

Detlef H Heck

List of Publications by Year in descending order

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Version: 2024-02-01

73
papers

4,270
citations

117571

34
h-index

128225

60
g-index

84
all docs

84
docs citations

84
times ranked

5064
citing authors

#	ARTICLE	IF	CITATIONS
1	Consensus Paper: Pathological Role of the Cerebellum in Autism. <i>Cerebellum</i> , 2012, 11, 777-807.	1.4	577
2	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.	0.4	298
3	Whisker barrel cortex delta oscillations and gamma power in the awake mouse are linked to respiration. <i>Nature Communications</i> , 2014, 5, 3572.	5.8	199
4	Emerging connections between cerebellar development, behaviour and complex brain disorders. <i>Nature Reviews Neuroscience</i> , 2019, 20, 298-313.	4.9	186
5	Breathing as a Fundamental Rhythm of Brain Function. <i>Frontiers in Neural Circuits</i> , 2016, 10, 115.	1.4	146
6	Rat cerebellar cortex in vitro responds specifically to moving stimuli. <i>Neuroscience Letters</i> , 1993, 157, 95-98.	1.0	124
7	Analysis of cerebellar function in Ube3a-deficient mice reveals novel genotype-specific behaviors. <i>Human Molecular Genetics</i> , 2008, 17, 2181-2189.	1.4	123
8	Consensus Paper: Experimental Neurostimulation of the Cerebellum. <i>Cerebellum</i> , 2019, 18, 1064-1097.	1.4	120
9	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, 7658-7663.	3.3	117
10	Two-dimensional monitoring of spiking networks in acute brain slices. <i>Experimental Brain Research</i> , 2002, 142, 268-274.	0.7	112
11	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, 1204-1212.	0.6	103
12	Synaptic Integration in Rat Frontal Cortex Shaped by Network Activity. <i>Journal of Neurophysiology</i> , 2005, 93, 281-293.	0.9	100
13	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.	1.1	93
14	Cerebellar Zonal Patterning Relies on Purkinje Cell Neurotransmission. <i>Journal of Neuroscience</i> , 2014, 34, 8231-8245.	1.7	90
15	The Roles of the Olivocerebellar Pathway in Motor Learning and Motor Control. A Consensus Paper. <i>Cerebellum</i> , 2017, 16, 230-252.	1.4	89
16	Dynamic Correlation between Whisking and Breathing Rhythms in Mice. <i>Journal of Neuroscience</i> , 2012, 32, 1653-1659.	1.7	88
17	Cerebellar modulation of frontal cortex dopamine efflux in mice: Relevance to autism and schizophrenia. <i>Synapse</i> , 2008, 62, 544-550.	0.6	86
18	The rhythm of memory: how breathing shapes memory function. <i>Journal of Neurophysiology</i> , 2019, 122, 563-571.	0.9	86

