

# Shamik Sen

## List of Publications by Year in descending order

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78  
papers

16,311  
citations

212478

28  
h-index

111975

67  
g-index

87  
all docs

87  
docs citations

87  
times ranked

23164  
citing authors

#	ARTICLE	IF	CITATIONS
1	MMP modulated differentiation of mouse embryonic stem cells on engineered cell derived matrices. <i>Biomaterials</i> , 2022, 280, 121268.	5.7	3
2	Geometry of a DNA Nanostructure Influences Its Endocytosis: Cellular Study on 2D, 3D, and <i>in Vivo</i> Systems. <i>ACS Nano</i> , 2022, 16, 10496-10508.	7.3	42
3	Palpation Sensitivity of an Embedded Nodule Using the Finite Element Method. <i>Journal of Engineering and Science in Medical Diagnostics and Therapy</i> , 2021, 4, .	0.3	0
4	Fabrication of a microfluidic device for studying the combinatorial effect of physical and chemical cues on cell migration. <i>STAR Protocols</i> , 2021, 2, 100310.	0.5	3
5	Measuring microenvironment-tuned nuclear stiffness of cancer cells with atomic force microscopy. <i>STAR Protocols</i> , 2021, 2, 100296.	0.5	5
6	Glycocalyx disruption enhances motility, proliferation and collagen synthesis in diabetic fibroblasts. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2021, 1868, 118955.	1.9	2
7	Combined heterogeneity in cell size and deformability promotes cancer invasiveness. <i>Journal of Cell Science</i> , 2021, 134, .	1.2	20
8	High ligand density drives extensive spreading and motility on soft GelMA gels. <i>Biomedical Materials (Bristol)</i> , 2021, 16, 054103.	1.7	5
9	ECM stiffness-tuned exosomes drive breast cancer motility through thrombospondin-1. <i>Biomaterials</i> , 2021, 279, 121185.	5.7	54
10	Î±-Actinin-4 drives invasiveness by regulating myosin IIB expression and myosin IIA localization. <i>Journal of Cell Science</i> , 2021, 134, .	1.2	7
11	Chemical evidence of preserved collagen in 54-million-year-old fish vertebrae. <i>Palaeontology</i> , 2020, 63, 195-202.	1.0	9
12	Nuclear plasticity increases susceptibility to damage during confined migration. <i>PLoS Computational Biology</i> , 2020, 16, e1008300.	1.5	14
13	Fmn2 Regulates Growth Cone Motility by Mediating a Molecular Clutch to Generate Traction Forces. <i>Neuroscience</i> , 2020, 448, 160-171.	1.1	11
14	Coumarin-Calix[4]arene Conjugate-Anchored SiO <sub>2</sub> Nanoparticles as an Ultrasensor Material for Fe <sup>3+</sup> to Work in Water, in Serum, and in Biological Cells. <i>ACS Omega</i> , 2020, 5, 21288-21299.	1.6	4
15	Evolution of Cell/Substrate Stresses During Confined Interfacial Migration. <i>Biophysical Journal</i> , 2020, 118, 605a.	0.2	0
16	EpCAM-Mediated Cellular Plasticity Promotes Radiation Resistance and Metastasis in Breast Cancer. <i>Frontiers in Cell and Developmental Biology</i> , 2020, 8, 597673.	1.8	13
17	Evolution of Stresses at Cell-Gel Interfaces during Confined Interfacial Migration. <i>Biophysical Journal</i> , 2019, 116, 121a.	0.2	0
18	Silver-Nanoparticle-Entrapped Soft GelMA Gels as Prospective Scaffolds for Wound Healing. <i>ACS Applied Bio Materials</i> , 2019, 2, 1802-1814.	2.3	41

