

# Carl-Philipp Heisenberg

## List of Publications by Citations

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129  
papers

11,379  
citations

55  
h-index

106  
g-index

146  
ext. papers

13,440  
ext. citations

13.6  
avg, IF

6.6  
L-index

#	Paper	IF	Citations
129	Silberblick/Wnt11 mediates convergent extension movements during zebrafish gastrulation. <i>Nature</i> , <b>2000</b> , 405, 76-81	50.4	833
128	Forces in tissue morphogenesis and patterning. <i>Cell</i> , <b>2013</b> , 153, 948-62	56.2	686
127	Tensile forces govern germ-layer organization in zebrafish. <i>Nature Cell Biology</i> , <b>2008</b> , 10, 429-36	23.4	593
126	Single-cell force spectroscopy. <i>Journal of Cell Science</i> , <b>2008</b> , 121, 1785-91	5.3	380
125	Adhesion functions in cell sorting by mechanically coupling the cortices of adhering cells. <i>Science</i> , <b>2012</b> , 338, 253-6	33.3	358
124	Forces driving epithelial spreading in zebrafish gastrulation. <i>Science</i> , <b>2012</b> , 338, 257-60	33.3	283
123	Migration of zebrafish primordial germ cells: a role for myosin contraction and cytoplasmic flow. <i>Developmental Cell</i> , <b>2006</b> , 11, 613-27	10.2	281
122	The role of Ppt/Wnt5 in regulating cell shape and movement during zebrafish gastrulation. <i>Mechanisms of Development</i> , <b>2003</b> , 120, 467-76	1.7	273
121	Establishment of the telencephalon during gastrulation by local antagonism of Wnt signaling. <i>Neuron</i> , <b>2002</b> , 35, 255-65	13.9	264
120	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> , <b>1993</b> , 5, 1455-64	3.5	259
119	Proteomics of early zebrafish embryos. <i>BMC Developmental Biology</i> , <b>2006</b> , 6, 1	3.1	258
118	Wnt11 functions in gastrulation by controlling cell cohesion through Rab5c and E-cadherin. <i>Developmental Cell</i> , <b>2005</b> , 9, 555-64	10.2	244
117	Actin flows mediate a universal coupling between cell speed and cell persistence. <i>Cell</i> , <b>2015</b> , 161, 374-86	56.2	243
116	Cortical contractility triggers a stochastic switch to fast amoeboid cell motility. <i>Cell</i> , <b>2015</b> , 160, 673-685	56.2	243
115	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> , <b>2001</b> , 15, 1427-34	12.6	217
114	A role for Rho GTPases and cell-cell adhesion in single-cell motility in vivo. <i>Nature Cell Biology</i> , <b>2010</b> , 12, 47-53; sup pp 1-11	23.4	198
113	Control of directed cell migration in vivo by membrane-to-cortex attachment. <i>PLoS Biology</i> , <b>2010</b> , 8, e1000544	18.5	185

