Cornelius Schwarz

List of Publications by Year
in descending order

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76 papers	3,141 citations	186209 28 h-index	168321 53 g-index
82 all docs	82 docs citations	82 times ranked	2809 citing authors

#	Article	IF	Citations
1	Barrel cortex function. Progress in Neurobiology, 2013, 103, 3-27.	2.8	304
2	Spatiotemporal Effects of Microstimulation in Rat Neocortex: A Parametric Study Using Multielectrode Recordings. Journal of Neurophysiology, 2003, 90, 3024-3039.	0.9	215
3	Neocortex is the major target of sedative concentrations of volatile anaesthetics: strong depression of firing rates and increase of GABAAreceptor-mediated inhibition. European Journal of Neuroscience, 2005, 21, 93-102.	1.2	174
4	Binding of signals relevant for action: towards a hypothesis of the functional role of the pontine nuclei. Trends in Neurosciences, 1999, 22, 443-451.	4.2	168
5	The head-fixed behaving ratâ€"Procedures and pitfalls. Somatosensory & Motor Research, 2010, 27, 131-148.	0.4	123
6	Morphological types of projection neurons in layer 5 of cat visual cortex. Journal of Comparative Neurology, 1990, 301, 655-674.	0.9	121
7	Spatial Segregation of Different Modes of Movement Control in the Whisker Representation of Rat Primary Motor Cortex. Journal of Neuroscience, 2005, 25, 1579-1587.	1.7	121
8	MEA-Tools: an open source toolbox for the analysis of multi-electrode data with matlab. Journal of Neuroscience Methods, 2002, 117, 33-42.	1.3	120
9	Psychophysical and neurometric detection performance under stimulus uncertainty. Nature Neuroscience, 2008, 11, 1091-1099.	7.1	109
10	Two Psychophysical Channels of Whisker Deflection in Rats Align with Two Neuronal Classes of Primary Afferents. Journal of Neuroscience, 2006, 26, 7933-7941.	1.7	99
11	Central Signals Rapidly Switch Tactile Processing in Rat Barrel Cortex during Whisker Movements. Cerebral Cortex, 2006, 16, 1142-1156.	1.6	90
12	Efficacy and Short-Term Plasticity at GABAergic Synapses Between Purkinje and Cerebellar Nuclei Neurons. Journal of Neurophysiology, 2003, 89, 704-715.	0.9	89
13	Effects of Electrically Coupled Inhibitory Networks on Local Neuronal Responses to Intracortical Microstimulation. Journal of Neurophysiology, 2006, 96, 1227-1236.	0.9	76
14	Two Types of Neurons in the Rat Cerebellar Nuclei as Distinguished by Membrane Potentials and Intracellular Fillings. Journal of Neurophysiology, 2001, 85, 2017-2029.	0.9	75
15	Detection psychophysics of intracortical microstimulation in rat primary somatosensory cortex. European Journal of Neuroscience, 2007, 25, 2161-2169.	1.2	67
16	Discrimination of Vibrotactile Stimuli in the Rat Whisker System: Behavior and Neurometrics. Neuron, 2010, 65, 530-540.	3.8	65
17	Integration of Vibrotactile Signals for Whisker-Related Perception in Rats Is Governed by Short Time Constants: Comparison of Neurometric and Psychometric Detection Performance. Journal of Neuroscience, 2010, 30, 2060-2069.	1.7	60
18	Information Coding through Adaptive Gating of Synchronized Thalamic Bursting. Cell Reports, 2016, 14, 795-807.	2.9	59

