Claudia Clopath

List of Publications by Year
in descending order

76	7,074	172207	106150
papers	citations	29 h-index	65 g-index

104	104	104	6069
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Local circuit amplification of spatial selectivity in the hippocampus. Nature, 2022, 601, 105-109.	13.7	60
2	Coordinated hippocampal-thalamic-cortical communication crucial for engram dynamics underneath systems consolidation. Nature Communications, 2022, 13, 840.	5.8	15
3	Learning and attention increase visual response selectivity through distinct mechanisms. Neuron, 2022, 110, 686-697.e6.	3.8	28
4	Prediction-error neurons in circuits with multiple neuron types: Formation, refinement, and functional implications. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2115699119.	3.3	23
5	Neuronal activity in sensory cortex predicts the specificity of learning in mice. Nature Communications, 2022, 13, 1167.	5.8	6
6	Dopamine and serotonin interplay for valence-based spatial learning. Cell Reports, 2022, 39, 110645.	2.9	11
7	Inhibitory stabilization and cortical computation. Nature Reviews Neuroscience, 2021, 22, 21-37.	4.9	80
8	Neural manifold under plasticity in a goal driven learning behaviour. PLoS Computational Biology, 2021, 17, e1008621.	1.5	30
9	Visualizing a joint future of neuroscience and neuromorphic engineering. Neuron, 2021, 109, 571-575.	3.8	31
10	Learning compositional sequences with multiple time scales through a hierarchical network of spiking neurons. PLoS Computational Biology, 2021, 17, e1008866.	1.5	7
11	The functional role of sequentially neuromodulated synaptic plasticity in behavioural learning. PLoS Computational Biology, 2021, 17, e1009017.	1.5	2
12	Network-centered homeostasis through inhibition maintains hippocampal spatial map and cortical circuit function. Cell Reports, 2021, 36, 109577.	2.9	7
13	Separable actions of acetylcholine and noradrenaline on neuronal ensemble formation in hippocampal CA3 circuits. PLoS Computational Biology, 2021, 17, e1009435.	1.5	3
14	Excitatory-inhibitory balance modulates the formation and dynamics of neuronal assemblies in cortical networks. Science Advances, 2021, 7, eabg8411.	4.7	21
15	Memories in a network with excitatory and inhibitory plasticity are encoded in the spiking irregularity. PLoS Computational Biology, 2021, 17, e1009593.	1.5	5
16	Free recall scaling laws and short-term memory effects in a latching attractor network. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	4
17	Theory of neuronal perturbome in cortical networks. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26966-26976.	3.3	27
18	The interplay between somatic and dendritic inhibition promotes the emergence and stabilization of place fields. PLoS Computational Biology, 2020, 16, e1007955.	1.5	14

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19	Interneuron-specific plasticity at parvalbumin and somatostatin inhibitory synapses onto CA1 pyramidal neurons shapes hippocampal output. Nature Communications, 2020, 11, 4395.	5.8	108
20	AI for social good: unlocking the opportunity for positive impact. Nature Communications, 2020, 11, 2468.	5.8	111
21	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. PLoS Computational Biology, 2020, 16, e1007606.	1.5	42
22	Patterned perturbation of inhibition can reveal the dynamical structure of neural processing. ELife, 2020, 9, .	2.8	27
23	Population coupling predicts the plasticity of stimulus responses in cortical circuits. ELife, 2020, 9, .	2.8	26
24	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
25	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
26	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
27	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
28	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
29	Learning spatiotemporal signals using a recurrent spiking network that discretizes time. , 2020, 16, e1007606.		0
30	Title is missing!. , 2020, 16, e1007955.		0
31	Title is missing!. , 2020, 16, e1007955.		0
32	Title is missing!. , 2020, 16, e1007955.		0
33	Title is missing!. , 2020, 16, e1007955.		0
34	Title is missing!. , 2020, 16, e1007955.		0
35	Inhibitory microcircuits for top-down plasticity of sensory representations. Nature Communications, 2019, 10, 5055.	5.8	39
36	A deep learning framework for neuroscience. Nature Neuroscience, 2019, 22, 1761-1770.	7.1	563

