

Carl-Philipp Heisenberg

List of Publications by Year in descending order

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Version: 2024-02-01

132
papers

14,762
citations

20797

60
h-index

21521

114
g-index

146
all docs

146
docs citations

146
times ranked

13611
citing authors

#	ARTICLE	IF	CITATIONS
1	Forces in Tissue Morphogenesis and Patterning. <i>Cell</i> , 2013, 153, 948-962.	13.5	956
2	Silberblick/Wnt11 mediates convergent extension movements during zebrafish gastrulation. <i>Nature</i> , 2000, 405, 76-81.	13.7	919
3	Tensile forces govern germ-layer organization in zebrafish. <i>Nature Cell Biology</i> , 2008, 10, 429-436.	4.6	692
4	Adhesion Functions in Cell Sorting by Mechanically Coupling the Cortices of Adhering Cells. <i>Science</i> , 2012, 338, 253-256.	6.0	493
5	Single-cell force spectroscopy. <i>Journal of Cell Science</i> , 2008, 121, 1785-1791.	1.2	443
6	Actin Flows Mediate a Universal Coupling between Cell Speed and Cell Persistence. <i>Cell</i> , 2015, 161, 374-386.	13.5	369
7	Forces Driving Epithelial Spreading in Zebrafish Gastrulation. <i>Science</i> , 2012, 338, 257-260.	6.0	368
8	Cortical Contractility Triggers a Stochastic Switch to Fast Amoeboid Cell Motility. <i>Cell</i> , 2015, 160, 673-685.	13.5	345
9	Migration of Zebrafish Primordial Germ Cells: A Role for Myosin Contraction and Cytoplasmic Flow. <i>Developmental Cell</i> , 2006, 11, 613-627.	3.1	331
10	Proteomics of early zebrafish embryos. <i>BMC Developmental Biology</i> , 2006, 6, 1.	2.1	310
11	The role of Ppt/Wnt5 in regulating cell shape and movement during zebrafish gastrulation. <i>Mechanisms of Development</i> , 2003, 120, 467-476.	1.7	296
12	Establishment of the Telencephalon during Gastrulation by Local Antagonism of Wnt Signaling. <i>Neuron</i> , 2002, 35, 255-265.	3.8	288
13	Brain-derived Neurotrophic Factor is a Survival Factor for Cultured Rat Cerebellar Granule Neurons and Protects them Against Glutamate-induced Neurotoxicity. <i>European Journal of Neuroscience</i> , 1993, 5, 1455-1464.	1.2	278
14	Wnt11 Functions in Gastrulation by Controlling Cell Cohesion through Rab5c and E-Cadherin. <i>Developmental Cell</i> , 2005, 9, 555-564.	3.1	273
15	Mechanochemical Feedback Loops in Development and Disease. <i>Cell</i> , 2019, 178, 12-25.	13.5	270
16	A mutation in the Gsk3-binding domain of zebrafish Masterblind/Axin1 leads to a fate transformation of telencephalon and eyes to diencephalon. <i>Genes and Development</i> , 2001, 15, 1427-1434.	2.7	242
17	YAP is essential for tissue tension to ensure vertebrate 3D body shape. <i>Nature</i> , 2015, 521, 217-221.	13.7	237
18	Control of Directed Cell Migration In Vivo by Membrane-to-Cortex Attachment. <i>PLoS Biology</i> , 2010, 8, e1000544.	2.6	231

