Carl-Philipp Heisenberg

List of Publications by Year in Descending Order

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	Rigidity transitions in development and disease.. *Trends in Cell Biology*, **2022**,	18.3	2
128	Satb2 acts as a gatekeeper for major developmental transitions during early vertebrate embryogenesis. *Nature Communications*, **2021**, 12, 6094	17.4	0
127	Rigidity percolation uncovers a structural basis for embryonic tissue phase transitions. *Cell*, **2021**, 184, 1914-1928.e19	56.2	26
126	Reassembling gastrulation. *Developmental Biology*, **2021**, 474, 71-81	3.1	7
125	CytoplasmRs Got Moves. *Developmental Cell*, **2021**, 56, 213-226	10.2	6
124	Quantifying Tissue Tension in the Granulosa Layer After Laser Surgery. *Methods in Molecular Biology*, **2021**, 2218, 117-128	1.4	
123	Holding it together: when cadherin meets cadherin. *Biophysical Journal*, **2021**, 120, 4182-4192	2.9	7
122	Dissecting Organismal Morphogenesis by Bridging Genetics and Biophysics. *Annual Review of Genetics*, **2021**, 55, 209-233	14.5	1
121	Zebrafish embryonic explants undergo genetically encoded self-assembly. *ELife*, **2020**, 9,	8.9	24
120	Mechanisms of zebrafish epiboly: A current view. *Current Topics in Developmental Biology*, **2020**, 136, 319-341	5.3	11
119	Zebrafish gastrulation: Putting fate in motion. *Current Topics in Developmental Biology*, **2020**, 136, 343-375	5.3	12
118	An adhesion code ensures robust pattern formation during tissue morphogenesis. *Science*, **2020**, 370, 113-116	33.3	33
117	Apical Relaxation during Mitotic Rounding Promotes Tension-Oriented Cell Division. *Developmental Cell*, **2020**, 55, 695-706.e4	10.2	4
116	Biomechanical signaling within the developing zebrafish heart attunes endocardial growth to myocardial chamber dimensions. *Nature Communications*, **2019**, 10, 4113	17.4	18
115	Bulk Actin Dynamics Drive Phase Segregation in Zebrafish Oocytes. *Cell*, **2019**, 177, 1463-1479.e18	56.2	21
114	Migrasomes take center stage. *Nature Cell Biology*, **2019**, 21, 918-920	23.4	19
113	Cell division and tissue mechanics. *Current Opinion in Cell Biology*, **2019**, 60, 114-120	9	19

112	Mechanochemical Feedback Loops in Development and Disease. *Cell*, **2019**, 178, 12-25	56.2	118
111	Mechanosensation of Tight Junctions Depends on ZO-1 Phase Separation and Flow. *Cell*, **2019**, 179, 937-952.e18	56.2	78
110	Tissue rheology in embryonic organization. *EMBO Journal*, **2019**, 38, e102497	13	45
109	Light-activated Frizzled7 reveals a permissive role of non-canonical wnt signaling in mesendoderm cell migration. *ELife*, **2019**, 8,	8.9	19
108	Lateral Inhibition in Cell Specification Mediated by Mechanical Signals Modulating TAZ Activity. *Cell*, **2019**, 176, 1379-1392.e14	56.2	29
107	Fluidization-mediated tissue spreading by mitotic cell rounding and non-canonical Wnt signalling. *Nature Cell Biology*, **2019**, 21, 169-178	23.4	67
106	Studying YAP-Mediated 3D Morphogenesis Using Fish Embryos and Human Spheroids. *Methods in Molecular Biology*, **2019**, 1893, 167-181	1.4	0
105	Occluding junctions as novel regulators of tissue mechanics during wound repair. *Journal of Cell Biology*, **2018**, 217, 4267-4283	7.3	12
104	The Physical Basis of Coordinated Tissue Spreading in Zebrafish Gastrulation. *Developmental Cell*, **2017**, 40, 354-366.e4	10.2	42
103	DRArcy ThompsonRs Ron Growth and formR: From soap bubbles to tissue self-organization. *Mechanisms of Development*, **2017**, 145, 32-37	1.7	9
102	Interstitial fluid osmolarity modulates the action of differential tissue surface tension in progenitor cell segregation during gastrulation. *Development (Cambridge)*, **2017**, 144, 1798-1806	6.6	31
101	Multiscale force sensing in development. *Nature Cell Biology*, **2017**, 19, 581-588	23.4	123
100	Friction forces position the neural anlage. *Nature Cell Biology*, **2017**, 19, 306-317	23.4	51
99	Coordination of Morphogenesis and Cell-Fate Specification in Development. *Current Biology*, **2017**, 27, R1024-R1035	6.3	93
98	Regeneration Tensed Up: Polyploidy Takes the Lead. *Developmental Cell*, **2017**, 42, 559-560	10.2	1
97	An Effective Feedback Loop between Cell-Cell Contact Duration and Morphogen Signaling Determines Cell Fate. *Developmental Cell*, **2017**, 43, 198-211.e12	10.2	31
96	Overcoming the Limitations of the MARTINI Force Field in Simulations of Polysaccharides. *Journal of Chemical Theory and Computation*, **2017**, 13, 5039-5053	6.4	47
95	Actin Rings of Power. *Developmental Cell*, **2016**, 37, 493-506	10.2	52

