Josef A KÃ¤s

List of Publications by Year
in descending order

103 papers	10,232 citations	87723 38 h-index	34900 98 g-index
105 all docs	105 docs citations	105 times ranked	9911 citing authors

#	Article	IF	Citations
1	Cell and Nucleus Shape as an Indicator of Tissue Fluidity in Carcinoma. Physical Review X, 2021, 11, .	2.8	46
2	The Mechanical Fingerprint of Circulating Tumor Cells (CTCs) in Breast Cancer Patients. Cancers, 2021, 13, 1119.	1.7	8
3	Rapid Prototyping of 3D Biochips for Cell Motility Studies Using Two-Photon Polymerization. Frontiers in Bioengineering and Biotechnology, 2021, 9, 664094.	2.0	10
4	Anomalous cell sorting behavior in mixed monolayers discloses hidden system complexities. New Journal of Physics, 2021, 23, 043034.	1.2	14
5	Cells in Slow Motion: Apparent Undercooling Increases Glassy Behavior at Physiological Temperatures. Advanced Materials, 2021, 33, e2101840.	11.1	9
6	Intermediate filaments ensure resiliency of single carcinoma cells, while active contractility of the actin cortex determines their invasive potential. New Journal of Physics, 2021, 23, 083028.	1.2	2
7	Jamming in Embryogenesis and Cancer Progression. Frontiers in Physics, 2021, 9, .	1.0	24
8	Differences in cortical contractile properties between healthy epithelial and cancerous mesenchymal breast cells. New Journal of Physics, 2021, 23, 103020.	1.2	10
9	Whole tissue and single cell mechanics are correlated in human brain tumors. Soft Matter, 2021, 17, 10744-10752.	1.2	9
10	How tissue fluidity influences brain tumor progression. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 128-134.	3.3	103
11	Cellâ€“cell adhesion and 3D matrix confinement determine jamming transitions in breast cancer invasion. Nature Cell Biology, 2020, 22, 1103-1115.	4.6	209
12	Detecting heterogeneity in and between breast cancer cell lines. Cancer Convergence, 2020, 4, 1.	8.0	39
13	Influence of hyaluronic acid binding on the actin cortex measured by optical forces. Journal of Biophotonics, 2020, 13, e201960215.	1.1	2
14	Normal epithelial and triple-negative breast cancer cells show the same invasion potential in rigid spatial confinement. New Journal of Physics, 2019, 21, 083016.	1.2	7
15	Roadmap to Local Tumour Growth: Insights from Cervical Cancer. Scientific Reports, 2019, 9, 12768.	1.6	8
16	The role of stickiness in the rheology of semiflexible polymers. Soft Matter, 2019, 15, 4865-4872.	1.2	21
17	Collagen networks determine viscoelastic properties of connective tissues yet do not hinder diffusion of the aqueous solvent. Soft Matter, 2019, 15, 3055-3064.	1.2	60
18	Physical Properties of Single Cells and Collective Behavior. , 2018, , 89-121.		2

