Benoit Ladoux

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8179725/publications.pdf

Version: 2024-02-01

118	13,133	56	107
papers	citations	h-index	g-index

26567 26548

143	143	143	11106
all docs	docs citations	times ranked	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.	3.3	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.	3.3	686
3	Mechanobiology of collective cell behaviours. Nature Reviews Molecular Cell Biology, 2017, 18, 743-757.	16.1	518
4	Topological defects in epithelia govern cell death and extrusion. Nature, 2017, 544, 212-216.	13.7	511
5	Evidence of a large-scale mechanosensing mechanism for cellular adaptation to substrate stiffness. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6933-6938.	3.3	474
6	Emerging modes of collective cell migration induced by geometrical constraints. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12974-12979.	3.3	389
7	Force-dependent conformational switch of Î±-catenin controls vinculin binding. Nature Communications, 2014, 5, 4525.	5.8	375
8	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.	3.3	341
9	Traction forces and rigidity sensing regulate cell functions. Soft Matter, 2008, 4, 1836.	1.2	335
10	Is the Mechanical Activity of Epithelial Cells Controlled by Deformations or Forces?. Biophysical Journal, 2005, 89, L52-L54.	0.2	331
11	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.	6.6	329
12	Forces driving epithelial wound healing. Nature Physics, 2014, 10, 683-690.	6.5	326
13	Interplay of RhoA and mechanical forces in collective cell migration driven by leader cells. Nature Cell Biology, 2014, 16, 217-223.	4.6	305
14	Velocity Fields in a Collectively Migrating Epithelium. Biophysical Journal, 2010, 98, 1790-1800.	0.2	281
15	Nonmuscle Myosin IIA-Dependent Force Inhibits Cell Spreading and Drives F-Actin Flow. Biophysical Journal, 2006, 91, 3907-3920.	0.2	255
16	Guidance of collective cell migration by substrate geometry. Integrative Biology (United Kingdom), 2013, 5, 1026.	0.6	241
17	Adaptive rheology and ordering of cell cytoskeleton govern matrix rigidity sensing. Nature Communications, 2015, 6, 7525.	5.8	233
18	Strength Dependence of Cadherin-Mediated Adhesions. Biophysical Journal, 2010, 98, 534-542.	0.2	223

#	Article	IF	Citations
19	Active superelasticity in three-dimensional epithelia of controlled shape. Nature, 2018, 563, 203-208.	13.7	223
20	Dynamics of a Tethered Polymer in Shear Flow. Physical Review Letters, 2000, 84, 4769-4772.	2.9	192
21	Traction forces exerted through N-cadherin contacts. Biology of the Cell, 2006, 98, 721-730.	0.7	180
22	Cytoskeletal coherence requires myosin-IIA contractility. Journal of Cell Science, 2010, 123, 413-423.	1.2	179
23	Substrate Topography Induces a Crossover from 2D to 3D Behavior in Fibroblast Migration. Biophysical Journal, 2009, 97, 357-368.	0.2	177
24	Cell crawling mediates collective cell migration to close undamaged epithelial gaps. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10891-10896.	3.3	175
25	Epithelial bridges maintain tissue integrity during collective cell migration. Nature Materials, 2014, 13, 87-96.	13.3	162
26	Remodeling the zonula adherens in response to tension and the role of afadin in this response. Journal of Cell Biology, 2016, 213, 243-260.	2.3	157
27	Î±-Catenin and Vinculin Cooperate to Promote High E-cadherin-based Adhesion Strength. Journal of Biological Chemistry, 2013, 288, 4957-4969.	1.6	155
28	Nanoscale architecture of cadherin-based cellÂadhesions. Nature Cell Biology, 2017, 19, 28-37.	4.6	135
29	Cooperative Retraction of Bundled Type IV Pili Enables Nanonewton Force Generation. PLoS Biology, 2008, 6, e87.	2.6	134
30	Frontâ€"Rear Polarization by Mechanical Cues: From Single Cells to Tissues. Trends in Cell Biology, 2016, 26, 420-433.	3.6	127
31	Physically based principles of cell adhesion mechanosensitivity in tissues. Reports on Progress in Physics, 2012, 75, 116601.	8.1	123
32	Cell response to substrate rigidity is regulated by active and passive cytoskeletal stress. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12817-12825.	3.3	122
33	Gap geometry dictates epithelial closure efficiency. Nature Communications, 2015, 6, 7683.	5.8	118
34	Collective Cell Migration: A Mechanistic Perspective. Physiology, 2013, 28, 370-379.	1.6	114
35	Mechanics of epithelial closure over non-adherent environments. Nature Communications, 2015, 6, 6111.	5.8	113
36	The mechanotransduction machinery at work at<i>adherens</i>junctions. Integrative Biology (United) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.6	113

