Gilles Laurent

List of Publications by Year
in descending order

86 papers	14,891 citations	41258 49 h-index	54797 84 g-index
90 all docs	90 docs citations	90 times ranked	7856 citing authors

#	Article	IF	Citations
1	A claustrum in reptiles and its role in slow-wave sleep. Nature, 2020, 578, 413-418.	13.7	103
2	Reliable Sequential Activation of Neural Assemblies by Single Pyramidal Cells in a Three-Layered Cortex. Neuron, 2019, 104, 353-369.e5.	3.8	35
3	Evolution of neuronal identity in the cerebral cortex. Current Opinion in Neurobiology, 2019, 56, 199-208.	2.0	50
4	Evolution of pallium, hippocampus, and cortical cell types revealed by single-cell transcriptomics in reptiles. Science, 2018, 360, 881-888.	6.0	344
5	Spatial Information in a Non-retinotopic Visual Cortex. Neuron, 2018, 97, 164-180.e7.	3.8	28
6	Large-scale mapping of cortical synaptic projections with extracellular electrode arrays. Nature Methods, 2017, 14, 882-890.	9.0	26
7	On the Value of Reptilian Brains to Map the Evolution of the Hippocampal Formation. Brain, Behavior and Evolution, 2017, 90, 41-52.	0.9	27
8	Connectomics: a need for comparative studies. E-Neuroforum, 2016, 22, .	0.2	0
9	Slow waves, sharp waves, ripples, and REM in sleeping dragons. Science, 2016, 352, 590-595.	6.0	177
10	Comparative approaches to cortical microcircuits. Current Opinion in Neurobiology, 2016, 41, 24-30.	2.0	11
11	Connectomics: aÂneed for comparative studies. E-Neuroforum, 2016, 7, 54-55.	0.2	2
12	Consensus-Based Sorting of Neuronal Spike Waveforms. PLoS ONE, 2016, 11, e0160494.	1.1	16
13	Neural Encoding of Odors during Active Sampling and in Turbulent Plumes. Neuron, 2015, 88, 403-418.	3.8	47
14	Looking for the roots of cortical sensory computation in three-layered cortices. Current Opinion in Neurobiology, 2015, 31, 119-126.	2.0	56
15	Encoding of Mixtures in a Simple Olfactory System. Neuron, 2013, 80, 1246-1262.	3.8	54
16	Conditional modulation of spike-timing-dependent plasticity for olfactory learning. Nature, 2012, 482, 47-52.	13.7	201
17	Normalization for Sparse Encoding of Odors by a Wide-Field Interneuron. Science, 2011, 332, 721-725.	6.0	191
18	Transfer characteristics of a thermosensory synapse in <i>Caenorhabditis elegans</i>. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9667-9672.	3.3	59

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19	Electric Times in Olfaction. Neuron, 2010, 67, 903-905.	3.8	6
20	Neural Encoding of Rapidly Fluctuating Odors. Neuron, 2009, 61, 570-586.	3.8	114
21	High-Resolution Three-Dimensional Extracellular Recording of Neuronal Activity With Microfabricated Electrode Arrays. Journal of Neurophysiology, 2009, 101, 1671-1678.	0.9	67
22	Transient Dynamics for Neural Processing. Science, 2008, 321, 48-50.	6.0	447
23	Testing Odor Response Stereotypy in the Drosophila Mushroom Body. Neuron, 2008, 59, 1009-1023.	3.8	157
24	Olfactory Representations by<i>Drosophila</i>Mushroom Body Neurons. Journal of Neurophysiology, 2008, 99, 734-746.	0.9	357
25	A simple method to reconstruct firing rates from dendritic calcium signals. Frontiers in Neuroscience, 2008, 2, 176-185.	1.4	10
26	A Simple Connectivity Scheme for Sparse Coding in an Olfactory System. Journal of Neuroscience, 2007, 27, 1659-1669.	1.7	184
27	Estimating firing rates from calcium signals in locust projection neurons in vivo. Frontiers in Neural Circuits, 2007, 1, 2.	1.4	43
28	Evaluating a genetically encoded optical sensor of neural activity using electrophysiology in intact adult fruit flies. Frontiers in Neural Circuits, 2007, 1, 3.	1.4	45
29	Adaptive regulation of sparseness by feedforward inhibition. Nature Neuroscience, 2007, 10, 1176-1184.	7.1	92
30	Hebbian STDP in mushroom bodies facilitates the synchronous flow of olfactory information in locusts. Nature, 2007, 448, 709-713.	13.7	312
31	Encoding and Decoding of Overlapping Odor Sequences. Neuron, 2006, 51, 467-482.	3.8	162
32	Time-Dependent Activation of Feed-Forward Inhibition in a Looming-Sensitive Neuron. Journal of Neurophysiology, 2005, 94, 2150-2161.	0.9	44
33	Role of GABAergic Inhibition in Shaping Odor-Evoked Spatiotemporal Patterns in the Drosophila Antennal Lobe. Journal of Neuroscience, 2005, 25, 9069-9079.	1.7	418
34	Fast Odor Learning Improves Reliability of Odor Responses in the Locust Antennal Lobe. Neuron, 2005, 46, 483-492.	3.8	84
35	Transient Dynamics versus Fixed Points in Odor Representations by Locust Antennal Lobe Projection Neurons. Neuron, 2005, 48, 661-673.	3.8	435
36	Dynamics of Olfactory Bulb Input and Output Activity During Odor Stimulation in Zebrafish. Journal of Neurophysiology, 2004, 91, 2658-2669.	0.9	83