94	Determining Physical Properties of the Cell Cortex. *Biophysical Journal*, **2016**, 110, 1421-9	2.9	48
93	Steering cell migration by alternating blebs and actin-rich protrusions. *BMC Biology*, **2016**, 14, 74	7.3	32
92	Optogenetic Control of Nodal Signaling Reveals a Temporal Pattern of Nodal Signaling Regulating Cell Fate Specification during Gastrulation. *Cell Reports*, **2016**, 16, 866-77	10.6	70
91	YAP is essential for tissue tension to ensure vertebrate 3D body shape. *Nature*, **2015**, 521, 217-221	50.4	154
90	Gradients are shaping up. *Cell*, **2015**, 161, 431-432	56.2	2
89	Actin flows mediate a universal coupling between cell speed and cell persistence. *Cell*, **2015**, 161, 374-86	56.2	243
88	Cortical contractility triggers a stochastic switch to fast amoeboid cell motility. *Cell*, **2015**, 160, 673-685	56.2	243
87	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, 219-35	1.4	20
86	Lateral junction dynamics lead the way out. *Nature Cell Biology*, **2014**, 16, 127-9	23.4	3
85	The notochord breaks bilateral symmetry by controlling cell shapes in the zebrafish laterality organ. *Developmental Cell*, **2014**, 31, 774-83	10.2	36
84	Active elastic thin shell theory for cellular deformations. *New Journal of Physics*, **2014**, 16, 065005	2.9	26
83	Tension-oriented cell divisions limit anisotropic tissue tension in epithelial spreading during zebrafish epiboly. *Nature Cell Biology*, **2013**, 15, 1405-14	23.4	168
82	Carl-Philipp Heisenberg: early embryos make a big move. Interview by Caitlin Sedwick. *Journal of Cell Biology*, **2013**, 200, 238-9	7.3	
81	Anthrax toxin receptor 2a controls mitotic spindle positioning. *Nature Cell Biology*, **2013**, 15, 28-39	23.4	43
80	Three functions of cadherins in cell adhesion. *Current Biology*, **2013**, 23, R626-33	6.3	155
79	Lethal giant larvae 2 regulates development of the ciliated organ Kupffer's vesicle. *Development (Cambridge)*, **2013**, 140, 1550-9	6.6	20
78	Holding on and letting go: cadherin turnover in cell intercalation. *Developmental Cell*, **2013**, 24, 567-9	10.2	8
77	Neurulation: coordinating cell polarisation and lumen formation. *EMBO Journal*, **2013**, 32, 1-3	13	8

76	Forces in tissue morphogenesis and patterning. *Cell*, **2013**, 153, 948-62	56.2	686
75	The force and effect of cell proliferation. *EMBO Journal*, **2013**, 32, 2783-4	13	1
74	Convergent extension: using collective cell migration and cell intercalation to shape embryos. *Development (Cambridge)*, **2012**, 139, 3897-904	6.6	160
73	Forces driving epithelial spreading in zebrafish gastrulation. *Science*, **2012**, 338, 257-60	33.3	283
72	Spurred by resistance: mechanosensation in collective migration. *Developmental Cell*, **2012**, 22, 3-4	10.2	0
71	Adhesion functions in cell sorting by mechanically coupling the cortices of adhering cells. *Science*, **2012**, 338, 253-6	33.3	358
70	Cell adhesion in embryo morphogenesis. *Current Opinion in Cell Biology*, **2012**, 24, 148-53	9	28
69	Completion of the epithelial to mesenchymal transition in zebrafish mesoderm requires Spadetail. *Developmental Biology*, **2011**, 354, 102-10	3.1	31
68	Cell sorting in development. *Current Topics in Developmental Biology*, **2011**, 95, 189-213	5.3	39
67	Defective neuroepithelial cell cohesion affects tangential branchiomotor neuron migration in the zebrafish neural tube. *Development (Cambridge)*, **2011**, 138, 4673-83	6.6	23
66	The role of adhesion energy in controlling cell-cell contacts. *Current Opinion in Cell Biology*, **2011**, 23, 508-14	9	41
65	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	11.5	19
64	Spatial organization of adhesion: force-dependent regulation and function in tissue morphogenesis. *EMBO Journal*, **2010**, 29, 2753-68	13	88
63	A role for Rho GTPases and cell-cell adhesion in single-cell motility in vivo. *Nature Cell Biology*, **2010**, 12, 47-53; sup pp 1-11	23.4	198
62	Planar cell polarity signalling regulates cell adhesion properties in progenitors of the zebrafish laterality organ. *Development (Cambridge)*, **2010**, 137, 3459-68	6.6	49
61	Control of directed cell migration in vivo by membrane-to-cortex attachment. *PLoS Biology*, **2010**, 8, e1000544	9.7	185
60	Analysis of Branchiomotor Neuron Migration in the Zebrafish **2010**, 1-16		
59	The yolk syncytial layer in early zebrafish development. *Trends in Cell Biology*, **2010**, 20, 586-92	18.3	102

