Leonard Maler

List of Publications by Year
in descending order

93 papers	5,230 citations	61977 43 h-index	91872 69 g-index
258 all docs	258 docs citations	258 times ranked	1723 citing authors

#	Article	IF	Citations
1	Zebrin II: A polypeptide antigen expressed selectively by purkinje cells reveals compartments in rat and fish cerebellum. Journal of Comparative Neurology, 1990, 291, 538-552.	1.6	471
2	The cytology of the posterior lateral line lobe of highâ€frequency weakly electric fish (gymnotidae): Dendritic differentiation and synaptic specificity in a simple cortex. Journal of Comparative Neurology, 1981, 195, 87-139.	1.6	206
3	The posterior lateral line lobe of certain gymnotoid fish: Quantitative light microscopy. Journal of Comparative Neurology, 1979, 183, 323-363.	1.6	187
4	Peripheral organization and central projections of the electrosensory nerves in gymnotiform fish. Journal of Comparative Neurology, 1982, 211, 139-153.	1.6	186
5	Evoked chirping in the weakly electric fish <i>Apteronotus leptorhynchus</i>: a quantitative biophysical analysis. Canadian Journal of Zoology, 1993, 71, 2301-2310.	1.0	136
6	Catecholaminergic systems in the brain of a gymnotiform teleost fish: An immunohistochemical study. Journal of Comparative Neurology, 1990, 292, 127-162.	1.6	128
7	Neural Heterogeneity and Efficient Population Codes for Communication Signals. Journal of Neurophysiology, 2010, 104, 2543-2555.	1.8	115
8	Correlating gamma-aminobutyric acidergic circuits and sensory function in the electrosensory lateral line lobe of a gymnotiform fish. Journal of Comparative Neurology, 1994, 345, 224-252.	1.6	112
9	Inter-male aggressive signals in weakly electric fish are modulated by monoamines. Behavioural Brain Research, 1987, 25, 75-81.	2.2	110
10	Electroreceptor neuron dynamics shape information transmission. Nature Neuroscience, 2005, 8, 673-678.	14.8	110
11	Neural maps in the electrosensory system of weakly electric fish. Current Opinion in Neurobiology, 2014, 24, 13-21.	4.2	105
12	Morphological and electrophysiological properties of a novel in vitro preparation: the electrosensory lateral line lobe brain slice. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1988, 163, 489-506.	1.6	100
13	The organization of afferent input to the caudal lobe of the cerebellum of the gymnotid fish Apteronotus leptorhynchus. Anatomy and Embryology, 1987, 177, 55-79.	1.5	99
14	A Synchronization-Desynchronization Code for Natural Communication Signals. Neuron, 2006, 52, 347-358.	8.1	98
15	Subtractive and Divisive Inhibition: Effect of Voltage-Dependent Inhibitory Conductances and Noise. Neural Computation, 2001, 13, 227-248.	2.2	97
16	Receptive field organization across multiple electrosensory maps. I. Columnar organization and estimation of receptive field size. Journal of Comparative Neurology, 2009, 516, 376-393.	1.6	96
17	The cellular basis for parallel neural transmission of a high-frequency stimulus and its low-frequency envelope. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 14596-14601.	7.1	93
18	Linear Versus Nonlinear Signal Transmission in Neuron Models With Adaptation Currents or Dynamic Thresholds. Journal of Neurophysiology, 2010, 104, 2806-2820.	1.8	93

