

Detlef H Heck

List of Publications by Citations

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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.

79
papers

3,109
citations

33
h-index

55
g-index

84
ext. papers

3,781
ext. citations

4.4
avg, IF

5.22
L-index

#	Paper	IF	Citations
79	Consensus paper: pathological role of the cerebellum in autism. <i>Cerebellum</i> , 2012 , 11, 777-807	4.3	449
78	The detection and generation of sequences as a key to cerebellar function: Experiments and theory. <i>Behavioral and Brain Sciences</i> , 1997 , 20, 229-245	0.9	256
77	Rat cerebellar cortex in vitro responds specifically to moving stimuli. <i>Neuroscience Letters</i> , 1993 , 157, 95-8	3.3	121
76	Whisker barrel cortex delta oscillations and gamma power in the awake mouse are linked to respiration. <i>Nature Communications</i> , 2014 , 5, 3572	17.4	120
75	Analysis of cerebellar function in Ube3a-deficient mice reveals novel genotype-specific behaviors. <i>Human Molecular Genetics</i> , 2008 , 17, 2181-9	5.6	100
74	Two-dimensional monitoring of spiking networks in acute brain slices. <i>Experimental Brain Research</i> , 2002 , 142, 268-74	2.3	99
73	Synaptic integration in rat frontal cortex shaped by network activity. <i>Journal of Neurophysiology</i> , 2005 , 93, 281-93	3.2	90
72	Breathing as a Fundamental Rhythm of Brain Function. <i>Frontiers in Neural Circuits</i> , 2016 , 10, 115	3.5	86
71	Emerging connections between cerebellar development, behaviour and complex brain disorders. <i>Nature Reviews Neuroscience</i> , 2019 , 20, 298-313	13.5	83
70	On-beam synchrony in the cerebellum as the mechanism for the timing and coordination of movement. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 7658-63	11.5	80
69	Connecting the dots of the cerebro-cerebellar role in cognitive function: neuronal pathways for cerebellar modulation of dopamine release in the prefrontal cortex. <i>Synapse</i> , 2011 , 65, 1204-12	2.4	77
68	Cerebellar modulation of frontal cortex dopamine efflux in mice: relevance to autism and schizophrenia. <i>Synapse</i> , 2008 , 62, 544-50	2.4	77
67	Dynamic correlation between whisking and breathing rhythms in mice. <i>Journal of Neuroscience</i> , 2012 , 32, 1653-9	6.6	73
66	Comprehensive analysis of ultrasonic vocalizations in a mouse model of fragile X syndrome reveals limited, call type specific deficits. <i>PLoS ONE</i> , 2012 , 7, e44816	3.7	63
65	Cerebellar zonal patterning relies on Purkinje cell neurotransmission. <i>Journal of Neuroscience</i> , 2014 , 34, 8231-45	6.6	61
64	The Roles of the Olivocerebellar Pathway in Motor Learning and Motor Control. A Consensus Paper. <i>Cerebellum</i> , 2017 , 16, 230-252	4.3	60
63	Consensus Paper: Experimental Neurostimulation of the Cerebellum. <i>Cerebellum</i> , 2019 , 18, 1064-1097	4.3	60

62	Reorganization of circuits underlying cerebellar modulation of prefrontal cortical dopamine in mouse models of autism spectrum disorder. <i>Cerebellum</i> , 2013 , 12, 547-56	4.3	59
61	A low-cost solution to measure mouse licking in an electrophysiological setup with a standard analog-to-digital converter. <i>Journal of Neuroscience Methods</i> , 2006 , 153, 203-7	3	55
60	Single-unit analysis of substantia nigra pars reticulata neurons in freely behaving rats with genetic absence epilepsy. <i>Epilepsia</i> , 2003 , 44, 1513-20	6.4	54
59	Sequential stimulation of guinea pig cerebellar cortex in vitro strongly affects Purkinje cells via parallel fibers. <i>Die Naturwissenschaften</i> , 1995 , 82, 201-3	2	51
58	Hippocampal sharp-wave ripples in awake mice are entrained by respiration. <i>Scientific Reports</i> , 2017 , 7, 8950	4.9	46
57	The neuronal code(s) of the cerebellum. <i>Journal of Neuroscience</i> , 2013 , 33, 17603-9	6.6	46
56	The rhythm of memory: how breathing shapes memory function. <i>Journal of Neurophysiology</i> , 2019 , 122, 563-571	3.2	45
55	Behavioral flexibility in a mouse model of developmental cerebellar Purkinje cell loss. <i>Neurobiology of Learning and Memory</i> , 2010 , 94, 220-8	3.1	45
54	Rhythms of the body, rhythms of the brain: Respiration, neural oscillations, and embodied cognition. <i>Consciousness and Cognition</i> , 2017 , 56, 77-90	2.6	44
53	Cerebellar cortical output encodes temporal aspects of rhythmic licking movements and is necessary for normal licking frequency. <i>European Journal of Neuroscience</i> , 2010 , 32, 41-52	3.5	40
52	Spike timing and reliability in cortical pyramidal neurons: effects of EPSC kinetics, input synchronization and background noise on spike timing. <i>PLoS ONE</i> , 2007 , 2, e319	3.7	40
51	Behavior-related pauses in simple-spike activity of mouse Purkinje cells are linked to spike rate modulation. <i>Journal of Neuroscience</i> , 2012 , 32, 8678-85	6.6	39
50	C57BL/6J and DBA/2J mice vary in lick rate and ingestive microstructure. <i>Genes, Brain and Behavior</i> , 2007 , 6, 619-27	3.6	37
49	A technique for stereotaxic recordings of neuronal activity in awake, head-restrained mice. <i>Journal of Neuroscience Methods</i> , 2009 , 178, 75-9	3	34
48	A CNS-permeable Hsp90 inhibitor rescues synaptic dysfunction and memory loss in APP-overexpressing Alzheimer's mouse model via an HSF1-mediated mechanism. <i>Molecular Psychiatry</i> , 2017 , 22, 990-1001	15.1	33
47	Effects of the volatile anesthetic enflurane on spontaneous discharge rate and GABA(A)-mediated inhibition of Purkinje cells in rat cerebellar slices. <i>Journal of Neurophysiology</i> , 1997 , 77, 2525-38	3.2	33
46	Normal social seeking behavior, hypoactivity and reduced exploratory range in a mouse model of Angelman syndrome. <i>BMC Genetics</i> , 2011 , 12, 7	2.6	32
45	Cerebellar Lobulus Simplex and Crus I Differentially Represent Phase and Phase Difference of Prefrontal Cortical and Hippocampal Oscillations. <i>Cell Reports</i> , 2019 , 27, 2328-2334.e3	10.6	30

