

Niels Volkmann

List of Publications by Year in descending order

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68
papers

4,856
citations

147801

31
h-index

114465

63
g-index

73
all docs

73
docs citations

73
times ranked

5850
citing authors

#	ARTICLE	IF	CITATIONS
1	Reconstituted NALP1 Inflammasome Reveals Two-Step Mechanism of Caspase-1 Activation. <i>Molecular Cell</i> , 2007, 25, 713-724.	9.7	610
2	The minimal cadherin-catenin complex binds to actin filaments under force. <i>Science</i> , 2014, 346, 1254211.	12.6	532
3	Cellular chirality arising from the self-organization of the actin cytoskeleton. <i>Nature Cell Biology</i> , 2015, 17, 445-457.	10.3	350
4	The structural basis of actin filament branching by the Arp2/3 complex. <i>Journal of Cell Biology</i> , 2008, 180, 887-895.	5.2	270
5	Quantitative Fitting of Atomic Models into Observed Densities Derived by Electron Microscopy. <i>Journal of Structural Biology</i> , 1999, 125, 176-184.	2.8	202
6	Direct continuities between cisternae at different levels of the Golgi complex in glucose-stimulated mouse islet beta cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 5565-5570.	7.1	172
7	A novel three-dimensional variant of the watershed transform for segmentation of electron density maps. <i>Journal of Structural Biology</i> , 2002, 138, 123-129.	2.8	163
8	The structure of the C-terminal actin-binding domain of talin. <i>EMBO Journal</i> , 2008, 27, 458-469.	7.8	159
9	An Atomic Model of Actin Filaments Cross-Linked by Fimbrin and Its Implications for Bundle Assembly and Function. <i>Journal of Cell Biology</i> , 2001, 153, 947-956.	5.2	150
10	Evidence for cleft closure in actomyosin upon ADP release. <i>Nature Structural Biology</i> , 2000, 7, 1147-1155.	9.7	137
11	Matrix vesicles from chondrocytes and osteoblasts: Their biogenesis, properties, functions and biomimetic models. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2018, 1862, 532-546.	2.4	131
12	The IRE1 \pm /XBP1s Pathway Is Essential for the Glucose Response and Protection of β Cells. <i>PLoS Biology</i> , 2015, 13, e1002277.	5.6	130
13	Automatic particle selection: results of a comparative study. <i>Journal of Structural Biology</i> , 2004, 145, 3-14.	2.8	129
14	Three-Dimensional Structure of Vinculin Bound to Actin Filaments. <i>Molecular Cell</i> , 2006, 21, 271-281.	9.7	128
15	An atomic model of fimbrin binding to F-actin and its implications for filament crosslinking and regulation. <i>Nature Structural Biology</i> , 1998, 5, 787-792.	9.7	124
16	Structural studies on full-length talin1 reveal a compact auto-inhibited dimer: Implications for talin activation. <i>Journal of Structural Biology</i> , 2013, 184, 21-32.	2.8	100
17	The Structural Basis of Myosin V Processive Movement as Revealed by Electron Cryomicroscopy. <i>Molecular Cell</i> , 2005, 19, 595-605.	9.7	92
18	Electron tomographic analysis of synaptic ultrastructure. <i>Journal of Comparative Neurology</i> , 2012, 520, 2697-2711.	1.6	77