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37	Transformation of Olfactory Representations in the Drosophila Antennal Lobe. Science, 2004, 303, 366-370.	6.0	497
38	Intrinsic and Circuit Properties Favor Coincidence Detection for Decoding Oscillatory Input. Journal of Neuroscience, 2004, 24, 6037-6047.	1.7	120
39	Multiplexing using synchrony in the zebrafish olfactory bulb. Nature Neuroscience, 2004, 7, 862-871.	7.1	210
40	Multiplication and stimulus invariance in a looming-sensitive neuron. Journal of Physiology (Paris), 2004, 98, 19-34.	2.1	65
41	Intensity versus Identity Coding in an Olfactory System. Neuron, 2003, 39, 991-1004.	3.8	563
42	painless, a Drosophila Gene Essential for Nociception. Cell, 2003, 113, 261-273.	13.5	696
43	Oscillations and Sparsening of Odor Representations in the Mushroom Body. Science, 2002, 297, 359-365.	6.0	712
44	Using noise signature to optimize spike-sorting and to assess neuronal classification quality. Journal of Neuroscience Methods, 2002, 122, 43-57.	1.3	255
45	Multiplicative computation in a visual neuron sensitive to looming. Nature, 2002, 420, 320-324.	13.7	351
46	Olfactory network dynamics and the coding of multidimensional signals. Nature Reviews Neuroscience, 2002, 3, 884-895.	4.9	639
47	Dynamic Optimization of Odor Representations by Slow Temporal Patterning of Mitral Cell Activity. Science, 2001, 291, 889-894.	6.0	434
48	Model of Cellular and Network Mechanisms for Odor-Evoked Temporal Patterning in the Locust Antennal Lobe. Neuron, 2001, 30, 569-581.	3.8	137
49	Model of Transient Oscillatory Synchronization in the Locust Antennal Lobe. Neuron, 2001, 30, 553-567.	3.8	219
50	Odor Encoding as an Active, Dynamical Process: Experiments, Computation, and Theory. Annual Review of Neuroscience, 2001, 24, 263-297.	5.0	413
51	Disruption of GABA_A Receptors on GABAergic Interneurons Leads to Increased Oscillatory Power in the Olfactory Bulb Network. Journal of Neurophysiology, 2001, 86, 2823-2833.	0.9	207
52	Invariance of Angular Threshold Computation in a Wide-Field Looming-SensitiveÂNeuron. Journal of Neuroscience, 2001, 21, 314-329.	1.7	100
53	What does 'understanding' mean?. Nature Neuroscience, 2000, 3, 1211-1211.	7.1	4
54	Relationship between Afferent and Central Temporal Patterns in the Locust Olfactory System. Journal of Neuroscience, 1999, 19, 381-390.	1.7	69