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19	Efferent projections of the posterior lateral line lobe in gymnotiform fish. Journal of Comparative Neurology, 1982, 211, 154-164.	1.6	92
20	Structural and functional organization of a diencephalic sensoryâ€motor interface in the gymnotiform fish, <i>Eigenmannia</i>. Journal of Comparative Neurology, 1990, 293, 347-376.	1.6	88
21	Transient Signals Trigger Synchronous Bursts in an Identified Population of Neurons. Journal of Neurophysiology, 2009, 102, 714-723.	1.8	84
22	Efficient computation via sparse coding in electrosensory neural networks. Current Opinion in Neurobiology, 2011, 21, 752-760.	4.2	84
23	The nucleus praeeminentialis: A Golgi study of a feedback center in the electrosensory system of gymnotid fish. Journal of Comparative Neurology, 1983, 221, 127-144.	1.6	83
24	Substance P-like immunoreactivity in the brain of the gymnotiform fish Apteronotus leptorhynchus: Presence of sex differences. Journal of Chemical Neuroanatomy, 1992, 5, 107-129.	2.1	79
25	Zebrin II immunoreactivity in the rat and in the weakly electric teleost <i>Eigenmannia</i> (gymnotiformes) reveals three modes of purkinje cell development. Journal of Comparative Neurology, 1991, 310, 215-233.	1.6	77
26	Inhibition Evoked From Primary Afferents in the Electrosensory Lateral Line Lobe of the Weakly Electric Fish (<i>Apteronotus leptorhynchus</i>). Journal of Neurophysiology, 1998, 80, 3173-3196.	1.8	77
27	Somatostatin-like immunoreactivity in the brain of an electric fish (Ateronotus leptorhynchus) identified with monoclonal antibodies. Journal of Chemical Neuroanatomy, 1991, 4, 155-186.	2.1	71
28	Contrast coding in the electrosensory system: parallels with visual computation. Nature Reviews Neuroscience, 2015, 16, 733-744.	10.2	71
29	SK Channels Provide a Novel Mechanism for the Control of Frequency Tuning in Electrosensory Neurons. Journal of Neuroscience, 2007, 27, 9491-9502.	3.6	67
30	A Golgi study of the cell types of the dorsal torus semicircularis of the electric fishEigenmannia: Functional and morphological diversity in the midbrain. Journal of Comparative Neurology, 1985, 235, 207-240.	1.6	62
31	Receptive field organization across multiple electrosensory maps. II. Computational analysis of the effects of receptive field size on prey localization. Journal of Comparative Neurology, 2009, 516, 394-422.	1.6	62
32	Cellular and circuit properties supporting different sensory coding strategies in electric fish and other systems. Current Opinion in Neurobiology, 2012, 22, 686-692.	4.2	62
33	Transparent Danionella translucida as a genetically tractable vertebrate brain model. Nature Methods, 2018, 15, 977-983.	19.0	62
34	Active sensing associated with spatial learning reveals memory-based attention in an electric fish. Journal of Neurophysiology, 2016, 115, 2577-2592.	1.8	58
35	Hippocampalâ€like circuitry in the pallium of an electric fish: Possible substrates for recursive pattern separation and completion. Journal of Comparative Neurology, 2017, 525, 8-46.	1.6	57
36	Excitatory Amino Acid Receptors at a Feedback Pathway in the Electrosensory System: Implications for the Searchlight Hypothesis. Journal of Neurophysiology, 1997, 78, 1869-1881.	1.8	54

