation of stable concentration gradients in a defined 3D microenvironment. Biomedical Microdevices, 2010, 12, 1027-1041.	2.8	40
164	Passive and active microrheology for cross-linked F-actin networks in vitro. Acta Biomaterialia, 2010, 6, 1207-1218.	8.3	60
165	Molecular origin of strain softening in cross-linked F-actin networks. Physical Review E, 2010, 82, 011919.	2.1	15
166	Tensegrity as a Mechanism for Integrating Molecular and Cellular Mechanotransduction Mechanisms. , 2009, , 196-219.		2
167	Mechanotransduction through Local Autocrine Signaling. , 2009, , 339-359.		1
168	Transportâ€mediated angiogenesis in 3D epithelial coculture. FASEB Journal, 2009, 23, 2155-2164.	0.5	179
169	Biomechanical Regulation of Endothelium-dependent Events Critical for Adaptive Remodeling. Journal of Biological Chemistry, 2009, 284, 8412-8420.	3.4	44
170	Computational Analysis of Viscoelastic Properties of Crosslinked Actin Networks. PLoS Computational Biology, 2009, 5, e1000439.	3.2	145
171	Surfaceâ€Treatmentâ€Induced Threeâ€Dimensional Capillary Morphogenesis in a Microfluidic Platform. Advanced Materials, 2009, 21, 4863-4867.	21.0	85
172	Cytoskeletal Deformation at High Strains and the Role of Cross-link Unfolding or Unbinding. Cellular and Molecular Bioengineering, 2009, 2, 28-38.	2.1	23
173	Cell migration into scaffolds under co-culture conditions in a microfluidic platform. Lab on A Chip, 2009, 9, 269-275.	6.0	456
174	Elastic deformation and failure in protein filament bundles: Atomistic simulations and coarse-grained modeling. Biomaterials, 2008, 29, 3152-3160.	11.4	9
175	Fast Fluorescence Laser Tracking Microrheometry, I: Instrument Development. Biophysical Journal, 2008, 94, 1459-1469.	0.5	19
176	Fast Fluorescence Laser Tracking Microrheometry, II: Quantitative Studies of Cytoskeletal Mechanotransduction. Biophysical Journal, 2008, 95, 895-909.	0.5	31
177	Measuring molecular rupture forces between single actin filaments and actin-binding proteins. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9221-9226.	7.1	183
178	A microfluidic platform for studying the effects of small temperature gradients in an incubator environment. Biomicrofluidics, 2008, 2, 34106.	2.4	24
179	Nuclear Mechanics and Methods. Methods in Cell Biology, 2007, 83, 269-294.	1.1	56
180	Force-induced activation of Talin and its possible role in focal adhesion mechanotransduction. Journal of Biomechanics, 2007, 40, 2096-2106.	2.1	143

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181	A Coarse-Grained Model for Force-Induced Protein Deformation and Kinetics. Biophysical Journal, 2006, 90, 2686-2697.	0.5	14
182	Atomistic Simulation Approach to a Continuum Description of Self-Assembled Î²-Sheet Filaments. Biophysical Journal, 2006, 90, 2510-2524.	0.5	46
183	Local myocardial insulin-like growth factor 1 (IGF-1) delivery with biotinylated peptide nanofibers improves cell therapy for myocardial infarction. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 8155-8160.	7.1	575
184	Migration of tumor cells in 3D matrices is governed by matrix stiffness along with cell-matrix adhesion and proteolysis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 10889-10894.	7.1	1,029
185	STRESS TRANSMISSION IN THE LUNG: Pathways from Organ to Molecule. Annual Review of Physiology, 2006, 68, 507-541.	13.1	104
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