Graham W Knott

List of Publications by Year
in descending order

113 papers	14,676 citations	38660 50 h-index	26548 107 g-index
125 all docs	125 docs citations	125 times ranked	17116 citing authors

#	Article	IF	Citations
1	A subpopulation of cortical VIP-expressing interneurons with highly dynamic spines. Communications Biology, 2022, 5, 352.	2.0	7
2	ADAMTS18+ villus tip telocytes maintain a polarized VEGFA signaling domain and fenestrations in nutrient-absorbing intestinal blood vessels. Nature Communications, 2022, 13, .	5.8	20
3	Mitofusin-2 in the Nucleus Accumbens Regulates Anxiety and Depression-like Behaviors Through Mitochondrial and Neuronal Actions. Biological Psychiatry, 2021, 89, 1033-1044.	0.7	55
4	Dynamic persistence of UPEC intracellular bacterial communities in a human bladder-chip model of urinary tract infection. ELife, 2021, 10, .	2.8	47
5	Early invasion of the bladder wall by solitary bacteria protects UPEC from antibiotics and neutrophil swarms in an organoid model. Cell Reports, 2021, 36, 109351.	2.9	13
6	3D Ultrastructure of Synaptic Inputs to Distinct GABAergic Neurons in the Mouse Primary Visual Cortex. Cerebral Cortex, 2021, 31, 2610-2624.	1.6	7
7	Maturation of Complex Synaptic Connections of Layer 5 Cortical Axons in the Posterior Thalamic Nucleus Requires SNAP25. Cerebral Cortex, 2021, 31, 2625-2638.	1.6	9
8	Deep Active Surface Models. , 2021, , .		7
9	Nuclear and cytoplasmic huntingtin inclusions exhibit distinct biochemical composition, interactome and ultrastructural properties. Nature Communications, 2021, 12, 6579.	5.8	42
10	Dysfunction of homeostatic control of dopamine by astrocytes in the developing prefrontal cortex leads to cognitive impairments. Molecular Psychiatry, 2020, 25, 732-749.	4.1	71
11	Amygdala GluN2B-NMDAR dysfunction is critical in abnormal aggression of neurodevelopmental origin induced by St8sia2 deficiency. Molecular Psychiatry, 2020, 25, 2144-2161.	4.1	18
12	Gas cluster ion beam SEM for imaging of large tissue samples with 10â€‰nm isotropic resolution. Nature Methods, 2020, 17, 68-71.	9.0	40
13	Nano-imaging trace elements at organelle levels in substantia nigra overexpressing Î±-synuclein to model Parkinsonâ€™s disease. Communications Biology, 2020, 3, 364.	2.0	9
14	Somatostatin enhances visual processing and perception by suppressing excitatory inputs to parvalbumin-positive interneurons in V1. Science Advances, 2020, 6, eaaz0517.	4.7	29
15	Impairment of Glycolysis-Derived l-Serine Production in Astrocytes Contributes to Cognitive Deficits in Alzheimerâ€™s Disease. Cell Metabolism, 2020, 31, 503-517.e8.	7.2	160
16	Voxel2Mesh: 3D Mesh Model Generation from Volumetric Data. Lecture Notes in Computer Science, 2020, , 299-308.	1.0	38
17	The process of Lewy body formation, rather than simply Î±-synuclein fibrillization, is one of the major drivers of neurodegeneration. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4971-4982.	3.3	422
18	Combined deletion of Glut1 and Glut3 impairs lung adenocarcinoma growth. ELife, 2020, 9, .	2.8	18

