

Xiaowei Zhuang

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92
papers

20,240
citations

51
h-index

104
g-index

104
ext. papers

26,065
ext. citations

22.3
avg, IF

7.35
L-index

#	Paper	IF	Citations
92	High-content CRISPR screening. <i>Nature Reviews Methods Primers</i> , 2022 , 2,		10
91	Abstract PD6-03: Spatio-molecular dissection of the breast cancer metastatic microenvironment. <i>Cancer Research</i> , 2022 , 82, PD6-03-PD6-03	10.1	
90	A multimodal cell census and atlas of the mammalian primary motor cortex. <i>Nature</i> , 2021 , 598, 86-102	50.4	44
89	Spatially resolved cell atlas of the mouse primary motor cortex by MERFISH. <i>Nature</i> , 2021 , 598, 137-143	50.4	18
88	Decoding molecular and cellular heterogeneity of mouse nucleus accumbens. <i>Nature Neuroscience</i> , 2021 , 24, 1757-1771	25.5	5
87	Deep learning and alignment of spatially resolved single-cell transcriptomes with Tangram. <i>Nature Methods</i> , 2021 , 18, 1352-1362	21.6	25
86	CTCF mediates dosage- and sequence-context-dependent transcriptional insulation by forming local chromatin domains. <i>Nature Genetics</i> , 2021 , 53, 1064-1074	36.3	14
85	Characterizing spatial gene expression heterogeneity in spatially resolved single-cell transcriptomic data with nonuniform cellular densities. <i>Genome Research</i> , 2021 , 31, 1843-1855	9.7	7
84	Interactions between cancer cells and immune cells drive transitions to mesenchymal-like states in glioblastoma. <i>Cancer Cell</i> , 2021 , 39, 779-792.e11	24.3	37
83	OTME-7. Cancer - immune cell interactions drive transitions to mesenchymal-like state in glioblastoma. <i>Neuro-Oncology Advances</i> , 2021 , 3, ii14-ii15	0.9	
82	Tetra-gel enables superior accuracy in combined super-resolution imaging and expansion microscopy. <i>Scientific Reports</i> , 2021 , 11, 16944	4.9	4
81	Spatially resolved single-cell genomics and transcriptomics by imaging. <i>Nature Methods</i> , 2021 , 18, 18-22	21.6	39
80	Lamina-Dependent Stretching and Unconventional Chromosome Compartments in Early <i>C. elegans</i> Embryos. <i>Molecular Cell</i> , 2020 , 78, 96-111.e6	17.6	19
79	mA-binding YTHDF proteins promote stress granule formation. <i>Nature Chemical Biology</i> , 2020 , 16, 955-963	63.7	67
78	Genome-Scale Imaging of the 3D Organization and Transcriptional Activity of Chromatin. <i>Cell</i> , 2020 , 182, 1641-1659.e26	56.2	113
77	Membrane-associated periodic skeleton is a signaling platform for RTK transactivation in neurons. <i>Science</i> , 2019 , 365, 929-934	33.3	50
76	Spatial transcriptome profiling by MERFISH reveals subcellular RNA compartmentalization and cell cycle-dependent gene expression. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 19490-19499	11.5	204

75	Multiplexed detection of RNA using MERFISH and branched DNA amplification. <i>Scientific Reports</i> , 2019 , 9, 7721	4.9	49
74	β-spectrin promotes mouse brain connectivity through stabilizing axonal plasma membranes and enabling axonal organelle transport. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 15686-15695	11.5	25
73	Imaging-based pooled CRISPR screening reveals regulators of lncRNA localization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 10842-10851	11.5	44
72	Structural maturation of cortical perineuronal nets and their perforating synapses revealed by superresolution imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 7071-7076	11.5	46
71	Direct observation of coordinated DNA movements on the nucleosome during chromatin remodelling. <i>Nature Communications</i> , 2019 , 10, 1720	17.4	42
70	Rotation tracking of genome-processing enzymes using DNA origami rotors. <i>Nature</i> , 2019 , 572, 136-140	50.4	41
69	Synaptic neurexin-1 assembles into dynamically regulated active zone nanoclusters. <i>Journal of Cell Biology</i> , 2019 , 218, 2677-2698	7.3	42
68	Structural plasticity of actin-spectrin membrane skeleton and functional role of actin and spectrin in axon degeneration. <i>ELife</i> , 2019 , 8,	8.9	31
67	Author response: Structural plasticity of actin-spectrin membrane skeleton and functional role of actin and spectrin in axon degeneration 2019 ,		4
66	Multiplexed imaging of high-density libraries of RNAs with MERFISH and expansion microscopy. <i>Scientific Reports</i> , 2018 , 8, 4847	4.9	100
65	Microtubule-directed transport of purine metabolons drives their cytosolic transit to mitochondria. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 13009-13014	11.5	25
64	Super-resolution chromatin tracing reveals domains and cooperative interactions in single cells. <i>Science</i> , 2018 , 362,	33.3	405
63	Molecular, spatial, and functional single-cell profiling of the hypothalamic preoptic region. <i>Science</i> , 2018 , 362,	33.3	411
62	Visualizing and discovering cellular structures with super-resolution microscopy. <i>Science</i> , 2018 , 361, 880-887	33.3	300
61	High-throughput, image-based screening of pooled genetic-variant libraries. <i>Nature Methods</i> , 2017 , 14, 1159-1162	21.6	29
60	In Situ Super-Resolution Imaging of Genomic DNA with OligoSTORM and OligoDNA-PAINT. <i>Methods in Molecular Biology</i> , 2017 , 1663, 231-252	1.4	43
59	Structural organization of the actin-spectrin-based membrane skeleton in dendrites and soma of neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E6678-E6683	11.5	79
58	CatSperβ regulates the structural continuity of sperm Ca signaling domains and is required for normal fertility. <i>ELife</i> , 2017 , 6,	8.9	79