#	Article	IF	Citations
19	Projection from the cerebellar lateral nucleus to precerebellar nuclei in the mossy fiber pathway is glutamatergic: A study combining anterograde tracing with immunogold labeling in the rat. , 1997, 381, 320-334.		56
20	Lifting the veil on the dynamics of neuronal activities evoked by transcranial magnetic stimulation. ELife, 2017, 6, .	2.8	51
21	The Slip Hypothesis: Tactile Perception and its Neuronal Bases. Trends in Neurosciences, 2016, 39, 449-462.	4.2	50
22	Mapping spikes to sensations. Frontiers in Neuroscience, 2011, 5, 125.	1.4	43
23	Serotonin suppresses subthreshold and suprathreshold oscillatory activity of rat inferior olivary neurones in vitro. Journal of Physiology, 2000, 524, 833-851.	1.3	42
24	Dynamic Modulation of Mossy Fiber System Throughput by Inferior Olive Synchrony: A Multielectrode Study of Cerebellar Cortex Activated by Motor Cortex. Journal of Neurophysiology, 2001, 86, 2489-2504.	0.9	42
25	Responses of Rat Trigeminal Ganglion Neurons to Longitudinal Whisker Stimulation. Journal of Neurophysiology, 2008, 100, 1879-1884.	0.9	40
26	Barrel Cortex: What is it Good for?. Neuroscience, 2018, 368, 3-16.	1.1	38
27	Cortical modulation of sensory flow during active touch in the rat whisker system. Nature Communications, 2018, 9, 3907.	5.8	38
28	A miniaturized chronic microelectrode drive for awake behaving head restrained mice and rats. Journal of Neuroscience Methods, 2010, 187, 67-72.	1.3	37
29	Beyond GLMs: A Generative Mixture Modeling Approach to Neural System Identification. PLoS Computational Biology, 2013, 9, e1003356.	1.5	36
30	Functional analysis of ultra high information rates conveyed by rat vibrissal primary afferents. Frontiers in Neural Circuits, 2013, 7, 190.	1.4	35
31	Vibrotactile Discrimination in the Rat Whisker System is Based on Neuronal Coding of Instantaneous Kinematic Cues. Cerebral Cortex, 2015, 25, 1093-1106.	1.6	35
32	Support for the slip hypothesis from whisker-related tactile perception of rats in a noisy environment. Frontiers in Integrative Neuroscience, 2015, 9, 53.	1.0	29
33	Cross-approximate entropy of cortical local field potentials quantifies effects of anesthesia - a pilot study in rats. BMC Neuroscience, 2010, 11, 122.	0.8	28
34	Rhythmic Whisking Area (RW) in Rat Primary Motor Cortex: An Internal Monitor of Movement-Related Signals?. Journal of Neuroscience, 2013, 33, 14193-14204.	1.7	27
35	Spatial arrangement of cerebro-pontine terminals. Journal of Comparative Neurology, 2001, 435, 418-432.	0.9	25
36	Employing ICA and SOM for spike sorting of multielectrode recordings from CNS. Journal of Physiology (Paris), 2004, 98, 349-356.	2.1	22

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37	Spine Loss in Primary Somatosensory Cortex during Trace Eyeblink Conditioning. Journal of Neuroscience, 2015, 35, 3772-3781.	1.7	21
38	Mapping the Brain-Wide Network Effects by Optogenetic Activation of the Corpus Callosum. Cerebral Cortex, 2020, 30, 5885-5898.	1.6	21
39	Functional Unity of the Ponto-Cerebellum: Evidence That Intrapontine Communication Is Mediated by a Reciprocal Loop With the Cerebellar Nuclei. Journal of Neurophysiology, 2006, 95, 3414-3425.	0.9	20
40	Corticofugal projection patterns of whisker sensorimotor cortex to the sensory trigeminal nuclei. Frontiers in Neural Circuits, 2015, 9, 53.	1.4	20
41	Lurcher Mice Exhibit Potentiation of GABAA-Receptorâ€“Mediated Conductance in Cerebellar Nuclei Neurons in Close Temporal Relationship to Purkinje Cell Death. Journal of Neurophysiology, 2004, 91, 1102-1107.	0.9	19
42	Real-Time Adaptive Microstimulation Increases Reliability of Electrically Evoked Cortical Potentials. IEEE Transactions on Biomedical Engineering, 2011, 58, 1483-1491.	2.5	18
43	Comparison of projection neurons in the pontine nuclei and the nucleus reticularis tegmenti pontis of the rat. , 1996, 376, 403-419.		15
44	Electrophysiological Properties of Rat Pontine Nuclei Neurons In Vitro II. Postsynaptic Potentials. Journal of Neurophysiology, 1997, 78, 3338-3350.	0.9	15
45	Electrophysiological Properties of Rat Pontine Nuclei Neurons In Vitro. I. Membrane Potentials and Firing Patterns. Journal of Neurophysiology, 1997, 78, 3323-3337.	0.9	15
46	Primary Tactile Thalamus Spiking Reflects Cognitive Signals. Journal of Neuroscience, 2018, 38, 4870-4885.	1.7	15
47	Activity Patterns in the Prefrontal Cortex and Hippocampus during and after Awakening from Etomidate Anesthesia. Anesthesiology, 2010, 113, 48-57.	1.3	14
48	The Fate of Spontaneous Synchronous Rhythms on the Cerebrocerebellar Loop. Cerebellum, 2010, 9, 77-87.	1.4	13
49	Biomechanical Texture Coding in Rat Whiskers. Scientific Reports, 2018, 8, 11139.	1.6	13
50	Reply. Trends in Neurosciences, 2000, 23, 152-153.	4.2	11
51	Organization of tectopontine terminals within the pontine nuclei of the rat and their spatial relationship to terminals from the visual and somatosensory cortex. Journal of Comparative Neurology, 2005, 484, 283-298.	0.9	10
52	Effects of Diazepam on Low-Frequency and High-Frequency Electrocortical Î³-Power Mediated by Î±1- and Î±2-GABAA Receptors. International Journal of Molecular Sciences, 2019, 20, 3486.	1.8	10
53	Functional analysis of information rates conveyed by rat whisker-related trigeminal nuclei neurons. Journal of Neurophysiology, 2021, 125, 1517-1531.	0.9	8
54	GABAergic inhibition in the rat pontine nuclei is exclusively extrinsic: evidence from an in situ hybridization study for GAD 67 mRNA. Experimental Brain Research, 1999, 124, 529-532.	0.7	7

