Leonard Maler

List of Publications by Citations

94 papers	4,499 citations	40 h-index	65 g-index
258 ext. papers	4,895 ext. citations	4.5 avg, IF	5.63 L-index

#	Paper	IF	Citations
94	Zebrin II: a polypeptide antigen expressed selectively by Purkinje cells reveals compartments in rat and fish cerebellum. *Journal of Comparative Neurology*, **1990**, 291, 538-52	3.4	426
93	The cytology of the posterior lateral line lobe of high-frequency weakly electric fish (Gymnotidae): dendritic differentiation and synaptic specificity in a simple cortex. *Journal of Comparative Neurology*, **1981**, 195, 87-139	3.4	194
92	The posterior lateral line lobe of certain gymnotoid fish: quantitative light microscopy. *Journal of Comparative Neurology*, **1979**, 183, 323-63	3.4	177
91	Peripheral organization and central projections of the electrosensory nerves in gymnotiform fish. *Journal of Comparative Neurology*, **1982**, 211, 139-53	3.4	167
90	Catecholaminergic systems in the brain of a gymnotiform teleost fish: an immunohistochemical study. *Journal of Comparative Neurology*, **1990**, 292, 127-62	3.4	120
89	Evoked chirping in the weakly electric fish Apteronotus leptorhynchus: a quantitative biophysical analysis. *Canadian Journal of Zoology*, **1993**, 71, 2301-2310	1.5	112
88	Correlating gamma-aminobutyric acidergic circuits and sensory function in the electrosensory lateral line lobe of a gymnotiform fish. *Journal of Comparative Neurology*, **1994**, 345, 224-52	3.4	103
87	Inter-male aggressive signals in weakly electric fish are modulated by monoamines. *Behavioural Brain Research*, **1987**, 25, 75-81	3.4	103
86	Electroreceptor neuron dynamics shape information transmission. *Nature Neuroscience*, **2005**, 8, 673-8	25.5	100
85	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		97
84	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	2.3	93
83	Neural heterogeneity and efficient population codes for communication signals. *Journal of Neurophysiology*, **2010**, 104, 2543-55	3.2	86
82	A synchronization-desynchronization code for natural communication signals. *Neuron*, **2006**, 52, 347-58	13.9	86
81	Subtractive and divisive inhibition: effect of voltage-dependent inhibitory conductances and noise. *Neural Computation*, **2001**, 13, 227-48	2.9	86
80	Efferent projections of the posterior lateral line lobe in gymnotiform fish. *Journal of Comparative Neurology*, **1982**, 211, 154-64	3.4	86
79	Neural maps in the electrosensory system of weakly electric fish. *Current Opinion in Neurobiology*, **2014**, 24, 13-21	7.6	83
78	Receptive field organization across multiple electrosensory maps. I. Columnar organization and estimation of receptive field size. *Journal of Comparative Neurology*, **2009**, 516, 376-93	3.4	83

77	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, 14596-601	11.5	82
76	Structural and functional organization of a diencephalic sensory-motor interface in the gymnotiform fish, Eigenmannia. *Journal of Comparative Neurology*, **1990**, 293, 347-76	3.4	82
75	The nucleus praeeminentialis: a Golgi study of a feedback center in the electrosensory system of gymnotid fish. *Journal of Comparative Neurology*, **1983**, 221, 127-44	3.4	77
74	Linear versus nonlinear signal transmission in neuron models with adaptation currents or dynamic thresholds. *Journal of Neurophysiology*, **2010**, 104, 2806-20	3.2	73
73	Substance P-like immunoreactivity in the brain of the gymnotiform fish Apteronotus leptorhynchus: presence of sex differences. *Journal of Chemical Neuroanatomy*, **1992**, 5, 107-29	3.2	73
72	Zebrin II immunoreactivity in the rat and in the weakly electric teleost Eigenmannia (gymnotiformes) reveals three modes of Purkinje cell development. *Journal of Comparative Neurology*, **1991**, 310, 215-33	3.4	72
71	Inhibition evoked from primary afferents in the electrosensory lateral line lobe of the weakly electric fish (Apteronotus leptorhynchus). *Journal of Neurophysiology*, **1998**, 80, 3173-96	3.2	71
70	Efficient computation via sparse coding in electrosensory neural networks. *Current Opinion in Neurobiology*, **2011**, 21, 752-60	7.6	70
69	Transient signals trigger synchronous bursts in an identified population of neurons. *Journal of Neurophysiology*, **2009**, 102, 714-23	3.2	70
68	Somatostatin-like immunoreactivity in the brain of an electric fish (Apteronotus leptorhynchus) identified with monoclonal antibodies. *Journal of Chemical Neuroanatomy*, **1991**, 4, 155-86	3.2	68
67	SK channels provide a novel mechanism for the control of frequency tuning in electrosensory neurons. *Journal of Neuroscience*, **2007**, 27, 9491-502	6.6	58
66	A Golgi study of the cell types of the dorsal torus semicircularis of the electric fish Eigenmannia: functional and morphological diversity in the midbrain. *Journal of Comparative Neurology*, **1985**, 235, 207-40	3.4	56
65	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	3.4	55
64	Cellular and circuit properties supporting different sensory coding strategies in electric fish and other systems. *Current Opinion in Neurobiology*, **2012**, 22, 686-92	7.6	54
63	Excitatory amino acid receptors at a feedback pathway in the electrosensory system: implications for the searchlight hypothesis. *Journal of Neurophysiology*, **1997**, 78, 1869-81	3.2	52
62	Connections of the olfactory bulb in the gymnotiform fish, Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **1993**, 335, 486-507	3.4	51
61	Contrast coding in the electrosensory system: parallels with visual computation. *Nature Reviews Neuroscience*, **2015**, 16, 733-44	13.5	50
60	N-methyl-D-aspartate receptor 1 mRNA distribution in the central nervous system of the weakly electric fish Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **1997**, 389, 65-80	3.4	48