112	Tension-oriented cell divisions limit anisotropic tissue tension in epithelial spreading during zebrafish epiboly. <i>Nature Cell Biology</i> , <b>2013</b> , 15, 1405-14	23.4	168
111	Non-canonical Wnt signalling and regulation of gastrulation movements. <i>Seminars in Cell and Developmental Biology</i> , <b>2002</b> , 13, 251-60	7.5	167
110	Neurotrophin-3 induced by tri-iodothyronine in cerebellar granule cells promotes Purkinje cell differentiation. <i>Journal of Cell Biology</i> , <b>1993</b> , 122, 443-50	7.3	167
109	Convergent extension: using collective cell migration and cell intercalation to shape embryos. <i>Development (Cambridge)</i> , <b>2012</b> , 139, 3897-904	6.6	160
108	Three functions of cadherins in cell adhesion. <i>Current Biology</i> , <b>2013</b> , 23, R626-33	6.3	155
107	Biology and physics of cell shape changes in development. <i>Current Biology</i> , <b>2009</b> , 19, R790-9	6.3	155
106	YAP is essential for tissue tension to ensure vertebrate 3D body shape. <i>Nature</i> , <b>2015</b> , 521, 217-221	50.4	154
105	Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. <i>Journal of Cell Science</i> , <b>2005</b> , 118, 4199-206	5.3	143
104	Mutations affecting pigmentation and shape of the adult zebrafish. <i>Development Genes and Evolution</i> , <b>1996</b> , 206, 260-76	1.8	140
103	Shield formation at the onset of zebrafish gastrulation. <i>Development (Cambridge)</i> , <b>2005</b> , 132, 1187-98	6.6	137
102	floating head and masterblind regulate neuronal patterning in the roof of the forebrain. <i>Neuron</i> , <b>1997</b> , 18, 43-57	13.9	125
101	Slb/Wnt11 controls hypoblast cell migration and morphogenesis at the onset of zebrafish gastrulation. <i>Development (Cambridge)</i> , <b>2003</b> , 130, 5375-84	6.6	124
100	Multiscale force sensing in development. <i>Nature Cell Biology</i> , <b>2017</b> , 19, 581-588	23.4	123
99	Coordinated cell-shape changes control epithelial movement in zebrafish and Drosophila. <i>Development (Cambridge)</i> , <b>2006</b> , 133, 2671-81	6.6	123
98	Mechanochemical Feedback Loops in Development and Disease. <i>Cell</i> , <b>2019</b> , 178, 12-25	56.2	118
97	Quantitative approaches in developmental biology. <i>Nature Reviews Genetics</i> , <b>2009</b> , 10, 517-30	30.1	117
96	The Bmp gradient of the zebrafish gastrula guides migrating lateral cells by regulating cell-cell adhesion. <i>Current Biology</i> , <b>2007</b> , 17, 475-87	6.3	116
95	Quantitative differences in tissue surface tension influence zebrafish germ layer positioning. <i>HFSP Journal</i> , <b>2008</b> , 2, 42-56		113

94	The function of silberblick in the positioning of the eye anlage in the zebrafish embryo. <i>Developmental Biology</i> , <b>1997</b> , 184, 85-94	3.1	110
93	The yolk syncytial layer in early zebrafish development. <i>Trends in Cell Biology</i> , <b>2010</b> , 20, 586-92	18.3	102
92	Phosphoinositide 3-kinase is required for process outgrowth and cell polarization of gastrulating mesendodermal cells. <i>Current Biology</i> , <b>2003</b> , 13, 1279-89	6.3	101
91	Wnt11 controls cell contact persistence by local accumulation of Frizzled 7 at the plasma membrane. <i>Journal of Cell Biology</i> , <b>2006</b> , 175, 791-802	7.3	99
90	Planar cell polarization requires Widerborst, a B? regulatory subunit of protein phosphatase 2A. <i>Development (Cambridge)</i> , <b>2002</b> , 129, 3493-3503	6.6	94
89	Coordination of Morphogenesis and Cell-Fate Specification in Development. <i>Current Biology</i> , <b>2017</b> , 27, R1024-R1035	6.3	93
88	Spatial organization of adhesion: force-dependent regulation and function in tissue morphogenesis. <i>EMBO Journal</i> , <b>2010</b> , 29, 2753-68	13	88
87	Movement directionality in collective migration of germ layer progenitors. <i>Current Biology</i> , <b>2010</b> , 20, 161-9	6.3	85
86	Origin and shaping of the laterality organ in zebrafish. <i>Development (Cambridge)</i> , <b>2008</b> , 135, 2807-13	6.6	85
85	Zebrafish gastrulation: cell movements, signals, and mechanisms. <i>International Review of Cytology</i> , <b>2007</b> , 261, 159-92		83
84	Mechanosensation of Tight Junctions Depends on ZO-1 Phase Separation and Flow. <i>Cell</i> , <b>2019</b> , 179, 937-952.e18		82
83	Trafficking and cell migration. <i>Traffic</i> , <b>2009</b> , 10, 811-8	5.7	77
82	Stereotypical cell division orientation controls neural rod midline formation in zebrafish. <i>Current Biology</i> , <b>2010</b> , 20, 1966-72	6.3	73
81	Optogenetic Control of Nodal Signaling Reveals a Temporal Pattern of Nodal Signaling Regulating Cell Fate Specification during Gastrulation. <i>Cell Reports</i> , <b>2016</b> , 16, 866-77	10.6	70
80	Back and forth between cell fate specification and movement during vertebrate gastrulation. <i>Current Opinion in Genetics and Development</i> , <b>2008</b> , 18, 311-6	4.9	67
79	Fluidization-mediated tissue spreading by mitotic cell rounding and non-canonical Wnt signalling. <i>Nature Cell Biology</i> , <b>2019</b> , 21, 169-178	23.4	67
78	A bond for a lifetime: employing membrane nanotubes from living cells to determine receptor-ligand kinetics. <i>Angewandte Chemie - International Edition</i> , <b>2008</b> , 47, 9775-7	16.4	64
77	Monorail/Foxa2 regulates floorplate differentiation and specification of oligodendrocytes, serotonergic raphleurons and cranial motoneurons. <i>Development (Cambridge)</i> , <b>2005</b> , 132, 645-58	6.6	62