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19	Rhythms of the body, rhythms of the brain: Respiration, neural oscillations, and embodied cognition. <i>Consciousness and Cognition</i> , 2017, 56, 77-90.	0.8	84
20	Hippocampal sharp-wave ripples in awake mice are entrained by respiration. <i>Scientific Reports</i> , 2017, 7, 8950.	1.6	72
21	Reorganization of Circuits Underlying Cerebellar Modulation of Prefrontal Cortical Dopamine in Mouse Models of Autism Spectrum Disorder. <i>Cerebellum</i> , 2013, 12, 547-556.	1.4	71
22	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, 203-207.	1.3	70
23	The Neuronal Code(s) of the Cerebellum. <i>Journal of Neuroscience</i> , 2013, 33, 17603-17609.	1.7	64
24	Single-unit Analysis of Substantia Nigra Pars Reticulata Neurons in Freely Behaving Rats with Genetic Absence Epilepsy. <i>Epilepsia</i> , 2003, 44, 1513-1520.	2.6	61
25	Sequential stimulation of guinea pig cerebellar cortex in vitro strongly affects Purkinje cells via parallel fibers. <i>Die Naturwissenschaften</i> , 1995, 82, 201-203.	0.6	53
26	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.	1.2	52
27	Behavioral flexibility in a mouse model of developmental cerebellar Purkinje cell loss. <i>Neurobiology of Learning and Memory</i> , 2010, 94, 220-228.	1.0	52
28	Behavior-Related Pauses in Simple-Spike Activity of Mouse Purkinje Cells Are Linked to Spike Rate Modulation. <i>Journal of Neuroscience</i> , 2012, 32, 8678-8685.	1.7	51
29	C57BL/6J and DBA/2J mice vary in lick rate and ingestive microstructure. <i>Genes, Brain and Behavior</i> , 2007, 6, 619-627.	1.1	49
30	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.	2.9	49
31	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.	1.1	46
32	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.	4.1	40
33	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, 2525-2538.	0.9	39
34	A technique for stereotaxic recordings of neuronal activity in awake, head-restrained mice. <i>Journal of Neuroscience Methods</i> , 2009, 178, 75-79.	1.3	39
35	Recent advances in understanding the mechanisms of cerebellar granule cell development and function and their contribution to behavior. <i>F1000Research</i> , 2018, 7, 1142.	0.8	39
36	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.	1.3	36

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37	Normal social seeking behavior, hypoactivity and reduced exploratory range in a mouse model of Angelman syndrome. BMC Genetics, 2011, 12, 7.	2.7	35
38	Cerebellar structure and function: Making sense of parallel fibers. Human Movement Science, 2002, 21, 99-109.	0.6	30
39	Controlling Synaptic Input Patterns In Vitro by Dynamic Photo Stimulation. Journal of Neurophysiology, 2005, 94, 2948-2958.	0.9	30
40	High-Precision, Three-Dimensional Tracking of Mouse Whisker Movements with Optical Motion Capture Technology. Frontiers in Behavioral Neuroscience, 2011, 5, 27.	1.0	29
41	Medial cerebellar nuclear projections and activity patterns link cerebellar output to orofacial and respiratory behavior. Frontiers in Neural Circuits, 2013, 7, 56.	1.4	29
42	Born to Cry: A Genetic Dissection of Infant Vocalization. Frontiers in Behavioral Neuroscience, 2018, 12, 250.	1.0	24
43	Detection of sequences in the cerebellar cortex: numerical estimate of the possible number of tidal-wave inducing sequences represented. Journal of Physiology (Paris), 2003, 97, 591-600.	2.1	23
44	Cerebellar Coordination of Neuronal Communication in Cerebral Cortex. Frontiers in Systems Neuroscience, 2021, 15, 781527.	1.2	20
45	Thalamocortical Communication in the Awake Mouse Visual System Involves Phase Synchronization and Rhythmic Spike Synchrony at High Gamma Frequencies. Frontiers in Neuroscience, 2018, 12, 837.	1.4	19
46	Dab2IP GTPase Activating Protein Regulates Dendrite Development and Synapse Number in Cerebellum. PLoS ONE, 2013, 8, e53635.	1.1	18
47	Genetic Control of a Central Pattern Generator: Rhythmic Oromotor Movement in Mice Is Controlled by a Major Locus near Atp1a2. PLoS ONE, 2012, 7, e38169.	1.1	17
48	Shaping Diversity Into the Brain's Form and Function. Frontiers in Neural Circuits, 2018, 12, 83.	1.4	17
49	Stereotypical spatiotemporal activity patterns during slow-wave activity in the neocortex. Journal of Neurophysiology, 2011, 106, 3035-3044.	0.9	16
50	Comprehensive motor testing in Fmr1-KO mice exposes temporal defects in oromotor coordination.. Behavioral Neuroscience, 2011, 125, 962-969.	0.6	16
51	Abnormalities in Dynamic Brain Activity Caused by Mild Traumatic Brain Injury Are Partially Rescued by the Cannabinoid Type-2 Receptor Inverse Agonist SMM-189. ENeuro, 2017, 4, ENEURO.0387-16.2017.	0.9	16
52	Investigating dynamic aspects of brain function in slice preparations: spatiotemporal stimulus patterns generated with an easy-to-build multi-electrode array. Journal of Neuroscience Methods, 1995, 58, 81-87.	1.3	15
53	Prenatal alcohol exposure delays acquisition and use of skilled reaching movements in juvenile rats. Physiology and Behavior, 2008, 94, 540-544.	1.0	15
54	Recent insights into respiratory modulation of brain activity offer new perspectives on cognition and emotion. Biological Psychology, 2022, 170, 108316.	1.1	14