58	Movement directionality in collective migration of germ layer progenitors. *Current Biology*, **2010**, 20, 161-9	6.3	85
57	Stereotypical cell division orientation controls neural rod midline formation in zebrafish. *Current Biology*, **2010**, 20, 1966-72	6.3	73
56	Control of convergent yolk syncytial layer nuclear movement in zebrafish. *Development (Cambridge)* , **2009**, 136, 1305-15	6.6	25
55	Biology and physics of cell shape changes in development. *Current Biology*, **2009**, 19, R790-9	6.3	155
54	Dorsal closure in Drosophila: cells cannot get out of the tight spot. *BioEssays*, **2009**, 31, 1284-7	4.1	17
53	Quantitative approaches in developmental biology. *Nature Reviews Genetics*, **2009**, 10, 517-30	30.1	117
52	Trafficking and cell migration. *Traffic*, **2009**, 10, 811-8	5.7	77
51	Chaos begets order: asynchronous cell contractions drive epithelial morphogenesis. *Developmental Cell*, **2009**, 16, 4-6	10.2	3
50	Imaging zebrafish embryos by two-photon excitation time-lapse microscopy. *Methods in Molecular Biology*, **2009**, 546, 273-87	1.4	17
49	Tensile forces govern germ-layer organization in zebrafish. *Nature Cell Biology*, **2008**, 10, 429-36	23.4	593
48	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, 267-77	3.1	22
47	Back and forth between cell fate specification and movement during vertebrate gastrulation. *Current Opinion in Genetics and Development*, **2008**, 18, 311-6	4.9	67
46	Single-cell force spectroscopy. *Journal of Cell Science*, **2008**, 121, 1785-91	5.3	380
45	Quantitative differences in tissue surface tension influence zebrafish germ layer positioning. *HFSP Journal*, **2008**, 2, 42-56		113
44	Origin and shaping of the laterality organ in zebrafish. *Development (Cambridge)*, **2008**, 135, 2807-13	6.6	85
43	Sphingosine-1-phosphate receptors regulate individual cell behaviours underlying the directed migration of prechordal plate progenitor cells during zebrafish gastrulation. *Development (Cambridge)*, **2008**, 135, 3043-51	6.6	28
42	A bond for a lifetime: employing membrane nanotubes from living cells to determine receptor-ligand kinetics. *Angewandte Chemie - International Edition*, **2008**, 47, 9775-7	16.4	64
41	A Bond for a Lifetime: Employing Membrane Nanotubes from Living Cells to Determine Receptor□Ligand Kinetics. *Angewandte Chemie*, **2008**, 120, 9921-9923	3.6	5

