# Detlef H Heck

## List of Publications by Year in Descending Order



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|---|---|---|---|
| 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 | Investigating Cerebrocerebellar Neuronal Interactions in Freely Moving Using Multi-electrode, Multi-site. *Neuromethods*, **2022**, 211-227 | 0.4 | |
| 78 | Conditional loss of Engrailed1/2 in Atoh1-derived excitatory cerebellar nuclear neurons impairs eupneic respiration in mice.. *Genes, Brain and Behavior*, **2022**, e12788 | 3.6 | 1 |
| 77 | Causal Evidence for a Role of Cerebellar Lobulus Simplex in Prefrontal-Hippocampal Interaction in Spatial Working Memory Decision-Making.. *Cerebellum*, **2022**, 1 | 4.3 | 1 |
| 76 | Recent insights into respiratory modulation of brain activity offer new perspectives on cognition and emotion.. *Biological Psychology*, **2022**, 170, 108316 | 3.2 | 0 |
| 75 | Cerebellar Coordination of Neuronal Communication in Cerebral Cortex.. *Frontiers in Systems Neuroscience*, **2021**, 15, 781527 | 3.5 | 2 |
| 74 | Loss of cerebellar function selectively affects intrinsic rhythmicity of eupneic breathing. *Biology Open*, **2020**, 9, | 2.2 | 5 |
| 73 | Cerebellar Lobulus Simplex and Crus I Differentially Represent Phase and Phase Difference of Prefrontal Cortical and Hippocampal Oscillations. *Cell Reports*, **2019**, 27, 2328-2334.e3 | 10.6 | 30 |
| 72 | The rhythm of memory: how breathing shapes memory function. *Journal of Neurophysiology*, **2019**, 122, 563-571 | 3.2 | 45 |
| 71 | Consensus Paper: Experimental Neurostimulation of the Cerebellum. *Cerebellum*, **2019**, 18, 1064-1097 | 4.3 | 60 |
| 70 | Emerging connections between cerebellar development, behaviour and complex brain disorders. *Nature Reviews Neuroscience*, **2019**, 20, 298-313 | 13.5 | 83 |
| 69 | Lentiviral-mediated knock-down of GD3 synthase protects against MPTP-induced motor deficits and neurodegeneration. *Neuroscience Letters*, **2019**, 692, 53-63 | 3.3 | 3 |
| 68 | Recent advances in understanding the mechanisms of cerebellar granule cell development and function and their contribution to behavior. *F1000Research*, **2018**, 7, | 3.6 | 23 |
| 67 | Born to Cry: A Genetic Dissection of Infant Vocalization. *Frontiers in Behavioral Neuroscience*, **2018**, 12, 250 | 3.5 | 10 |
| 66 | 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 | 5.1 | 7 |
| 65 | Shaping Diversity Into the Brain's Form and Function. *Frontiers in Neural Circuits*, **2018**, 12, 83 | 3.5 | 9 |
| 64 | The Roles of the Olivocerebellar Pathway in Motor Learning and Motor Control. A Consensus Paper. *Cerebellum*, **2017**, 16, 230-252 | 4.3 | 60 |
| 63 | Hsp90 inhibitor induces nuclear translocation of HSF1 predominantly in hippocampal CA1 region. *Molecular Psychiatry*, **2017**, 22, 935 | 15.1 | |

