Zhirong Bao

List of Publications by Year
in descending order

57 papers	3,613 citations	257450 24 h-index	182427 51 g-index
73 all docs	73 docs citations	73 times ranked	3142 citing authors

#	ARTICLE	IF	CITATIONS
1	Hierarchical deep reinforcement learning reveals a modular mechanism of cell movement. Nature Machine Intelligence, 2022, 4, 73-83.	16.0	7
2	Small RNAs couple embryonic developmental programs to gut microbes. Science Advances, 2022, 8, eabl7663.	10.3	4
3	Structural and developmental principles of neuropil assembly in C. elegans. Nature, 2021, 591, 99-104.	27.8	60
4	A genetic screen for temperature-sensitive morphogenesis-defective *Caenorhabditis elegans* mutants. G3: Genes, Genomes, Genetics, 2021, 11, .	1.8	0
5	Kathryn Anderson (1952–2020). Cell, 2021, 184, 1123-1126.	28.9	0
6	Differential adhesion regulates neurite placement via a retrograde zippering mechanism. ELife, 2021, 10, .	6.0	13
7	A single-cell analysis of the molecular lineage of chordate embryogenesis. Science Advances, 2020, 6, .	10.3	18
8	Rapid image deconvolution and multiview fusion for optical microscopy. Nature Biotechnology, 2020, 38, 1337-1346.	17.5	105
9	Cadherin preserves cohesion across involuting tissues during C. elegans neurulation. ELife, 2020, 9, .	6.0	7
10	Cellular Structure Image Classification With Small Targeted Training Samples. IEEE Access, 2019, 7, 148967-148974.	4.2	10
11	Isotropic Light-Sheet Microscopy and Automated Cell Lineage Analyses to Catalogue Caenorhabditis elegans Embryogenesis with Subcellular Resolution. Journal of Visualized Experiments, 2019, , .	0.3	17
12	Lineage context switches the function of a C. elegans Pax6 homolog in determining a neuronal fate. Development (Cambridge), 2019, 146, .	2.5	13
13	A multicellular rosette-mediated collective dendrite extension. ELife, 2019, 8, .	6.0	32
14	A Myt1 family transcription factor defines neuronal fate by repressing non-neuronal genes. ELife, 2019, 8, .	6.0	21
15	AceTree: a major update and case study in the long term maintenance of open-source scientific software. BMC Bioinformatics, 2018, 19, 121.	2.6	23
16	Deep reinforcement learning of cell movement in the early stage of *C.elegans* embryogenesis. Bioinformatics, 2018, 34, 3169-3177.	4.1	22
17	EFF-1 fusogen promotes phagosome sealing during cell process clearance in Caenorhabditis elegans. Nature Cell Biology, 2018, 20, 393-399.	10.3	19
18	The Caenorhabditis elegans gene ham-1 regulates daughter cell size asymmetry primarily in divisions that produce a small anterior daughter cell. PLoS ONE, 2018, 13, e0195855.	2.5	5

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19	An Observation Data Driven Simulation and Analysis Framework for Early Stage <i>C. elegans</i> Embryogenesis. Journal of Biomedical Science and Engineering, 2018, 11, 225-234.	0.4	1
20	PCP and SAX-3/Robo Pathways Cooperate to Regulate Convergent Extension-Based Nerve Cord Assembly in C.Âelegans. Developmental Cell, 2017, 41, 195-203.e3.	7.0	36
21	An In Toto Approach to Dissecting Cellular Interactions in Complex Tissues. Developmental Cell, 2017, 43, 530-540.e4.	7.0	20
22	Cell Neighbor Determination in the Metazoan Embryo System. , 2017, , .		5
23	An Observation-Driven Agent-Based Modeling and Analysis Framework for C. elegans Embryogenesis. PLoS ONE, 2016, 11, e0166551.	2.5	9
24	Using High Performance Computing to Model Cellular Embryogenesis. , 2016, , .		1
25	Using Stage- and Slit-Scanning to Improve Contrast and Optical Sectioning in Dual-View Inverted Light Sheet Microscopy (diSPIM). Biological Bulletin, 2016, 231, 26-39.	1.8	24
26	Cell cycle features of C. elegans germline stem/progenitor cells vary temporally and spatially. Developmental Biology, 2016, 409, 261-271.	2.0	27
27	Digital development: a database of cell lineage differentiation in<i>C. elegans</i>with lineage phenotypes, cell-specific gene functions and a multiscale model. Nucleic Acids Research, 2016, 44, D781-D785.	14.5	16
28	An imaging and analysis toolset for the study of<i>Caenorhabditis</i><i>elegans</i>neurodevelopment. Proceedings of SPIE, 2015, , .	0.8	2
29	E3 ubiquitin ligases promote progression of differentiation during C. elegans embryogenesis. Developmental Biology, 2015, 398, 267-279.	2.0	25
30	POS-1 Promotes Endo-mesoderm Development by Inhibiting the Cytoplasmic Polyadenylation of neg-1 mRNA. Developmental Cell, 2015, 34, 108-118.	7.0	22
31	WormGUIDES: an interactive single cell developmental atlas and tool for collaborative multidimensional data exploration. BMC Bioinformatics, 2015, 16, 189.	2.6	40
32	<i>C. elegans</i>SoxB genes are dispensable for embryonic neurogenesis but required for terminal differentiation of specific neuron types. Development (Cambridge), 2015, 142, 2464-77.	2.5	35
33	The Regulatory Landscape of Lineage Differentiation in a Metazoan Embryo. Developmental Cell, 2015, 34, 592-607.	7.0	53
34	Untwisting the Caenorhabditis elegans embryo. ELife, 2015, 4, .	6.0	33
35	Irises. Worm, 2014, 3, e29041.	1.0	4
36	De Novo Inference of Systems-Level Mechanistic Models of Development from Live-Imaging-Based Phenotype Analysis. Cell, 2014, 156, 359-372.	28.9	89