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37	Connections of the olfactory bulb in the gymnotiform fish,Apteronotus leptorhynchus. Journal of Comparative Neurology, 1993, 335, 486-507.	1.6	53
38	N-methyl-D-aspartate receptor 1 mRNA distribution in the central nervous system of the weakly electric fishApteronotus leptorhynchus. , 1997, 389, 65-80.		53
39	Neural activity in a hippocampus-like region of the teleost pallium is associated with active sensing and navigation. ELife, 2019, 8, .	6.0	53
40	Function of NMDA Receptors and Persistent Sodium Channels in a Feedback Pathway of the Electrosensory System. Journal of Neurophysiology, 2001, 86, 1612-1621.	1.8	51
41	Cytology and immunocytochemistry of the nucleus extrolateralis anterior of the mormyrid brain: possible role of GABAergic synapses in temporal analysis. Anatomy and Embryology, 1987, 176, 313-336.	1.5	49
42	Feedback Synthesizes Neural Codes for Motion. Current Biology, 2017, 27, 1356-1361.	3.9	49
43	Organization of the gymnotiform fish pallium in relation to learning and memory: IV. Expression of conserved transcription factors and implications for the evolution of dorsal telencephalon. Journal of Comparative Neurology, 2012, 520, 3395-3413.	1.6	48
44	Longâ€term recognition memory of individual conspecifics is associated with telencephalic expression of Egrâ€1 in the electric fish <i>Apteronotus leptorhynchus</i>. Journal of Comparative Neurology, 2010, 518, 2666-2692.	1.6	46
45	Organization of the gymnotiform fish pallium in relation to learning and memory: II. Extrinsic connections. Journal of Comparative Neurology, 2012, 520, 3338-3368.	1.6	46
46	Intrinsic Frequency Tuning in ELL Pyramidal Cells Varies Across Electrosensory Maps. Journal of Neurophysiology, 2008, 99, 2641-2655.	1.8	45
47	Cytology and immunocytochemistry of the nucleus of the lateral line lobe in the electric fishGnathonemus petersii (mormyridae): Evidence suggesting that GABAergic synapses mediate an inhibitory corollary discharge. Synapse, 1987, 1, 32-56.	1.2	44
48	Ultrastructural studies of physiologically identified electrosensory afferent synapses in the gymnotiform fish,Eigenmannia. Journal of Comparative Neurology, 1987, 255, 526-537.	1.6	43
49	The distribution of excitatory amino acid binding sites in the brain of an electric fish, Apteronotus leptorhynchus. Journal of Chemical Neuroanatomy, 1991, 4, 39-61.	2.1	43
50	Differential distribution of SK channel subtypes in the brain of the weakly electric fish <i>Apteronotus leptorhynchus</i>. Journal of Comparative Neurology, 2008, 507, 1964-1978.	1.6	40
51	Organization of the gymnotiform fish pallium in relation to learning and memory: III. Intrinsic connections. Journal of Comparative Neurology, 2012, 520, 3369-3394.	1.6	39
52	Immunohistochemical localization of ryanodine binding proteins in the central nervous system of gymnotiform fish. Journal of Comparative Neurology, 1992, 325, 135-151.	1.6	37
53	Cryptic laminar and columnar organization in the dorsolateral pallium of a weakly electric fish. Journal of Comparative Neurology, 2016, 524, 408-428.	1.6	36
54	Organization of the gymnotiform fish pallium in relation to learning and memory: I. Cytoarchitectonics and cellular morphology. Journal of Comparative Neurology, 2012, 520, 3314-3337.	1.6	35

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55	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons. Network: Computation in Neural Systems, 2003, 14, 803-824.	3.6	33
56	A time-stamp mechanism may provide temporal information necessary for egocentric to allocentric spatial transformations. ELife, 2018, 7, .	6.0	32
57	The distribution of acetylcholinesterase and choline acetyl transferase in the cerebellum and posterior lateral line lobe of weakly electric fish (Gymnotidae). Brain Research, 1981, 226, 320-325.	2.2	30
58	Expression of the cannabinoid CB1 receptor in the gymnotiform fish brain and its implications for the organization of the teleost pallium. Journal of Comparative Neurology, 2013, 521, 949-975.	1.6	30
59	Ganglion cell arrangement and axonal trajectories in the anterior lateral line nerve of the weakly electric fishApteronotus leptorhynchus (Gymnotiformes). Journal of Comparative Neurology, 1989, 280, 331-342.	1.6	28
60	Neural strategies for optimal processing of sensory signals. Progress in Brain Research, 2007, 165, 135-154.	1.4	28
61	Development of the electrosensory nervous system ofEigenmannia (gymnotiformes): II. The electrosensory lateral line lobe, midbrain, and cerebellum. Journal of Comparative Neurology, 1990, 294, 37-58.	1.6	27
62	Enhanced sensory sampling precedes self-initiated locomotion in an electric fish. Journal of Experimental Biology, 2014, 217, 3615-3628.	1.7	26
63	Inositol 1,4,5-trisphosphate receptor localization in the brain of a weakly electric fish (Apteronotus) Tj ETQq1 1 0.784314 rgBT /Overlo 361, 512-524.	1.6	24
64	The neural dynamics of sensory focus. Nature Communications, 2015, 6, 8764.	12.8	24
65	The distribution of Met-enkephalin like immunoreactivity in the brain of Apteronotus leptorhynchus, with emphasis on the electrosensory system. Journal of Chemical Neuroanatomy, 1996, 11, 173-190.	2.1	22
66	Distribution of calcium/calmodulin-dependent kinase 2 in the brain ofApteronotus leptorhynchus. Journal of Comparative Neurology, 1999, 408, 177-203.	1.6	22
67	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons. Network: Computation in Neural Systems, 2003, 14, 803-824.	3.6	19
68	Weak signal amplification and detection by higher-order sensory neurons. Journal of Neurophysiology, 2016, 115, 2158-2175.	1.8	17
69	Subtractive, divisive and non-monotonic gain control in feedforward nets linearized by noise and delays. Frontiers in Computational Neuroscience, 2014, 8, 19.	2.1	15
70	Stimulus-induced up states in the dorsal pallium of a weakly electric fish. Journal of Neurophysiology, 2015, 114, 2071-2076.	1.8	15
71	Distribution of adenylate cyclase in the brain ofApteronotus leptorhynchus as revealed by forskolin binding. , 1999, 408, 170-176.		13
72	Long-term Behavioral Tracking of Freely Swimming Weakly Electric Fish. Journal of Visualized Experiments, 2014, , .	0.3	13