57	Blind sparse inpainting reveals cytoskeletal filaments with sub-Nyquist localization. <i>Optica</i> , 2017 , 4, 1277-1284	7.6	20
56	Picornavirus RNA is protected from cleavage by ribonuclease during virion uncoating and transfer across cellular and model membranes. <i>PLoS Pathogens</i> , 2017 , 13, e1006197	7.6	20
55	Author response: CatSper1 regulates the structural continuity of sperm Ca ²⁺ signaling domains and is required for normal fertility 2017 ,		2
54	High-performance multiplexed fluorescence in situ hybridization in culture and tissue with matrix imprinting and clearing. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 14456-14461	11.5	155
53	High-throughput single-cell gene-expression profiling with multiplexed error-robust fluorescence in situ hybridization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 11046-51	11.5	234
52	Spatial organization of chromatin domains and compartments in single chromosomes. <i>Science</i> , 2016 , 353, 598-602	33.3	347
51	RNA Imaging with Multiplexed Error-Robust Fluorescence In Situ Hybridization (MERFISH). <i>Methods in Enzymology</i> , 2016 , 572, 1-49	1.7	80
50	An RNA-aptamer-based two-color CRISPR labeling system. <i>Scientific Reports</i> , 2016 , 6, 26857	4.9	56
49	Super-resolution imaging reveals distinct chromatin folding for different epigenetic states. <i>Nature</i> , 2016 , 529, 418-22	50.4	544
48	Chromatin topology is coupled to Polycomb group protein subnuclear organization. <i>Nature Communications</i> , 2016 , 7, 10291	17.4	124
47	Spatial colocalization and functional link of purinosomes with mitochondria. <i>Science</i> , 2016 , 351, 733-7	33.3	106
46	Stepwise nucleosome translocation by RSC remodeling complexes. <i>ELife</i> , 2016 , 5,	8.9	49
45	Spatial organization shapes the turnover of a bacterial transcriptome. <i>ELife</i> , 2016 , 5,	8.9	94
44	Real-Time Imaging of Translation on Single mRNA Transcripts in Live Cells. <i>Cell</i> , 2016 , 165, 990-1001	56.2	224
43	Prevalent presence of periodic actin-spectrin-based membrane skeleton in a broad range of neuronal cell types and animal species. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 6029-34	11.5	104
42	High-performance probes for light and electron microscopy. <i>Nature Methods</i> , 2015 , 12, 568-76	21.6	140
41	Single-molecule super-resolution imaging of chromosomes and in situ haplotype visualization using Oligopaint FISH probes. <i>Nature Communications</i> , 2015 , 6, 7147	17.4	230
40	RNA imaging. Spatially resolved, highly multiplexed RNA profiling in single cells. <i>Science</i> , 2015 , 348, aaa6099	69.9	970

