

Pavel Tomancak

List of Publications by Year in descending order

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Version: 2024-02-01

101
papers

63,925
citations

36303

51
h-index

37204

96
g-index

125
all docs

125
docs citations

125
times ranked

99677
citing authors

#	ARTICLE	IF	CITATIONS
1	Fiji: an open-source platform for biological-image analysis. <i>Nature Methods</i> , 2012, 9, 676-682.	19.0	47,818
2	Globally optimal stitching of tiled 3D microscopic image acquisitions. <i>Bioinformatics</i> , 2009, 25, 1463-1465.	4.1	1,970
3	Global Analysis of mRNA Localization Reveals a Prominent Role in Organizing Cellular Architecture and Function. <i>Cell</i> , 2007, 131, 174-187.	28.9	878
4	RNA buffers the phase separation behavior of prion-like RNA binding proteins. <i>Science</i> , 2018, 360, 918-921.	12.6	837
5	TrakEM2 Software for Neural Circuit Reconstruction. <i>PLoS ONE</i> , 2012, 7, e38011.	2.5	832
6	Content-aware image restoration: pushing the limits of fluorescence microscopy. <i>Nature Methods</i> , 2018, 15, 1090-1097.	19.0	758
7	Computational identification of Drosophila microRNA genes. <i>Genome Biology</i> , 2003, 4, R42.	9.6	624
8	Systematic determination of patterns of gene expression during Drosophila embryogenesis. <i>Genome Biology</i> , 2002, 3, research0088.1.	9.6	600
9	Exploiting transcription factor binding site clustering to identify cis-regulatory modules involved in pattern formation in the Drosophila genome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 757-762.	7.1	541
10	Biological imaging software tools. <i>Nature Methods</i> , 2012, 9, 697-710.	19.0	462
11	An objective comparison of cell-tracking algorithms. <i>Nature Methods</i> , 2017, 14, 1141-1152.	19.0	399
12	Global analysis of patterns of gene expression during Drosophila embryogenesis. <i>Genome Biology</i> , 2007, 8, R145.	9.6	387
13	Gene expression divergence recapitulates the developmental hourglass model. <i>Nature</i> , 2010, 468, 811-814.	27.8	364
14	Software for bead-based registration of selective plane illumination microscopy data. <i>Nature Methods</i> , 2010, 7, 418-419.	19.0	354
15	Tissue clearing and its applications in neuroscience. <i>Nature Reviews Neuroscience</i> , 2020, 21, 61-79.	10.2	350
16	Assessing phototoxicity in live fluorescence imaging. <i>Nature Methods</i> , 2017, 14, 657-661.	19.0	346
17	CATMAID: collaborative annotation toolkit for massive amounts of image data. <i>Bioinformatics</i> , 2009, 25, 1984-1986.	4.1	333
18	A genome-wide resource for the analysis of protein localisation in Drosophila. <i>ELife</i> , 2016, 5, e12068.	6.0	315