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19	Tension-oriented cell divisions limit anisotropic tissue tension in epithelial spreading during zebrafish epiboly. <i>Nature Cell Biology</i> , 2013, 15, 1405-1414.	4.6	226
20	A role for Rho GTPases and cell-cell adhesion in single-cell motility in vivo. <i>Nature Cell Biology</i> , 2010, 12, 47-53.	4.6	225
21	Three Functions of Cadherins in Cell Adhesion. <i>Current Biology</i> , 2013, 23, R626-R633.	1.8	217
22	Convergent extension: using collective cell migration and cell intercalation to shape embryos. <i>Development (Cambridge)</i> , 2012, 139, 3897-3904.	1.2	210
23	Biology and Physics of Cell Shape Changes in Development. <i>Current Biology</i> , 2009, 19, R790-R799.	1.8	203
24	Non-canonical Wnt signalling and regulation of gastrulation movements. <i>Seminars in Cell and Developmental Biology</i> , 2002, 13, 251-260.	2.3	187
25	Multiscale force sensing in development. <i>Nature Cell Biology</i> , 2017, 19, 581-588.	4.6	185
26	Neurotrophin-3 induced by tri-iodothyronine in cerebellar granule cells promotes Purkinje cell differentiation. <i>Journal of Cell Biology</i> , 1993, 122, 443-450.	2.3	184
27	Coordination of Morphogenesis and Cell-Fate Specification in Development. <i>Current Biology</i> , 2017, 27, R1024-R1035.	1.8	171
28	Mechanosensation of Tight Junctions Depends on ZO-1 Phase Separation and Flow. <i>Cell</i> , 2019, 179, 937-952.e18.	13.5	167
29	Mutations affecting pigmentation and shape of the adult zebrafish. <i>Development Genes and Evolution</i> , 1996, 206, 260-276.	0.4	164
30	Shield formation at the onset of zebrafish gastrulation. <i>Development (Cambridge)</i> , 2005, 132, 1187-1198.	1.2	161
31	Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. <i>Journal of Cell Science</i> , 2005, 118, 4199-4206.	1.2	161
32	Quantitative approaches in developmental biology. <i>Nature Reviews Genetics</i> , 2009, 10, 517-530.	7.7	149
33	Slb/Wnt11 controls hypoblast cell migration and morphogenesis at the onset of zebrafish gastrulation. <i>Development (Cambridge)</i> , 2003, 130, 5375-5384.	1.2	145
34	Coordinated cell-shape changes control epithelial movement in zebrafish and <i>Drosophila</i> . <i>Development (Cambridge)</i> , 2006, 133, 2671-2681.	1.2	144
35	Quantitative differences in tissue surface tension influence zebrafish germ layer positioning. <i>HFSP Journal</i> , 2008, 2, 42-56.	2.5	132
36	floating head and masterblind Regulate Neuronal Patterning in the Roof of the Forebrain. <i>Neuron</i> , 1997, 18, 43-57.	3.8	131

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37	The Bmp Gradient of the Zebrafish Gastrula Guides Migrating Lateral Cells by Regulating Cell-Cell Adhesion. <i>Current Biology</i> , 2007, 17, 475-487.	1.8	131
38	The yolk syncytial layer in early zebrafish development. <i>Trends in Cell Biology</i> , 2010, 20, 586-592.	3.6	129
39	Fluidization-mediated tissue spreading by mitotic cell rounding and non-canonical Wnt signalling. <i>Nature Cell Biology</i> , 2019, 21, 169-178.	4.6	121
40	Phosphoinositide 3-Kinase Is Required for Process Outgrowth and Cell Polarization of Gastrulating Mesendodermal Cells. <i>Current Biology</i> , 2003, 13, 1279-1289.	1.8	118
41	The Function of Silberblick in the Positioning of the Eye Anlage in the Zebrafish Embryo. <i>Developmental Biology</i> , 1997, 184, 85-94.	0.9	116
42	Wnt11 controls cell contact persistence by local accumulation of Frizzled 7 at the plasma membrane. <i>Journal of Cell Biology</i> , 2006, 175, 791-802.	2.3	115
43	Planar cell polarization requires Wdr60, a β^2 regulatory subunit of protein phosphatase 2A. <i>Development (Cambridge)</i> , 2002, 129, 3493-3503.	1.2	113
44	Origin and shaping of the laterality organ in zebrafish. <i>Development (Cambridge)</i> , 2008, 135, 2807-2813.	1.2	112
45	Movement Directionality in Collective Migration of Germ Layer Progenitors. <i>Current Biology</i> , 2010, 20, 161-169.	1.8	111
46	Spatial organization of adhesion: force-dependent regulation and function in tissue morphogenesis. <i>EMBO Journal</i> , 2010, 29, 2753-2768.	3.5	102
47	Optogenetic Control of Nodal Signaling Reveals a Temporal Pattern of Nodal Signaling Regulating Cell Fate Specification during Gastrulation. <i>Cell Reports</i> , 2016, 16, 866-877.	2.9	101
48	Rigidity percolation uncovers a structural basis for embryonic tissue phase transitions. <i>Cell</i> , 2021, 184, 1914-1928.e19.	13.5	97
49	Zebrafish Gastrulation: Cell Movements, Signals, and Mechanisms. <i>International Review of Cytology</i> , 2007, 261, 159-192.	6.2	96
50	Friction forces position the neural anlage. <i>Nature Cell Biology</i> , 2017, 19, 306-317.	4.6	93
51	Tissue rheology in embryonic organization. <i>EMBO Journal</i> , 2019, 38, e102497.	3.5	88
52	Stereotypical Cell Division Orientation Controls Neural Rod Midline Formation in Zebrafish. <i>Current Biology</i> , 2010, 20, 1966-1972.	1.8	85
53	Trafficking and Cell Migration. <i>Traffic</i> , 2009, 10, 811-818.	1.3	83
54	Overcoming the Limitations of the MARTINI Force Field in Simulations of Polysaccharides. <i>Journal of Chemical Theory and Computation</i> , 2017, 13, 5039-5053.	2.3	83