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19	Three-dimensional reconstructions of Arp2/3 complex with bound nucleation promoting factors. <i>EMBO Journal</i> , 2012, 31, 236-247.	7.8	67
20	Toxofilin upregulates the host cortical actin cytoskeleton dynamics facilitating <i>Toxoplasma</i> invasion. <i>Journal of Cell Science</i> , 2012, 125, 4333-42.	2.0	64
21	Efficient automatic noise reduction of electron tomographic reconstructions based on iterative median filtering. <i>Journal of Structural Biology</i> , 2007, 158, 196-204.	2.8	62
22	Evidence for an Interaction between the SH3 Domain and the N-terminal Extension of the Essential Light Chain in Class II Myosins. <i>Journal of Molecular Biology</i> , 2007, 371, 902-913.	4.2	56
23	Docking of Atomic Models into Reconstructions from Electron Microscopy. <i>Methods in Enzymology</i> , 2003, 374, 204-225.	1.0	55
24	Three-Dimensional Structures of Full-Length, Membrane-Embedded Human β 2 Integrin Complexes. <i>Biophysical Journal</i> , 2016, 110, 798-809.	0.5	53
25	Methods for Segmentation and Interpretation of Electron Tomographic Reconstructions. <i>Methods in Enzymology</i> , 2010, 483, 31-46.	1.0	48
26	Myosin isoforms show unique conformations in the actin-bound state. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 3227-3232.	7.1	44
27	Effect of Calcium on Calmodulin Bound to the IQ Motifs of Myosin V. <i>Journal of Biological Chemistry</i> , 2007, 282, 23316-23325.	3.4	43
28	A mechanism of leading-edge protrusion in the absence of Arp2/3 complex. <i>Molecular Biology of the Cell</i> , 2015, 26, 901-912.	2.1	43
29	Confidence intervals for fitting of atomic models into low-resolution densities. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2009, 65, 679-689.	2.5	39
30	Segmentation of electron tomographic data sets using fuzzy set theory principles. <i>Journal of Structural Biology</i> , 2008, 162, 368-379.	2.8	38
31	Ist1 regulates ESCRT-III assembly and function during multivesicular endosome biogenesis in <i>Caenorhabditis elegans</i> embryos. <i>Nature Communications</i> , 2017, 8, 1439.	12.8	38
32	Actomyosin: law and order in motility. <i>Current Opinion in Cell Biology</i> , 2000, 12, 26-34.	5.4	37
33	High Rac1 activity is functionally translated into cytosolic structures with unique nanoscale cytoskeletal architecture. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 1267-1272.	7.1	35
34	Holoenzyme structures of endothelial nitric oxide synthase – An allosteric role for calmodulin in pivoting the FMN domain for electron transfer. <i>Journal of Structural Biology</i> , 2014, 188, 46-54.	2.8	32
35	Key Structural Features of the Actin Filament Arp2/3 Complex Branch Junction Revealed by Molecular Simulation. <i>Journal of Molecular Biology</i> , 2012, 416, 148-161.	4.2	29
36	Local Tension on Talin in Focal Adhesions Correlates with F-Actin Alignment at the Nanometer Scale. <i>Biophysical Journal</i> , 2018, 115, 1569-1579.	0.5	28