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19	OpenSPIM: an open-access light-sheet microscopy platform. Nature Methods, 2013, 10, 598-599.	19.0	312
20	An Integrated Micro- and Macroarchitectural Analysis of the Drosophila Brain by Computer-Assisted Serial Section Electron Microscopy. PLoS Biology, 2010, 8, e1000502.	5.6	308
21	Elastic volume reconstruction from series of ultra-thin microscopy sections. Nature Methods, 2012, 9, 717-720.	19.0	265
22	BigDataViewer: visualization and processing for large image data sets. Nature Methods, 2015, 12, 481-483.	19.0	256
23	Drosophila microRNAs exhibit diverse spatial expression patterns during embryonic development. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 18017-18022.	7.1	252
24	Efficient Bayesian-based multiview deconvolution. Nature Methods, 2014, 11, 645-648.	19.0	232
25	Visualization of image data from cells to organisms. Nature Methods, 2010, 7, S26-S41.	19.0	226
26	Abundant Occurrence of Basal Radial Glia in the Subventricular Zone of Embryonic Neocortex of a Lissencephalic Primate, the Common Marmoset Callithrix jacchus. Cerebral Cortex, 2012, 22, 469-481.	2.9	201
27	Guide to light-sheet microscopy for adventurous biologists. Nature Methods, 2015, 12, 30-34.	19.0	191
28	The Earliest Transcribed Zygotic Genes Are Short, Newly Evolved, and Different across Species. Cell Reports, 2014, 6, 285-292.	6.4	179
29	Oocyte polarity depends on regulation of <i>gurken</i> by Vasa. Development (Cambridge), 1998, 125, 1723-1732.	2.5	167
30	Endogenously Tagged Rab Proteins: A Resource to Study Membrane Trafficking in Drosophila. Developmental Cell, 2015, 33, 351-365.	7.0	159
31	A Drosophila melanogaster homologue of Caenorhabditis elegans par-1 acts at an early step in embryonic-axis formation. Nature Cell Biology, 2000, 2, 458-460.	10.3	157
32	An Adaptive Threshold in Mammalian Neocortical Evolution. PLoS Biology, 2014, 12, e1002000.	5.6	139
33	Multi-view light-sheet imaging and tracking with the MaMuT software reveals the cell lineage of a direct developing arthropod limb. eLife, 2018, 7, .	6.0	134
34	ImgLib2—generic image processing in Java. Bioinformatics, 2012, 28, 3009-3011.	4.1	132
35	As-rigid-as-possible mosaicking and serial section registration of large ssTEM datasets. Bioinformatics, 2010, 26, i57-i63.	4.1	124
36	Systematic imaging reveals features and changing localization of mRNAs in Drosophila development. eLife, 2015, 4, .	6.0	123

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37	CLIJ: GPU-accelerated image processing for everyone. <i>Nature Methods</i> , 2020, 17, 5-6.	19.0	122
38	linkcomm: an R package for the generation, visualization, and analysis of link communities in networks of arbitrary size and type. <i>Bioinformatics</i> , 2011, 27, 2011-2012.	4.1	121
39	A toolkit for high-throughput, cross-species gene engineering in <i>Drosophila</i> . <i>Nature Methods</i> , 2009, 6, 435-437.	19.0	110
40	Multiscale imaging of plant development by light-sheet fluorescence microscopy. <i>Nature Plants</i> , 2018, 4, 639-650.	9.3	109
41	The evolution of early animal embryos: conservation or divergence?. <i>Trends in Ecology and Evolution</i> , 2012, 27, 385-393.	8.7	106
42	The <scp>ImageJ</scp> ecosystem: Open-source software for image visualization, processing, and analysis. <i>Protein Science</i> , 2021, 30, 234-249.	7.6	102
43	Attachment of the blastoderm to the vitelline envelope affects gastrulation of insects. <i>Nature</i> , 2019, 568, 395-399.	27.8	95
44	Motif composition, conservation and condition-specificity of single and alternative transcription start sites in the <i>Drosophila</i> genome. <i>Genome Biology</i> , 2009, 10, R73.	9.6	86
45	LABKIT: Labeling and Segmentation Toolkit for Big Image Data. <i>Frontiers in Computer Science</i> , 2022, 4, .	2.8	85
46	Mutations in DONSON disrupt replication fork stability and cause microcephalic dwarfism. <i>Nature Genetics</i> , 2017, 49, 537-549.	21.4	81
47	Surface tension determines tissue shape and growth kinetics. <i>Science Advances</i> , 2019, 5, eaav9394.	10.3	80
48	Introns and gene expression: Cellular constraints, transcriptional regulation, and evolutionary consequences. <i>BioEssays</i> , 2015, 37, 148-154.	2.5	77
49	Oocyte polarity depends on regulation of gurken by Vasa. <i>Development (Cambridge)</i> , 1998, 125, 1723-32.	2.5	67
50	Current challenges in open-source bioimage informatics. <i>Nature Methods</i> , 2012, 9, 661-665.	19.0	61
51	Regionalized tissue fluidization is required for epithelial gap closure during insect gastrulation. <i>Nature Communications</i> , 2020, 11, 5604.	12.8	53
52	Iron-regulatory protein-1 (IRP-1) is highly conserved in two invertebrate species. Characterization of IRP-1 homologues in <i>Drosophila melanogaster</i> and <i>Caenorhabditis elegans</i> . <i>FEBS Journal</i> , 1998, 254, 230-237.	0.2	51
53	Imaging plant germline differentiation within <i>Arabidopsis</i> flowers by light sheet microscopy. <i>ELife</i> , 2020, 9, .	6.0	48
54	Imaging Flies by Fluorescence Microscopy: Principles, Technologies, and Applications. <i>Genetics</i> , 2019, 211, 15-34.	2.9	45

