Carl-Philipp Heisenberg

List of Publications by Year
in descending order

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	Rigidity transitions in development and disease. Trends in Cell Biology, 2022, 32, 433-444.	3.6	26
2	Tension-dependent stabilization of E-cadherin limits cellâ€“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
3	Multitier mechanics control stromal adaptations in the swelling lymph node. Nature Immunology, 2022, 23, 1246-1255.	7.0	19
4	Cytoplasmâ€™s Got Moves. Developmental Cell, 2021, 56, 213-226.	3.1	28
5	Quantifying in the Granulosa Layer After Laser Surgery. Methods in Molecular Biology, 2021, 2218, 117-128.	0.4	0
6	Holding it together: when cadherin meets cadherin. Biophysical Journal, 2021, 120, 4182-4192.	0.2	34
7	Rigidity percolation uncovers a structural basis for embryonic tissue phase transitions. Cell, 2021, 184, 1914-1928.e19.	13.5	97
8	Reassembling gastrulation. Developmental Biology, 2021, 474, 71-81.	0.9	15
9	Apical contacts stemming from incomplete delamination guide progenitor cell allocation through a dragging mechanism. ELife, 2021, 10, .	2.8	6
10	Dissecting Organismal Morphogenesis by Bridging Genetics and Biophysics. Annual Review of Genetics, 2021, 55, 209-233.	3.2	5
11	Satb2 acts as a gatekeeper for major developmental transitions during early vertebrate embryogenesis. Nature Communications, 2021, 12, 6094.	5.8	9
12	Special rebranding issue: â€œQuantitative cell and developmental biologyâ€. Cells and Development, 2021, , 203758.	0.7	0
13	Combined effect of cell geometry and polarity domains determines the orientation of unequal division. ELife, 2021, 10, .	2.8	8
14	Mechanisms of zebrafish epiboly: A current view. Current Topics in Developmental Biology, 2020, 136, 319-341.	1.0	32
15	Zebrafish gastrulation: Putting fate in motion. Current Topics in Developmental Biology, 2020, 136, 343-375.	1.0	26
16	An adhesion code ensures robust pattern formation during tissue morphogenesis. Science, 2020, 370, 113-116.	6.0	83
17	Apical Relaxation during Mitotic Rounding Promotes Tension-Oriented Cell Division. Developmental Cell, 2020, 55, 695-706.e4.	3.1	20
18	Zebrafish embryonic explants undergo genetically encoded self-assembly. ELife, 2020, 9, .	2.8	44

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19	Migrasomes take center stage. Nature Cell Biology, 2019, 21, 918-920.	4.6	33
20	Cell division and tissue mechanics. Current Opinion in Cell Biology, 2019, 60, 114-120.	2.6	47
21	Mechanochemical Feedback Loops in Development and Disease. Cell, 2019, 178, 12-25.	13.5	270
22	Mechanosensation of Tight Junctions Depends on ZO-1 Phase Separation and Flow. Cell, 2019, 179, 937-952.e18.	13.5	167
23	Tissue rheology in embryonic organization. EMBO Journal, 2019, 38, e102497.	3.5	88
24	Biomechanical signaling within the developing zebrafish heart attunes endocardial growth to myocardial chamber dimensions. Nature Communications, 2019, 10, 4113.	5.8	33
25	Bulk Actin Dynamics Drive Phase Segregation in Zebrafish Oocytes. Cell, 2019, 177, 1463-1479.e18.	13.5	39
26	Lateral Inhibition in Cell Specification Mediated by Mechanical Signals Modulating TAZ Activity. Cell, 2019, 176, 1379-1392.e14.	13.5	47
27	Fluidization-mediated tissue spreading by mitotic cell rounding and non-canonical Wnt signalling. Nature Cell Biology, 2019, 21, 169-178.	4.6	121
28	Studying YAP-Mediated 3D Morphogenesis Using Fish Embryos and Human Spheroids. Methods in Molecular Biology, 2019, 1893, 167-181.	0.4	1
29	Light-activated Frizzled7 reveals a permissive role of non-canonical wnt signaling in mesendoderm cell migration. ELife, 2019, 8, .	2.8	32
30	Occluding junctions as novel regulators of tissue mechanics during wound repair. Journal of Cell Biology, 2018, 217, 4267-4283.	2.3	19
31	The Physical Basis of Coordinated Tissue Spreading in Zebrafish Gastrulation. Developmental Cell, 2017, 40, 354-366.e4.	3.1	62
32	Stretched divisions. Nature, 2017, 543, 43-44.	13.7	6
33	D'Arcy Thompson's â€˜on Growth and formâ€™: From soap bubbles to tissue self-organization. Mechanisms of Development, 2017, 145, 32-37.	1.7	13
34	Interstitial fluid osmolarity modulates the action of differential tissue surface tension in progenitor cell segregation during gastrulation. Development (Cambridge), 2017, 144, 1798-1806.	1.2	60
35	Multiscale force sensing in development. Nature Cell Biology, 2017, 19, 581-588.	4.6	185
36	Friction forces position the neural anlage. Nature Cell Biology, 2017, 19, 306-317.	4.6	93