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37	Dual-view plane illumination microscopy for rapid and spatially isotropic imaging. Nature Protocols, 2014, 9, 2555-2573.	12.0	195
38	A semi-local neighborhood-based framework for probabilistic cell lineage tracing. BMC Bioinformatics, 2014, 15, 217.	2.6	52
39	Spatially isotropic four-dimensional imaging with dual-view plane illumination microscopy. Nature Biotechnology, 2013, 31, 1032-1038.	17.5	290
40	Systematic quantification of developmental phenotypes at single-cell resolution during embryogenesis. Development (Cambridge), 2013, 140, 3266-3274.	2.5	55
41	Automated Lineage and Expression Profiling in Live *Caenorhabditis elegans* Embryos. Cold Spring Harbor Protocols, 2012, 2012, pdb.prot070615.	0.3	11
42	Multidimensional regulation of gene expression in the *C. elegans* embryo. Genome Research, 2012, 22, 1282-1294.	5.5	144
43	Actomyosin-based Self-organization of cell internalization during C. elegans gastrulation. BMC Biology, 2012, 10, 94.	3.8	46
44	Specific roles for the GATA transcription factors end-1 and end-3 during C. elegans E-lineage development. Developmental Biology, 2011, 358, 345-355.	2.0	46
45	Inverted selective plane illumination microscopy (*i* SPIM) enables coupled cell identity lineaging and neurodevelopmental imaging in *Caenorhabditis elegans*. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17708-17713.	7.1	264
46	Mounting *Caenorhabditis elegans* Embryos for Live Imaging of Embryogenesis: Figure 1.. Cold Spring Harbor Protocols, 2011, 2011, pdb.prot065599.	0.3	47
47	A hybrid blob-slice model for accurate and efficient detection of fluorescence labeled nuclei in 3D. BMC Bioinformatics, 2010, 11, 580.	2.6	98
48	Fast, high-contrast imaging of animal development with scanned light sheet–based structured-illumination microscopy. Nature Methods, 2010, 7, 637-642.	19.0	515
49	Chiral Forces Organize Left-Right Patterning in C. elegans by Uncoupling Midline and Anteroposterior Axis. Developmental Cell, 2010, 19, 402-412.	7.0	121
50	Automated analysis of embryonic gene expression with cellular resolution in C. elegans. Nature Methods, 2008, 5, 703-709.	19.0	173
51	Comparative analysis of embryonic cell lineage between Caenorhabditis briggsae and Caenorhabditis elegans. Developmental Biology, 2008, 314, 93-99.	2.0	80
52	Control of cell cycle timing during C. elegans embryogenesis. Developmental Biology, 2008, 318, 65-72.	2.0	75
53	The lineaging of fluorescently-labeled Caenorhabditis elegans embryos with StarryNite and AceTree. Nature Protocols, 2006, 1, 1468-1476.	12.0	101
54	AceTree: a tool for visual analysis of Caenorhabditis elegans embryogenesis. BMC Bioinformatics, 2006, 7, 275.	2.6	93

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55	Automated cell lineage tracing in Caenorhabditis elegans. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2707-2712.	7.1	344
56	Cross-modality synthesis of EM time series and live fluorescence imaging. ELife, 0, 11, .	6.0	3
57	Visualizing and quantifying molecular and cellular processes in *Caenorhabditis elegans* using light microscopy. Genetics, 0, , .	2.9	1