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19	Synthetic Transient Crosslinks Program the Mechanics of Soft, Biopolymerâ€Based Materials. Advanced Materials, 2018, 30, e1706092.	11.1	35
20	The two faces of enhanced stroma: Stroma acts as a tumor promoter and a steric obstacle. NMR in Biomedicine, 2018, 31, e3831.	1.6	32
21	Glassy dynamics in composite biopolymer networks. Soft Matter, 2018, 14, 7970-7978.	1.2	23
22	Changing cell mechanicsâ€"a precondition for malignant transformation of oral squamous carcinoma cells. Convergent Science Physical Oncology, 2018, 4, 034001.	2.6	11
23	Mechano-Dependent Phosphorylation of the PDZ-Binding Motif of CD97/ADGRE5 Modulates Cellular Detachment. Cell Reports, 2018, 24, 1986-1995.	2.9	29
24	Contact-free Mechanical Manipulation of Biological Materials. Springer Handbooks, 2017, , 617-641.	0.3	3
25	DNA Nanotubes as a Versatile Tool to Study Semiflexible Polymers. Journal of Visualized Experiments, 2017, , .	0.2	3
26	Optical stretching in continuous flows. Convergent Science Physical Oncology, 2017, 3, 024004.	2.6	8
27	Single Actin Bundle Rheology. Molecules, 2017, 22, 1804.	1.7	12
28	Jamming transitions in cancer. Journal Physics D: Applied Physics, 2017, 50, 483001.	1.3	133
29	Semiflexible Biopolymers in Bundled Arrangements. Polymers, 2016, 8, 274.	2.0	30
30	Self-assembly of hierarchically ordered structures in DNA nanotube systems. New Journal of Physics, 2016, 18, 055001.	1.2	25
31	Transition from a Linear to a Harmonic Potential in Collective Dynamics of a Multifilament Actin Bundle. Physical Review Letters, 2016, 116, 108102.	2.9	31
32	Tuning Synthetic Semiflexible Networks by Bending Stiffness. Physical Review Letters, 2016, 117, 197801.	2.9	38
33	Testing the differential adhesion hypothesis across the epithelialâ^'mesenchymal transition. New Journal of Physics, 2015, 17, 083049.	1.2	85
34	Cell membrane softening in human breast and cervical cancer cells. New Journal of Physics, 2015, 17, 083008.	1.2	36
35	The lensing effect of trapped particles in a dual-beam optical trap. Optics Express, 2015, 23, 5221.	1.7	13
36	Pharmacological targeting of membrane rigidity: implications on cancer cell migration and invasion. New Journal of Physics, 2015, 17, 083007.	1.2	37

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37	Doseâ€dependent collagen crossâ€linking of rabbit scleral tissue by blue light and riboflavin treatment probed by dynamic shear rheology. Acta Ophthalmologica, 2015, 93, e328-36.	0.6	12
38	A novel approach for mechanical tissue characterization indicates decreased elastic strength in brain areas affected by experimental thromboembolic stroke. NeuroReport, 2015, 26, 583-587.	0.6	10
39	Active contractions in single suspended epithelial cells. European Biophysics Journal, 2014, 43, 11-23.	1.2	18
40	Tailoring the material properties of gelatin hydrogels by high energy electron irradiation. Journal of Materials Chemistry B, 2014, 2, 4297-4309.	2.9	59
41	Thermal instability of cell nuclei. New Journal of Physics, 2014, 16, 073009.	1.2	23
42	Different modes of growth cone collapse in NG 108-15 cells. European Biophysics Journal, 2013, 42, 591-605.	1.2	6
43	Thermorheology of living cellsâ€"impact of temperature variations on cell mechanics. New Journal of Physics, 2013, 15, 045026.	1.2	50
44	Keratins significantly contribute to cell stiffness and impact invasive behavior. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18507-18512.	3.3	229
45	Slow and anomalous dynamics of an MCF-10A epithelial cell monolayer. Soft Matter, 2013, 9, 9335.	1.2	51
46	Inherently slow and weak forward forces of neuronal growth cones measured by a driftâ€stabilized atomic force microscope. Cytoskeleton, 2013, 70, 44-53.	1.0	16
47	Biomechanical properties of retinal glial cells: Comparative and developmental data. Experimental Eye Research, 2013, 113, 60-65.	1.2	21
48	Emergent complexity of the cytoskeleton: from single filaments to tissue. Advances in Physics, 2013, 62, 1-112.	35.9	182
49	Stages of neuronal network formation. New Journal of Physics, 2013, 15, 025029.	1.2	8
50	Forces from the rear: deformed microtubules in neuronal growth cones influence retrograde flow and advancement. New Journal of Physics, 2013, 15, 015007.	1.2	17
51	Directed persistent motion maintains sheet integrity during multi-cellular spreading and migration. Soft Matter, 2012, 8, 6913.	1.2	30
52	Oriented Confined Water Induced by Cationic Lipids. Langmuir, 2012, 28, 4712-4722.	1.6	10
53	Stiffening of Human Skin Fibroblasts with Age. Clinics in Plastic Surgery, 2012, 39, 9-20.	0.7	38
54	Tailoring Substrates for Longâ€Term Organotypic Culture of Adult Neuronal Tissue. Advanced Materials, 2012, 24, 2399-2403.	11.1	16