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37	Coordination of Morphogenesis and Cell-Fate Specification in Development. Current Biology, 2017, 27, R1024-R1035.	1.8	171
38	Regeneration Tensed Up: Polyploidy Takes the Lead. Developmental Cell, 2017, 42, 559-560.	3.1	2
39	An Effective Feedback Loop between Cell-Cell Contact Duration and Morphogen Signaling Determines Cell Fate. Developmental Cell, 2017, 43, 198-211.e12.	3.1	54
40	Overcoming the Limitations of the MARTINI Force Field in Simulations of Polysaccharides. Journal of Chemical Theory and Computation, 2017, 13, 5039-5053.	2.3	83
41	Steering cell migration by alternating blebs and actin-rich protrusions. BMC Biology, 2016, 14, 74.	1.7	49
42	Optogenetic Control of Nodal Signaling Reveals a Temporal Pattern of Nodal Signaling Regulating Cell Fate Specification during Gastrulation. Cell Reports, 2016, 16, 866-877.	2.9	101
43	Actin Rings of Power. Developmental Cell, 2016, 37, 493-506.	3.1	80
44	Determining Physical Properties of the Cell Cortex. Biophysical Journal, 2016, 110, 1421-1429.	0.2	68
45	Cortical Contractility Triggers a Stochastic Switch to Fast Amoeboid Cell Motility. Cell, 2015, 160, 673-685.	13.5	345
46	YAP is essential for tissue tension to ensure vertebrate 3D body shape. Nature, 2015, 521, 217-221.	13.7	237
47	Gradients Are Shaping Up. Cell, 2015, 161, 431-432.	13.5	7
48	Actin Flows Mediate a Universal Coupling between Cell Speed and Cell Persistence. Cell, 2015, 161, 374-386.	13.5	369
49	UV Laser Ablation to Measure Cell and Tissue-Generated Forces in the Zebrafish Embryo In Vivo and Ex Vivo. Methods in Molecular Biology, 2015, 1189, 219-235.	0.4	31
50	Lateral junction dynamics lead the way out. Nature Cell Biology, 2014, 16, 127-129.	4.6	3
51	The Notochord Breaks Bilateral Symmetry by Controlling Cell Shapes in the Zebrafish Laterality Organ. Developmental Cell, 2014, 31, 774-783.	3.1	53
52	Active elastic thin shell theory for cellular deformations. New Journal of Physics, 2014, 16, 065005.	1.2	44
53	Tension-oriented cell divisions limit anisotropic tissue tension in epithelial spreading during zebrafish epiboly. Nature Cell Biology, 2013, 15, 1405-1414.	4.6	226
54	Carl-Philipp Heisenberg: Early embryos make a big move. Journal of Cell Biology, 2013, 200, 238-239.	2.3	0

