

Graham W Knott

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.

114 papers	11,423 citations	49 h-index	106 g-index
125 ext. papers	13,414 ext. citations	11 avg, IF	6.12 L-index

#	Paper	IF	Citations
114	A subpopulation of cortical VIP-expressing interneurons with highly dynamic spines.. <i>Communications Biology</i> , 2022 , 5, 352	6.7	
113	Deep Active Surface Models 2021 ,		2
112	Nuclear and cytoplasmic huntingtin inclusions exhibit distinct biochemical composition, interactome and ultrastructural properties. <i>Nature Communications</i> , 2021 , 12, 6579	17.4	4
111	3D Ultrastructure of Synaptic Inputs to Distinct GABAergic Neurons in the Mouse Primary Visual Cortex. <i>Cerebral Cortex</i> , 2021 , 31, 2610-2624	5.1	1
110	Maturation of Complex Synaptic Connections of Layer 5 Cortical Axons in the Posterior Thalamic Nucleus Requires SNAP25. <i>Cerebral Cortex</i> , 2021 , 31, 2625-2638	5.1	2
109	Mitofusin-2 in the Nucleus Accumbens Regulates Anxiety and Depression-like Behaviors Through Mitochondrial and Neuronal Actions. <i>Biological Psychiatry</i> , 2021 , 89, 1033-1044	7.9	11
108	Dynamic persistence of UPEC intracellular bacterial communities in a human bladder-chip model of urinary tract infection. <i>ELife</i> , 2021 , 10,	8.9	8
107	Early invasion of the bladder wall by solitary bacteria protects UPEC from antibiotics and neutrophil swarms in an organoid model. <i>Cell Reports</i> , 2021 , 36, 109351	10.6	1
106	Somatostatin enhances visual processing and perception by suppressing excitatory inputs to parvalbumin-positive interneurons in V1. <i>Science Advances</i> , 2020 , 6, eaaz0517	14.3	8
105	Impairment of Glycolysis-Derived l-Serine Production in Astrocytes Contributes to Cognitive Deficits in Alzheimer's Disease. <i>Cell Metabolism</i> , 2020 , 31, 503-517.e8	24.6	55
104	Combined deletion of Glut1 and Glut3 impairs lung adenocarcinoma growth. <i>ELife</i> , 2020 , 9,	8.9	9
103	Ultrastructural comparison of dendritic spine morphology preserved with cryo and chemical fixation. <i>ELife</i> , 2020 , 9,	8.9	8
102	Voxel2Mesh: 3D Mesh Model Generation from Volumetric Data. <i>Lecture Notes in Computer Science</i> , 2020 , 299-308	0.9	13
101	The process of Lewy body formation, rather than simply β -synuclein fibrillization, is one of the major drivers of neurodegeneration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 4971-4982	11.5	193
100	Gas cluster ion beam SEM for imaging of large tissue samples with 10 nm isotropic resolution. <i>Nature Methods</i> , 2020 , 17, 68-71	21.6	20
99	Nano-imaging trace elements at organelle levels in substantia nigra overexpressing β -synuclein to model Parkinson's disease. <i>Communications Biology</i> , 2020 , 3, 364	6.7	3
98	Dysfunction of homeostatic control of dopamine by astrocytes in the developing prefrontal cortex leads to cognitive impairments. <i>Molecular Psychiatry</i> , 2020 , 25, 732-749	15.1	29