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55	Parallel Optical Control of Spatiotemporal Neuronal Spike Activity Using High-Speed Digital Light Processing. <i>Frontiers in Systems Neuroscience</i> , 2011, 5, 70.	1.2	13
56	Loss of cerebellar function selectively affects intrinsic rhythmicity of eupneic breathing. <i>Biology Open</i> , 2020, 9, .	0.6	13
57	Dynamic Correlation of Neuronal Activity in Rat Cerebellar Cortex Modulated by Behavior. <i>Annals of the New York Academy of Sciences</i> , 2002, 978, 156-163.	1.8	12
58	Opposing phenotypes in mice with Smithâ€™Magenis deletion and Potockiâ€™Lupski duplication syndromes suggest gene dosage effects on fluid consumption behavior. <i>American Journal of Medical Genetics, Part A</i> , 2012, 158A, 2807-2814.	0.7	12
59	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.	1.5	12
60	Passive spatial and temporal integration of excitatory synaptic inputs in cerebellar Purkinje cells of young rats. <i>Neuroscience Letters</i> , 2003, 341, 79-83.	1.0	10
61	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, 137-140.	1.0	9
62	Causal Evidence for a Role of Cerebellar Lobulus Simplex in Prefrontal-Hippocampal Interaction in Spatial Working Memory Decision-Making. <i>Cerebellum</i> , 2022, 21, 762-775.	1.4	9
63	Voltage signals of individual Purkinje cell dendrites in rat cerebellar slices. <i>Neuroscience Letters</i> , 1997, 238, 29-32.	1.0	8
64	Cerebellar Purkinje Cells Generate Highly Correlated Spontaneous Slow-Rate Fluctuations. <i>Frontiers in Neural Circuits</i> , 2017, 11, 67.	1.4	8
65	The Age of Enlightenment: Evolving Opportunities in Brain Research Through Optical Manipulation of Neuronal Activity. <i>Frontiers in Systems Neuroscience</i> , 2011, 5, 95.	1.2	7
66	Sequential stimulation of rat cerebellar granular layer in vivo: Further evidence of a â€™tidal-waveâ€™ timing mechanism in the cerebellum. <i>Neurocomputing</i> , 2001, 38-40, 641-646.	3.5	6
67	Lentiviral-mediated knock-down of GD3 synthase protects against MPTP-induced motor deficits and neurodegeneration. <i>Neuroscience Letters</i> , 2019, 692, 53-63.	1.0	6
68	Histopathological and Postoperative Behavioral Comparison of Rodent Oral Tongue Resection. <i>Otolaryngology - Head and Neck Surgery</i> , 2012, 147, 716-721.	1.1	5
69	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, 173-174.	0.7	5
70	Conditional loss of <i>Engrailed1/2</i> in <i>Atoh1</i> â€™derived excitatory cerebellar nuclear neurons impairs eupneic respiration in mice. <i>Genes, Brain and Behavior</i> , 2022, 21, e12788.	1.1	4
71	Prefrontal Cortical-Cerebellar Interaction Deficits in Autism Spectrum Disorders. <i>Autism-open Access</i> , 2013, 03, .	0.2	1
72	Cognition, Motor Control and Other Aspects of Autism: A Pragmatic Review. , 2015, , 393-405.		1

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73	Hsp90 inhibitor induces nuclear translocation of HSF1 predominantly in hippocampal CA1 region. Molecular Psychiatry, 2017, 22, 935-935.	4.1	0