Jacob Notbohm

List of Publications by Year
in descending order

42 papers	1,494 citations	17 h-index (471509)	36 g-index (345221)
44 all docs	44 docs citations	44 times ranked	1852 citing authors

#	Article	IF	Citations
1	Coordination of contractile tension and cell area changes in an epithelial cell monolayer. Physical Review E, 2022, 105, 024404.	2.1	3
2	Effect of substrate stiffness on friction in collective cell migration. Scientific Reports, 2022, 12, 2474.	3.3	15
3	Identifying Features of Cardiac Disease Phenotypes Based on Mechanical Function in a Catecholaminergic Polymorphic Ventricular Tachycardia Model. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	4.1	2
4	Quantification of Errors in Applying DIC to Fiber Networks Imaged by Confocal Microscopy. Experimental Mechanics, 2022, 62, 1175-1189.	2.0	3
5	Effect of matrix heterogeneity on cell mechanosensing. Soft Matter, 2021, 17, 10263-10273.	2.7	10
6	Directional cues in the tumor microenvironment due to cell contraction against aligned collagen fibers. Acta Biomaterialia, 2021, 129, 96-109.	8.3	30
7	Topological defects in the mesothelium suppress ovarian cancer cell clearance. APL Bioengineering, 2021, 5, 036103.	6.2	11
8	Coordinated tractions increase the size of a collectively moving pack in a cell monolayer. Extreme Mechanics Letters, 2021, 48, 101438.	4.1	11
9	Cells exploit a phase transition to mechanically remodel the fibrous extracellular matrix. Journal of the Royal Society Interface, 2021, 18, 20200823.	3.4	21
10	Spatiotemporal force and motion in collective cell migration. Scientific Data, 2020, 7, 197.	5.3	16
11	Tractions and Stress Fibers Control Cell Shape and Rearrangements in Collective Cell Migration. Physical Review X, 2020, 10, .	8.9	20
12	Length scale dependent elasticity in random three-dimensional fiber networks. Mechanics of Materials, 2019, 138, 103155.	3.2	13
13	Two-Dimensional Culture Systems to Enable Mechanics-Based Assays for Stem Cell-Derived Cardiomyocytes. Experimental Mechanics, 2019, 59, 1235-1248.	2.0	10
14	Modulus of Fibrous Collagen at the Length Scale of a Cell. Experimental Mechanics, 2019, 59, 1323-1334.	2.0	19
15	Biomechanics of Collective Cell Migration in Cancer Progression: Experimental and Computational Methods. ACS Biomaterials Science and Engineering, 2019, 5, 3766-3787.	5.2	34
16	Substrate curvature induces fallopian tube epithelial cell invasion via cellâ€"cell tension in a model of ovarian cortical inclusion cysts. Integrative Biology (United Kingdom), 2019, 11, 342-352.	1.3	12
17	Multiplexed, high-throughput measurements of cell contraction and endothelial barrier function. Laboratory Investigation, 2019, 99, 138-145.	3.7	7
18	The push for a place in the crowd. Nature Physics, 2018, 14, 533-534.	16.7	1

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19	Disease-causing mutation in Î±-actinin-4 promotes podocyte detachment through maladaptation to periodic stretch. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1517-1522.	7.1	51
20	Displacement Propagation in Fibrous Networks Due to Local Contraction. Journal of Biomechanical Engineering, 2018, 140, .	1.3	23
21	Heterogeneity and nonaffinity of cell-induced matrix displacements. Physical Review E, 2018, 98, .	2.1	24
22	Migration and Contraction of Fibroblasts from Normal and Scar Vocal Folds with Applications to Wound Healing. Biophysical Journal, 2018, 114, 517a.	0.5	1
23	Mechanical Response of Fibrous Materials to Local Contractile Loads. Biophysical Journal, 2018, 114, 365a.	0.5	0
24	Two-Dimensional Culture Systems to Investigate Mechanical Interactions of the Cell. Conference Proceedings of the Society for Experimental Mechanics, 2018, , 37-39.	0.5	1
25	Quantification of focal adhesion dynamics of cell movement based on cell-induced collagen matrix deformation using second-harmonic generation microscopy. Journal of Biomedical Optics, 2018, 23, 1.	2.6	5
26	A cytoskeletal clutch mediates cellular force transmission in a soft, three-dimensional extracellular matrix. Molecular Biology of the Cell, 2017, 28, 1959-1974.	2.1	63
27	Quantitative image analysis for investigating cell-matrix interactions. Proceedings of SPIE, 2017, , .	0.8	1
28	Mechanical response of collagen networks to nonuniform microscale loads. Soft Matter, 2017, 13, 5749-5758.	2.7	29
29	Homogenizing cellular tension by hepatocyte growth factor in expanding epithelial monolayer. Scientific Reports, 2017, 7, 45844.	3.3	20
30	Microbuckling of Fibrous Matrices Enables Long Range Cell Mechanosensing. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 135-141.	0.5	1
31	Cellular Contraction and Polarization Drive Collective Cellular Motion. Biophysical Journal, 2016, 110, 2729-2738.	0.5	135
32	Microbuckling of fibrin provides a mechanism for cell mechanosensing. Journal of the Royal Society Interface, 2015, 12, 20150320.	3.4	89
33	Unjamming and cell shape in the asthmatic airwayÂepithelium. Nature Materials, 2015, 14, 1040-1048.	27.5	484
34	Quantifying cell-induced matrix deformation in three dimensions based on imaging matrix fibers. Integrative Biology (United Kingdom), 2015, 7, 1186-1195.	1.3	48
35	A model for compression-weakening materials and the elastic fields due to contractile cells. Journal of the Mechanics and Physics of Solids, 2015, 85, 16-32.	4.8	47
36	Contractile forces regulate cell division in three-dimensional environments. Journal of Cell Biology, 2014, 205, 155-162.	5.2	71

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37	<i>Physiology</i>'s Impact: Applying Mathematics and Advanced Technologies. Physiology, 2013, 28, 363-365.	3.1	0
38	Analysis of nanoindentation of soft materials with an atomic force microscope. Journal of Materials Research, 2012, 27, 229-237.	2.6	44
39	Three-Dimensional Analysis of the Effect of Epidermal Growth Factor on Cell-Cell Adhesion in Epithelial Cell Clusters. Biophysical Journal, 2012, 102, 1323-1330.	0.5	27
40	Three-dimensional Traction Force Microscopy for Studying Cellular Interactions with Biomaterials. Procedia IUTAM, 2012, 4, 144-150.	1.2	5
41	Preventing Nanoscale Wear of Atomic Force Microscopy Tips Through the Use of Monolithic Ultrananocrystalline Diamond Probes. Small, 2010, 6, 1140-1149.	10.0	85
42	Application of 3D Traction Force Microscopy to Mechanotransduction of Cell Clusters. Applied Mechanics and Materials, 0, 70, 21-27.	0.2	1