97	Amygdala GluN2B-NMDAR dysfunction is critical in abnormal aggression of neurodevelopmental origin induced by St8sia2 deficiency. <i>Molecular Psychiatry</i> , 2020 , 25, 2144-2161	15.1	10
96	The RNA-Binding Protein PUM2 Impairs Mitochondrial Dynamics and Mitophagy During Aging. <i>Molecular Cell</i> , 2019 , 73, 775-787.e10	17.6	60
95	Synaptic proximity enables NMDAR signalling to promote brain metastasis. <i>Nature</i> , 2019 , 573, 526-531	50.4	158
94	Cellular Uptake and Intracellular Trafficking of Poly(N-(2-Hydroxypropyl) Methacrylamide). <i>Biomacromolecules</i> , 2019 , 20, 231-242	6.9	2
93	Diversity of Cortico-descending Projections: Histological and Diffusion MRI Characterization in the Monkey. <i>Cerebral Cortex</i> , 2019 , 29, 788-801	5.1	18
92	Locally coordinated synaptic plasticity of visual cortex neurons in vivo. <i>Science</i> , 2018 , 360, 1349-1354	33.3	80
91	The effects of aging on neuropil structure in mouse somatosensory cortex-A 3D electron microscopy analysis of layer 1. <i>PLoS ONE</i> , 2018 , 13, e0198131	3.7	26
90	Molecular insights into <i>Vibrio cholerae</i> intra-amoebal host-pathogen interactions. <i>Nature Communications</i> , 2018 , 9, 3460	17.4	24
89	Ultrastructural basis of strong unitary inhibition in a binocular neuron. <i>Journal of Physiology</i> , 2018 , 596, 4969-4982	3.9	5
88	Block Face Scanning Electron Microscopy of Fluorescently Labeled Axons Without Using Near Infra-Red Banding. <i>Frontiers in Neuroanatomy</i> , 2018 , 12, 88	3.6	11
87	In vivo modeling of human neuron dynamics and Down syndrome. <i>Science</i> , 2018 , 362,	33.3	59
86	NeuroMorph: A Software Toolset for 3D Analysis of Neurite Morphology and Connectivity. <i>Frontiers in Neuroanatomy</i> , 2018 , 12, 59	3.6	14
85	Parkin functionally interacts with PGC-1 α to preserve mitochondria and protect dopaminergic neurons. <i>Human Molecular Genetics</i> , 2017 , 26, 582-598	5.6	41
84	Multicut brings automated neurite segmentation closer to human performance. <i>Nature Methods</i> , 2017 , 14, 101-102	21.6	84
83	Motifs in the tau protein that control binding to microtubules and aggregation determine pathological effects. <i>Scientific Reports</i> , 2017 , 7, 13556	4.9	28
82	Computer assisted detection of axonal bouton structural plasticity in time-lapse images. <i>ELife</i> , 2017 , 6,	8.9	11
81	Modulating the catalytic activity of AMPK has neuroprotective effects against β -synuclein toxicity. <i>Molecular Neurodegeneration</i> , 2017 , 12, 80	19	26
80	Differences in cisplatin distribution in sensitive and resistant ovarian cancer cells: a TEM/NanoSIMS study. <i>Metallomics</i> , 2017 , 9, 1413-1420	4.5	29