39	Mapping Synaptic Input Fields of Neurons with Super-Resolution Imaging. <i>Cell</i> , 2015 , 163, 493-505	56.2	92
38	Correlative stochastic optical reconstruction microscopy and electron microscopy. <i>PLoS ONE</i> , 2015 , 10, e0124581	3.7	64
37	Purinosome formation as a function of the cell cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 1368-73	11.5	55
36	Isotropic 3D Super-resolution Imaging with a Self-bending Point Spread Function. <i>Nature Photonics</i> , 2014 , 8, 302-306	33.9	317
35	Structurally distinct Ca(2+) signaling domains of sperm flagella orchestrate tyrosine phosphorylation and motility. <i>Cell</i> , 2014 , 157, 808-22	56.2	147
34	Postsynaptic actin regulates active zone spacing and glutamate receptor apposition at the Drosophila neuromuscular junction. <i>Molecular and Cellular Neurosciences</i> , 2014 , 61, 241-54	4.8	20
33	Histone H4 tail mediates allosteric regulation of nucleosome remodelling by linker DNA. <i>Nature</i> , 2014 , 512, 213-7	50.4	62
32	Characterization and development of photoactivatable fluorescent proteins for single-molecule-based superresolution imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 8452-7	11.5	253
31	Developmental mechanism of the periodic membrane skeleton in axons. <i>ELife</i> , 2014 , 3,	8.9	153
30	A model for the generation and interconversion of ER morphologies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, E5243-51	11.5	86
29	A PIK3C3-ankyrin-B-dynactin pathway promotes axonal growth and multiorganelle transport. <i>Journal of Cell Biology</i> , 2014 , 207, 735-52	7.3	58
28	Author response: Developmental mechanism of the periodic membrane skeleton in axons 2014 ,		5
27	Super-resolution fluorescence imaging of telomeres reveals TRF2-dependent T-loop formation. <i>Cell</i> , 2013 , 155, 345-356	56.2	315
26	Actin, spectrin, and associated proteins form a periodic cytoskeletal structure in axons. <i>Science</i> , 2013 , 339, 452-6	33.3	787
25	ISWI remodelers slide nucleosomes with coordinated multi-base-pair entry steps and single-base-pair exit steps. <i>Cell</i> , 2013 , 152, 442-52	56.2	117
24	Dual function of CD81 in influenza virus uncoating and budding. <i>PLoS Pathogens</i> , 2013 , 9, e1003701	7.6	70
23	Super-resolution fluorescence imaging of organelles in live cells with photoswitchable membrane probes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 13978-83	11.5	363
22	A high-density 3D localization algorithm for stochastic optical reconstruction microscopy. <i>Optical Nanoscopy</i> , 2012 , 1,		97

21	Ultrabright photoactivatable fluorophores created by reductive caging. <i>Nature Methods</i> , 2012 , 9, 1181-4	21.6	178
20	Fast, three-dimensional super-resolution imaging of live cells. <i>Nature Methods</i> , 2011 , 8, 499-508	21.6	585
19	Evaluation of fluorophores for optimal performance in localization-based super-resolution imaging. <i>Nature Methods</i> , 2011 , 8, 1027-36	21.6	925
18	Chromosome organization by a nucleoid-associated protein in live bacteria. <i>Science</i> , 2011 , 333, 1445-9	33.3	291
17	Breaking the diffraction barrier: super-resolution imaging of cells. <i>Cell</i> , 2010 , 143, 1047-58	56.2	864
16	Superresolution imaging of chemical synapses in the brain. <i>Neuron</i> , 2010 , 68, 843-56	13.9	507
15	Retrovirus Replication: New Perspectives on Enzyme and Substrate Dynamics 2010 , 307-343		
14	Dynamics of nucleosome remodelling by individual ACF complexes. <i>Nature</i> , 2009 , 462, 1022-7	50.4	153
13	Nano-imaging with Storm. <i>Nature Photonics</i> , 2009 , 3, 365-367	33.9	116
12	Three-dimensional super-resolution imaging by stochastic optical reconstruction microscopy. <i>Science</i> , 2008 , 319, 810-3	33.3	1932
11	Sub-diffraction-limit imaging by stochastic optical reconstruction microscopy (STORM). <i>Nature Methods</i> , 2006 , 3, 793-5	21.6	5236
10	Single-molecule RNA science. <i>Annual Review of Biophysics and Biomolecular Structure</i> , 2005 , 34, 399-414		138
9	Molecular biology. Unraveling DNA condensation with optical tweezers. <i>Science</i> , 2004 , 305, 188-90	33.3	45
8	Single-molecule folding. <i>Current Opinion in Structural Biology</i> , 2003 , 13, 88-97	8.1	207
7	Analyzing Single Molecule Localization Microscopy Data Using Cubic Splines		1
6	Molecular, spatial and projection diversity of neurons in primary motor cortex revealed by in situ single-cell transcriptomics		20
5	CTCF Mediates Dosage and Sequence-context-dependent Transcriptional Insulation through Formation of Local Chromatin Domains		4
4	Deep learning and alignment of spatially-resolved whole transcriptomes of single cells in the mouse brain with Tangram		17

3	Spatial organization of the transcriptome in individual neurons	10
2	Proteomic and functional analyses of the periodic membrane skeleton in neurons	3
1	Multiplexed imaging of high density libraries of RNAs with MERFISH and expansion microscopy	1