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55	Anthrax toxin receptor 2a controls mitotic spindle positioning. Nature Cell Biology, 2013, 15, 28-39.	4.6	47
56	Three Functions of Cadherins in Cell Adhesion. Current Biology, 2013, 23, R626-R633.	1.8	217
57	Lethal giant larvae 2 regulates development of the ciliated organ Kupfferâ€™s vesicle. Development (Cambridge), 2013, 140, 1550-1559.	1.2	25
58	Holding On and Letting Go: Cadherin Turnover in Cell Intercalation. Developmental Cell, 2013, 24, 567-569.	3.1	8
59	Forces in Tissue Morphogenesis and Patterning. Cell, 2013, 153, 948-962.	13.5	956
60	The force and effect of cell proliferation. EMBO Journal, 2013, 32, 2783-2784.	3.5	1
61	Neurulation: coordinating cell polarisation and lumen formation. EMBO Journal, 2012, 32, 1-3.	3.5	8
62	Cellâ€“cell adhesion and extracellular matrix: diversity counts. Current Opinion in Cell Biology, 2012, 24, 559-561.	2.6	3
63	Convergent extension: using collective cell migration and cell intercalation to shape embryos. Development (Cambridge), 2012, 139, 3897-3904.	1.2	210
64	Forces Driving Epithelial Spreading in Zebrafish Gastrulation. Science, 2012, 338, 257-260.	6.0	368
65	Spurred by Resistance: Mechanosensation in Collective Migration. Developmental Cell, 2012, 22, 3-4.	3.1	5
66	Adhesion Functions in Cell Sorting by Mechanically Coupling the Cortices of Adhering Cells. Science, 2012, 338, 253-256.	6.0	493
67	Cell adhesion in embryo morphogenesis. Current Opinion in Cell Biology, 2012, 24, 148-153.	2.6	37
68	Completion of the epithelial to mesenchymal transition in zebrafish mesoderm requires Spadetail. Developmental Biology, 2011, 354, 102-110.	0.9	38
69	Cell Sorting in Development. Current Topics in Developmental Biology, 2011, 95, 189-213.	1.0	62
70	Defective neuroepithelial cell cohesion affects tangential branchiomotor neuron migration in the zebrafish neural tube. Development (Cambridge), 2011, 138, 4673-4683.	1.2	28
71	The role of adhesion energy in controlling cellâ€“cell contacts. Current Opinion in Cell Biology, 2011, 23, 508-514.	2.6	56
72	Enveloping cell-layer differentiation at the surface of zebrafish germ-layer tissue explants. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E9-10; author reply E11.	3.3	22

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73	The yolk syncytial layer in early zebrafish development. Trends in Cell Biology, 2010, 20, 586-592.	3.6	129
74	Movement Directionality in Collective Migration of Germ Layer Progenitors. Current Biology, 2010, 20, 161-169.	1.8	111
75	Stereotypical Cell Division Orientation Controls Neural Rod Midline Formation in Zebrafish. Current Biology, 2010, 20, 1966-1972.	1.8	85
76	Spatial organization of adhesion: force-dependent regulation and function in tissue morphogenesis. EMBO Journal, 2010, 29, 2753-2768.	3.5	102
77	A role for Rho GTPases and cellâ€“cell adhesion in single-cell motility in vivo. Nature Cell Biology, 2010, 12, 47-53.	4.6	225
78	Planar cell polarity signalling regulates cell adhesion properties in progenitors of the zebrafish laterality organ. Development (Cambridge), 2010, 137, 3459-3468.	1.2	58
79	Control of Directed Cell Migration In Vivo by Membrane-to-Cortex Attachment. PLoS Biology, 2010, 8, e1000544.	2.6	231
80	Analysis of Branchiomotor Neuron Migration in the Zebrafish. , 2010, , 1-16.		0
81	Control of convergent yolk syncytial layer nuclear movement in zebrafish. Development (Cambridge), 2009, 136, 1305-1315.	1.2	30
82	Biology and Physics of Cell Shape Changes in Development. Current Biology, 2009, 19, R790-R799.	1.8	203
83	Dorsal closure in <i>Drosophila</i>: cells cannot get out of the tight spot. BioEssays, 2009, 31, 1284-1287.	1.2	18
84	Quantitative approaches in developmental biology. Nature Reviews Genetics, 2009, 10, 517-530.	7.7	149
85	Trafficking and Cell Migration. Traffic, 2009, 10, 811-818.	1.3	83
86	Chaos Begets Order: Asynchronous Cell Contractions Drive Epithelial Morphogenesis. Developmental Cell, 2009, 16, 4-6.	3.1	3
87	Imaging Zebrafish Embryos by Two-Photon Excitation Time-Lapse Microscopy. Methods in Molecular Biology, 2009, 546, 273-287.	0.4	18
88	A Bond for a Lifetime: Employing Membrane Nanotubes from Living Cells to Determine Receptorâ€“Ligand Kinetics. Angewandte Chemie - International Edition, 2008, 47, 9775-9777.	7.2	70
89	Tensile forces govern germ-layer organization in zebrafish. Nature Cell Biology, 2008, 10, 429-436.	4.6	692
90	Lpp is involved in Wnt/PCP signaling and acts together with Scrib to mediate convergence and extension movements during zebrafish gastrulation. Developmental Biology, 2008, 320, 267-277.	0.9	24