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55	Computation of Object Approach by a Wide-Field, Motion-Sensitive Neuron. Journal of Neuroscience, 1999, 19, 1122-1141.	1.7	251
56	Dynamic representation of odours by oscillating neural assemblies. Entomologia Experimentalis Et Applicata, 1999, 91, 7-18.	0.7	3
57	Odor- and context-dependent modulation of mitral cell activity in behaving rats. Nature Neuroscience, 1999, 2, 1003-1009.	7.1	366
58	Short-term memory in olfactory network dynamics. Nature, 1999, 402, 664-668.	13.7	272
59	Complexity and the Nervous System. Science, 1999, 284, 96-98.	6.0	300
60	The many ways of building collision-sensitive neurons. Trends in Neurosciences, 1999, 22, 437-438.	4.2	14
61	Dynamic representation of odours by oscillating neural assemblies. , 1999, , 7-18.		0
62	Collision-avoidance: nature's many solutions. Nature Neuroscience, 1998, 1, 261-263.	7.1	31
63	Who reads temporal information contained across synchronized and oscillatory spike trains?. Nature, 1998, 395, 693-698.	13.7	266
64	Temporal Coding with Oscillatory Sequences of Firing. , 1998, , 303-307.		0
65	Spatiotemporal Structure of Olfactory Inputs to the Mushroom Bodies. Learning and Memory, 1998, 5, 124-132.	0.5	34
66	Olfactory processing: maps, time and codes. Current Opinion in Neurobiology, 1997, 7, 547-553.	2.0	83
67	Impaired odour discrimination on desynchronization of odour-encoding neural assemblies. Nature, 1997, 390, 70-74.	13.7	912
68	Dynamical representation of odors by oscillating and evolving neural assemblies. Trends in Neurosciences, 1996, 19, 489-496.	4.2	344
69	Odor Images and Tunes. Neuron, 1996, 16, 473-476.	3.8	30
70	Distinct Mechanisms for Synchronization and Temporal Patterning of Odor-Encoding Neural Assemblies. Science, 1996, 274, 976-979.	6.0	391
71	Local Control of Leg Movements and Motor Patterns during Grooming in Locusts. Journal of Neuroscience, 1996, 16, 8067-8078.	1.7	43
72	Temporal Representations of Odors in an Olfactory Network. Journal of Neuroscience, 1996, 16, 3837-3847.	1.7	346

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73	Central Generation of Grooming Motor Patterns and Interlimb Coordination in Locusts. Journal of Neuroscience, 1996, 16, 8079-8091.	1.7	63
74	GABAergic synapses in the antennal lobe and mushroom body of the locust olfactory system. , 1996, 372, 487-514.		183
75	Odour encoding by temporal sequences of firing in oscillating neural assemblies. Nature, 1996, 384, 162-166.	13.7	497
76	Rhythmic Modulation of the Responsiveness of Locust Sensory Local Interneurons by Walking Pattern Generating Networks. Journal of Neurophysiology, 1994, 71, 110-118.	0.9	16
77	Distribution of GABAergic synaptic terminals on the dendrites of locust spiking local interneurones. Journal of Comparative Neurology, 1993, 337, 461-470.	0.9	11
78	Embryonic development of a population of spiking local interneurones in the locust (Schistocerca) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.9	25
79	Embryonic development of synapses on spiking local interneurones in locust. Journal of Comparative Neurology, 1992, 324, 213-236.	0.9	16
80	GABA-like immunoreactivity in a population of locust intersegmental interneurones and their inputs. Journal of Comparative Neurology, 1990, 302, 761-767.	0.9	20
81	A Population of ascending intersegmental interneurones in the locust with mechanosensory inputs from a hind leg. Journal of Comparative Neurology, 1988, 275, 1-12.	0.9	53
82	Local circuits underlying excitation and inhibition of intersegmental interneurones in the locust. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1988, 162, 145-157.	0.7	31
83	Parallel effects of joint receptors on motor neurones and intersegmental interneurones in the locust. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1987, 160, 341-353.	0.7	18
84	The morphology of a population of thoracic intersegmental interneurones in the locust. Journal of Comparative Neurology, 1987, 256, 412-429.	0.9	33
85	Thoracic intersegmental interneurones in the locust with mechanoreceptive inputs from a leg. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1986, 159, 171-186.	0.7	30
86	The Organization and Role During Locomotion of the Proximal Musculature of the Cricket Foreleg I. Anatomy and Innervation. Journal of Experimental Biology, 1986, 123, 255-283.	0.8	24