40	Probing E-cadherin endocytosis by morpholino-mediated Rab5 knockdown in zebrafish. *Methods in Molecular Biology*, **2008**, 440, 371-87	1.4	9
39	The Bmp gradient of the zebrafish gastrula guides migrating lateral cells by regulating cell-cell adhesion. *Current Biology*, **2007**, 17, 475-87	6.3	116
38	Zebrafish gastrulation: cell movements, signals, and mechanisms. *International Review of Cytology*, **2007**, 261, 159-92		83
37	Coordinated cell-shape changes control epithelial movement in zebrafish and Drosophila. *Development (Cambridge)*, **2006**, 133, 2671-81	6.6	123
36	Wnt11 controls cell contact persistence by local accumulation of Frizzled 7 at the plasma membrane. *Journal of Cell Biology*, **2006**, 175, 791-802	7.3	99
35	Identification of regulators of germ layer morphogenesis using proteomics in zebrafish. *Journal of Cell Science*, **2006**, 119, 2073-83	5.3	53
34	Migration of zebrafish primordial germ cells: a role for myosin contraction and cytoplasmic flow. *Developmental Cell*, **2006**, 11, 613-27	10.2	281
33	Single-cell detection of microRNAs in developing vertebrate embryos after acute administration of a dual-fluorescence reporter/sensor plasmid. *BioTechniques*, **2006**, 41, 727-32	2.5	61
32	Proteomics of early zebrafish embryos. *BMC Developmental Biology*, **2006**, 6, 1	3.1	258
31	Wnt11 functions in gastrulation by controlling cell cohesion through Rab5c and E-cadherin. *Developmental Cell*, **2005**, 9, 555-64	10.2	244
30	Cell Migration During Zebrafish Gastrulation **2005**, 71-105		
29	Monorail/Foxa2 regulates floorplate differentiation and specification of oligodendrocytes, serotonergic raph neurones and cranial motoneurones. *Development (Cambridge)*, **2005**, 132, 645-58	6.6	62
28	Shield formation at the onset of zebrafish gastrulation. *Development (Cambridge)*, **2005**, 132, 1187-98	6.6	137
27	Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. *Journal of Cell Science*, **2005**, 118, 4199-206	5.3	143
26	Gastrulation dynamics: cells move into focus. *Trends in Cell Biology*, **2004**, 14, 620-7	18.3	48
25	Gastrulation in Zebrafish. *Molecular Aspects of Fish and Marine Biology*, **2004**, 39-86		2
24	Phosphoinositide 3-kinase is required for process outgrowth and cell polarization of gastrulating mesendodermal cells. *Current Biology*, **2003**, 13, 1279-89	6.3	101
23	The role of Ppt/Wnt5 in regulating cell shape and movement during zebrafish gastrulation. *Mechanisms of Development*, **2003**, 120, 467-76	1.7	273

22	Adhesive crosstalk in gastrulation. *Developmental Cell*, **2003**, 5, 190-1	10.2	18
21	Slb/Wnt11 controls hypoblast cell migration and morphogenesis at the onset of zebrafish gastrulation. *Development (Cambridge)*, **2003**, 130, 5375-84	6.6	124
20	Wnt signalling: a moving picture emerges from van gogh. *Current Biology*, **2002**, 12, R126-8	6.3	19
19	Wnt signalling: refocusing on Strabismus. *Current Biology*, **2002**, 12, R657-9	6.3	8
18	Non-canonical Wnt signalling and regulation of gastrulation movements. *Seminars in Cell and Developmental Biology*, **2002**, 13, 251-60	7.5	167
17	Zebrafish gastrulation movements: bridging cell and developmental biology. *Seminars in Cell and Developmental Biology*, **2002**, 13, 471-9	7.5	30
16	Establishment of the telencephalon during gastrulation by local antagonism of Wnt signaling. *Neuron*, **2002**, 35, 255-65	13.9	264
15	Planar cell polarization requires Widerborst, a B? regulatory subunit of protein phosphatase 2A. *Development (Cambridge)*, **2002**, 129, 3493-3503	6.6	94
14	Planar cell polarization requires Widerborst, a BRregulatory subunit of protein phosphatase 2A. *Development (Cambridge)*, **2002**, 129, 3493-503	6.6	57
13	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, 1427-34	12.6	217
12	Silberblick/Wnt11 mediates convergent extension movements during zebrafish gastrulation. *Nature*, **2000**, 405, 76-81	50.4	833
11	A mutational approach to the study of development of the protochordate Ciona intestinalis (Tunicata, Chordata). *Sarsia*, **2000**, 85, 173-176		29
10	The function of silberblick in the positioning of the eye anlage in the zebrafish embryo. *Developmental Biology*, **1997**, 184, 85-94	3.1	110
9	floating head and masterblind regulate neuronal patterning in the roof of the forebrain. *Neuron*, **1997**, 18, 43-57	13.9	125
8	Mutations affecting pigmentation and shape of the adult zebrafish. *Development Genes and Evolution*, **1996**, 206, 260-76	1.8	140
7	NMDA potentiates NGF-induced sprouting of septal cholinergic fibres. *NeuroReport*, **1994**, 5, 413-6	1.7	22
6	Neurotrophin-3 induced by tri-iodothyronine in cerebellar granule cells promotes Purkinje cell differentiation. *Journal of Cell Biology*, **1993**, 122, 443-50	7.3	167
5	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, 1455-64	3.5	259

4	Tri-iodothyronine regulates survival and differentiation of rat cerebellar granule neurons. *NeuroReport*, **1992**, 3, 685-8	1.7	34
3	Tension-dependent stabilization of E-cadherin limits cell-cell contact expansion		1
2	An adhesion code ensures robust pattern formation during tissue morphogenesis		3
1	Combined effect of cell geometry and polarity domains determines the orientation of unequal division		1