Christian K Machens

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8002940/publications.pdf

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45	4,202	279798	315739
papers	citations	23 h-index	38 g-index

56	56	56	3976
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Flexible Control of Mutual Inhibition: A Neural Model of Two-Interval Discrimination. Science, 2005, 307, 1121-1124.	12.6	458
2	Demixed principal component analysis of neural population data. ELife, 2016, 5, .	6.0	397
3	Modeling Single-Neuron Dynamics and Computations: A Balance of Detail and Abstraction. Science, 2006, 314, 80-85.	12.6	396
4	Efficient codes and balanced networks. Nature Neuroscience, 2016, 19, 375-382.	14.8	364
5	Linearity of Cortical Receptive Fields Measured with Natural Sounds. Journal of Neuroscience, 2004, 24, 1089-1100.	3.6	260
6	Functional, But Not Anatomical, Separation of â€œWhatâ€•and â€œWhenâ€•in Prefrontal Cortex. Journal of Neuroscience, 2010, 30, 350-360.	3.6	243
7	Cortical Areas Interact through a Communication Subspace. Neuron, 2019, 102, 249-259.e4.	8.1	239
8	Distributed and Mixed Information in Monosynaptic Inputs to Dopamine Neurons. Neuron, 2016, 91, 1374-1389.	8.1	195
9	Variability in neural activity and behavior. Current Opinion in Neurobiology, 2014, 25, 211-220.	4.2	178
10	Predictive Coding of Dynamical Variables in Balanced Spiking Networks. PLoS Computational Biology, 2013, 9, e1003258.	3.2	171
11	Striatal dynamics explain duration judgments. ELife, 2015, 4, .	6.0	145
12	Representation of Acoustic Communication Signals by Insect Auditory Receptor Neurons. Journal of Neuroscience, 2001, 21, 3215-3227.	3.6	131
13	Testing the Efficiency of Sensory Coding with Optimal Stimulus Ensembles. Neuron, 2005, 47, 447-456.	8.1	125
14	Single auditory neurons rapidly discriminate conspecific communication signals. Nature Neuroscience, 2003, 6, 341-342.	14.8	103
15	Building the Human Brain. Science, 2012, 338, 1156-1157.	12.6	84
16	Population-wide distributions of neural activity during perceptual decision-making. Progress in Neurobiology, 2013, 103, 156-193.	5.7	71
17	Energy-Efficient Coding with Discrete Stochastic Events. Neural Computation, 2002, 14, 1323-1346.	2.2	67
18	Principles of Corticocortical Communication: Proposed Schemes and Design Considerations. Trends in Neurosciences, 2020, 43, 725-737.	8.6	67

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19	Representational geometry of perceptual decisions in the monkey parietal cortex. Cell, 2021, 184, 3748-3761.e18.	28.9	58
20	From response to stimulus: adaptive sampling in sensory physiology. Current Opinion in Neurobiology, 2007, 17, 430-436.	4.2	54
21	Statistical methods for dissecting interactions between brain areas. Current Opinion in Neurobiology, 2020, 65, 59-69.	4.2	41
22	Demixing Population Activity in Higher Cortical Areas. Frontiers in Computational Neuroscience, 2010, 4, 126.	2.1	37
23	Feedforward and feedback interactions between visual cortical areas use different population activity patterns. Nature Communications, 2022, 13, 1099.	12.8	36
24	Design of Continuous Attractor Networks with Monotonic Tuning Using a Symmetry Principle. Neural Computation, 2008, 20, 452-485.	2.2	33
25	Optimal compensation for neuron loss. ELife, 2016, 5, .	6.0	28
26	Optogenetic perturbations reveal the dynamics of an oculomotor integrator. Frontiers in Neural Circuits, 2014, 8, 10.	2.8	27
27	Learning to represent signals spike by spike. PLoS Computational Biology, 2020, 16, e1007692.	3.2	26
28	Decoding and encoding (de)mixed population responses. Current Opinion in Neurobiology, 2019, 58, 112-121.	4.2	25
29	Disentangling the functional consequences of the connectivity between optic-flow processing neurons. Nature Neuroscience, 2012, 15, 441-448.	14.8	24
30	Adaptive Sampling by Information Maximization. Physical Review Letters, 2002, 88, 228104.	7.8	22
31	Searching for Optimal Sensory Signals: Iterative Stimulus Reconstruction in Closed-Loop Experiments. Journal of Computational Neuroscience, 2004, 17, 47-56.	1.0	19
32	Spatiotemporal Response Properties of Optic-Flow Processing Neurons. Neuron, 2010, 67, 629-642.	8.1	19
33	State-dependent geometry of population activity in rat auditory cortex. ELife, 2019, 8, .	6.0	14
34	The geometry of robustness in spiking neural networks. ELife, 0, 11, .	6.0	10
35	On the Number of Neurons and Time Scale of Integration Underlying the Formation of Percepts in the Brain. PLoS Computational Biology, 2015, 11, e1004082.	3.2	6
36	Editorial overview: Computational neuroscience. Current Opinion in Neurobiology, 2017, 46, A1-A5.	4.2	4

#	Article	IF	Citations
37	Auditory Modeling Gets an Edge. Journal of Neurophysiology, 2003, 90, 3581-3582.	1.8	2
38	Efficient coding of cognitive variables underlies dopamine response and choice behavior. Nature Neuroscience, 2022, 25, 738-748.	14.8	2
39	Percept and the single neuron. Nature Neuroscience, 2013, 16, 112-113.	14.8	1
40	Sensory Coding, Efficiency. , 2014, , 1-12.		0
41	Learning to represent signals spike by spike. , 2020, 16, e1007692.		0
42	Learning to represent signals spike by spike. , 2020, 16, e1007692.		0
43	Learning to represent signals spike by spike. , 2020, 16, e1007692.		0
44	Learning to represent signals spike by spike. , 2020, 16, e1007692.		0
45	Sensory Coding, Efficiency. , 2022, , 3072-3081.		0