79	Identification of aminopyrimidine-sulfonamides as potent modulators of Wag31-mediated cell elongation in mycobacteria. <i>Molecular Microbiology</i> , 2017 , 103, 13-25	4.1	17
78	The Differential Distribution of RAPTA-T in Non-Invasive and Invasive Breast Cancer Cells Correlates with Its Anti-Invasive and Anti-Metastatic Effects. <i>International Journal of Molecular Sciences</i> , 2017 , 18,	6.3	18
77	Cell Division by Longitudinal Scission in the Insect Endosymbiont <i>Spiroplasma poulsonii</i> . <i>MBio</i> , 2016 , 7,	7.8	8
76	Multi-Modal Optical Imaging of the Cerebellum in Animals. <i>Cerebellum</i> , 2016 , 15, 18-20	4.3	0
75	Ultrastructurally smooth thick partitioning and volume stitching for large-scale connectomics. <i>Nature Methods</i> , 2015 , 12, 319-22	21.6	94
74	Delayed and Temporally Imprecise Neurotransmission in Reorganizing Cortical Microcircuits. <i>Journal of Neuroscience</i> , 2015 , 35, 9024-37	6.6	11
73	NeuroMorph: a toolset for the morphometric analysis and visualization of 3D models derived from electron microscopy image stacks. <i>Neuroinformatics</i> , 2015 , 13, 83-92	3.2	39
72	PGC-1 β activity in nigral dopamine neurons determines vulnerability to β -synuclein. <i>Acta Neuropathologica Communications</i> , 2015 , 3, 16	7.3	53
71	NanoSIMS analysis of an isotopically labelled organometallic ruthenium(II) drug to probe its distribution and state in vitro. <i>Chemical Communications</i> , 2015 , 51, 16486-9	5.8	34
70	Imaging liver and brain glycogen metabolism at the nanometer scale. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2015 , 11, 239-45	6	16
69	A single epidermal stem cell strategy for safe ex vivo gene therapy. <i>EMBO Molecular Medicine</i> , 2015 , 7, 380-93	12	33
68	Ultrastructural analysis of adult mouse neocortex comparing aldehyde perfusion with cryo fixation. <i>ELife</i> , 2015 , 4,	8.9	200
67	Modeling brain circuitry over a wide range of scales. <i>Frontiers in Neuroanatomy</i> , 2015 , 9, 42	3.6	5
66	Learning structured models for segmentation of 2-D and 3-D imagery. <i>IEEE Transactions on Medical Imaging</i> , 2015 , 34, 1096-110	11.7	23
65	Imaging the time-integrated cerebral metabolic activity with subcellular resolution through nanometer-scale detection of biosynthetic products deriving from (13)C-glucose. <i>Journal of Chemical Neuroanatomy</i> , 2015 , 69, 7-12	3.2	7
64	Neurodegeneration: Cold shock protects the brain. <i>Nature</i> , 2015 , 518, 177-8	50.4	5
63	Author response: Ultrastructural analysis of adult mouse neocortex comparing aldehyde perfusion with cryo fixation 2015 ,		4
62	Connexin 30 sets synaptic strength by controlling astroglial synapse invasion. <i>Nature Neuroscience</i> , 2014 , 17, 549-58	25.5	217

61	FOXO3 determines the accumulation of β -synuclein and controls the fate of dopaminergic neurons in the substantia nigra. <i>Human Molecular Genetics</i> , 2014 , 23, 1435-52	5.6	60
60	The relationship between PSD-95 clustering and spine stability in vivo. <i>Journal of Neuroscience</i> , 2014 , 34, 2075-86	6.6	138
59	Pansynaptic enlargement at adult cortical connections strengthened by experience. <i>Cerebral Cortex</i> , 2014 , 24, 521-31	5.1	44
58	Correlative in vivo 2-photon imaging and focused ion beam scanning electron microscopy: 3D analysis of neuronal ultrastructure. <i>Methods in Cell Biology</i> , 2014 , 124, 339-61	1.8	18
57	Semiautomated correlative 3D electron microscopy of in vivo-imaged axons and dendrites. <i>Nature Protocols</i> , 2014 , 9, 1354-66	18.8	35
56	Conditional expression of Parkinson's disease-related R1441C LRRK2 in midbrain dopaminergic neurons of mice causes nuclear abnormalities without neurodegeneration. <i>Neurobiology of Disease</i> , 2014 , 71, 345-58	7.5	49
55	SAS-1 is a C2 domain protein critical for centriole integrity in <i>C. elegans</i> . <i>PLoS Genetics</i> , 2014 , 10, e1004767	7	9
54	Is EM dead?. <i>Journal of Cell Science</i> , 2013 , 126, 4545-52	5.3	59
53	Increased axonal bouton dynamics in the aging mouse cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E1514-23	11.5	88
52	Imaging green fluorescent protein-labeled neurons using light and electron microscopy. <i>Cold Spring Harbor Protocols</i> , 2013 , 2013, 542-50	1.2	
51	Mitochondrial protein imbalance as a conserved longevity mechanism. <i>Nature</i> , 2013 , 497, 451-7	50.4	656
50	BMP signaling specifies the development of a large and fast CNS synapse. <i>Nature Neuroscience</i> , 2013 , 16, 856-64	25.5	74
49	In vivo single branch axotomy induces GAP-43-dependent sprouting and synaptic remodeling in cerebellar cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 10824-9	11.5	81
48	Altered synaptic dynamics during normal brain aging. <i>Journal of Neuroscience</i> , 2013 , 33, 4094-104	6.6	119
47	Learning context cues for synapse segmentation. <i>IEEE Transactions on Medical Imaging</i> , 2013 , 32, 1864-77	11.7	36
46	Correlative in vivo 2 photon and focused ion beam scanning electron microscopy of cortical neurons. <i>PLoS ONE</i> , 2013 , 8, e57405	3.7	65
45	Flash scanning electron microscopy. <i>Lecture Notes in Computer Science</i> , 2013 , 16, 413-20	0.9	2
44	Supervoxel-based segmentation of mitochondria in em image stacks with learned shape features. <i>IEEE Transactions on Medical Imaging</i> , 2012 , 31, 474-86	11.7	149