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19	Ultrastructural comparison of dendritic spine morphology preserved with cryo and chemical fixation. ELife, 2020, 9, .	2.8	22
20	Toward Biophysical Mechanisms of Neocortical Computation after 50 Years of Barrel Cortex Research. Function, 2020, 2, zqaa046.	1.1	2
21	The RNA-Binding Protein PUM2 Impairs Mitochondrial Dynamics and Mitophagy During Aging. Molecular Cell, 2019, 73, 775-787.e10.	4.5	100
22	Synaptic proximity enables NMDAR signalling to promote brain metastasis. Nature, 2019, 573, 526-531.	13.7	320
23	Cellular Uptake and Intracellular Trafficking of Poly(N-(2-Hydroxypropyl) Methacrylamide). Biomacromolecules, 2019, 20, 231-242.	2.6	8
24	Diversity of Cortico-descending Projections: Histological and Diffusion MRI Characterization in the Monkey. Cerebral Cortex, 2019, 29, 788-801.	1.6	27
25	Block Face Scanning Electron Microscopy of Fluorescently Labeled Axons Without Using Near Infra-Red Branding. Frontiers in Neuroanatomy, 2018, 12, 88.	0.9	19
26	In vivo modeling of human neuron dynamics and Down syndrome. Science, 2018, 362, .	6.0	87
27	NeuroMorph: A Software Toolset for 3D Analysis of Neurite Morphology and Connectivity. Frontiers in Neuroanatomy, 2018, 12, 59.	0.9	31
28	Locally coordinated synaptic plasticity of visual cortex neurons in vivo. Science, 2018, 360, 1349-1354.	6.0	137
29	The effects of aging on neuropil structure in mouse somatosensory cortexâ€”A 3D electron microscopy analysis of layer 1. PLoS ONE, 2018, 13, e0198131.	1.1	59
30	Molecular insights into Vibrio choleraeâ€™s intra-amoebal host-pathogen interactions. Nature Communications, 2018, 9, 3460.	5.8	46
31	Ultrastructural basis of strong unitary inhibition in a binaural neuron. Journal of Physiology, 2018, 596, 4969-4982.	1.3	10
32	Parkin functionally interacts with PGC-1Î± to preserve mitochondria and protect dopaminergic neurons. Human Molecular Genetics, 2017, 26, ddw418.	1.4	50
33	Multicut brings automated neurite segmentation closer to human performance. Nature Methods, 2017, 14, 101-102.	9.0	126
34	Motifs in the tau protein that control binding to microtubules and aggregation determine pathological effects. Scientific Reports, 2017, 7, 13556.	1.6	35
35	Differences in cisplatin distribution in sensitive and resistant ovarian cancer cells: a TEM/NanoSIMS study. Metallomics, 2017, 9, 1413-1420.	1.0	34
36	Identification of aminopyrimidineâ€sulfonamides as potent modulators of Wag31â€mediated cell elongation in mycobacteria. Molecular Microbiology, 2017, 103, 13-25.	1.2	22

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37	The Differential Distribution of RAPTA-T in Non-Invasive and Invasive Breast Cancer Cells Correlates with Its Anti-Invasive and Anti-Metastatic Effects. International Journal of Molecular Sciences, 2017, 18, 1869.	1.8	25
38	Computer assisted detection of axonal bouton structural plasticity in in vivo time-lapse images. ELife, 2017, 6, .	2.8	18
39	Modulating the catalytic activity of AMPK has neuroprotective effects against Î±-synuclein toxicity. Molecular Neurodegeneration, 2017, 12, 80.	4.4	33
40	Cell Division by Longitudinal Scission in the Insect Endosymbiont Spiroplasma poulsonii. MBio, 2016, 7, .	1.8	13
41	Multi-Modal Optical Imaging of the Cerebellum in Animals. Cerebellum, 2016, 15, 18-20.	1.4	1
42	A single epidermal stem cell strategy for safe ex vivo gene therapy. EMBO Molecular Medicine, 2015, 7, 380-393.	3.3	40
43	Ultrastructural analysis of adult mouse neocortex comparing aldehyde perfusion with cryo fixation. ELife, 2015, 4, .	2.8	315
44	Modeling brain circuitry over a wide range of scales. Frontiers in Neuroanatomy, 2015, 9, 42.	0.9	5
45	Learning Structured Models for Segmentation of 2-D and 3-D Imagery. IEEE Transactions on Medical Imaging, 2015, 34, 1096-1110.	5.4	27
46	Imaging the time-integrated cerebral metabolic activity with subcellular resolution through nanometer-scale detection of biosynthetic products deriving from 13C-glucose. Journal of Chemical Neuroanatomy, 2015, 69, 7-12.	1.0	9
47	Cold shock protects the brain. Nature, 2015, 518, 177-178.	13.7	6
48	Ultrastructurally smooth thick partitioning and volume stitching for large-scale connectomics. Nature Methods, 2015, 12, 319-322.	9.0	119
49	Delayed and Temporally Imprecise Neurotransmission in Reorganizing Cortical Microcircuits. Journal of Neuroscience, 2015, 35, 9024-9037.	1.7	17
50	NeuroMorph: A Toolset for the Morphometric Analysis and Visualization of 3D Models Derived from Electron Microscopy Image Stacks. Neuroinformatics, 2015, 13, 83-92.	1.5	64
51	PGC-1Î± activity in nigral dopamine neurons determines vulnerability to Î±-synuclein. Acta Neuropathologica Communications, 2015, 3, 16.	2.4	74
52	NanoSIMS analysis of an isotopically labelled organometallic ruthenium(<scp>ii</scp>) drug to probe its distribution and state in vitro. Chemical Communications, 2015, 51, 16486-16489.	2.2	39
53	Imaging liver and brain glycogen metabolism at the nanometer scale. Nanomedicine: Nanotechnology, Biology, and Medicine, 2015, 11, 239-245.	1.7	20
54	SAS-1 Is a C2 Domain Protein Critical for Centriole Integrity in C. elegans. PLoS Genetics, 2014, 10, e1004777.	1.5	18