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19	Initial Priming on Soft Substrates Enhances Subsequent Topography-Induced Neuronal Differentiation in ESCs but Not in MSCs. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 180-192.	2.6	14
20	Nuclear softening is essential for protease-independent migration. <i>Matrix Biology</i> , 2019, 82, 4-19.	1.5	34
21	MMP Secretion Rate and Inter-invadopodia Spacing Collectively Govern Cancer Invasiveness. <i>Biophysical Journal</i> , 2018, 114, 650-662.	0.2	51
22	Matrix elasticity regulates mesenchymal stem cell chemotaxis. <i>Journal of Cell Science</i> , 2018, 131, .	1.2	33
23	Engineering interfacial migration by collective tuning of adhesion anisotropy and stiffness. <i>Acta Biomaterialia</i> , 2018, 72, 82-93.	4.1	13
24	±-Actinin-4 confers radioresistance coupled invasiveness in breast cancer cells through AKT pathway. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2018, 1865, 196-208.	1.9	23
25	Soft drug-resistant ovarian cancer cells migrate via two distinct mechanisms utilizing myosin II-based contractility. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2018, 1865, 392-405.	1.9	22
26	Amyloids Are Novel Cell-Adhesive Matrices. <i>Advances in Experimental Medicine and Biology</i> , 2018, 1112, 79-97.	0.8	6
27	Deciphering the mechanism of potent peptidomimetic inhibitors targeting plasmepsins – biochemical and structural insights. <i>FEBS Journal</i> , 2018, 285, 3077-3096.	2.2	11
28	Multicompartment cell-based modeling of confined migration: regulation by cell intrinsic and extrinsic factors. <i>Molecular Biology of the Cell</i> , 2018, 29, 1599-1610.	0.9	17
29	Differential role of nonmuscle myosin II isoforms during blebbing of MCF-7 cells. <i>Molecular Biology of the Cell</i> , 2017, 28, 1034-1042.	0.9	7
30	Biophysical regulation of mouse embryonic stem cell fate and genomic integrity by feeder derived matrices. <i>Biomaterials</i> , 2017, 119, 9-22.	5.7	21
31	MMP proteolytic activity regulates cancer invasiveness by modulating integrins. <i>Scientific Reports</i> , 2017, 7, 14219.	1.6	110
32	Blockade of Rho-associated protein kinase (ROCK) inhibits the contractility and invasion potential of cancer stem like cells. <i>Oncotarget</i> , 2017, 8, 21418-21428.	0.8	24
33	Membrane Vesicles of Group B Streptococcus Disrupt Feto-Maternal Barrier Leading to Preterm Birth. <i>PLoS Pathogens</i> , 2016, 12, e1005816.	2.1	114
34	Proteolytic and non-proteolytic regulation of collective cell invasion: tuning by ECM density and organization. <i>Scientific Reports</i> , 2016, 6, 19905.	1.6	62
35	Cell motility and ECM proteolysis regulate tumor growth and tumor relapse by altering the fraction of cancer stem cells and their spatial scattering. <i>Physical Biology</i> , 2016, 13, 036001.	0.8	11
36	Adhesion of Human Mesenchymal Stem Cells and Differentiation of SH-SY5Y Cells on Amyloid Fibrils. <i>Macromolecular Symposia</i> , 2016, 369, 35-42.	0.4	3

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37	Effect of Branching on Force-Velocity Curves and Length Fluctuations of Actin Networks. Biophysical Journal, 2016, 110, 617a.	0.2	0
38	Coherent Motion of Monolayer Sheets under Active and Passive Confinement: From Build-up to Consequence. Biophysical Journal, 2016, 110, 624a.	0.2	0
39	Cell Adhesion on Amyloid Fibrils Lacking Integrin Recognition Motif. Journal of Biological Chemistry, 2016, 291, 5278-5298.	1.6	49
40	Phosphorylation of Nonmuscle myosin II-A regulatory light chain resists Sendai virus fusion with host cells. Scientific Reports, 2015, 5, 10395.	1.6	14
41	Cadherin-Based Cell-Cell Adhesions: Adhesion Structure, Signalling and Computational Modeling. , 2015, , 151-168.		0
42	Structure based aggregation studies reveal the presence of helix-rich intermediate during $\alpha$ -Synuclein aggregation. Scientific Reports, 2015, 5, 9228.	1.6	172
43	Self healing hydrogels composed of amyloid nano fibrils for cell culture and stem cell differentiation. Biomaterials, 2015, 54, 97-105.	5.7	162
44	Coherent Motion of Monolayer Sheets under Confinement and Its Pathological Implications. PLoS Computational Biology, 2015, 11, e1004670.	1.5	15
45	Probing Cellular Mechanoadaptation Using Cell-Substrate De-Adhesion Dynamics: Experiments and Model. PLoS ONE, 2014, 9, e106915.	1.1	12
46	Branching influences force-velocity curves and length fluctuations in actin networks. Physical Review E, 2014, 90, 062718.	0.8	7
47	Spatial anisotropy and heterogeneity in contractility and adhesion distribution may contribute to cell steering during migration. Applied Physics Letters, 2014, 104, .	1.5	3
48	Cellular mechanoadaptation to substrate mechanical properties: contributions of substrate stiffness and thickness to cell stiffness measurements using AFM. Soft Matter, 2014, 10, 1174.	1.2	35
49	Extracellular matrix density promotes EMT by weakening cell-cell adhesions. Molecular BioSystems, 2014, 10, 838-850.	2.9	93
50	Biophysical Basis of Drug Resistance in Epithelial Ovarian Cancers. Biophysical Journal, 2014, 106, 163a-164a.	0.2	0
51	10.1063/1.4866797.1. , 2014, , .		0
52	Synergistic Modulation of Cellular Contractility by Mixed Extracellular Matrices. International Journal of Cell Biology, 2012, 2012, 1-13.	1.0	8
53	Contributions of talin-1 to glioma cell-matrix tensional homeostasis. Journal of the Royal Society Interface, 2012, 9, 1311-1317.	1.5	39
54	Influence of cell spreading and contractility on stiffness measurements using AFM. Soft Matter, 2012, 8, 10464.	1.2	24