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91	Back and forth between cell fate specification and movement during vertebrate gastrulation. Current Opinion in Genetics and Development, 2008, 18, 311-316.	1.5	77
92	Single-cell force spectroscopy. Journal of Cell Science, 2008, 121, 1785-1791.	1.2	443
93	Quantitative differences in tissue surface tension influence zebrafish germ layer positioning. HFSP Journal, 2008, 2, 42-56.	2.5	132
94	Origin and shaping of the laterality organ in zebrafish. Development (Cambridge), 2008, 135, 2807-2813.	1.2	112
95	Sphingosine-1-phosphate receptors regulate individual cell behaviours underlying the directed migration of prechordal plate progenitor cells during zebrafish gastrulation. Development (Cambridge), 2008, 135, 3043-3051.	1.2	34
96	Probing E-Cadherin Endocytosis by Morpholino-Mediated Rab5 Knockdown in Zebrafish. Methods in Molecular Biology, 2008, 440, 371-387.	0.4	9
97	Zebrafish Gastrulation: Cell Movements, Signals, and Mechanisms. International Review of Cytology, 2007, 261, 159-192.	6.2	96
98	The Bmp Gradient of the Zebrafish GastrulaÂGuidesÂMigrating Lateral CellsÂbyÂRegulating Cell-Cell Adhesion. Current Biology, 2007, 17, 475-487.	1.8	131
99	Migration of Zebrafish Primordial Germ Cells: A Role for Myosin Contraction and Cytoplasmic Flow. Developmental Cell, 2006, 11, 613-627.	3.1	331
100	Single-cell detection of microRNAs in developing vertebrate embryos after acute administration of a dual-fluorescence reporter/sensor plasmid. BioTechniques, 2006, 41, 727-732.	0.8	71
101	Proteomics of early zebrafish embryos. BMC Developmental Biology, 2006, 6, 1.	2.1	310
102	Coordinated cell-shape changes control epithelial movement in zebrafish and Drosophila. Development (Cambridge), 2006, 133, 2671-2681.	1.2	144
103	Wnt11 controls cell contact persistence by local accumulation of Frizzled 7 at the plasma membrane. Journal of Cell Biology, 2006, 175, 791-802.	2.3	115
104	Identification of regulators of germ layer morphogenesis using proteomics in zebrafish. Journal of Cell Science, 2006, 119, 2073-2083.	1.2	66
105	Cell Migration During Zebrafish Gastrulation. , 2005, , 71-105.		0
106	Monorail/Foxa2 regulates floorplate differentiation and specification of oligodendrocytes, serotonergic raphe neurones and cranial motoneurones. Development (Cambridge), 2005, 132, 645-658.	1.2	81
107	Shield formation at the onset of zebrafish gastrulation. Development (Cambridge), 2005, 132, 1187-1198.	1.2	161
108	Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. Journal of Cell Science, 2005, 118, 4199-4206.	1.2	161

