

Amit Pathak

List of Publications by Year in descending order

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Version: 2024-02-01

27
papers

1,809
citations

516710

16
h-index

610901

24
g-index

33
all docs

33
docs citations

33
times ranked

2763
citing authors

#	ARTICLE	IF	CITATIONS
1	Independent regulation of tumor cell migration by matrix stiffness and confinement. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10334-10339.	7.1	489
2	Microfabricated tissue gauges to measure and manipulate forces from 3D microtissues. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 10097-10102.	7.1	374
3	Biophysical regulation of tumor cell invasion: moving beyond matrix stiffness. Integrative Biology (United Kingdom), 2011, 3, 267.	1.3	179
4	Past matrix stiffness primes epithelial cells and regulates their future collective migration through a mechanical memory. Biomaterials, 2017, 146, 146-155.	11.4	118
5	The simulation of stress fibre and focal adhesion development in cells on patterned substrates. Journal of the Royal Society Interface, 2008, 5, 507-524.	3.4	106
6	DDR2 controls breast tumor stiffness and metastasis by regulating integrin mediated mechanotransduction in CAFs. ELife, 2019, 8, .	6.0	71
7	Three-dimensional finite element simulations of ferroelectric polycrystals under electrical and mechanical loading. Journal of the Mechanics and Physics of Solids, 2008, 56, 663-683.	4.8	60
8	Mechanosensitive transcriptional coactivators MRTF α and YAP/TAZ regulate nucleus pulposus cell phenotype through cell shape. FASEB Journal, 2019, 33, 14022-14035.	0.5	56
9	Transforming potential and matrix stiffness co-regulate confinement sensitivity of tumor cell migration. Integrative Biology (United Kingdom), 2013, 5, 1067.	1.3	54
10	Topographic confinement of epithelial clusters induces epithelial-to-mesenchymal transition in compliant matrices. Scientific Reports, 2016, 6, 18831.	3.3	49
11	Nanoscale Matrix Topography Influences Microscale Cell Motility through Adhesions, Actin Organization, and Cell Shape. ACS Biomaterials Science and Engineering, 2017, 3, 2980-2986.	5.2	31
12	From Molecular Signal Activation to Locomotion: An Integrated, Multiscale Analysis of Cell Motility on Defined Matrices. PLoS ONE, 2011, 6, e18423.	2.5	26
13	An Analysis of the Cooperative Mechano-Sensitive Feedback Between Intracellular Signaling, Focal Adhesion Development, and Stress Fiber Contractility. Journal of Applied Mechanics, Transactions ASME, 2011, 78, .	2.2	25
14	Dynamic self-reinforcement of gene expression determines acquisition of cellular mechanical memory. Biophysical Journal, 2021, 120, 5074-5089.	0.5	23
15	Physical defects in basement membrane-mimicking collagen-IV matrices trigger cellular EMT and invasion. Integrative Biology (United Kingdom), 2018, 10, 342-355.	1.3	22
16	Increased Tissue Stiffness in Tumors from Mice with Neurofibromatosis-1 Optic Glioma. Biophysical Journal, 2017, 112, 1535-1538.	0.5	19
17	Direct Micropatterning of Extracellular Matrix Proteins on Functionalized Polyacrylamide Hydrogels Shows Geometric Regulation of Cell-Cell Junctions. ACS Biomaterials Science and Engineering, 2018, 4, 2340-2349.	5.2	15
18	Simulation of the Mechanical Response of Cells on Micropost Substrates. Journal of Biomechanical Engineering, 2013, 135, 101012.	1.3	14

#	ARTICLE	IF	CITATIONS
19	Scattering of Cell Clusters in Confinement. Biophysical Journal, 2016, 111, 1496-1506.	0.5	14
20	Longer collagen fibers trigger multicellular streaming on soft substrates via enhanced forces and cell-cell cooperation. Journal of Cell Science, 2019, 132, .	2.0	13
21	Structural Mechanics Based Model for the Force-Bearing Elements Within the Cytoskeleton of a Cell Adhered on a Bed of Posts. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	2.2	10
22	Modeling and predictions of biphasic mechanosensitive cell migration altered by cell-intrinsic properties and matrix confinement. Physical Biology, 2018, 15, 065001.	1.8	9
23	Hydrogel-based microchannels to measure confinement- and stiffness-sensitive Yes-associated-protein activity in epithelial clusters. MRS Communications, 2017, 7, 450-457.	1.8	8
24	Predicting Collective Migration of Cell Populations Defined by Varying Repolarization Dynamics. Biophysical Journal, 2018, 115, 2474-2485.	0.5	7
25	A Multiscale Model of Cell Adhesion and Migration on Extracellular Matrices of Defined Stiffness and Adhesivity. , 2011, , .		0
26	Simulations of Cell Behavior on Substrates of Variegated Stiffness and Architecture. , 2013, , 25-41.		0
27	Cellâ€™matrix interactions, force transmission, and mechanosensation. , 2022, , 129-147.		0