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| 62 | Rhythms of the body, rhythms of the brain: Respiration, neural oscillations, and embodied cognition. *Consciousness and Cognition*, **2017**, 56, 77-90 | 2.6 | 44 |
| 61 | Robust transmission of rate coding in the inhibitory Purkinje cell to cerebellar nuclei pathway in awake mice. *PLoS Computational Biology*, **2017**, 13, e1005578 | 5 | 9 |
| 60 | Hippocampal sharp-wave ripples in awake mice are entrained by respiration. *Scientific Reports*, **2017**, 7, 8950 | 4.9 | 46 |
| 59 | A CNS-permeable Hsp90 inhibitor rescues synaptic dysfunction and memory loss in APP-overexpressing Alzheimer's mouse model via an HSF1-mediated mechanism. *Molecular Psychiatry*, **2017**, 22, 990-1001 | 15.1 | 33 |
| 58 | Cerebellar Purkinje Cells Generate Highly Correlated Spontaneous Slow-Rate Fluctuations. *Frontiers in Neural Circuits*, **2017**, 11, 67 | 3.5 | 6 |
| 57 | 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, | 3.9 | 14 |
| 56 | Minimally invasive highly precise monitoring of respiratory rhythm in the mouse using an epithelial temperature probe. *Journal of Neuroscience Methods*, **2016**, 263, 89-94 | 3 | 22 |
| 55 | Breathing as a Fundamental Rhythm of Brain Function. *Frontiers in Neural Circuits*, **2016**, 10, 115 | 3.5 | 86 |
| 54 | Cognition, Motor Control and Other Aspects of Autism: A Pragmatic Review **2015**, 393-405 | | |
| 53 | Cerebellar zonal patterning relies on Purkinje cell neurotransmission. *Journal of Neuroscience*, **2014**, 34, 8231-45 | 6.6 | 61 |
| 52 | Whisker barrel cortex delta oscillations and gamma power in the awake mouse are linked to respiration. *Nature Communications*, **2014**, 5, 3572 | 17.4 | 120 |
| 51 | Reorganization of circuits underlying cerebellar modulation of prefrontal cortical dopamine in mouse models of autism spectrum disorder. *Cerebellum*, **2013**, 12, 547-56 | 4.3 | 59 |
| 50 | The neuronal code(s) of the cerebellum. *Journal of Neuroscience*, **2013**, 33, 17603-9 | 6.6 | 46 |
| 49 | Prefrontal Cortical-Cerebellar Interaction Deficits in Autism Spectrum Disorders. *Autism-open Access*, **2013**, 03, | 0 | 1 |
| 48 | Dab2IP GTPase activating protein regulates dendrite development and synapse number in cerebellum. *PLoS ONE*, **2013**, 8, e53635 | 3.7 | 16 |
| 47 | Medial cerebellar nuclear projections and activity patterns link cerebellar output to orofacial and respiratory behavior. *Frontiers in Neural Circuits*, **2013**, 7, 56 | 3.5 | 21 |
| 46 | Opposing phenotypes in mice with Smith-Magenis deletion and Potocki-Lupski duplication syndromes suggest gene dosage effects on fluid consumption behavior. *American Journal of Medical Genetics, Part A*, **2012**, 158A, 2807-14 | 2.5 | 9 |
| 45 | The social life of neurons: synaptic communication deficits as a common denominator of autism, schizophrenia, and other cognitive disorders. *Biological Psychiatry*, **2012**, 72, 173-4 | 7.9 | 3 |

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| 44 | Consensus paper: pathological role of the cerebellum in autism. *Cerebellum*, **2012**, 11, 777-807 | 4.3 | 449 |
| 43 | 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 | 3.7 | 15 |
| 42 | Comprehensive analysis of ultrasonic vocalizations in a mouse model of fragile X syndrome reveals limited, call type specific deficits. *PLoS ONE*, **2012**, 7, e44816 | 3.7 | 63 |
| 41 | Dynamic correlation between whisking and breathing rhythms in mice. *Journal of Neuroscience*, **2012**, 32, 1653-9 | 6.6 | 73 |
| 40 | Behavior-related pauses in simple-spike activity of mouse Purkinje cells are linked to spike rate modulation. *Journal of Neuroscience*, **2012**, 32, 8678-85 | 6.6 | 39 |
| 39 | Histopathological and postoperative behavioral comparison of rodent oral tongue resection: fiber-enabled CO2 laser versus electrocautery. *Otolaryngology - Head and Neck Surgery*, **2012**, 147, 716-21 | 1.5 | 4 |
| 38 | Stereotypical spatiotemporal activity patterns during slow-wave activity in the neocortex. *Journal of Neurophysiology*, **2011**, 106, 3035-44 | 3.2 | 13 |
| 37 | High-precision, three-dimensional tracking of mouse whisker movements with optical motion capture technology. *Frontiers in Behavioral Neuroscience*, **2011**, 5, 27 | 3.5 | 12 |
| 36 | Parallel optical control of spatiotemporal neuronal spike activity using high-speed digital light processing. *Frontiers in Systems Neuroscience*, **2011**, 5, 70 | 3.5 | 11 |
| 35 | The age of enlightenment: evolving opportunities in brain research through optical manipulation of neuronal activity. *Frontiers in Systems Neuroscience*, **2011**, 5, 95 | 3.5 | 6 |
| 34 | Normal social seeking behavior, hypoactivity and reduced exploratory range in a mouse model of Angelman syndrome. *BMC Genetics*, **2011**, 12, 7 | 2.6 | 32 |
| 33 | Connecting the dots of the cerebro-cerebellar role in cognitive function: neuronal pathways for cerebellar modulation of dopamine release in the prefrontal cortex. *Synapse*, **2011**, 65, 1204-12 | 2.4 | 77 |
| 32 | Comprehensive motor testing in Fmr1-KO mice exposes temporal defects in oromotor coordination. *Behavioral Neuroscience*, **2011**, 125, 962-9 | 2.1 | 14 |
| 31 | Cerebellar cortical output encodes temporal aspects of rhythmic licking movements and is necessary for normal licking frequency. *European Journal of Neuroscience*, **2010**, 32, 41-52 | 3.5 | 40 |
| 30 | Behavioral flexibility in a mouse model of developmental cerebellar Purkinje cell loss. *Neurobiology of Learning and Memory*, **2010**, 94, 220-8 | 3.1 | 45 |
| 29 | A technique for stereotaxic recordings of neuronal activity in awake, head-restrained mice. *Journal of Neuroscience Methods*, **2009**, 178, 75-9 | 3 | 34 |
| 28 | Prenatal alcohol exposure delays acquisition and use of skilled reaching movements in juvenile rats. *Physiology and Behavior*, **2008**, 94, 540-4 | 3.5 | 11 |
| 27 | Analysis of cerebellar function in Ube3a-deficient mice reveals novel genotype-specific behaviors. *Human Molecular Genetics*, **2008**, 17, 2181-9 | 5.6 | 100 |