59	Function of NMDA receptors and persistent sodium channels in a feedback pathway of the electrosensory system. *Journal of Neurophysiology*, **2001**, 86, 1612-21	3.2	48
58	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, 313-36		48
57	Ultrastructural studies of physiologically identified electrosensory afferent synapses in the gymnotiform fish, Eigenmannia. *Journal of Comparative Neurology*, **1987**, 255, 526-37	3.4	42
56	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	3.2	41
55	Intrinsic frequency tuning in ELL pyramidal cells varies across electrosensory maps. *Journal of Neurophysiology*, **2008**, 99, 2641-55	3.2	40
54	Cytology and immunocytochemistry of the nucleus of the lateral line lobe in the electric fish Gnathonemus petersii (Mormyridae): evidence suggesting that GABAergic synapses mediate an inhibitory corollary discharge. *Synapse*, **1987**, 1, 32-56	2.4	39
53	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, 3395-413	3.4	38
52	Long-term recognition memory of individual conspecifics is associated with telencephalic expression of Egr-1 in the electric fish Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **2010**, 518, 2666-92	3.4	37
51	Transparent Danionella translucida as a genetically tractable vertebrate brain model. *Nature Methods*, **2018**, 15, 977-983	21.6	37
50	Active sensing associated with spatial learning reveals memory-based attention in an electric fish. *Journal of Neurophysiology*, **2016**, 115, 2577-92	3.2	36
49	Immunohistochemical localization of ryanodine binding proteins in the central nervous system of gymnotiform fish. *Journal of Comparative Neurology*, **1992**, 325, 135-51	3.4	35
48	Organization of the gymnotiform fish pallium in relation to learning and memory: II. Extrinsic connections. *Journal of Comparative Neurology*, **2012**, 520, 3338-68	3.4	34
47	Differential distribution of SK channel subtypes in the brain of the weakly electric fish Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **2008**, 507, 1964-78	3.4	33
46	Hippocampal-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	3.4	31
45	Organization of the gymnotiform fish pallium in relation to learning and memory: III. Intrinsic connections. *Journal of Comparative Neurology*, **2012**, 520, 3369-94	3.4	30
44	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, 320-5	3.7	29
43	Feedback Synthesizes Neural Codes for Motion. *Current Biology*, **2017**, 27, 1356-1361	6.3	28
42	Organization of the gymnotiform fish pallium in relation to learning and memory: I. Cytoarchitectonics and cellular morphology. *Journal of Comparative Neurology*, **2012**, 520, 3314-37	3.4	28

