Pascal Silberzan

List of Publications by Year
in descending order

73 papers	10,297 citations	44069 48 h-index	74163 75 g-index
89 all docs	89 docs citations	89 times ranked	9656 citing authors

#	Article	IF	Citations
1	Collective migration of an epithelial monolayer in response to a model wound. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15988-15993.	7.1	759
2	Force mapping in epithelial cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 2390-2395.	7.1	686
3	Bouncing or sticky droplets: Impalement transitions on superhydrophobic micropatterned surfaces. Europhysics Letters, 2006, 74, 299-305.	2.0	566
4	Silanation of silica surfaces. A new method of constructing pure or mixed monolayers. Langmuir, 1991, 7, 1647-1651.	3.5	486
5	The dynamics of genomic-length DNA molecules in 100-nm channels. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 10979-10983.	7.1	458
6	Rigidity-driven growth and migration of epithelial cells on microstructured anisotropic substrates. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8281-8286.	7.1	341
7	Traction forces and rigidity sensing regulate cell functions. Soft Matter, 2008, 4, 1836.	2.7	335
8	Physics of active jamming during collective cellular motion in a monolayer. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15314-15319.	7.1	334
9	Is the Mechanical Activity of Epithelial Cells Controlled by Deformations or Forces?. Biophysical Journal, 2005, 89, L52-L54.	0.5	331
10	Micro-Actuators:Â When Artificial Muscles Made of Nematic Liquid Crystal Elastomers Meet Soft Lithography. Journal of the American Chemical Society, 2006, 128, 1088-1089.	13.7	329
11	Interplay of RhoA and mechanical forces in collective cell migration driven by leader cells. Nature Cell Biology, 2014, 16, 217-223.	10.3	305
12	Velocity Fields in a Collectively Migrating Epithelium. Biophysical Journal, 2010, 98, 1790-1800.	0.5	281
13	Nonmuscle Myosin IIA-Dependent Force Inhibits Cell Spreading and Drives F-Actin Flow. Biophysical Journal, 2006, 91, 3907-3920.	0.5	255
14	The 2020 motile active matter roadmap. Journal of Physics Condensed Matter, 2020, 32, 193001.	1.8	242
15	Cancer-associated fibroblast heterogeneity in axillary lymph nodes drives metastases in breast cancer through complementary mechanisms. Nature Communications, 2020, 11, 404.	12.8	230
16	Strength Dependence of Cadherin-Mediated Adhesions. Biophysical Journal, 2010, 98, 534-542.	0.5	223
17	Collective Cell Motion in an Epithelial Sheet Can Be Quantitatively Described by a Stochastic Interacting Particle Model. PLoS Computational Biology, 2013, 9, e1002944.	3.2	182
18	Topological defects in confined populations of spindle-shaped cells. Nature Physics, 2017, 13, 58-62.	16.7	181

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19	Traction forces exerted through N-cadherin contacts. Biology of the Cell, 2006, 98, 721-730.	2.0	180
20	Influence of topology on bacterial social interaction. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 13910-13915.	7.1	176
21	Directional persistence of chemotactic bacteria in a traveling concentration wave. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16235-16240.	7.1	167
22	Mechanical cell competition kills cells via induction of lethal p53 levels. Nature Communications, 2016, 7, 11373.	12.8	162
23	Collective cell migration: a physics perspective. Reports on Progress in Physics, 2017, 80, 076601.	20.1	158
24	Perfect nematic order in confined monolayers of spindle-shaped cells. Soft Matter, 2014, 10, 2346-2353.	2.7	157
25	Spontaneous shear flow in confined cellular nematics. Nature Physics, 2018, 14, 728-732.	16.7	148
26	Study of the Self-Adhesion Hysteresis of a Siloxane Elastomer Using the JKR Method. Langmuir, 1994, 10, 2466-2470.	3.5	133
27	Emergence of collective modes and tri-dimensional structures from epithelial confinement. Nature Communications, 2014, 5, 3747.	12.8	133
28	Motion to Form a Quorum. Science, 2003, 301, 188-188.	12.6	130
29	Orientation and Polarity in Collectively Migrating Cell Structures: Statics and Dynamics. Biophysical Journal, 2011, 100, 2566-2575.	0.5	111
30	Rectified Motion of Colloids in Asymmetrically Structured Channels. Physical Review Letters, 2002, 88, 168301.	7.8	110
31	Traction forces exerted by epithelial cell sheets. Journal of Physics Condensed Matter, 2010, 22, 194119.	1.8	110
32	Modeling E. coli Tumbles by Rotational Diffusion. Implications for Chemotaxis. PLoS ONE, 2012, 7, e35412.	2.5	109
33	Turbulent Dynamics of Epithelial Cell Cultures. Physical Review Letters, 2018, 120, 208101.	7.8	107
34	Border Forces and Friction Control Epithelial Closure Dynamics. Biophysical Journal, 2014, 106, 65-73.	0.5	105
35	Architecture and migration of an epithelium on a cylindrical wire. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5944-5949.	7.1	103
36	Dielectrophoretic ratchets. Chaos, 1998, 8, 650-656.	2.5	91