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55	An adhesion code ensures robust pattern formation during tissue morphogenesis. <i>Science</i> , 2020, 370, 113-116.	6.0	83
56	Monorail/Foxa2 regulates floorplate differentiation and specification of oligodendrocytes, serotonergic raphe neurons and cranial motoneurons. <i>Development (Cambridge)</i> , 2005, 132, 645-658.	1.2	81
57	Actin Rings of Power. <i>Developmental Cell</i> , 2016, 37, 493-506.	3.1	80
58	Back and forth between cell fate specification and movement during vertebrate gastrulation. <i>Current Opinion in Genetics and Development</i> , 2008, 18, 311-316.	1.5	77
59	Single-cell detection of microRNAs in developing vertebrate embryos after acute administration of a dual-fluorescence reporter/sensor plasmid. <i>BioTechniques</i> , 2006, 41, 727-732.	0.8	71
60	A Bond for a Lifetime: Employing Membrane Nanotubes from Living Cells to Determine Receptor-Ligand Kinetics. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 9775-9777.	7.2	70
61	Determining Physical Properties of the Cell Cortex. <i>Biophysical Journal</i> , 2016, 110, 1421-1429.	0.2	68
62	Identification of regulators of germ layer morphogenesis using proteomics in zebrafish. <i>Journal of Cell Science</i> , 2006, 119, 2073-2083.	1.2	66
63	Cell Sorting in Development. <i>Current Topics in Developmental Biology</i> , 2011, 95, 189-213.	1.0	62
64	The Physical Basis of Coordinated Tissue Spreading in Zebrafish Gastrulation. <i>Developmental Cell</i> , 2017, 40, 354-366.e4.	3.1	62
65	Interstitial fluid osmolarity modulates the action of differential tissue surface tension in progenitor cell segregation during gastrulation. <i>Development (Cambridge)</i> , 2017, 144, 1798-1806.	1.2	60
66	Gastrulation dynamics: cells move into focus. <i>Trends in Cell Biology</i> , 2004, 14, 620-627.	3.6	58
67	Planar cell polarity signalling regulates cell adhesion properties in progenitors of the zebrafish laterality organ. <i>Development (Cambridge)</i> , 2010, 137, 3459-3468.	1.2	58
68	Planar cell polarization requires Widerborst, a B' regulatory subunit of protein phosphatase 2A. <i>Development (Cambridge)</i> , 2002, 129, 3493-503.	1.2	58
69	The role of adhesion energy in controlling cell-cell contacts. <i>Current Opinion in Cell Biology</i> , 2011, 23, 508-514.	2.6	56
70	An Effective Feedback Loop between Cell-Cell Contact Duration and Morphogen Signaling Determines Cell Fate. <i>Developmental Cell</i> , 2017, 43, 198-211.e12.	3.1	54
71	The Notochord Breaks Bilateral Symmetry by Controlling Cell Shapes in the Zebrafish Laterality Organ. <i>Developmental Cell</i> , 2014, 31, 774-783.	3.1	53
72	Steering cell migration by alternating blebs and actin-rich protrusions. <i>BMC Biology</i> , 2016, 14, 74.	1.7	49