41	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	0.7	28
40	Ganglion cell arrangement and axonal trajectories in the anterior lateral line nerve of the weakly electric fish Apteronotus leptorhynchus (Gymnotiformes). *Journal of Comparative Neurology*, **1989**, 280, 331-42	3.4	26
39	Neural activity in a hippocampus-like region of the teleost pallium is associated with active sensing and navigation. *ELife*, **2019**, 8,	8.9	26
38	Cryptic laminar and columnar organization in the dorsolateral pallium of a weakly electric fish. *Journal of Comparative Neurology*, **2016**, 524, 408-28	3.4	25
37	Development of the electrosensory nervous system of Eigenmannia (gymnotiformes): II. The electrosensory lateral line lobe, midbrain, and cerebellum. *Journal of Comparative Neurology*, **1990**, 294, 37-58	3.4	25
36	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, 949-75	3.4	24
35	A time-stamp mechanism may provide temporal information necessary for egocentric to allocentric spatial transformations. *ELife*, **2018**, 7,	8.9	24
34	Inositol 1,4,5-trisphosphate receptor localization in the brain of a weakly electric fish (Apteronotus leptorhynchus) with emphasis on the electrosensory system. *Journal of Comparative Neurology*, **1995**, 361, 512-24	3.4	23
33	The neural dynamics of sensory focus. *Nature Communications*, **2015**, 6, 8764	17.4	22
32	Neural strategies for optimal processing of sensory signals. *Progress in Brain Research*, **2007**, 165, 135-54	2.9	21
31	Distribution of calcium/calmodulin-dependent kinase 2 in the brain of Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **1999**, 408, 177-203	3.4	20
30	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, 173-90	3.2	20
29	Enhanced sensory sampling precedes self-initiated locomotion in an electric fish. *Journal of Experimental Biology*, **2014**, 217, 3615-28	3	19
28	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons		14
27	Precision measurement of electric organ discharge timing from freely moving weakly electric fish. *Journal of Neurophysiology*, **2012**, 107, 1996-2007	3.2	12
26	Distribution of adenylate cyclase in the brain of Apteronotus leptorhynchus as revealed by forskolin binding. *Journal of Comparative Neurology*, **1999**, 408, 170-6	3.4	12
25	Weak signal amplification and detection by higher-order sensory neurons. *Journal of Neurophysiology*, **2016**, 115, 2158-75	3.2	11
24	Dendritic SK channels convert NMDA-R-dependent LTD to burst timing-dependent plasticity. *Journal of Neurophysiology*, **2013**, 110, 2689-703	3.2	10

23	Distribution of protein kinase C in the brain of Apteronotus leptorhynchus as revealed by phorbol ester binding. *Journal of Comparative Neurology*, **1999**, 408, 161-9	3.4	10
22	Stimulus-induced up states in the dorsal pallium of a weakly electric fish. *Journal of Neurophysiology*, **2015**, 114, 2071-6	3.2	9
21	Balanced ionotropic receptor dynamics support signal estimation via voltage-dependent membrane noise. *Journal of Neurophysiology*, **2016**, 115, 530-45	3.2	9
20	Subtractive, divisive and non-monotonic gain control in feedforward nets linearized by noise and delays. *Frontiers in Computational Neuroscience*, **2014**, 8, 19	3.5	9
19	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,	3.9	9
18	Glomerular nucleus of the weakly electric fish, Gymnotus sp.: cytoarchitecture, histochemistry, and fiber connections--inisights from neuroanatomy to evolution and behavior. *Journal of Comparative Neurology*, **2011**, 519, 1658-76	3.4	8
17	Differential expression of the PSD-95 gene family in electrosensory neurons. *Journal of Comparative Neurology*, **2000**, 426, 429-40	3.4	7
16	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, 153-60	3.4	7
15	Long-term behavioral tracking of freely swimming weakly electric fish. *Journal of Visualized Experiments*, **2014**,	1.6	6
14	Oscillatorylike behavior in feedforward neuronal networks. *Physical Review E*, **2015**, 92, 012703	2.4	6
13	Nonstationary Stochastic Dynamics Underlie Spontaneous Transitions between Active and Inactive Behavioral States. *ENeuro*, **2017**, 4,	3.9	6
12	Collateral sprouting in the electrosensory lateral line lobe of weakly electric teleosts (gymnotiformes) following ricin ablation. *Journal of Comparative Neurology*, **1993**, 333, 246-56	3.4	5
11	Cellular and Network Mechanisms May Generate Sparse Coding of Sequential Object Encounters in Hippocampal-Like Circuits. *ENeuro*, **2019**, 6,	3.9	5
10	Brain Evolution: Intelligence without a Cortex. *Current Biology*, **2018**, 28, R213-R215	6.3	4
9	Neural Networks: How a Multi-Layer Network Learns to Disentangle Exogenous from Self-Generated Signals. *Current Biology*, **2020**, 30, R224-R226	6.3	2
8	Neural activity in a hippocampus-like region of the teleost pallium are associated with navigation and active sensing		2
7	Distribution of the cholinergic nuclei in the brain of the weakly electric fish, Apteronotus leptorhynchus: Implications for sensory processing. *Journal of Comparative Neurology*, **2021**, 529, 1810-1829	3.4	2
6	Enhanced Signal Detection by Adaptive Decorrelation of Interspike Intervals. *Neural Computation*, **2021**, 33, 341-375	2.9	2

5	Linking active sensing and spatial learning in weakly electric fish. *Current Opinion in Neurobiology*, **2021**, 71, 1-10	7.6	2
4	Linear response theory for two neural populations applied to gamma oscillation generation. *Physical Review E*, **2013**, 87,	2.4	1
3	Mixed selectivity coding of sensory and motor social signals in the thalamus of a weakly electric fish. *Current Biology*, **2021**,	6.3	1
2	Cellular and network mechanisms may generate sparse coding of sequential object encounters in hippocampal-like circuits		1
1	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	3.4	