#	Article	IF	Citations
37	Traction forces exerted by epithelial cell sheets. Journal of Physics Condensed Matter, 2010, 22, 194119.	0.7	110
38	The role of single-cell mechanical behaviour and polarity in driving collective cell migration. Nature Physics, 2020, 16, 802-809.	6.5	109
39	Mechanics of epithelial tissues during gap closure. Current Opinion in Cell Biology, 2016, 42, 52-62.	2.6	107
40	Material approaches to active tissue mechanics. Nature Reviews Materials, 2019, 4, 23-44.	23.3	103
41	Mechanical Forces Induced by the Transendothelial Migration of Human Neutrophils. Biophysical Journal, 2008, 95, 1428-1438.	0.2	101
42	Emergent patterns of collective cell migration under tubular confinement. Nature Communications, 2017, 8, 1517.	5.8	101
43	Sustained Oscillations of Epithelial Cell Sheets. Biophysical Journal, 2019, 117, 464-478.	0.2	100
44	Force-dependent binding of vinculin to Î±-catenin regulates cellâ€“cell contact stability and collective cell behavior. Molecular Biology of the Cell, 2018, 29, 380-388.	0.9	99
45	Stretching tethered DNA chains in shear flow. Europhysics Letters, 2000, 52, 511-517.	0.7	98
46	Epithelial Cell Packing Induces Distinct Modes of Cell Extrusions. Current Biology, 2016, 26, 2942-2950.	1.8	98
47	Collective cell migration without proliferation: density determines cell velocity and wave velocity. Royal Society Open Science, 2018, 5, 172421.	1.1	90
48	Celebrating Soft Matter's 10th Anniversary: Cell division: a source of active stress in cellular monolayers. Soft Matter, 2015, 11, 7328-7336.	1.2	82
49	Fast kinetics of chromatin assembly revealed by single-molecule videomicroscopy and scanning force microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 14251-14256.	3.3	81
50	Large-scale curvature sensing by directional actin flow drives cellular migration mode switching. Nature Physics, 2019, 15, 393-402.	6.5	78
51	Mechanics of cell spreading within 3D-micropatterned environments. Lab on A Chip, 2011, 11, 805-812.	3.1	76
52	Protrusive waves guide 3D cell migration along nanofibers. Journal of Cell Biology, 2015, 211, 683-701.	2.3	73
53	The formation of ordered nanoclusters controls cadherin anchoring to actin and cellâ€“cell contact fluidity. Journal of Cell Biology, 2015, 210, 333-346.	2.3	73
54	Investigating the nature of active forces in tissues reveals how contractile cells can form extensile monolayers. Nature Materials, 2021, 20, 1156-1166.	13.3	69