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109	Wnt11 Functions in Gastrulation by Controlling Cell Cohesion through Rab5c and E-Cadherin. Developmental Cell, 2005, 9, 555-564.	3.1	273
110	Gastrulation dynamics: cells move into focus. Trends in Cell Biology, 2004, 14, 620-627.	3.6	58
111	Gastrulation in Zebrafish. Molecular Aspects of Fish and Marine Biology, 2004, , 39-86.	0.2	2
112	Phosphoinositide 3-Kinase Is Required for Process Outgrowth and Cell Polarization of Gastrulating Mesendodermal Cells. Current Biology, 2003, 13, 1279-1289.	1.8	118
113	The role of Ppt/Wnt5 in regulating cell shape and movement during zebrafish gastrulation. Mechanisms of Development, 2003, 120, 467-476.	1.7	296
114	Adhesive Crosstalk in Gastrulation. Developmental Cell, 2003, 5, 190-191.	3.1	20
115	Slb/Wnt11 controls hypoblast cell migration and morphogenesis at the onset of zebrafish gastrulation. Development (Cambridge), 2003, 130, 5375-5384.	1.2	145
116	Non-canonical Wnt signalling and regulation of gastrulation movements. Seminars in Cell and Developmental Biology, 2002, 13, 251-260.	2.3	187
117	Zebrafish gastrulation movements: bridging cell and developmental biology. Seminars in Cell and Developmental Biology, 2002, 13, 471-479.	2.3	37
118	Establishment of the Telencephalon during Gastrulation by Local Antagonism of Wnt Signaling. Neuron, 2002, 35, 255-265.	3.8	288
119	Wnt Signalling: A Moving Picture Emerges From van gogh. Current Biology, 2002, 12, R126-R128.	1.8	20
120	Wnt Signalling: Refocusing on Strabismus. Current Biology, 2002, 12, R657-R659.	1.8	8
121	Planar cell polarization requires Widerborst, a Bâ€² regulatory subunit of protein phosphatase 2A. Development (Cambridge), 2002, 129, 3493-3503.	1.2	113
122	Planar cell polarization requires Widerborst, a B' regulatory subunit of protein phosphatase 2A. Development (Cambridge), 2002, 129, 3493-503.	1.2	58
123	A mutation in the Gsk3-binding domain of zebrafish Masterblind/Axin1 leads to a fate transformation of telencephalon and eyes to diencephalon. Genes and Development, 2001, 15, 1427-1434.	2.7	242
124	Silberblick/Wnt11 mediates convergent extension movements during zebrafish gastrulation. Nature, 2000, 405, 76-81.	13.7	919
125	A mutational approach to the study of development of the protochordate<i>Ciona intestinalis</i>(Tunicata, Chordata). Sarsia, 2000, 85, 173-176.	0.5	32
126	The Function ofsilberblickin the Positioning of the Eye Anlage in the Zebrafish Embryo. Developmental Biology, 1997, 184, 85-94.	0.9	116

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127	floating head and masterblind Regulate Neuronal Patterning in the Roof of the Forebrain. Neuron, 1997, 18, 43-57.	3.8	131
128	Mutations affecting pigmentation and shape of the adult zebrafish. Development Genes and Evolution, 1996, 206, 260-276.	0.4	164
129	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. NeuroReport, 1994, 5, 413-416.	0.6	24
130	Brain-derived Neurotrophic Factor is a Survival Factor for Cultured Rat Cerebellar Granule Neurons and Protects them Against Glutamate-induced Neurotoxicity. European Journal of Neuroscience, 1993, 5, 1455-1464.	1.2	278
131	Neurotrophin-3 induced by tri-iodothyronine in cerebellar granule cells promotes Purkinje cell differentiation. Journal of Cell Biology, 1993, 122, 443-450.	2.3	184
132	Tri-iodothyronine regulates survival and differentiation of rat cerebellar granule neurons. NeuroReport, 1992, 3, 685-688.	0.6	37