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37	A diversity of interneurons and Hebbian plasticity facilitate rapid compressible learning in the hippocampus. Nature Neuroscience, 2019, 22, 1168-1181.	7.1	52
38	Synaptic plasticity onto inhibitory neurons as a mechanism for ocular dominance plasticity. PLoS Computational Biology, 2019, 15, e1006834.	1.5	7
39	Unifying Long-Term Plasticity Rules for Excitatory Synapses by Modeling Dendrites of Cortical Pyramidal Neurons. Cell Reports, 2019, 29, 4295-4307.e6.	2.9	38
40	Audio-visual experience strengthens multisensory assemblies in adult mouse visual cortex. Nature Communications, 2019, 10, 5684.	5.8	46
41	Reply to HuszÃ¡r: The elastic weight consolidation penalty is empirically valid. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2498.	3.3	5
42	Activity-Dependent Downscaling of Subthreshold Synaptic Inputs during Slow-Wave-Sleep-like Activity InÂVivo. Neuron, 2018, 97, 1244-1252.e5.	3.8	95
43	Chaos in homeostatically regulated neural systems. Chaos, 2018, 28, 083104.	1.0	9
44	ON-OFF receptive fields in auditory cortex diverge during development and contribute to directional sweep selectivity. Nature Communications, 2018, 9, 2084.	5.8	27
45	Acetylcholine-modulated plasticity in reward-driven navigation: a computational study. Scientific Reports, 2018, 8, 9486.	1.6	34
46	Size-Dependent Axonal Bouton Dynamics following Visual Deprivation InÂVivo. Cell Reports, 2018, 22, 576-584.	2.9	20
47	Gap junction plasticity as a mechanism to regulate network-wide oscillations. PLoS Computational Biology, 2018, 14, e1006025.	1.5	50
48	Cerebellar learning using perturbations. ELife, 2018, 7, .	2.8	41
49	Emergent spatial synaptic structure from diffusive plasticity. European Journal of Neuroscience, 2017, 45, 1057-1067.	1.2	7
50	Variance and invariance of neuronal long-term representations. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160161.	1.8	108
51	Overcoming catastrophic forgetting in neural networks. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3521-3526.	3.3	2,653
52	Sparse synaptic connectivity is required for decorrelation and pattern separation in feedforward networks. Nature Communications, 2017, 8, 1116.	5.8	89
53	Modeling somatic and dendritic spike mediated plasticity at the single neuron and network level. Nature Communications, 2017, 8, 706.	5.8	87
54	Modelling plasticity in dendrites: from single cells to networks. Current Opinion in Neurobiology, 2017, 46, 136-141.	2.0	32

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55	Deprivation-Induced Homeostatic Spine Scaling InÂVivo Is Localized to Dendritic Branches that Have Undergone Recent Spine Loss. Neuron, 2017, 96, 871-882.e5.	3.8	91
56	Supervised learning in spiking neural networks with FORCE training. Nature Communications, 2017, 8, 2208.	5.8	151
57	From homeostasis to behavior: Balanced activity in an exploration of embodied dynamic environmental-neural interaction. PLoS Computational Biology, 2017, 13, e1005721.	1.5	14
58	Detection of axonal synapses in 3D two-photon images. PLoS ONE, 2017, 12, e0183309.	1.1	17
59	Sequential neuromodulation of Hebbian plasticity offers mechanism for effective reward-based navigation. ELife, 2017, 6, .	2.8	74
60	Modeled changes of cerebellar activity in mutant mice are predictive of their learning impairments. Scientific Reports, 2016, 6, 36131.	1.6	20
61	Local inhibitory plasticity tunes macroscopic brain dynamics and allows the emergence of functional brain networks. NeuroImage, 2016, 124, 85-95.	2.1	74
62	The Role of Neuromodulators in Cortical Plasticity. A Computational Perspective. Frontiers in Synaptic Neuroscience, 2016, 8, 38.	1.3	24
63	Emergence of Functional Specificity in Balanced Networks with Synaptic Plasticity. PLoS Computational Biology, 2015, 11, e1004307.	1.5	36
64	Processing of Feature Selectivity in Cortical Networks with Specific Connectivity. PLoS ONE, 2015, 10, e0127547.	1.1	12
65	Oscillations emerging from noise-driven steady state in networks with electrical synapses and subthreshold resonance. Nature Communications, 2014, 5, 5512.	5.8	46
66	A Cerebellar Learning Model of Vestibulo-Ocular Reflex Adaptation in Wild-Type and Mutant Mice. Journal of Neuroscience, 2014, 34, 7203-7215.	1.7	59
67	The emergence of functional microcircuits in visual cortex. Nature, 2013, 496, 96-100.	13.7	414
68	Optimal Properties of Analog Perceptrons with Excitatory Weights. PLoS Computational Biology, 2013, 9, e1002919.	1.5	25
69	Storage of Correlated Patterns in Standard and Bistable Purkinje Cell Models. PLoS Computational Biology, 2012, 8, e1002448.	1.5	40
70	Synaptic consolidation: an approach to long-term learning. Cognitive Neurodynamics, 2012, 6, 251-257.	2.3	42
71	A triplet spike-timingâ€“dependent plasticity model generalizes the Bienenstockâ€“Cooperâ€“Munro rule to higher-order spatiotemporal correlations. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 19383-19388.	3.3	158
72	Connectivity reflects coding: a model of voltage-based STDP with homeostasis. Nature Neuroscience, 2010, 13, 344-352.	7.1	517

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73	Voltage and spike timing interact in STDP - a unified model. Frontiers in Synaptic Neuroscience, 2010, 2, 25.	1.3	72
74	Firing patterns in the adaptive exponential integrate-and-fire model. Biological Cybernetics, 2008, 99, 335-347.	0.6	250
75	Tag-Trigger-Consolidation: A Model of Early and Late Long-Term-Potentiation and Depression. PLoS Computational Biology, 2008, 4, e1000248.	1.5	110
76	Predicting neuronal activity with simple models of the threshold type: Adaptive Exponential Integrate-and-Fire model with two compartments. Neurocomputing, 2007, 70, 1668-1673.	3.5	53