#	Article	IF	Citations
55	Contractile forces at tricellular contacts modulate epithelial organization and monolayer integrity. Nature Communications, 2017, 8, 13998.	5.8	68
56	Hutchinsonâ€"Gilford progeria syndrome alters nuclear shape and reduces cell motility in three dimensional model substrates. Integrative Biology (United Kingdom), 2013, 5, 569.	0.6	67
57	The Nanoscale Architecture of Force-Bearing Focal Adhesions. Nano Letters, 2014, 14, 4257-4262.	4.5	65
58	Coordination between Intra- and Extracellular Forces Regulates Focal Adhesion Dynamics. Nano Letters, 2017, 17, 399-406.	4.5	63
59	Biological Tissues as Active Nematic Liquid Crystals. Advanced Materials, 2018, 30, e1802579.	11.1	63
60	Microfabricated substrates as a tool to study cell mechanotransduction. Medical and Biological Engineering and Computing, 2010, 48, 965-976.	1.6	62
61	Inference of Internal Stress in a Cell Monolayer. Biophysical Journal, 2016, 110, 1625-1635.	0.2	62
62	Myosin II isoforms play distinct roles in adherens junction biogenesis. ELife, 2019, 8, .	2.8	60
63	Magnetic micropillars as a tool to govern substrate deformations. Lab on A Chip, 2011, 11, 2630.	3.1	59
64	Actomyosin bundles serve as a tension sensor and a platform for ERK activation. EMBO Reports, 2015, 16, 250-257.	2.0	57
65	In the middle of it all: Mutual mechanical regulation between the nucleus and the cytoskeleton. Journal of Biomechanics, 2010, 43, 2-8.	0.9	54
66	Regulation of epithelial cell organization by tuning cellâ€"substrate adhesion. Integrative Biology (United Kingdom), 2015, 7, 1228-1241.	0.6	52
67	Mechanical confinement triggers glioma linear migration dependent on formin FHOD3. Molecular Biology of the Cell, 2016, 27, 1246-1261.	0.9	51
68	E-Cadherin-Dependent Stimulation of Traction Force at Focal Adhesions via the Src and PI3K Signaling Pathways. Biophysical Journal, 2012, 103, 175-184.	0.2	48
69	Caveolae Control Contractile Tension for Epithelia to Eliminate Tumor Cells. Developmental Cell, 2020, 54, 75-91.e7.	3.1	48
70	Single cell rigidity sensing: A complex relationship between focal adhesion dynamics and large-scale actin cytoskeleton remodeling. Cell Adhesion and Migration, 2016, 10, 554-567.	1.1	47
71	Running Worms: C. elegans Self-Sorting by Electrotaxis. PLoS ONE, 2011, 6, e16637.	1.1	47
72	Micropillar substrates: A tool for studying cell mechanobiology. Methods in Cell Biology, 2015, 125, 289-308.	0.5	46

#	Article	IF	Citations
73	Mechanical forces in cell monolayers. Journal of Cell Science, 2018, 131, .	1.2	45
74	Cell shape and substrate stiffness drive actin-based cell polarity. Physical Review E, 2019, 99, 012412.	0.8	39
75	Push it, pull it. Nature, 2011, 470, 340-341.	13.7	38
76	Locomotion Control of Caenorhabditis elegans through Confinement. Biophysical Journal, 2012, 102, 2791-2798.	0.2	34
77	Adhesion-mediated heterogeneous actin organization governs apoptotic cell extrusion. Nature Communications, 2021, 12, 397.	5.8	34
78	Desmosomal Junctions Govern Tissue Integrity and Actomyosin Contractility in Apoptotic Cell Extrusion. Current Biology, 2020, 30, 682-690.e5.	1.8	33
79	Migrating Epithelial Monolayer Flows Like a Maxwell Viscoelastic Liquid. Physical Review Letters, 2020, 125, 088102.	2.9	32
80	Cell migration guided by long-lived spatial memory. Nature Communications, 2021, 12, 4118.	5.8	32
81	Geometrical constraints and physical crowding direct collective migration of fibroblasts. Communicative and Integrative Biology, 2013, 6, e23197.	0.6	29
82	Microfabricated Environments to Study Collective Cell Behaviors. Methods in Cell Biology, 2014, 120, 235-252.	0.5	28
83	Modeling collective cell migration in geometric confinement. Physical Biology, 2017, 14, 035001.	0.8	26
84	Techniques to Measure Pilus Retraction Forces. Methods in Molecular Biology, 2012, 799, 197-216.	0.4	24
85	A subtle relationship between substrate stiffness and collective migration of cell clusters. Soft Matter, 2020, 16, 1825-1839.	1.2	24
86	Physics of liquid crystals in cell biology. Trends in Cell Biology, 2022, 32, 140-150.	3.6	24
87	Adhesion on Microstructured Surfaces. Journal of Adhesion, 2007, 83, 449-472.	1.8	23
88	Cells guided on their journey. Nature Physics, 2009, 5, 377-378.	6.5	23
89	Micro-patterned porous substrates for cell-based assays. Lab on A Chip, 2012, 12, 1717.	3.1	21
90	Adhesive interactions of N-cadherin limit the recruitment of microtubules to cellâ€“cell contacts through organization of actomyosin. Journal of Cell Science, 2014, 127, 1660-1671.	1.2	21