76	Single-cell detection of microRNAs in developing vertebrate embryos after acute administration of a dual-fluorescence reporter/sensor plasmid. <i>BioTechniques</i> , <b>2006</b> , 41, 727-32	2.5	61
75	Planar cell polarization requires Widerborst, a BRegulatory subunit of protein phosphatase 2A. <i>Development (Cambridge)</i> , <b>2002</b> , 129, 3493-503	6.6	57
74	Identification of regulators of germ layer morphogenesis using proteomics in zebrafish. <i>Journal of Cell Science</i> , <b>2006</b> , 119, 2073-83	5.3	53
73	Actin Rings of Power. <i>Developmental Cell</i> , <b>2016</b> , 37, 493-506	10.2	52
72	Friction forces position the neural anlage. <i>Nature Cell Biology</i> , <b>2017</b> , 19, 306-317	23.4	51
71	Planar cell polarity signalling regulates cell adhesion properties in progenitors of the zebrafish laterality organ. <i>Development (Cambridge)</i> , <b>2010</b> , 137, 3459-68	6.6	49
70	Determining Physical Properties of the Cell Cortex. <i>Biophysical Journal</i> , <b>2016</b> , 110, 1421-9	2.9	48
69	Gastrulation dynamics: cells move into focus. <i>Trends in Cell Biology</i> , <b>2004</b> , 14, 620-7	18.3	48
68	Overcoming the Limitations of the MARTINI Force Field in Simulations of Polysaccharides. <i>Journal of Chemical Theory and Computation</i> , <b>2017</b> , 13, 5039-5053	6.4	47
67	Tissue rheology in embryonic organization. <i>EMBO Journal</i> , <b>2019</b> , 38, e102497	13	45
66	Anthrax toxin receptor 2a controls mitotic spindle positioning. <i>Nature Cell Biology</i> , <b>2013</b> , 15, 28-39	23.4	43
65	The Physical Basis of Coordinated Tissue Spreading in Zebrafish Gastrulation. <i>Developmental Cell</i> , <b>2017</b> , 40, 354-366.e4	10.2	42
64	The role of adhesion energy in controlling cell-cell contacts. <i>Current Opinion in Cell Biology</i> , <b>2011</b> , 23, 508-14	9	41
63	Cell sorting in development. <i>Current Topics in Developmental Biology</i> , <b>2011</b> , 95, 189-213	5.3	39
62	The notochord breaks bilateral symmetry by controlling cell shapes in the zebrafish laterality organ. <i>Developmental Cell</i> , <b>2014</b> , 31, 774-83	10.2	36
61	Tri-iodothyronine regulates survival and differentiation of rat cerebellar granule neurons. <i>NeuroReport</i> , <b>1992</b> , 3, 685-8	1.7	34
60	An adhesion code ensures robust pattern formation during tissue morphogenesis. <i>Science</i> , <b>2020</b> , 370, 113-116	33.3	33
59	Steering cell migration by alternating blebs and actin-rich protrusions. <i>BMC Biology</i> , <b>2016</b> , 14, 74	7.3	32