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55	Tissue Engineering: Tailoring Substrates for Long-Term Organotypic Culture of Adult Neuronal Tissue (Adv. Mater. 18/2012). Advanced Materials, 2012, 24, 2398-2398.	11.1	0
56	ERBB2 overexpression triggers transient high mechanoactivity of breast tumor cells. Cytoskeleton, 2012, 69, 267-277.	1.0	12
57	Stochastic actin dynamics in lamellipodia reveal parameter space for cell type classification. Soft Matter, 2011, 7, 3192.	1.2	12
58	Oscillations in the Lateral Pressure of Lipid Monolayers Induced by Nonlinear Chemical Dynamics of the Second Messengers MARCKS andÂProtein Kinase C. Biophysical Journal, 2011, 100, 939-947.	0.2	12
59	MÃ¼ller Glial Cell-Provided Cellular Light Guidance through the Vital Guinea-Pig Retina. Biophysical Journal, 2011, 101, 2611-2619.	0.2	87
60	Invasive cancer cell lines exhibit biomechanical properties that are distinct from their noninvasive counterparts. Soft Matter, 2011, 7, 11488.	1.2	50
61	Calcium imaging in the optical stretcher. Optics Express, 2011, 19, 19212.	1.7	17
62	Structural investigation on the adsorption of the MARCKS peptide on anionic lipid monolayers â€“ effects beyond electrostatic. Chemistry and Physics of Lipids, 2011, 164, 266-275.	1.5	5
63	Growth cones as soft and weak force generators. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13420-13425.	3.3	117
64	Reactive glial cells: increased stiffness correlates with increased intermediate filament expression. FASEB Journal, 2011, 25, 624-631.	0.2	148
65	Are biomechanical changes necessary for tumour progression?. Nature Physics, 2010, 6, 730-732.	6.5	179
66	Stiffening of Human Skin Fibroblasts with Age. Biophysical Journal, 2010, 99, 2434-2442.	0.2	72
67	Buckling, stiffening, and negative dissipation in the dynamics of a biopolymer in an active medium. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 19776-19779.	3.3	32
68	THE CYTOSKELETON: AN ACTIVE POLYMER-BASED SCAFFOLD. Biophysical Reviews and Letters, 2009, 04, 179-208.	0.9	4
69	Compaction of cell shape occurs before decrease of elasticity in CHOâ€K1 cells treated with actin cytoskeleton disrupting drug cytochalasin D. Cytoskeleton, 2009, 66, 193-201.	4.4	21
70	Interaction of the MARCKS peptide with PIP2 in phospholipid monolayers. Biochimica Et Biophysica Acta - Biomembranes, 2009, 1788, 1474-1481.	1.4	32
71	Stochastic Actin Polymerization and Steady Retrograde Flow Determine Growth Cone Advancement. Biophysical Journal, 2009, 96, 5130-5138.	0.2	36
72	Passive and active single-cell biomechanics: a new perspective in cancer diagnosis. Soft Matter, 2009, 5, 2171.	1.2	37