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55	Connexin 30 sets synaptic strength by controlling astroglial synapse invasion. Nature Neuroscience, 2014, 17, 549-558.	7.1	269
56	FOXO3 determines the accumulation of Î±-synuclein and controls the fate of dopaminergic neurons in the substantia nigra. Human Molecular Genetics, 2014, 23, 1435-1452.	1.4	84
57	The Relationship between PSD-95 Clustering and Spine StabilityIn Vivo. Journal of Neuroscience, 2014, 34, 2075-2086.	1.7	183
58	Pansynaptic Enlargement at Adult Cortical Connections Strengthened by Experience. Cerebral Cortex, 2014, 24, 521-531.	1.6	56
59	Correlative In Vivo 2-Photon Imaging and Focused Ion Beam Scanning Electron Microscopy. Methods in Cell Biology, 2014, 124, 339-361.	0.5	23
60	Semiautomated correlative 3D electron microscopy of in vivoâ€“imaged axons and dendrites. Nature Protocols, 2014, 9, 1354-1366.	5.5	45
61	Conditional expression of Parkinson's disease-related R1441C LRRK2 in midbrain dopaminergic neurons of mice causes nuclear abnormalities without neurodegeneration. Neurobiology of Disease, 2014, 71, 345-358.	2.1	59
62	Is EM dead?. Journal of Cell Science, 2013, 126, 4545-4552.	1.2	69
63	Increased axonal bouton dynamics in the aging mouse cortex. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1514-23.	3.3	112
64	Imaging Green Fluorescent Protein-Labeled Neurons Using Light and Electron Microscopy. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot075127.	0.2	0
65	Mitonuclear protein imbalance as a conserved longevity mechanism. Nature, 2013, 497, 451-457.	13.7	846
66	BMP signaling specifies the development of a large and fast CNS synapse. Nature Neuroscience, 2013, 16, 856-864.	7.1	90
67	In vivo single branch axotomy induces GAP-43â€“dependent sprouting and synaptic remodeling in cerebellar cortex. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10824-10829.	3.3	108
68	Altered Synaptic Dynamics during Normal Brain Aging. Journal of Neuroscience, 2013, 33, 4094-4104.	1.7	148
69	Learning Context Cues for Synapse Segmentation. IEEE Transactions on Medical Imaging, 2013, 32, 1864-1877.	5.4	42
70	Correlative In Vivo 2 Photon and Focused Ion Beam Scanning Electron Microscopy of Cortical Neurons. PLoS ONE, 2013, 8, e57405.	1.1	79
71	Flash Scanning Electron Microscopy. Lecture Notes in Computer Science, 2013, 16, 413-420.	1.0	2
72	GABA Signaling Promotes Synapse Elimination and Axon Pruning in Developing Cortical Inhibitory Interneurons. Journal of Neuroscience, 2012, 32, 331-343.	1.7	98

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73	Seeded watershed cut uncertainty estimators for guided interactive segmentation. , 2012, , .		12
74	Analysis of centriole elimination duringC. elegansoogenesis. Development (Cambridge), 2012, 139, 1670-1679.	1.2	58
75	Nigrostriatal overabundance of Î±-synuclein leads to decreased vesicle density and deficits in dopamine release that correlate with reduced motor activity. Acta Neuropathologica, 2012, 123, 653-669.	3.9	132
76	Supervoxel-Based Segmentation of Mitochondria in EM Image Stacks With Learned Shape Features. IEEE Transactions on Medical Imaging, 2012, 31, 474-486.	5.4	197
77	Learning Context Cues for Synapse Segmentation in EM Volumes. Lecture Notes in Computer Science, 2012, 15, 585-592.	1.0	20
78	Globally Optimal Closed-Surface Segmentation for Connectomics. Lecture Notes in Computer Science, 2012, , 778-791.	1.0	50
79	Efficient Scanning for EM Based Target Localization. Lecture Notes in Computer Science, 2012, 15, 337-344.	1.0	1
80	Synapse formation in adult barrel cortex following naturalistic environmental enrichment. Neuroscience, 2011, 199, 143-152.	1.1	43
81	Automated Detection and Segmentation of Synaptic Contacts in Nearly Isotropic Serial Electron Microscopy Images. PLoS ONE, 2011, 6, e24899.	1.1	120
82	Focussed Ion Beam Milling and Scanning Electron Microscopy of Brain Tissue. Journal of Visualized Experiments, 2011, , e2588.	0.2	70
83	Increasing depth resolution of electron microscopy of neural circuits using sparse tomographic reconstruction. , 2010, , .		12
84	A protocol for preparing GFP-labeled neurons previously imaged in vivo and in slice preparations for light and electron microscopic analysis. Nature Protocols, 2009, 4, 1145-1156.	5.5	71
85	Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. Nature Protocols, 2009, 4, 1128-1144.	5.5	894
86	Rapid Functional Maturation of Nascent Dendritic Spines. Neuron, 2009, 61, 247-258.	3.8	240
87	Dendritic spine plasticityâ€"Current understanding from in vivo studies. Brain Research Reviews, 2008, 58, 282-289.	9.1	61
88	Serial Section Scanning Electron Microscopy of Adult Brain Tissue Using Focused Ion Beam Milling. Journal of Neuroscience, 2008, 28, 2959-2964.	1.7	600
89	Imaging of experience-dependent structural plasticity in the mouse neocortex in vivo. Behavioural Brain Research, 2008, 192, 20-25.	1.2	42
90	PSD-95 promotes synaptogenesis and multiinnervated spine formation through nitric oxide signaling. Journal of Cell Biology, 2008, 183, 1115-1127.	2.3	161