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55	Using Light Sheet Fluorescence Microscopy to Image Zebrafish Eye Development. Journal of Visualized Experiments, 2016, , e53966.	0.3	40
56	The ancestral retinoic acid receptor was a low-affinity sensor triggering neuronal differentiation. Science Advances, 2018, 4, eaao1261.	10.3	37
57	An Excess of Gene Expression Divergence on the X Chromosome in Drosophila Embryos: Implications for the Faster-X Hypothesis. PLoS Genetics, 2012, 8, e1003200.	3.5	34
58	In Vivo RNAi Rescue in Drosophila melanogaster with Genomic Transgenes from Drosophila pseudoobscura. PLoS ONE, 2010, 5, e8928.	2.5	34
59	An automated workflow for parallel processing of large multiview SPIM recordings. Bioinformatics, 2016, 32, 1112-1114.	4.1	33
60	Small molecule screen in embryonic zebrafish using modular variations to target segmentation. Nature Communications, 2017, 8, 1901.	12.8	29
61	Light-sheet microscopy for everyone? Experience of building an OpenSPIM to study flatworm development. BMC Developmental Biology, 2016, 16, 22.	2.1	28
62	Control of Hox transcription factor concentration and cell-to-cell variability by an auto-regulatory switch. Development (Cambridge), 2019, 146, .	2.5	23
63	Bioimage Informatics in the context of Drosophila research. Methods, 2014, 68, 60-73.	3.8	22
64	Selective maintenance of Drosophila tandemly arranged duplicated genes during evolution. Genome Biology, 2008, 9, R176.	9.6	20
65	An alignment-free method to identify candidate orthologous enhancers in multiple <i>Drosophila</i> genomes. Bioinformatics, 2010, 26, 2109-2115.	4.1	20
66	Open-source solutions for SPIMage processing. Methods in Cell Biology, 2014, 123, 505-529.	1.1	20
67	Sample Preparation and Mounting of Drosophila Embryos for Multiview Light Sheet Microscopy. Methods in Molecular Biology, 2016, 1478, 189-202.	0.9	18
68	Mapping the gene expression universe. Current Opinion in Genetics and Development, 2008, 18, 506-512.	3.3	17
69	A role for tuned levels of nucleosome remodeler subunit ACF1 during Drosophila oogenesis. Developmental Biology, 2016, 411, 217-230.	2.0	16
70	Probing the kinetic landscape of Hox transcription factorâ€“DNA binding in live cells by massively parallel Fluorescence Correlation Spectroscopy. Mechanisms of Development, 2015, 138, 218-225.	1.7	15
71	The apical protein Apnoia interacts with Crumbs to regulate tracheal growth and inflation. PLoS Genetics, 2019, 15, e1007852.	3.5	15
72	Comment on â€œCortical folding scales universally with surface area and thickness, not number of neuronsâ€• Science, 2016, 351, 825-825.	12.6	14