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| 26 | Cerebellar modulation of frontal cortex dopamine efflux in mice: relevance to autism and schizophrenia. *Synapse*, **2008**, 62, 544-50 | 2.4 | 77 |
| 25 | Spike timing and reliability in cortical pyramidal neurons: effects of EPSC kinetics, input synchronization and background noise on spike timing. *PLoS ONE*, **2007**, 2, e319 | 3.7 | 40 |
| 24 | C57BL/6J and DBA/2J mice vary in lick rate and ingestive microstructure. *Genes, Brain and Behavior*, **2007**, 6, 619-27 | 3.6 | 37 |
| 23 | On-beam synchrony in the cerebellum as the mechanism for the timing and coordination of movement. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 7658-63 | 11.5 | 80 |
| 22 | A low-cost solution to measure mouse licking in an electrophysiological setup with a standard analog-to-digital converter. *Journal of Neuroscience Methods*, **2006**, 153, 203-7 | 3 | 55 |
| 21 | Controlling synaptic input patterns in vitro by dynamic photo stimulation. *Journal of Neurophysiology*, **2005**, 94, 2948-58 | 3.2 | 28 |
| 20 | Synaptic integration in rat frontal cortex shaped by network activity. *Journal of Neurophysiology*, **2005**, 93, 281-93 | 3.2 | 90 |
| 19 | 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 | | 16 |
| 18 | Single-unit analysis of substantia nigra pars reticulata neurons in freely behaving rats with genetic absence epilepsy. *Epilepsia*, **2003**, 44, 1513-20 | 6.4 | 54 |
| 17 | Passive spatial and temporal integration of excitatory synaptic inputs in cerebellar Purkinje cells of young rats. *Neuroscience Letters*, **2003**, 341, 79-83 | 3.3 | 9 |
| 16 | Cerebellar structure and function: making sense of parallel fibers. *Human Movement Science*, **2002**, 21, 411-21 | 2.4 | 25 |
| 15 | Two-dimensional monitoring of spiking networks in acute brain slices. *Experimental Brain Research*, **2002**, 142, 268-74 | 2.3 | 99 |
| 14 | Dynamic correlation of neuronal activity in rat cerebellar cortex modulated by behavior. *Annals of the New York Academy of Sciences*, **2002**, 978, 156-63 | 6.5 | 7 |
| 13 | Sequential stimulation of rat cerebellar granular layer in vivo: Further evidence of a tidal-wave timing mechanism in the cerebellum. *Neurocomputing*, **2001**, 38-40, 641-646 | 5.4 | 6 |
| 12 | Sequential stimulation of rat and guinea pig cerebellar granular cells in vitro leads to increasing population activity in parallel fibers. *Neuroscience Letters*, **1999**, 263, 137-40 | 3.3 | 9 |
| 11 | The detection and generation of sequences as a key to cerebellar function: Experiments and theory. *Behavioral and Brain Sciences*, **1997**, 20, 229-245 | 0.9 | 256 |
| 10 | Voltage signals of individual Purkinje cell dendrites in rat cerebellar slices. *Neuroscience Letters*, **1997**, 238, 29-32 | 3.3 | 8 |
| 9 | Effects of the volatile anesthetic enflurane on spontaneous discharge rate and GABA(A)-mediated inhibition of Purkinje cells in rat cerebellar slices. *Journal of Neurophysiology*, **1997**, 77, 2525-38 | 3.2 | 33 |

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| 8 | 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, 81-7 | 3 | 15 |
| 7 | Sequential stimulation of guinea pig cerebellar cortex in vitro strongly affects Purkinje cells via parallel fibers. *Die Naturwissenschaften*, **1995**, 82, 201-3 | 2 | 51 |
| 6 | Rat cerebellar cortex in vitro responds specifically to moving stimuli. *Neuroscience Letters*, **1993**, 157, 95-8 | 3.3 | 121 |
| 5 | Cortical rhythms are modulated by respiration | | 12 |
| 4 | Cerebellar Purkinje cell simple spike activity in awake mice represents phase differences between oscillations in medial prefrontal cortex and hippocampus | | 1 |
| 3 | Cerebellar modulation of prefrontal-hippocampal gamma coherence during spatial working memory decisions | | 3 |
| 2 | Thalamocortical transmission of visual information in awake mice involves phase synchronization and spike synchrony at high gamma frequencies | | 1 |
| 1 | Respiratory Rhythms of the Predictive Mind | | 2 |