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91	GAD67-Mediated GABA Synthesis and Signaling Regulate Inhibitory Synaptic Innervation in the Visual Cortex. Neuron, 2007, 54, 889-903.	3.8	277
92	Cell Type-Specific Structural Plasticity of Axonal Branches and Boutons in the Adult Neocortex. Neuron, 2006, 49, 861-875.	3.8	376
93	Spine growth precedes synapse formation in the adult neocortex in vivo. Nature Neuroscience, 2006, 9, 1117-1124.	7.1	506
94	Experience-dependent and cell-type-specific spine growth in the neocortex. Nature, 2006, 441, 979-983.	13.7	562
95	Primary sensory afferent innervation of the developing superficial dorsal horn in the South American opossumMonodelphis domestica. Journal of Comparative Neurology, 2006, 495, 37-52.	0.9	6
96	Plasticity of Astrocytic Coverage and Glutamate Transporter Expression in Adult Mouse Cortex. PLoS Biology, 2006, 4, e343.	2.6	260
97	Ciliary Neurotrophic Factor Activates Astrocytes, Redistributes Their Glutamate Transporters GLAST and GLT-1 to Raft Microdomains, and Improves Glutamate Handling In Vivo. Journal of Neuroscience, 2006, 26, 5978-5989.	1.7	79
98	Transient and Persistent Dendritic Spines in the Neocortex In Vivo. Neuron, 2005, 45, 279-291.	3.8	1,003
99	Altered Synapse Formation in the Adult Somatosensory Cortex of Brain-Derived Neurotrophic Factor Heterozygote Mice. Journal of Neuroscience, 2004, 24, 2394-2400.	1.7	95
100	Subcellular domain-restricted GABAergic innervation in primary visual cortex in the absence of sensory and thalamic inputs. Nature Neuroscience, 2004, 7, 1184-1186.	7.1	152
101	Experience and Activity-Dependent Maturation of Perisomatic GABAergic Innervation in Primary Visual Cortex during a Postnatal Critical Period. Journal of Neuroscience, 2004, 24, 9598-9611.	1.7	540
102	Induction of Spine Growth and Synapse Formation by Regulation of the Spine Actin Cytoskeleton. Neuron, 2004, 44, 321-334.	3.8	178
103	Morphological and molecular heterogeneity in release sites of single neurons. European Journal of Neuroscience, 2003, 17, 1365-1374.	1.2	23
104	Glial Glutamate Transporters and Maturation of the Mouse Somatosensory Cortex. Cerebral Cortex, 2003, 13, 1110-1121.	1.6	52
105	Formation of Dendritic Spines with GABAergic Synapses Induced by Whisker Stimulation in Adult Mice. Neuron, 2002, 34, 265-273.	3.8	402
106	Response: use-dependent inhibition of dendritic spines. Trends in Neurosciences, 2002, 25, 543-544.	4.2	0
107	Long-term in vivo imaging of experience-dependent synaptic plasticity in adult cortex. Nature, 2002, 420, 788-794.	13.7	1,706
108	The nature and composition of the internal environment of the developing brain. Cellular and Molecular Neurobiology, 2000, 20, 41-56.	1.7	40

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109	Barriers in the immature brain. Cellular and Molecular Neurobiology, 2000, 20, 29-40.	1.7	140
110	Development of motoneurons and primary sensory afferents in the thoracic and lumbar spinal cord of the South American opossumMonodelphis domestica. , 1999, 414, 423-436.		13
111	Development of thalamocortical projections in the South American gray short-tailed opossum (Monodelphis domestica). , 1998, 398, 491-514.		51
112	REPAIR AND RECOVERY FOLLOWING SPINAL CORD INJURY IN A NEONATAL MARSUPIAL (MONODELPHIS) Tj ETQq0 0 0 rgBT /Overlock 1	0.9	48
113	The nature of the decrease in blood-cerebrospinal fluid barrier exchange during postnatal brain development in the rat.. Journal of Physiology, 1993, 468, 73-83.	1.3	66