44	Controlling synaptic input patterns in vitro by dynamic photo stimulation. <i>Journal of Neurophysiology</i> , 2005 , 94, 2948-58	3.2	28
43	Cerebellar structure and function: making sense of parallel fibers. <i>Human Movement Science</i> , 2002 , 21, 411-21	2.4	25
42	Recent advances in understanding the mechanisms of cerebellar granule cell development and function and their contribution to behavior. <i>F1000Research</i> , 2018 , 7,	3.6	23
41	Minimally invasive highly precise monitoring of respiratory rhythm in the mouse using an epithelial temperature probe. <i>Journal of Neuroscience Methods</i> , 2016 , 263, 89-94	3	22
40	Medial cerebellar nuclear projections and activity patterns link cerebellar output to orofacial and respiratory behavior. <i>Frontiers in Neural Circuits</i> , 2013 , 7, 56	3.5	21
39	Dab2IP GTPase activating protein regulates dendrite development and synapse number in cerebellum. <i>PLoS ONE</i> , 2013 , 8, e53635	3.7	16
38	Detection of sequences in the cerebellar cortex: numerical estimate of the possible number of tidal-wave inducing sequences represented. <i>Journal of Physiology (Paris)</i> , 2003 , 97, 591-600		16
37	Genetic control of a central pattern generator: rhythmic oromotor movement in mice is controlled by a major locus near <i>Atp1a2</i> . <i>PLoS ONE</i> , 2012 , 7, e38169	3.7	15
36	Investigating dynamic aspects of brain function in slice preparations: spatiotemporal stimulus patterns generated with an easy-to-build multi-electrode array. <i>Journal of Neuroscience Methods</i> , 1995 , 58, 81-7	3	15
35	Comprehensive motor testing in <i>Fmr1</i> -KO mice exposes temporal defects in oromotor coordination. <i>Behavioral Neuroscience</i> , 2011 , 125, 962-9	2.1	14
34	Abnormalities in Dynamic Brain Activity Caused by Mild Traumatic Brain Injury Are Partially Rescued by the Cannabinoid Type-2 Receptor Inverse Agonist SMM-189. <i>ENeuro</i> , 2017 , 4,	3.9	14
33	Stereotypical spatiotemporal activity patterns during slow-wave activity in the neocortex. <i>Journal of Neurophysiology</i> , 2011 , 106, 3035-44	3.2	13
32	High-precision, three-dimensional tracking of mouse whisker movements with optical motion capture technology. <i>Frontiers in Behavioral Neuroscience</i> , 2011 , 5, 27	3.5	12
31	Cortical rhythms are modulated by respiration		12
30	Parallel optical control of spatiotemporal neuronal spike activity using high-speed digital light processing. <i>Frontiers in Systems Neuroscience</i> , 2011 , 5, 70	3.5	11
29	Prenatal alcohol exposure delays acquisition and use of skilled reaching movements in juvenile rats. <i>Physiology and Behavior</i> , 2008 , 94, 540-4	3.5	11
28	Born to Cry: A Genetic Dissection of Infant Vocalization. <i>Frontiers in Behavioral Neuroscience</i> , 2018 , 12, 250	3.5	10
27	Robust transmission of rate coding in the inhibitory Purkinje cell to cerebellar nuclei pathway in awake mice. <i>PLoS Computational Biology</i> , 2017 , 13, e1005578	5	9

