Stephan Grill

List of Publications by Year
in descending order

58 papers	10,951 citations	66343 42 h-index	149698 56 g-index
72 all docs	72 docs citations	72 times ranked	11751 citing authors

#	Article	IF	Citations
1	A Liquid-to-Solid Phase Transition of the ALS Protein FUS Accelerated by Disease Mutation. Cell, 2015, 162, 1066-1077.	28.9	2,182
2	Lattice light-sheet microscopy: Imaging molecules to embryos at high spatiotemporal resolution. Science, 2014, 346, 1257998.	12.6	1,567
3	Phase separation of a yeast prion protein promotes cellular fitness. Science, 2018, 359, .	12.6	534
4	Polarity controls forces governing asymmetric spindle positioning in the Caenorhabditis elegans embryo. Nature, 2001, 409, 630-633.	27.8	484
5	Anisotropies in cortical tension reveal the physical basis of polarizing cortical flows. Nature, 2010, 467, 617-621.	27.8	434
6	Forces Driving Epithelial Spreading in Zebrafish Gastrulation. Science, 2012, 338, 257-260.	12.6	368
7	The Distribution of Active Force Generators Controls Mitotic Spindle Position. Science, 2003, 301, 518-521.	12.6	351
8	Polarization of PAR Proteins by Advective Triggering of a Pattern-Forming System. Science, 2011, 334, 1137-1141.	12.6	290
9	Translation of Polarity Cues into Asymmetric Spindle Positioning in Caenorhabditis elegans Embryos. Science, 2003, 300, 1957-1961.	12.6	277
10	Backtracking determines the force sensitivity of RNAPâ€‰II in a factor-dependent manner. Nature, 2007, 446, 820-823.	27.8	249
11	Turing's next steps: the mechanochemical basis of morphogenesis. Nature Reviews Molecular Cell Biology, 2011, 12, 392-398.	37.0	236
12	Impaired DNA damage response signaling by FUS-NLS mutations leads to neurodegeneration and FUS aggregate formation. Nature Communications, 2018, 9, 335.	12.8	217
13	Spindle Positioning by Cortical Pulling Forces. Developmental Cell, 2005, 8, 461-465.	7.0	216
14	Active torque generation by the actomyosin cell cortex drives leftâ€“right symmetry breaking. ELife, 2014, 3, e04165.	6.0	197
15	Pattern Formation in Active Fluids. Physical Review Letters, 2011, 106, 028103.	7.8	191
16	Hydrodynamic theory of active matter. Reports on Progress in Physics, 2018, 81, 076601.	20.1	184
17	Spindle Oscillations during Asymmetric Cell Division Require a Threshold Number of Active Cortical Force Generators. Current Biology, 2006, 16, 2111-2122.	3.9	177
18	Theory of Mitotic Spindle Oscillations. Physical Review Letters, 2005, 94, 108104.	7.8	144

#	Article	IF	Citations
19	Cortical flow aligns actin filaments to form a furrow. ELife, 2016, 5, .	6.0	144
20	Cell polarity: mechanochemical patterning. Trends in Cell Biology, 2013, 23, 72-80.	7.9	139
21	An endosomal tether undergoes an entropic collapse to bring vesicles together. Nature, 2016, 537, 107-111.	27.8	135
22	Non-invasive perturbations of intracellular flow reveal physical principles of cell organization. Nature Cell Biology, 2018, 20, 344-351.	10.3	130
23	Protein Dynamics in Complex DNA Lesions. Molecular Cell, 2018, 69, 1046-1061.e5.	9.7	128
24	HP1 proteins compact DNA into mechanically and positionally stable phase separated domains. ELife, 2021, 10, .	6.0	119
25	Tension and Force-Resistant Attachment Are Essential for Myofibrillogenesis in Drosophila Flight Muscle. Current Biology, 2014, 24, 705-716.	3.9	114
26	PAR proteins diffuse freely across the anteriorâ€“posterior boundary in polarized C. elegans embryos. Journal of Cell Biology, 2011, 193, 583-594.	5.2	106
27	Mechanisms of backtrack recovery by RNA polymerases I and II. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2946-2951.	7.1	98
28	Guiding self-organized pattern formation in cell polarity establishment. Nature Physics, 2019, 15, 293-300.	16.7	96
29	Attachment of the blastoderm to the vitelline envelope affects gastrulation of insects. Nature, 2019, 568, 395-399.	27.8	95
30	Mammalian Diaphanous 1 Mediates a Pathway for E-cadherin to Stabilize Epithelial Barriers through Junctional Contractility. Cell Reports, 2017, 18, 2854-2867.	6.4	94
31	Temperature Dependence of Cell Division Timing Accounts for a Shift in the Thermal Limits of C.Âelegans and C.Âbriggsae. Cell Reports, 2015, 10, 647-653.	6.4	85
32	Systematic genetic interaction screens uncover cell polarity regulators and functional redundancy. Nature Cell Biology, 2013, 15, 103-112.	10.3	84
33	Forces Generated by Cell Intercalation Tow Epidermal Sheets in Mammalian Tissue Morphogenesis. Developmental Cell, 2014, 28, 617-632.	7.0	81
34	Controlling contractile instabilities in the actomyosin cortex. ELife, 2017, 6, .	6.0	81
35	Sequence-dependent surface condensation of a pioneer transcription factor on DNA. Nature Physics, 2022, 18, 271-276.	16.7	73
36	Ultraviolet diffraction limited nanosurgery of live biological tissues. Review of Scientific Instruments, 2004, 75, 472-478.	1.3	70

