Kristian Franze

List of Publications by Year
in descending order

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69	7,985	71061	110317
papers	citations	41 h-index	64 g-index

88	88	88	10387
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Prevention of the foreign body response to implantable medical devices by inflammasome inhibition. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2115857119.	3.3	27
2	Cell surface fluctuations regulate early embryonic lineage sorting. Cell, 2022, 185, 777-793.e20.	13.5	37
3	Soft Polydimethylsiloxane-Supported Lipid Bilayers for Studying T Cell Interactions. Biophysical Journal, 2021, 120, 35-45.	0.2	6
4	Theory for Durotactic Axon Guidance. Physical Review Letters, 2021, 126, 118101.	2.9	24
5	Vinculin is required for neuronal mechanosensing but not for axon outgrowth. Experimental Cell Research, 2021, 407, 112805.	1.2	6
6	StemBond hydrogels control the mechanical microenvironment for pluripotent stem cells. Nature Communications, 2021, 12, 6132.	5.8	22
7	Towards brain-tissue-like biomaterials. Nature Communications, 2020, 11, 3423.	5.8	71
8	Mechanochemical Crosstalk Produces Cell-Intrinsic Patterning of the Cortex to Orient the Mitotic Spindle. Current Biology, 2020, 30, 3687-3696.e4.	1.8	24
9	Spatial heterogeneity of cell-matrix adhesive forces predicts human glioblastoma migration. Neuro-Oncology Advances, 2020, 2, vdaa081.	0.4	6
10	Integrating Chemistry and Mechanics: The Forces Driving Axon Growth. Annual Review of Cell and Developmental Biology, 2020, 36, 61-83.	4.0	58
11	Microtubule Polarity in Axons is Sorted by a Molecular Gradient of Dynactin. Biophysical Journal, 2020, 118, 598a.	0.2	0
12	The Costs of Close Contacts: Visualizing the Energy Landscape of Cell Contacts at the Nanoscale. Biophysical Journal, 2020, 118, 1261-1269.	0.2	2
13	Defining the Adult Neural Stem Cell Niche Proteome Identifies Key Regulators of Adult Neurogenesis. Cell Stem Cell, 2020, 26, 277-293.e8.	5.2	109
14	Mechanical Regulation of Neurite Polarization andÂGrowth: A Computational Study. Biophysical Journal, 2020, 118, 1914-1920.	0.2	6
15	Cortical cell stiffness is independent of substrate mechanics. Nature Materials, 2020, 19, 1019-1025.	13.3	89
16	Niche stiffness underlies the ageing of central nervous system progenitor cells. Nature, 2019, 573, 130-134.	13.7	311
17	Tissue stiffness at the human maternalâ€“fetal interface. Human Reproduction, 2019, 34, 1999-2008.	0.4	68
18	All-Optical Detection of Neuronal Membrane Depolarization in Live Cells Using Colloidal Quantum Dots. Nano Letters, 2019, 19, 8539-8549.	4.5	27

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19	F-actin dynamics regulates mammalian organ growth and cell fate maintenance. Journal of Hepatology, 2019, 71, 130-142.	1.8	56
20	Late Endosomes Act as mRNA Translation Platforms and Sustain Mitochondria in Axons. Cell, 2019, 176, 56-72.e15.	13.5	300
21	Rapid changes in tissue mechanics regulate cell behaviour in the developing embryonic brain. ELife, 2019, 8, .	2.8	101
22	KymoButler, a deep learning software for automated kymograph analysis. ELife, 2019, 8, .	2.8	83
23	Tissue stiffening coordinates morphogenesis by triggering collective cell migration in vivo. Nature, 2018, 554, 523-527.	13.7	404
24	Single-molecule analysis of endogenous Î²-actin mRNA trafficking reveals a mechanism for compartmentalized mRNA localization in axons. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E9697-E9706.	3.3	69
25	Contact inhibition controls cell survival and proliferation via YAP/TAZ-autophagy axis. Nature Communications, 2018, 9, 2961.	5.8	193
26	The role of cell body density in ruminant retina mechanics assessed by atomic force and Brillouin microscopy. Physical Biology, 2017, 14, 065006.	0.8	38
27	Long-term imaging of cellular forces with high precision by elastic resonator interference stress microscopy. Nature Cell Biology, 2017, 19, 864-872.	4.6	61
28	The Mechanical Control of Nervous System Development. Biophysical Journal, 2017, 112, 2a.	0.2	0
29	The soft mechanical signature of glial scars in the central nervous system. Nature Communications, 2017, 8, 14787.	5.8	292
30	Laminin Levels Regulate Tissue Migration and Anterior-Posterior Polarity during Egg Morphogenesis in Drosophila. Cell Reports, 2017, 20, 211-223.	2.9	42
31	Effect of vital dyes on human corneal endothelium and elasticity of Descemetâ€™s membrane. PLoS ONE, 2017, 12, e0184375.	1.1	14
32	ECM-Regulator timp Is Required for Stem Cell Niche Organization and Cyst Production in the Drosophila Ovary. PLoS Genetics, 2016, 12, e1005763.	1.5	33
33	Brain tissue stiffness is a sensitive marker for acidosis. Journal of Neuroscience Methods, 2016, 271, 50-54.	1.3	36
34	Fumarate is an epigenetic modifier that elicits epithelial-to-mesenchymal transition. Nature, 2016, 537, 544-547.	13.7	443
35	Mechanosensing is critical for axon growth in the developing brain. Nature Neuroscience, 2016, 19, 1592-1598.	7.1	478
36	Development of the anterior-posterior axis is a self-organizing process in the absence of maternal cues in the mouse embryo. Cell Research, 2015, 25, 1368-1371.	5.7	31