26	Opposing phenotypes in mice with Smith-Magenis deletion and Potocki-Lupski duplication syndromes suggest gene dosage effects on fluid consumption behavior. <i>American Journal of Medical Genetics, Part A</i> , 2012 , 158A, 2807-14	2.5	9
25	Passive spatial and temporal integration of excitatory synaptic inputs in cerebellar Purkinje cells of young rats. <i>Neuroscience Letters</i> , 2003 , 341, 79-83	3.3	9
24	Sequential stimulation of rat and guinea pig cerebellar granular cells in vitro leads to increasing population activity in parallel fibers. <i>Neuroscience Letters</i> , 1999 , 263, 137-40	3.3	9
23	Shaping Diversity Into the Brain's Form and Function. <i>Frontiers in Neural Circuits</i> , 2018 , 12, 83	3.5	9
22	Voltage signals of individual Purkinje cell dendrites in rat cerebellar slices. <i>Neuroscience Letters</i> , 1997 , 238, 29-32	3.3	8
21	Dynamic correlation of neuronal activity in rat cerebellar cortex modulated by behavior. <i>Annals of the New York Academy of Sciences</i> , 2002 , 978, 156-63	6.5	7
20	Thalamocortical Communication in the Awake Mouse Visual System Involves Phase Synchronization and Rhythmic Spike Synchrony at High Gamma Frequencies. <i>Frontiers in Neuroscience</i> , 2018 , 12, 837	5.1	7
19	Cerebellar Purkinje Cells Generate Highly Correlated Spontaneous Slow-Rate Fluctuations. <i>Frontiers in Neural Circuits</i> , 2017 , 11, 67	3.5	6
18	The age of enlightenment: evolving opportunities in brain research through optical manipulation of neuronal activity. <i>Frontiers in Systems Neuroscience</i> , 2011 , 5, 95	3.5	6
17	Sequential stimulation of rat cerebellar granular layer in vivo: Further evidence of a bidirectional timing mechanism in the cerebellum. <i>Neurocomputing</i> , 2001 , 38-40, 641-646	5.4	6
16	Loss of cerebellar function selectively affects intrinsic rhythmicity of eupneic breathing. <i>Biology Open</i> , 2020 , 9,	2.2	5
15	Histopathological and postoperative behavioral comparison of rodent oral tongue resection: fiber-enabled CO2 laser versus electrocautery. <i>Otolaryngology - Head and Neck Surgery</i> , 2012 , 147, 716-21	5.5	4
14	The social life of neurons: synaptic communication deficits as a common denominator of autism, schizophrenia, and other cognitive disorders. <i>Biological Psychiatry</i> , 2012 , 72, 173-4	7.9	3
13	Cerebellar modulation of prefrontal-hippocampal gamma coherence during spatial working memory decisions		3
12	Lentiviral-mediated knock-down of GD3 synthase protects against MPTP-induced motor deficits and neurodegeneration. <i>Neuroscience Letters</i> , 2019 , 692, 53-63	3.3	3
11	Cerebellar Coordination of Neuronal Communication in Cerebral Cortex.. <i>Frontiers in Systems Neuroscience</i> , 2021 , 15, 781527	3.5	2
10	Respiratory Rhythms of the Predictive Mind		2
9	Prefrontal Cortical-Cerebellar Interaction Deficits in Autism Spectrum Disorders. <i>Autism-open Access</i> , 2013 , 03,	0	1

8	Conditional loss of Engrailed1/2 in Atoh1-derived excitatory cerebellar nuclear neurons impairs eupneic respiration in mice.. <i>Genes, Brain and Behavior</i> , 2022 , e12788	3.6	1
7	Cerebellar Purkinje cell simple spike activity in awake mice represents phase differences between oscillations in medial prefrontal cortex and hippocampus		1
6	Thalamocortical transmission of visual information in awake mice involves phase synchronization and spike synchrony at high gamma frequencies		1
5	Causal Evidence for a Role of Cerebellar Lobulus Simplex in Prefrontal-Hippocampal Interaction in Spatial Working Memory Decision-Making.. <i>Cerebellum</i> , 2022 , 1	4.3	1
4	Recent insights into respiratory modulation of brain activity offer new perspectives on cognition and emotion.. <i>Biological Psychology</i> , 2022 , 170, 108316	3.2	0
3	Hsp90 inhibitor induces nuclear translocation of HSF1 predominantly in hippocampal CA1 region. <i>Molecular Psychiatry</i> , 2017 , 22, 935	15.1	
2	Investigating Cerebrocerebellar Neuronal Interactions in Freely Moving Using Multi-electrode, Multi-site. <i>Neuromethods</i> , 2022 , 211-227	0.4	
1	Cognition, Motor Control and Other Aspects of Autism: A Pragmatic Review 2015 , 393-405		