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73	Ordered patterning of the sensory system is susceptible to stochastic features of gene expression. <i>ELife</i> , 2020, 9, .	6.0	14
74	Recombination-Mediated Genetic Engineering of Large Genomic DNA Transgenes. <i>Methods in Molecular Biology</i> , 2012, 772, 445-458.	0.9	13
75	Ectopic expression of S28A-mutated Histone H3 modulates longevity, stress resistance and cardiac function in <i>Drosophila</i> . <i>Scientific Reports</i> , 2018, 8, 2940.	3.3	13
76	Yorkie controls tube length and apical barrier integrity during airway development. <i>Journal of Cell Biology</i> , 2019, 218, 2762-2781.	5.2	13
77	scenery: Flexible Virtual Reality Visualization on the Java VM. , 2019, , .		13
78	Production of Fosmid Genomic Libraries Optimized for Liquid Culture Recombineering and Cross-Species Transgenesis. <i>Methods in Molecular Biology</i> , 2012, 772, 423-443.	0.9	12
79	Going "open" with Mesoscopy: a new dimension on multi-view imaging. <i>Protoplasma</i> , 2014, 251, 363-372.	2.1	12
80	Mosaicing of single plane illumination microscopy images using groupwise registration and fast content-based image fusion. , 2008, , .		11
81	Bead-based mosaicing of single plane illumination microscopy images using geometric local descriptor matching. <i>Proceedings of SPIE</i> , 2009, , .	0.8	11
82	<i>Drosophila</i> Brain Development: Closing the Gap between a Macroarchitectural and Microarchitectural Approach. <i>Cold Spring Harbor Symposia on Quantitative Biology</i> , 2009, 74, 235-248.	1.1	11
83	Exploring Time-dependent Scientific Data Using Spatially Aware Mobiles and Large Displays. , 2016, , .		11
84	Epithelial rotation is preceded by planar symmetry breaking of actomyosin and protects epithelial tissue from cell deformations. <i>PLoS Genetics</i> , 2017, 13, e1007107.	3.5	11
85	Transcriptional control in embryonic <i>Drosophila</i> midline guidance assessed through a whole genome approach. <i>BMC Neuroscience</i> , 2007, 8, 59.	1.9	9
86	Restoration of Uneven Illumination in Light Sheet Microscopy Images. <i>Microscopy and Microanalysis</i> , 2011, 17, 607-613.	0.4	7
87	Gene Regulation: Analog to Digital Conversion of Transcription Factor Gradients. <i>Current Biology</i> , 2019, 29, R422-R424.	3.9	4
88	HPC-as-a-Service via HEAppE Platform. <i>Advances in Intelligent Systems and Computing</i> , 2020, , 280-293.	0.6	4
89	Mapping the complexity of transcription control in higher eukaryotes. <i>Genome Biology</i> , 2010, 11, 115.	9.6	3
90	Towards digital representation of <i>Drosophila</i> embryogenesis. , 2008, , .		2

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91	Rapid Ovary Mass-Isolation (ROMi) to Obtain Large Quantities of Drosophila Egg Chambers for Fluorescent In Situ Hybridization. <i>Methods in Molecular Biology</i> , 2016, 1478, 253-262.	0.9	2
92	SciJava Interface for Parallel Execution in the ImageJ Ecosystem. <i>Lecture Notes in Computer Science</i> , 2018, , 288-299.	1.3	2
93	A Behavioral Assay to Study Effects of Retinoid Pharmacology on Nervous System Development in a Marine Annelid. <i>Methods in Molecular Biology</i> , 2019, 2019, 193-207.	0.9	1
94	Analysis of Actomyosin Dynamics at Local Cellular and Tissue Scales Using Time-lapse Movies of Cultured <i>Drosophila</i> Egg Chambers. <i>Journal of Visualized Experiments</i> , 2019, , .	0.3	1
95	SPIM workflow manager for HPC. <i>Bioinformatics</i> , 2019, 35, 3875-3876.	4.1	1
96	Registration of Multi-modal Volumetric Images by Establishing Cell Correspondence. <i>Lecture Notes in Computer Science</i> , 2020, , 458-473.	1.3	1
97	ImgLib2--generic image processing in Java. <i>Bioinformatics</i> , 2013, 29, 298-298.	4.1	0
98	Universal Rules of Regulation. <i>Cell</i> , 2016, 165, 1035-1036.	28.9	0
99	Evolutionary history of tissue bending. <i>Science</i> , 2019, 366, 300-301.	12.6	0
100	Cell communication in the blink of an eye. <i>Nature</i> , 2019, 571, 484-485.	27.8	0
101	Time to Upgrade: A New OpenSPIM Guide to Build and Operate Advanced OpenSPIM Configurations. <i>Advanced Biology</i> , 2021, , 2101182.	2.5	0