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55	Upregulation of paxillin and focal adhesion signaling follows Dystroglycan Complex deletions and promotes a hypertensive state of differentiation. <i>European Journal of Cell Biology</i> , 2011, 90, 249-260.	1.6	24
56	Nanomaterials: amyloids reflect their brighter side. <i>Nano Reviews</i> , 2011, 2, 6032.	3.7	151
57	Modulating malignant epithelial tumor cell adhesion, migration and mechanics with nanorod surfaces. <i>Biomedical Microdevices</i> , 2011, 13, 89-95.	1.4	4
58	Contractility Dominates Adhesive Ligand Density in Regulating Cellular De-adhesion and Retraction Kinetics. <i>Annals of Biomedical Engineering</i> , 2011, 39, 1163-1173.	1.3	11
59	Combining mechanical and optical approaches to dissect cellular mechanobiology. <i>Journal of Biomechanics</i> , 2010, 43, 45-54.	0.9	36
60	How Deep Cells Feel. <i>Biophysical Journal</i> , 2010, 98, 732a.	0.2	0
61	Extracellular matrix rigidity modulates neuroblastoma cell differentiation and N-myc expression. <i>Molecular Cancer</i> , 2010, 9, 35.	7.9	93
62	High-throughput indentational elasticity measurements of hydrogel extracellular matrix substrates. <i>Applied Physics Letters</i> , 2009, 95, 063701.	1.5	8
63	Polymersome delivery of siRNA and antisense oligonucleotides. <i>Journal of Controlled Release</i> , 2009, 134, 132-140.	4.8	167
64	Matrix Strains Induced by Cells: Computing How Far Cells Can Feel. <i>Cellular and Molecular Bioengineering</i> , 2009, 2, 39-48.	1.0	172
65	Cell-Matrix De-Adhesion Dynamics Reflect Contractile Mechanics. <i>Cellular and Molecular Bioengineering</i> , 2009, 2, 218-230.	1.0	82
66	How deep cells feel: Mean-field Computations and Experiments. <i>Biophysical Journal</i> , 2009, 96, 628a.	0.2	0
67	Isoform-Specific Contributions of $\beta$ -Actinin to Glioma Cell Mechanobiology. <i>PLoS ONE</i> , 2009, 4, e8427.	1.1	72
68	Microtissue Elasticity: Measurements by Atomic Force Microscopy and Its Influence on Cell Differentiation. <i>Methods in Cell Biology</i> , 2007, 83, 521-545.	0.5	158
69	Matrix Elasticity Directs Stem Cell Lineage Specification. <i>Cell</i> , 2006, 126, 677-689.	13.5	11,769
70	Membrane mobility and clustering of Integrin Associated Protein (IAP, CD47) Major differences between mouse and man and implications for signaling. <i>Blood Cells, Molecules, and Diseases</i> , 2006, 36, 364-372.	0.6	30
71	Species- and cell type-specific interactions between CD47 and human SIRP $\beta$ . <i>Blood</i> , 2006, 107, 2548-2556.	0.6	135
72	Efficient Nuclear Delivery and Nuclear Body Localization of Antisense Oligo-Nucleotides using Degradable Polymersomes. , 2006, 2006, 4350-3.		9

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73	Efficient Nuclear Delivery and Nuclear Body Localization of Antisense Oligo-Nucleotides using Degradable Polymersomes. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
74	Indentation and Adhesive Probing of a Cell Membrane with AFM: Theoretical Model and Experiments. Biophysical Journal, 2005, 89, 3203-3213.	0.2	241
75	Adhesion-contractile balance in myocyte differentiation. Journal of Cell Science, 2004, 117, 5855-5863.	1.2	96
76	Myotubes differentiate optimally on substrates with tissue-like stiffness. Journal of Cell Biology, 2004, 166, 877-887.	2.3	1,501
77	Variational approach for singularity-free path-planning of parallel manipulators. Mechanism and Machine Theory, 2003, 38, 1165-1183.	2.7	100
78	Mapping cytoskeletal stress concentrations and nuclear stresses during confined cell migration. Indian Journal of Physics, 0, , 1.	0.9	0