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73	The optical cell rotator. Optics Express, 2008, 16, 16984.	1.7	119
74	Diffusion of Nanoparticles in Monolayers is Modulated by Domain Size. Langmuir, 2008, 24, 3365-3369.	1.6	8
75	Attractive membrane domains control lateral diffusion. Physical Review E, 2008, 77, 051906.	0.8	22
76	Simultaneous manipulation and detection of living cell membrane dynamics. Optics Letters, 2007, 32, 1893.	1.7	24
77	Viscoelastic properties of individual glial cells and neurons in the CNS. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17759-17764.	3.3	473
78	Quantum dots--a versatile tool in plant science?. Journal of Nanobiotechnology, 2006, 4, 5.	4.2	27
79	Cell migration through small gaps. European Biophysics Journal, 2006, 35, 713-719.	1.2	53
80	Feeling with light for cancer. , 2006, 6080, 126.		3
81	Neuronal Growth: A Bistable Stochastic Process. Physical Review Letters, 2006, 96, 098103.	2.9	52
82	Optical Deformability as an Inherent Cell Marker for Testing Malignant Transformation and Metastatic Competence. Biophysical Journal, 2005, 88, 3689-3698.	0.2	1,268
83	Measurement of diffusion in Langmuir monolayers by single-particle tracking. Physical Chemistry Chemical Physics, 2004, 6, 5535-5542.	1.3	33
84	Quantitative Analysis of the Viscoelastic Properties of Thin Regions of Fibroblasts Using Atomic Force Microscopy. Biophysical Journal, 2004, 86, 1777-1793.	0.2	407
85	Simultaneous Single-Particle Tracking and Visualization of Domain Structure on Lipid Monolayers. Langmuir, 2003, 19, 4876-4879.	1.6	19
86	Guiding neuronal growth with light. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 16024-16028.	3.3	201
87	Apparent Subdiffusion Inherent to Single Particle Tracking. Biophysical Journal, 2002, 83, 2109-2117.	0.2	227
88	Active fluidization of polymer networks through molecular motors. Nature, 2002, 416, 413-416.	13.7	262
89	The Optical Stretcher: A Novel Laser Tool to Micromanipulate Cells. Biophysical Journal, 2001, 81, 767-784.	0.2	921
90	Gelsolin overexpression enhances neurite outgrowth in PC12 cells. FEBS Letters, 2001, 508, 282-286.	1.3	28

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91	Counterion-induced actin ring formation. European Biophysics Journal, 2001, 30, 477-484.	1.2	56
92	Optical Deformability of Soft Biological Dielectrics. Physical Review Letters, 2000, 84, 5451-5454.	2.9	307
93	Scanning Probe-Based Frequency-Dependent Microrheology of Polymer Gels and Biological Cells. Physical Review Letters, 2000, 85, 880-883.	2.9	443
94	Enhancement of phosphoinositide 3-kinase (PI 3-kinase) activity by membrane curvature and inositol-phospholipid-binding peptides. FEBS Journal, 1998, 258, 846-853.	0.2	64
95	Mechanical Properties of Actin Filament Networks Depend on Preparation, Polymerization Conditions, and Storage of Actin Monomers. Biophysical Journal, 1998, 74, 2731-2740.	0.2	101
96	F-actin, a model polymer for semiflexible chains in dilute, semidilute, and liquid crystalline solutions. Biophysical Journal, 1996, 70, 609-625.	0.2	247
97	Polymerdynamik einzelner MakromolekÃ¼le. Chemie in Unserer Zeit, 1995, 29, 207-210.	0.1	0
98	Elasticity of Semiflexible Biopolymer Networks. Physical Review Letters, 1995, 75, 4425-4428.	2.9	935
99	Direct imaging of reptation for semiflexible actin filaments. Nature, 1994, 368, 226-229.	13.7	240
100	Budding and fission of vesicles. Biophysical Journal, 1993, 65, 1396-1403.	0.2	253
101	Shape transitions and shape stability of giant phospholipid vesicles in pure water induced by area-to-volume changes. Biophysical Journal, 1991, 60, 825-844.	0.2	373
102	Shape Transformations of Giant Vesicles: Extreme Sensitivity to Bilayer Asymmetry. Europhysics Letters, 1990, 13, 659-664.	0.7	230
103	Optical Stretcher for Single Cells. , 0, , 161-174.		0