58	Interstitial fluid osmolarity modulates the action of differential tissue surface tension in progenitor cell segregation during gastrulation. <i>Development (Cambridge)</i> , <b>2017</b> , 144, 1798-1806	6.6	31
57	An Effective Feedback Loop between Cell-Cell Contact Duration and Morphogen Signaling Determines Cell Fate. <i>Developmental Cell</i> , <b>2017</b> , 43, 198-211.e12	10.2	31
56	Completion of the epithelial to mesenchymal transition in zebrafish mesoderm requires Spadetail. <i>Developmental Biology</i> , <b>2011</b> , 354, 102-10	3.1	31
55	Zebrafish gastrulation movements: bridging cell and developmental biology. <i>Seminars in Cell and Developmental Biology</i> , <b>2002</b> , 13, 471-9	7.5	30
54	A mutational approach to the study of development of the protochordate <i>Ciona intestinalis</i> (Tunicata, Chordata). <i>Sarsia</i> , <b>2000</b> , 85, 173-176		29
53	Lateral Inhibition in Cell Specification Mediated by Mechanical Signals Modulating TAZ Activity. <i>Cell</i> , <b>2019</b> , 176, 1379-1392.e14	56.2	29
52	Cell adhesion in embryo morphogenesis. <i>Current Opinion in Cell Biology</i> , <b>2012</b> , 24, 148-53	9	28
51	Sphingosine-1-phosphate receptors regulate individual cell behaviours underlying the directed migration of prechordal plate progenitor cells during zebrafish gastrulation. <i>Development (Cambridge)</i> , <b>2008</b> , 135, 3043-51	6.6	28
50	Active elastic thin shell theory for cellular deformations. <i>New Journal of Physics</i> , <b>2014</b> , 16, 065005	2.9	26
49	Rigidity percolation uncovers a structural basis for embryonic tissue phase transitions. <i>Cell</i> , <b>2021</b> , 184, 1914-1928.e19	56.2	26
48	Control of convergent yolk syncytial layer nuclear movement in zebrafish. <i>Development (Cambridge)</i> , <b>2009</b> , 136, 1305-15	6.6	25
47	Zebrafish embryonic explants undergo genetically encoded self-assembly. <i>ELife</i> , <b>2020</b> , 9,	8.9	24
46	Defective neuroepithelial cell cohesion affects tangential branchiomotor neuron migration in the zebrafish neural tube. <i>Development (Cambridge)</i> , <b>2011</b> , 138, 4673-83	6.6	23
45	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> , <b>2008</b> , 320, 267-77	3.1	22
44	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. <i>NeuroReport</i> , <b>1994</b> , 5, 413-6	1.7	22
43	Bulk Actin Dynamics Drive Phase Segregation in Zebrafish Oocytes. <i>Cell</i> , <b>2019</b> , 177, 1463-1479.e18	56.2	21
42	Lethal giant larvae 2 regulates development of the ciliated organ Kupffer's vesicle. <i>Development (Cambridge)</i> , <b>2013</b> , 140, 1550-9	6.6	20
41	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> , <b>2015</b> , 1189, 219-35	1.4	20

40	Migrasomes take center stage. <i>Nature Cell Biology</i> , <b>2019</b> , 21, 918-920	23.4	19
39	Cell division and tissue mechanics. <i>Current Opinion in Cell Biology</i> , <b>2019</b> , 60, 114-120	9	19
38	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> , <b>2011</b> , 108, E9-10; author reply E11	11.5	19
37	Wnt signalling: a moving picture emerges from van gogh. <i>Current Biology</i> , <b>2002</b> , 12, R126-8	6.3	19
36	Light-activated Frizzled7 reveals a permissive role of non-canonical wnt signaling in mesendoderm cell migration. <i>ELife</i> , <b>2019</b> , 8,	8.9	19
35	Biomechanical signaling within the developing zebrafish heart attunes endocardial growth to myocardial chamber dimensions. <i>Nature Communications</i> , <b>2019</b> , 10, 4113	17.4	18
34	Adhesive crosstalk in gastrulation. <i>Developmental Cell</i> , <b>2003</b> , 5, 190-1	10.2	18
33	Dorsal closure in Drosophila: cells cannot get out of the tight spot. <i>BioEssays</i> , <b>2009</b> , 31, 1284-7	4.1	17
32	Imaging zebrafish embryos by two-photon excitation time-lapse microscopy. <i>Methods in Molecular Biology</i> , <b>2009</b> , 546, 273-87	1.4	17
31	Zebrafish gastrulation: Putting fate in motion. <i>Current Topics in Developmental Biology</i> , <b>2020</b> , 136, 343-355	5.5	12
30	Occluding junctions as novel regulators of tissue mechanics during wound repair. <i>Journal of Cell Biology</i> , <b>2018</b> , 217, 4267-4283	7.3	12
29	Mechanisms of zebrafish epiboly: A current view. <i>Current Topics in Developmental Biology</i> , <b>2020</b> , 136, 319-341	5.3	11
28	Darcy Thompson & Ron Growth and form: From soap bubbles to tissue self-organization. <i>Mechanisms of Development</i> , <b>2017</b> , 145, 32-37	1.7	9
27	Probing E-cadherin endocytosis by morpholino-mediated Rab5 knockdown in zebrafish. <i>Methods in Molecular Biology</i> , <b>2008</b> , 440, 371-87	1.4	9
26	Holding on and letting go: cadherin turnover in cell intercalation. <i>Developmental Cell</i> , <b>2013</b> , 24, 567-9	10.2	8
25	Neurulation: coordinating cell polarisation and lumen formation. <i>EMBO Journal</i> , <b>2013</b> , 32, 1-3	13	8
24	Wnt signalling: refocusing on Strabismus. <i>Current Biology</i> , <b>2002</b> , 12, R657-9	6.3	8
23	Reassembling gastrulation. <i>Developmental Biology</i> , <b>2021</b> , 474, 71-81	3.1	7