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37	Microglia mechanics: immune activation alters traction forces and durotaxis. Frontiers in Cellular Neuroscience, 2015, 9, 363.	1.8	113
38	Force Generation by Molecular-Motor-Powered Microtubule Bundles; Implications for Neuronal Polarization and Growth. Frontiers in Cellular Neuroscience, 2015, 9, 441.	1.8	23
39	Atomic force microscopy-based force measurements on animal cells and tissues. Methods in Cell Biology, 2015, 125, 211-235.	0.5	58
40	Speed and Sensitivity of Phototransduction inDrosophilaDepend on Degree of Saturation of Membrane Phospholipids. Journal of Neuroscience, 2015, 35, 2731-2746.	1.7	49
41	CNS Cell Distribution and Axon Orientation Determine Local Spinal Cord Mechanical Properties. Biophysical Journal, 2015, 108, 2137-2147.	0.2	136
42	MÃ¼ller glia provide essential tensile strength to the developing retina. Journal of Cell Biology, 2015, 210, 1075-1083.	2.3	99
43	The relationship between glial cell mechanosensitivity and foreign body reactions in the central nervous system. Biomaterials, 2014, 35, 3919-3925.	5.7	331
44	Auxetic nuclei in embryonic stem cells exiting pluripotency. Nature Materials, 2014, 13, 638-644.	13.3	145
45	Mechanics in Neuronal Development and Repair. Annual Review of Biomedical Engineering, 2013, 15, 227-251.	5.7	293
46	The mechanical control of nervous system development. Development (Cambridge), 2013, 140, 3069-3077.	1.2	199
47	Reversible switching between superhydrophobic states on a hierarchically structured surface. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10210-10213.	3.3	247
48	Complex Stiffness Gradient Substrates for Studying Mechanotactic Cell Migration (Adv. Mater.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	11.1	1
49	Photonic Crystal Light Collectors in Fish Retina Improve Vision in Turbid Water. Science, 2012, 336, 1700-1703.	6.0	71
50	Photomechanical Responses in Drosophila Photoreceptors. Science, 2012, 338, 260-263.	6.0	178
51	Complex Stiffness Gradient Substrates for Studying Mechanotactic Cell Migration. Advanced Materials, 2012, 24, 6059-6064.	11.1	101
52	Live Cells as Optical Fibers in the Vertebrate Retina. , 2012, , .		4
53	Spatial mapping of the mechanical properties of the living retina using scanning force microscopy. Soft Matter, 2011, 7, 3147.	1.2	90
54	Atomic force microscopy and its contribution to understanding the development of the nervous system. Current Opinion in Genetics and Development, 2011, 21, 530-537.	1.5	52

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55	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
56	The biophysics of neuronal growth. Reports on Progress in Physics, 2010, 73, 094601.	8.1	131
57	Mechanical difference between white and gray matter in the rat cerebellum measured by scanning force microscopy. Journal of Biomechanics, 2010, 43, 2986-2992.	0.9	221
58	Retinal Glial (MÃ¼ller) Cells: Sensing and Responding to Tissue Stretch. , 2010, 51, 1683.		138
59	Dual-beam laser traps in biology and medicine: when one beam is not enough. , 2010, , .		2
60	Mechanosensitivity of astrocytes on optimized polyacrylamide gels analyzed by quantitative morphometry. Journal of Physics Condensed Matter, 2010, 22, 194114.	0.7	122
61	Metastable Underwater Superhydrophobicity. Physical Review Letters, 2010, 105, 166104.	2.9	304
62	Neurite Branch Retraction Is Caused by a Threshold-Dependent Mechanical Impact. Biophysical Journal, 2009, 97, 1883-1890.	0.2	154
63	Biomechanics of the CNS. , 2009, , 173-213.		6
64	Optical Neuronal Guidance. Methods in Cell Biology, 2007, 83, 495-520.	0.5	12
65	Muller cells are living optical fibers in the vertebrate retina. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8287-8292.	3.3	356
66	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
67	Selective staining by vital dyes of MÃ¼ller glial cells in retinal wholemounts. Glia, 2004, 45, 59-66.	2.5	75
68	GABAAreceptors in MÃ¼ller glial cells of the human retina. Glia, 2004, 46, 302-310.	2.5	28
69	Axons in the Chick Embryo Follow Soft Pathways Through Developing Somite Segments. Frontiers in Cell and Developmental Biology, 0, 10, .	1.8	3