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73	Nonstationary Stochastic Dynamics Underlie Spontaneous Transitions between Active and Inactive Behavioral States. ENeuro, 2017, 4, ENEURO.0355-16.2017.	1.9	13
74	Distribution of protein kinase C in the brain ofApteronotus leptorhynchusas revealed by phorbol ester binding. , 1999, 408, 161-169.		12
75	Precision measurement of electric organ discharge timing from freely moving weakly electric fish. Journal of Neurophysiology, 2012, 107, 1996-2007.	1.8	12
76	Balanced ionotropic receptor dynamics support signal estimation via voltage-dependent membrane noise. Journal of Neurophysiology, 2016, 115, 530-545.	1.8	12
77	Cellular and Network Mechanisms May Generate Sparse Coding of Sequential Object Encounters in Hippocampal-Like Circuits. ENeuro, 2019, 6, ENEURO.0108-19.2019.	1.9	12
78	Glomerular nucleus of the weakly electric fish, <i>Gymnotus</i> sp.: Cytoarchitecture, histochemistry, and fiber connectionsâ€”Insights from neuroanatomy to evolution and behavior. Journal of Comparative Neurology, 2011, 519, 1658-1676.	1.6	11
79	Dendritic SK channels convert NMDA-R-dependent LTD to burst timing-dependent plasticity. Journal of Neurophysiology, 2013, 110, 2689-2703.	1.8	11
80	Linking active sensing and spatial learning in weakly electric fish. Current Opinion in Neurobiology, 2021, 71, 1-10.	4.2	11
81	Mixed selectivity coding of sensory and motor social signals in the thalamus of a weakly electric fish. Current Biology, 2022, 32, 51-63.e3.	3.9	11
82	Subsecond Sensory Modulation of Serotonin Levels in a Primary Sensory Area and Its Relation to Ongoing Communication Behavior in a Weakly Electric Fish. ENeuro, 2016, 3, ENEURO.0115-16.2016.	1.9	10
83	Interspecific variation in the projection of primary afferents onto the electrosensory lateral line lobe of weakly electric teleosts: Different solutions to the same mapping problem. Journal of Comparative Neurology, 1990, 294, 153-160.	1.6	8
84	Differential expression of the PSD-95 gene family in electrosensory neurons. Journal of Comparative Neurology, 2000, 426, 429-440.	1.6	7
85	Oscillatorylike behavior in feedforward neuronal networks. Physical Review E, 2015, 92, 012703.	2.1	6
86	Brain Evolution: Intelligence without a Cortex. Current Biology, 2018, 28, R213-R215.	3.9	6
87	Collateral sprouting in the electrosensory lateral line lobe of weakly electric teleosts (Gymnotiformes) following ricin ablation. Journal of Comparative Neurology, 1993, 333, 246-256.	1.6	5
88	Neural Networks: How a Multi-Layer Network Learns to Disentangle Exogenous from Self-Generated Signals. Current Biology, 2020, 30, R224-R226.	3.9	3
89	Distribution of the cholinergic nuclei in the brain of the weakly electric fish, <scp><i>Apteronotus leptorhynchus</i></scp>: Implications for sensory processing. Journal of Comparative Neurology, 2021, 529, 1810-1829.	1.6	3
90	Enhanced Signal Detection by Adaptive Decorrelation of Interspike Intervals. Neural Computation, 2021, 33, 341-375.	2.2	3

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91	Linear response theory for two neural populations applied to gamma oscillation generation. Physical Review E, 2013, 87, .	2.1	1
92	Signal cancellation in neural systems: encoding sensory input in the weakly electric fish. , 2012, , .		0
93	Hippocampal-like circuitry in the pallium of an electric fish: Possible substrates for recursive pattern separation and completion. Journal of Comparative Neurology, 2017, 525, spc1-spc1.	1.6	0