22	Holding it together: when cadherin meets cadherin. <i>Biophysical Journal</i> , <b>2021</b> , 120, 4182-4192	2.9	7
21	Cytoplasm $\beta$ Got Moves. <i>Developmental Cell</i> , <b>2021</b> , 56, 213-226	10.2	6
20	A Bond for a Lifetime: Employing Membrane Nanotubes from Living Cells to Determine ReceptorLigand Kinetics. <i>Angewandte Chemie</i> , <b>2008</b> , 120, 9921-9923	3.6	5
19	Apical Relaxation during Mitotic Rounding Promotes Tension-Oriented Cell Division. <i>Developmental Cell</i> , <b>2020</b> , 55, 695-706.e4	10.2	4
18	Lateral junction dynamics lead the way out. <i>Nature Cell Biology</i> , <b>2014</b> , 16, 127-9	23.4	3
17	Chaos begets order: asynchronous cell contractions drive epithelial morphogenesis. <i>Developmental Cell</i> , <b>2009</b> , 16, 4-6	10.2	3
16	An adhesion code ensures robust pattern formation during tissue morphogenesis		3
15	Gradients are shaping up. <i>Cell</i> , <b>2015</b> , 161, 431-432	56.2	2
14	Gastrulation in Zebrafish. <i>Molecular Aspects of Fish and Marine Biology</i> , <b>2004</b> , 39-86		2
13	Rigidity transitions in development and disease.. <i>Trends in Cell Biology</i> , <b>2022</b> ,	18.3	2
12	Regeneration Tensed Up: Polyploidy Takes the Lead. <i>Developmental Cell</i> , <b>2017</b> , 42, 559-560	10.2	1
11	The force and effect of cell proliferation. <i>EMBO Journal</i> , <b>2013</b> , 32, 2783-4	13	1
10	Tension-dependent stabilization of E-cadherin limits cell-cell contact expansion		1
9	Combined effect of cell geometry and polarity domains determines the orientation of unequal division		1
8	Dissecting Organismal Morphogenesis by Bridging Genetics and Biophysics. <i>Annual Review of Genetics</i> , <b>2021</b> , 55, 209-233	14.5	1
7	Spurred by resistance: mechanosensation in collective migration. <i>Developmental Cell</i> , <b>2012</b> , 22, 3-4	10.2	0
6	Satb2 acts as a gatekeeper for major developmental transitions during early vertebrate embryogenesis. <i>Nature Communications</i> , <b>2021</b> , 12, 6094	17.4	0
5	Studying YAP-Mediated 3D Morphogenesis Using Fish Embryos and Human Spheroids. <i>Methods in Molecular Biology</i> , <b>2019</b> , 1893, 167-181	1.4	0



- 4 Carl-Philipp Heisenberg: early embryos make a big move. Interview by Caitlin Sedwick. *Journal of Cell Biology*, **2013**, 200, 238-9 7.3
- 3 Analysis of Branchiomotor Neuron Migration in the Zebrafish **2010**, 1-16
- 2 Cell Migration During Zebrafish Gastrulation **2005**, 71-105
- 1 Quantifying Tissue Tension in the Granulosa Layer After Laser Surgery. *Methods in Molecular Biology*, **2021**, 2218, 117-128 1.4