43	Seeded watershed cut uncertainty estimators for guided interactive segmentation 2012 ,		10
42	Analysis of centriole elimination during <i>C. elegans</i> oogenesis. <i>Development (Cambridge)</i> , 2012 , 139, 1670-6		50
41	Nigrostriatal overabundance of β -synuclein leads to decreased vesicle density and deficits in dopamine release that correlate with reduced motor activity. <i>Acta Neuropathologica</i> , 2012 , 123, 653-69	14.3	111
40	GABA signaling promotes synapse elimination and axon pruning in developing cortical inhibitory interneurons. <i>Journal of Neuroscience</i> , 2012 , 32, 331-43	6.6	84
39	Learning context cues for synapse segmentation in EM volumes. <i>Lecture Notes in Computer Science</i> , 2012 , 15, 585-92	0.9	19
38	Globally Optimal Closed-Surface Segmentation for Connectomics. <i>Lecture Notes in Computer Science</i> , 2012 , 778-791	0.9	38
37	Efficient scanning for EM based target localization. <i>Lecture Notes in Computer Science</i> , 2012 , 15, 337-44	0.9	1
36	Synapse formation in adult barrel cortex following naturalistic environmental enrichment. <i>Neuroscience</i> , 2011 , 199, 143-52	3.9	35
35	Automated detection and segmentation of synaptic contacts in nearly isotropic serial electron microscopy images. <i>PLoS ONE</i> , 2011 , 6, e24899	3.7	106
34	Focussed ion beam milling and scanning electron microscopy of brain tissue. <i>Journal of Visualized Experiments</i> , 2011 , e2588	1.6	58
33	Increasing depth resolution of electron microscopy of neural circuits using sparse tomographic reconstruction 2010 ,		11
32	A protocol for preparing GFP-labeled neurons previously imaged in vivo and in slice preparations for light and electron microscopic analysis. <i>Nature Protocols</i> , 2009 , 4, 1145-56	18.8	60
31	Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. <i>Nature Protocols</i> , 2009 , 4, 1128-44	18.8	680
30	Rapid functional maturation of nascent dendritic spines. <i>Neuron</i> , 2009 , 61, 247-58	13.9	203
29	Dendritic spine plasticity--current understanding from in vivo studies. <i>Brain Research Reviews</i> , 2008 , 58, 282-9		51
28	Serial section scanning electron microscopy of adult brain tissue using focused ion beam milling. <i>Journal of Neuroscience</i> , 2008 , 28, 2959-64	6.6	504
27	Imaging of experience-dependent structural plasticity in the mouse neocortex in vivo. <i>Behavioural Brain Research</i> , 2008 , 192, 20-5	3.4	37
26	PSD-95 promotes synaptogenesis and multiinnervated spine formation through nitric oxide signaling. <i>Journal of Cell Biology</i> , 2008 , 183, 1115-27	7.3	134