#	Article	IF	Citations
37	How Active Mechanics and Regulatory Biochemistry Combine to Form Patterns in Development. Annual Review of Biophysics, 2017, 46, 337-356.	10.0	70
38	Determining Physical Properties of the Cell Cortex. Biophysical Journal, 2016, 110, 1421-1429.	0.5	68
39	aPKC phosphorylates NuMA-related LIN-5 to position the mitotic spindle during asymmetric division. Nature Cell Biology, 2011, 13, 1132-1138.	10.3	66
40	FRAP Analysis of Membrane-Associated Proteins: Lateral Diffusion and Membrane-Cytoplasmic Exchange. Biophysical Journal, 2010, 99, 2443-2452.	0.5	63
41	Actomyosin-driven left-right asymmetry: from molecular torques to chiral self organization. Current Opinion in Cell Biology, 2016, 38, 24-30.	5.4	61
42	Pulsatory Patterns in Active Fluids. Physical Review Letters, 2014, 112, .	7.8	56
43	Aurora A depletion reveals centrosome-independent polarization mechanism in Caenorhabditis elegans. ELife, 2019, 8, .	6.0	56
44	Parameter-space topology of models for cell polarity. New Journal of Physics, 2014, 16, 065009.	2.9	46
45	Morphogenetic degeneracies in the actomyosin cortex. ELife, 2018, 7, .	6.0	41
46	A hydraulic instability drives the cell death decision in the nematode germline. Nature Physics, 2021, 17, 920-925.	16.7	38
47	Growing up is stressful: biophysical laws of morphogenesis. Current Opinion in Genetics and Development, 2011, 21, 647-652.	3.3	30
48	Cell lineage-dependent chiral actomyosin flows drive cellular rearrangements in early Caenorhabditis elegans development. ELife, 2020, 9, .	6.0	30
49	Co-condensation of proteins with single- and double-stranded DNA. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2107871119.	7.1	28
50	Nonlinear machine learning pattern recognition and bacteria-metabolite multilayer network analysis of perturbed gastric microbiome. Nature Communications, 2021, 12, 1926.	12.8	22
51	Highly-Efficient Guiding of Motile Microtubules on Non-Topographical Motor Patterns. Nano Letters, 2017, 17, 5699-5705.	9.1	20
52	Multiplex Decomposition of Non-Markovian Dynamics and the Hidden Layer Reconstruction Problem. Physical Review X, 2018, 8, .	8.9	16
53	CYK-1/Formin activation in cortical RhoA signaling centers promotes organismal leftâ€“right symmetry breaking. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	15
54	Nucleosomal arrangement affects single-molecule transcription dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12733-12738.	7.1	13

#	Article	IF	Citations
55	Forced to Be Unequal. Science, 2010, 330, 597-598.	12.6	4
56	MECHANOCHEMICAL PATTERN FORMATION IN THE POLARIZATION OF THE ONE-CELL C. ELEGANS EMBRYO. World Scientific Lecture Notes in Complex Systems, 2013, , 201-212.	0.1	0
57	Mechanochemical Pattern Formation in the Actomyosin Cortex. Seibutsu Butsuri, 2018, 58, 027-030.	0.1	0
58	Thermal fluctuations assist mechanical signal propagation in coiled-coil proteins. Physical Review E, 2021, 104, 054403.	2.1	0