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55	Are spatial frequency cues used for whisker-based active discrimination?. Frontiers in Behavioral Neuroscience, 2014, 8, 379.	1.0	7
56	Serotonergic Control of Cerebellar Mossy Fiber Activity by Modulation of Signal Transfer by Rat Pontine Nuclei Neurons. Journal of Neurophysiology, 2002, 88, 549-564.	0.9	6
57	Mislocalization of nearâ€threshold tactile stimuli in humans: a central or peripheral phenomenon?. European Journal of Neuroscience, 2011, 33, 499-508.	1.2	6
58	Global Tactile Coding in Rat Barrel Cortex in the Absence of Local Cues. Cerebral Cortex, 2018, 28, 2015-2027.	1.6	6
59	Conveyance of texture signals along a rat whisker. Scientific Reports, 2021, 11, 13570.	1.6	5
60	Whisking control by motor cortex. Scholarpedia Journal, 2015, 10, 7466.	0.3	5
61	Chapter 19 The cerebellum as a neuronal prosthesis machine. Progress in Brain Research, 2001, 130, 297-315.	0.9	4
62	Transient change in GABAA receptor subunit mRNA expression in Lurchercerebellar nuclei during Purkinje cell degeneration. BMC Neuroscience, 2006, 7, 59.	0.8	4
63	Propofol Affects Cortico-Hippocampal Interactions via Î²3 Subunit-Containing GABAA Receptors. International Journal of Molecular Sciences, 2020, 21, 5844.	1.8	3
64	A Tactile Virtual Reality for the Study of Active Somatosensation. Frontiers in Integrative Neuroscience, 2020, 14, 5.	1.0	3
65	Local Neuronal Responses to Intracortical Microstimulation in Rats' Barrel Cortex Are Dependent on Behavioral Context. Frontiers in Behavioral Neuroscience, 2022, 16, 805178.	1.0	3
66	The Rodent Vibrissal System as a Model to Study Motor Cortex Function. , 2015, , 129-148.		2
67	Humans Use a Temporally Local Code for Vibrotactile Perception. ENeuro, 2021, 8, ENEURO.0263-21.2021.	0.9	2
68	Studying motor cortex function using the rodent vibrissal system. E-Neuroforum, 2014, 5, 20-27.	0.2	1
69	ANN-Based System for Sorting Spike Waveforms Employing Refractory Periods. Lecture Notes in Computer Science, 2005, , 121-126.	1.0	1
70	Adaptive Whisking in Mice. Frontiers in Systems Neuroscience, 2021, 15, 813311.	1.2	1
71	Temporally Local Tactile Codes Can Be Stored in Working Memory. Frontiers in Human Neuroscience, 2022, 16, .	1.0	1
72	Spatio-temporal constraints of the tidal wave theory. Behavioral and Brain Sciences, 1997, 20, 264-265.	0.4	0

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73	Das Vibrissen-System der Nager als Modell zur Erforschung der Funktion des Motorkortex. E-Neuroforum, 2014, 20, 186-193.	0.2	0
74	Monosynaptic retrograde tracing starts to close the gaps in our understanding of complex premotor networks (Commentary on Sreenivasan etÂal.). European Journal of Neuroscience, 2015, 41, 352-353.	1.2	0
75	Microcircuitry of Cat Visual Cortex. , 1992, , 367-384.		0
76	Whisking Control by Motor Cortex. , 2016, , 751-769.		0