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37	Extracellular matrix micropatterning technology for whole cell cryogenic electron microscopy studies. <i>Journal of Micromechanics and Microengineering</i> , 2019, 29, 115018.	2.6	28
38	An approach to automated particle picking from electron micrographs based on reduced representation templates. <i>Journal of Structural Biology</i> , 2004, 145, 152-156.	2.8	27
39	Three-dimensional Architecture of Hair-bundle Linkages Revealed by Electron-microscopic Tomography. <i>JARO - Journal of the Association for Research in Otolaryngology</i> , 2008, 9, 215-224.	1.8	24
40	The actomyosin interface contains an evolutionary conserved core and an ancillary interface involved in specificity. <i>Nature Communications</i> , 2021, 12, 1892.	12.8	23
41	The C-terminal tail domain of metavinculin, vinculin's splice variant, severs actin filaments. <i>Journal of Cell Biology</i> , 2012, 197, 585-593.	5.2	22
42	Orchestration of ErbB3 signaling through heterointeractions and homointeractions. <i>Molecular Biology of the Cell</i> , 2015, 26, 4109-4123.	2.1	22
43	Nano-scale actin-network characterization of fibroblast cells lacking functional Arp2/3 complex. <i>Journal of Structural Biology</i> , 2017, 197, 312-321.	2.8	21
44	The R403Q Myosin Mutation Implicated in Familial Hypertrophic Cardiomyopathy Causes Disorder at the Actomyosin Interface. <i>PLoS ONE</i> , 2007, 2, e1123.	2.5	21
45	Biophysical Characterization of a Nanodisc with and without BAX: An Integrative Study Using Molecular Dynamics Simulations and Cryo-EM. <i>Structure</i> , 2019, 27, 988-999.e4.	3.3	19
46	The architectural relationship of components controlling mast cell endocytosis. <i>Journal of Cell Science</i> , 2013, 126, 4913-25.	2.0	18
47	Marker-free method for accurate alignment between correlated light, cryo-light, and electron cryo-microscopy data using sample support features. <i>Journal of Structural Biology</i> , 2018, 201, 46-51.	2.8	17
48	Correlative light-electron microscopy. <i>Advances in Protein Chemistry and Structural Biology</i> , 2011, 82, 91-99.	2.3	16
49	Structure of anthrax lethal toxin prepore complex suggests a pathway for efficient cell entry. <i>Journal of General Physiology</i> , 2016, 148, 313-324.	1.9	16
50	Electron cryo-tomography of vestibular hair-cell stereocilia. <i>Journal of Structural Biology</i> , 2019, 206, 149-155.	2.8	16
51	The complexin C-terminal amphipathic helix stabilizes the fusion pore open state by sculpting membranes. <i>Nature Structural and Molecular Biology</i> , 2022, 29, 97-107.	8.2	15
52	Putting structure into context: fitting of atomic models into electron microscopic and electron tomographic reconstructions. <i>Current Opinion in Cell Biology</i> , 2012, 24, 141-147.	5.4	12
53	Accurate membrane tracing in three-dimensional reconstructions from electron cryotomography data. <i>Ultramicroscopy</i> , 2015, 155, 20-26.	1.9	12
54	Efficient Extraction of Macromolecular Complexes from Electron Tomograms Based on Reduced Representation Templates. <i>Lecture Notes in Computer Science</i> , 2015, 9256, 423-431.	1.3	11

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55	The Joys and Perils of Flexible Fitting. <i>Advances in Experimental Medicine and Biology</i> , 2014, 805, 137-155.	1.6	10
56	Conformational Equilibrium of Human Platelet Integrin Investigated by Three-Dimensional Electron Cryo-Microscopy. <i>Sub-Cellular Biochemistry</i> , 2018, 87, 353-363.	2.4	9
57	Three-dimensional reconstructions of actin filaments capped by Arp2/3 complex. <i>European Journal of Cell Biology</i> , 2014, 93, 179-183.	3.6	8
58	Density-based score for selecting near-native atomic models of unknown structures. <i>Journal of Structural Biology</i> , 2007, 158, 188-195.	2.8	7
59	Validation methods for low-resolution fitting of atomic structures to electron microscopy data. <i>Archives of Biochemistry and Biophysics</i> , 2015, 581, 49-53.	3.0	6
60	Rapid tool for cell nanoarchitecture integrity assessment. <i>Journal of Structural Biology</i> , 2021, 213, 107801.	2.8	4
61	Probabilistic determination of probe locations from distance data. <i>Journal of Structural Biology</i> , 2013, 184, 75-82.	2.8	2
62	Quantitative Correlative Light and Electron Microscopies; Targeting the Host Actin Cytoskeleton. <i>Microscopy and Microanalysis</i> , 2014, 20, 1216-1217.	0.4	1
63	Segmentation of Features in Electron Tomographic Reconstructions. <i>Biological and Medical Physics Series</i> , 2018, , 301-318.	0.4	1
64	Electron microscopy and three-dimensional single-particle analysis as tools for understanding the structural basis of mechanobiology. , 0, , 15-31.		0
65	Molecular Characterization of Leading Edge Protrusions in the Absence of Arp2/3 Complex. <i>Microscopy and Microanalysis</i> , 2015, 21, 1283-1284.	0.4	0
66	Unraveling the Molecular Details of the Cell-ECM Interface: 3D Structures of Membrane-embedded Integrin Complexes. <i>Microscopy and Microanalysis</i> , 2017, 23, 1102-1103.	0.4	0
67	Does self-organized criticality drive leading edge protrusion?. <i>Biophysical Reviews</i> , 2018, 10, 1571-1575.	3.2	0
68	Electron microscopy. <i>Methods of Biochemical Analysis</i> , 2003, 44, 115-33.	0.2	0