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73	Anthrax toxin receptor 2a controls mitotic spindle positioning. <i>Nature Cell Biology</i> , 2013, 15, 28-39.	4.6	47
74	Cell division and tissue mechanics. <i>Current Opinion in Cell Biology</i> , 2019, 60, 114-120.	2.6	47
75	Lateral Inhibition in Cell Specification Mediated by Mechanical Signals Modulating TAZ Activity. <i>Cell</i> , 2019, 176, 1379-1392.e14.	13.5	47
76	Active elastic thin shell theory for cellular deformations. <i>New Journal of Physics</i> , 2014, 16, 065005.	1.2	44
77	Zebrafish embryonic explants undergo genetically encoded self-assembly. <i>ELife</i> , 2020, 9, .	2.8	44
78	Bulk Actin Dynamics Drive Phase Segregation in Zebrafish Oocytes. <i>Cell</i> , 2019, 177, 1463-1479.e18.	13.5	39
79	Completion of the epithelial to mesenchymal transition in zebrafish mesoderm requires Spadetail. <i>Developmental Biology</i> , 2011, 354, 102-110.	0.9	38
80	Tri-iodothyronine regulates survival and differentiation of rat cerebellar granule neurons. <i>NeuroReport</i> , 1992, 3, 685-688.	0.6	37
81	Zebrafish gastrulation movements: bridging cell and developmental biology. <i>Seminars in Cell and Developmental Biology</i> , 2002, 13, 471-479.	2.3	37
82	Cell adhesion in embryo morphogenesis. <i>Current Opinion in Cell Biology</i> , 2012, 24, 148-153.	2.6	37
83	Sphingosine-1-phosphate receptors regulate individual cell behaviours underlying the directed migration of prechordal plate progenitor cells during zebrafish gastrulation. <i>Development (Cambridge)</i> , 2008, 135, 3043-3051.	1.2	34
84	Holding it together: when cadherin meets cadherin. <i>Biophysical Journal</i> , 2021, 120, 4182-4192.	0.2	34
85	Migrasomes take center stage. <i>Nature Cell Biology</i> , 2019, 21, 918-920.	4.6	33
86	Biomechanical signaling within the developing zebrafish heart attunes endocardial growth to myocardial chamber dimensions. <i>Nature Communications</i> , 2019, 10, 4113.	5.8	33
87	A mutational approach to the study of development of the protochordate <i>Ciona intestinalis</i> (Tunicata, Chordata). <i>Sarsia</i> , 2000, 85, 173-176.	0.5	32
88	Mechanisms of zebrafish epiboly: A current view. <i>Current Topics in Developmental Biology</i> , 2020, 136, 319-341.	1.0	32
89	Light-activated Frizzled7 reveals a permissive role of non-canonical wnt signaling in mesendoderm cell migration. <i>ELife</i> , 2019, 8, .	2.8	32
90	UV Laser Ablation to Measure Cell and Tissue-Generated Forces in the Zebrafish Embryo In Vivo and Ex Vivo. <i>Methods in Molecular Biology</i> , 2015, 1189, 219-235.	0.4	31

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91	Control of convergent yolk syncytial layer nuclear movement in zebrafish. <i>Development (Cambridge)</i> , 2009, 136, 1305-1315.	1.2	30
92	Defective neuroepithelial cell cohesion affects tangential branchiomotor neuron migration in the zebrafish neural tube. <i>Development (Cambridge)</i> , 2011, 138, 4673-4683.	1.2	28
93	Cytoplasmâ€™s Got Moves. <i>Developmental Cell</i> , 2021, 56, 213-226.	3.1	28
94	Zebrafish gastrulation: Putting fate in motion. <i>Current Topics in Developmental Biology</i> , 2020, 136, 343-375.	1.0	26
95	Rigidity transitions in development and disease. <i>Trends in Cell Biology</i> , 2022, 32, 433-444.	3.6	26
96	Lethal giant larvae 2 regulates development of the ciliated organ Kupfferâ€™s vesicle. <i>Development (Cambridge)</i> , 2013, 140, 1550-1559.	1.2	25
97	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. <i>NeuroReport</i> , 1994, 5, 413-416.	0.6	24
98	Lpp is involved in Wnt/PCP signaling and acts together with Scrib to mediate convergence and extension movements during zebrafish gastrulation. <i>Developmental Biology</i> , 2008, 320, 267-277.	0.9	24
99	Enveloping cell-layer differentiation at the surface of zebrafish germ-layer tissue explants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, E9-10; author reply E11.	3.3	22
100	Wnt Signalling: A Moving Picture Emerges From van gogh. <i>Current Biology</i> , 2002, 12, R126-R128.	1.8	20
101	Adhesive Crosstalk in Gastrulation. <i>Developmental Cell</i> , 2003, 5, 190-191.	3.1	20
102	Apical Relaxation during Mitotic Rounding Promotes Tension-Oriented Cell Division. <i>Developmental Cell</i> , 2020, 55, 695-706.e4.	3.1	20
103	Occluding junctions as novel regulators of tissue mechanics during wound repair. <i>Journal of Cell Biology</i> , 2018, 217, 4267-4283.	2.3	19
104	Multitier mechanics control stromal adaptations in the swelling lymph node. <i>Nature Immunology</i> , 2022, 23, 1246-1255.	7.0	19
105	Dorsal closure in <i>Drosophila</i> : cells cannot get out of the tight spot. <i>BioEssays</i> , 2009, 31, 1284-1287.	1.2	18
106	Imaging Zebrafish Embryos by Two-Photon Excitation Time-Lapse Microscopy. <i>Methods in Molecular Biology</i> , 2009, 546, 273-287.	0.4	18
107	Reassembling gastrulation. <i>Developmental Biology</i> , 2021, 474, 71-81.	0.9	15
108	D'Arcy Thompson's â€™on Growth and formâ€™: From soap bubbles to tissue self-organization. <i>Mechanisms of Development</i> , 2017, 145, 32-37.	1.7	13