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37	Langmuir-Blodgett films: From micron to angstrom. Physical Review Letters, 1991, 67, 2029-2032.	7.8	85
38	Physical Model of the Dynamic Instability in an Expanding Cell Culture. Biophysical Journal, 2010, 98, 361-370.	0.5	84
39	Moving droplets on asymmetrically structured surfaces. Physical Review E, 1999, 60, 2964-2972.	2.1	83
40	Adhesion Enhancement through Micropatterning at Polydimethylsiloxaneâ^'Acrylic Adhesive Interfaces. Langmuir, 2007, 23, 6966-6974.	3.5	79
41	Sorting of Brownian particles by the pulsed application of an asymmetric potential. Physical Review E, 1997, 56, 2025-2034.	2.1	71
42	Mathematical Description of Bacterial Traveling Pulses. PLoS Computational Biology, 2010, 6, e1000890.	3.2	71
43	Role of Molecular Size in Ratchet Fractionation. Physical Review Letters, 2002, 89, 178301.	7.8	68
44	Ratchet-like topological structures for the control of microdrops. Applied Physics A: Materials Science and Processing, 2002, 75, 207-212.	2.3	67
45	Spreading of high molecular weight polymer melts on high-energy surfaces. Macromolecules, 1992, 25, 1267-1271.	4.8	62
46	Automated velocity mapping of migrating cell populations (AVeMap). Nature Methods, 2012, 9, 1081-1083.	19.0	57
47	How Are the Wetting Properties of Silanated Surfaces Affected by Their Structure? An Atomic-Force Microscopy Study. Europhysics Letters, 1992, 20, 633-638.	2.0	54
48	Evidence for a new spreading regime between partial and total wetting. Physical Review Letters, 1991, 66, 185-188.	7.8	51
49	Rectified motion of a mercury drop in an asymmetric structure. Europhysics Letters, 1996, 33, 267-272.	2.0	49
50	Active atomic force microscopy cantilevers for imaging in liquids. Applied Physics Letters, 2001, 78, 2982-2984.	3.3	48
51	Permeation-induced flows: Consequences for silicone-based microfluidics. Europhysics Letters, 2004, 68, 412-418.	2.0	48
52	A Nanostructure Made of a Bacterial Noncoding RNA. Journal of the American Chemical Society, 2009, 131, 17270-17276.	13.7	38
53	Functionalizing Surfaces with Nickel Ions for the Grafting of Proteins. Langmuir, 2003, 19, 4138-4143.	3.5	36
54	Temperature influence on the formation of silanized monolayers on silica: an atomic force microscopy study. Surface Science, 1996, 352-354, 369-373.	1.9	35

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55	Kinetics of self-assembled silane monolayers at various temperatures: evidence of 2D foam. Thin Solid Films, 1998, 327-329, 166-171.	1.8	34
56	Tissue fusion over nonadhering surfaces. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9546-9551.	7.1	34
57	Sessile Droplets at a Solid/Elastomer Interface. Langmuir, 1997, 13, 4910-4914.	3.5	33
58	RalB regulates contractility-driven cancer dissemination upon TGFÎ² stimulation via the RhoGEF GEF-H1. Scientific Reports, 2015, 5, 11759.	3.3	31
59	Adhesion on Microstructured Surfaces. Journal of Adhesion, 2007, 83, 449-472.	3.0	23
60	Collective stresses drive competition between monolayers of normal and Ras-transformed cells. Soft Matter, 2019, 15, 537-545.	2.7	23
61	Homophilic Interactions between Cadherin Fragments at the Single Molecule Level: An AFM Study. Langmuir, 2006, 22, 4680-4684.	3.5	21
62	In vitro bone metastasis dwelling in a 3D bioengineered niche. Biomaterials, 2021, 269, 120624.	11.4	17
63	Wetting of Polymer Brushes by a Nematogenic Compound. Physical Review Letters, 1998, 80, 5141-5144.	7.8	16
64	Local light-activation of the Src oncoprotein in an epithelial monolayer promotes collective extrusion. Communications Physics, 2019, 2, .	5.3	13
65	Microfabricated arrays of elastomeric posts to study cellular mechanics. , 2004, 5345, 26.		11
66	Controlling Confinement and Topology to Study Collective Cell Behaviors. Methods in Molecular Biology, 2018, 1749, 387-399.	0.9	7
67	DÃ©placement de gouttes sur un microcatÃ©naire. Houille Blanche, 2003, 89, 37-42.	0.3	6
68	Proteins, cells, and tissues in patterned environments. Soft Matter, 2014, 10, 2337.	2.7	5
69	The spreading of drops on solid surfaces. Journal of Physics Condensed Matter, 1990, 2, SA421-SA425.	1.8	4
70	Microfluidics: Concepts and Applications to the Life Sciences. , 2009, , 743-774.		2
71	The Effects of Out of Plane Curvature on Collective Cell Migration. Biophysical Journal, 2014, 106, 357a.	0.5	1
72	ActivitÃ© et rÃ©ponse Ã une blessure dâ€™un tapis de cellules. , 2010, , 18-21.	0.1	0

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73	Rencontres Physique-Biologie-Chimie de la montagne Sainte-Genevieve 1997. Journal De Physique II, 1997, 7, 1555-1575.	0.9	0