25	GAD67-mediated GABA synthesis and signaling regulate inhibitory synaptic innervation in the visual cortex. <i>Neuron</i> , 2007 , 54, 889-903	13.9	237
24	Primary sensory afferent innervation of the developing superficial dorsal horn in the South American opossum <i>Monodelphis domestica</i> . <i>Journal of Comparative Neurology</i> , 2006 , 495, 37-52	3.4	6
23	Plasticity of astrocytic coverage and glutamate transporter expression in adult mouse cortex. <i>PLoS Biology</i> , 2006 , 4, e343	9.7	205
22	Ciliary neurotrophic factor activates astrocytes, redistributes their glutamate transporters GLAST and GLT-1 to raft microdomains, and improves glutamate handling in vivo. <i>Journal of Neuroscience</i> , 2006 , 26, 5978-89	6.6	74
21	Cell type-specific structural plasticity of axonal branches and boutons in the adult neocortex. <i>Neuron</i> , 2006 , 49, 861-75	13.9	321
20	Spine growth precedes synapse formation in the adult neocortex in vivo. <i>Nature Neuroscience</i> , 2006 , 9, 1117-24	25.5	453
19	Experience-dependent and cell-type-specific spine growth in the neocortex. <i>Nature</i> , 2006 , 441, 979-83	50.4	494
18	Transient and persistent dendritic spines in the neocortex in vivo. <i>Neuron</i> , 2005 , 45, 279-91	13.9	845
17	Altered synapse formation in the adult somatosensory cortex of brain-derived neurotrophic factor heterozygote mice. <i>Journal of Neuroscience</i> , 2004 , 24, 2394-400	6.6	88
16	Subcellular domain-restricted GABAergic innervation in primary visual cortex in the absence of sensory and thalamic inputs. <i>Nature Neuroscience</i> , 2004 , 7, 1184-6	25.5	131
15	Experience and activity-dependent maturation of perisomatic GABAergic innervation in primary visual cortex during a postnatal critical period. <i>Journal of Neuroscience</i> , 2004 , 24, 9598-611	6.6	465
14	Induction of spine growth and synapse formation by regulation of the spine actin cytoskeleton. <i>Neuron</i> , 2004 , 44, 321-34	13.9	170
13	Glial glutamate transporters and maturation of the mouse somatosensory cortex. <i>Cerebral Cortex</i> , 2003 , 13, 1110-21	5.1	49
12	Morphological and molecular heterogeneity in release sites of single neurons. <i>European Journal of Neuroscience</i> , 2003 , 17, 1365-74	3.5	21
11	Long-term in vivo imaging of experience-dependent synaptic plasticity in adult cortex. <i>Nature</i> , 2002 , 420, 788-94	50.4	1480
10	Formation of dendritic spines with GABAergic synapses induced by whisker stimulation in adult mice. <i>Neuron</i> , 2002 , 34, 265-73	13.9	357
9	Response: use-dependent inhibition of dendritic spines. <i>Trends in Neurosciences</i> , 2002 , 25, 543-544	13.3	
8	The nature and composition of the internal environment of the developing brain. <i>Cellular and Molecular Neurobiology</i> , 2000 , 20, 41-56	4.6	37

7	Barriers in the immature brain. <i>Cellular and Molecular Neurobiology</i> , 2000 , 20, 29-40	4.6	121
6	Development of motoneurons and primary sensory afferents in the thoracic and lumbar spinal cord of the South American opossum <i>Monodelphis domestica</i> . <i>Journal of Comparative Neurology</i> , 1999 , 414, 423-36	3.4	11
5	Development of thalamocortical projections in the South American gray short-tailed opossum (<i>Monodelphis domestica</i>) 1998 , 398, 491-514		39
4	Repair and recovery following spinal cord injury in a neonatal marsupial (<i>Monodelphis domestica</i>). <i>Clinical and Experimental Pharmacology and Physiology</i> , 1995 , 22, 518-26	3	42
3	The nature of the decrease in blood-cerebrospinal fluid barrier exchange during postnatal brain development in the rat. <i>Journal of Physiology</i> , 1993 , 468, 73-83	3.9	59
2	The architecture of the endoplasmic reticulum is regulated by the reversible lipid modification of the shaping protein CLIMP-63		2
1	Dynamic persistence of intracellular bacterial communities of uropathogenic <i>Escherichia coli</i> in a human bladder-chip model of urinary tract infections		2