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109	Tension-dependent stabilization of E-cadherin limits cell-cell contact expansion in zebrafish germ-layer progenitor cells. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	13
110	Probing E-Cadherin Endocytosis by Morpholino-Mediated Rab5 Knockdown in Zebrafish. Methods in Molecular Biology, 2008, 440, 371-387.	0.4	9
111	Satb2 acts as a gatekeeper for major developmental transitions during early vertebrate embryogenesis. Nature Communications, 2021, 12, 6094.	5.8	9
112	Wnt Signalling: Refocusing on Strabismus. Current Biology, 2002, 12, R657-R659.	1.8	8
113	Neurulation: coordinating cell polarisation and lumen formation. EMBO Journal, 2012, 32, 1-3.	3.5	8
114	Holding On and Letting Go: Cadherin Turnover in Cell Intercalation. Developmental Cell, 2013, 24, 567-569.	3.1	8
115	Combined effect of cell geometry and polarity domains determines the orientation of unequal division. ELife, 2021, 10, .	2.8	8
116	Gradients Are Shaping Up. Cell, 2015, 161, 431-432.	13.5	7
117	Stretched divisions. Nature, 2017, 543, 43-44.	13.7	6
118	Apical contacts stemming from incomplete delamination guide progenitor cell allocation through a dragging mechanism. ELife, 2021, 10, .	2.8	6
119	Spurred by Resistance: Mechanosensation in Collective Migration. Developmental Cell, 2012, 22, 3-4.	3.1	5
120	Dissecting Organismal Morphogenesis by Bridging Genetics and Biophysics. Annual Review of Genetics, 2021, 55, 209-233.	3.2	5
121	Chaos Begets Order: Asynchronous Cell Contractions Drive Epithelial Morphogenesis. Developmental Cell, 2009, 16, 4-6.	3.1	3
122	Cell-cell adhesion and extracellular matrix: diversity counts. Current Opinion in Cell Biology, 2012, 24, 559-561.	2.6	3
123	Lateral junction dynamics lead the way out. Nature Cell Biology, 2014, 16, 127-129.	4.6	3
124	Gastrulation in Zebrafish. Molecular Aspects of Fish and Marine Biology, 2004, , 39-86.	0.2	2
125	Regeneration Tensed Up: Polyploidy Takes the Lead. Developmental Cell, 2017, 42, 559-560.	3.1	2
126	The force and effect of cell proliferation. EMBO Journal, 2013, 32, 2783-2784.	3.5	1

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127	Studying YAP-Mediated 3D Morphogenesis Using Fish Embryos and Human Spheroids. Methods in Molecular Biology, 2019, 1893, 167-181.	0.4	1
128	Cell Migration During Zebrafish Gastrulation. , 2005, , 71-105.		0
129	Analysis of Branchiomotor Neuron Migration in the Zebrafish. , 2010, , 1-16.		0
130	Carl-Philipp Heisenberg: Early embryos make a big move. Journal of Cell Biology, 2013, 200, 238-239.	2.3	0
131	Quantifying in the Granulosa Layer After Laser Surgery. Methods in Molecular Biology, 2021, 2218, 117-128.	0.4	0
132	Special rebranding issue: "Quantitative cell and developmental biology" Cells and Development, 2021, , 203758.	0.7	0