#	Article	IF	Citations
91	Reciprocal regulation of actomyosin organization and contractility in nonmuscle cells by tropomyosins and alpha-actinins. Molecular Biology of the Cell, 2019, 30, 2025-2036.	0.9	21
92	Influence of proliferation on the motions of epithelial monolayers invading adherent strips. Soft Matter, 2019, 15, 2798-2810.	1.2	20
93	Enhanced cellâ€“cell contact stability and decreased N-cadherin-mediated migration upon fibroblast growth factor receptor-N-cadherin cross talk. Oncogene, 2019, 38, 6283-6300.	2.6	19
94	Fabrication of adjacent micropillar arrays with different heights for cell studies. Microelectronic Engineering, 2016, 158, 22-25.	1.1	18
95	Active nematics across scales from cytoskeleton organization to tissue morphogenesis. Current Opinion in Genetics and Development, 2022, 73, 101897.	1.5	18
96	High-resolution imaging of cellular processes across textured surfaces using an indexed-matched elastomer. Acta Biomaterialia, 2015, 14, 53-60.	4.1	17
97	Mechanical link between durotaxis, cell polarity and anisotropy during cell migration. Physical Biology, 2015, 12, 026008.	0.8	17
98	Micropattern-based platform as a physiologically relevant model to study epithelial morphogenesis and nephrotoxicity. Biomaterials, 2019, 218, 119339.	5.7	17
99	Mechanical plasticity in collective cell migration. Current Opinion in Cell Biology, 2021, 72, 54-62.	2.6	13
100	Direct Imaging of Single-Molecules: From Dynamics of a Single DNA Chain to the Study of Complex DNA-Protein Interactions. Science Progress, 2001, 84, 267-290.	1.0	12
101	FBXW5 Promotes Tumorigenesis and Metastasis in Gastric Cancer via Activation of the FAK-Src Signaling Pathway. Cancers, 2019, 11, 836.	1.7	12
102	Microfabricated arrays of elastomeric posts to study cellular mechanics. , 2004, 5345, 26.		11
103	Kalman Inversion Stress Microscopy. Biophysical Journal, 2018, 115, 1808-1816.	0.2	11
104	Local contractions regulate E-cadherin rigidity sensing. Science Advances, 2022, 8, eabk0387.	4.7	11
105	Probing the Chemo-Mechanical Effects of an Anti-Cancer Drug Emodin on Breast Cancer Cells. Cellular and Molecular Bioengineering, 2011, 4, 466-475.	1.0	10
106	Living proof of effective defects. Nature Physics, 2021, 17, 172-173.	6.5	9
107	Mechanobiology of Collective Cell Migration. Cellular and Molecular Bioengineering, 2015, 8, 3-13.	1.0	8
108	Early Passage Dependence of Mesenchymal Stem Cell Mechanics Influences Cellular Invasion and Migration. Annals of Biomedical Engineering, 2016, 44, 2123-2131.	1.3	7

#	Article	IF	Citations
109	EpCAM promotes endosomal modulation of the cortical RhoA zone for epithelial organization. Nature Communications, 2021, 12, 2226.	5.8	7
110	Quantifying Tensile Force and ERK Phosphorylation on Actin Stress Fibers. Methods in Molecular Biology, 2017, 1487, 223-234.	0.4	6
111	Tubular microscaffolds for studying collective cell migration. Methods in Cell Biology, 2018, 146, 3-21.	0.5	5
112	Designer substrates and devices for mechanobiology study. Journal of Semiconductors, 2020, 41, 041607.	2.0	2
113	Channeling Effect and Tissue Morphology in a Perfusion Bioreactor Imaged by X-Ray Microtomography. Tissue Engineering and Regenerative Medicine, 2020, 17, 301-311.	1.6	1
114	Direct measurement of nearâ€nanoâ€Newton forces developed by selfâ€organizing actomyosin fibers bound Î±â€catenin. Biology of the Cell, 2021, 113, 441-449.	0.7	1
115	Addendum: Active superelasticity in three-dimensional epithelia of controlled shape. Nature, 2021, 592, E30-E30.	13.7	0
116	ActivitÃ© et rÃ©ponse Ã une blessure dâ€™un tapis de cellules. , 2010, , 18-21.	0.1	0
117	Adhesive interactions of N-cadherin limit the recruitment of microtubules to cellâ€“cell contacts through organization of actomyosin. Development (Cambridge), 2014, 141, e1005-e1005.	1.2	0
118	Active forces modulate collective behaviour and cellular organization. Comptes Rendus - Biologies, 2021, 344, 325-335.	0.1	0