Leonard Maler

List of Publications by Year in Descending Order

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	Mixed selectivity coding of sensory and motor social signals in the thalamus of a weakly electric fish. *Current Biology*, **2021**,	6.3	1
93	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
92	Enhanced Signal Detection by Adaptive Decorrelation of Interspike Intervals. *Neural Computation*, **2021**, 33, 341-375	2.9	2
91	Linking active sensing and spatial learning in weakly electric fish. *Current Opinion in Neurobiology*, **2021**, 71, 1-10	7.6	2
90	Neural Networks: How a Multi-Layer Network Learns to Disentangle Exogenous from Self-Generated Signals. *Current Biology*, **2020**, 30, R224-R226	6.3	2
89	Cellular and Network Mechanisms May Generate Sparse Coding of Sequential Object Encounters in Hippocampal-Like Circuits. *ENeuro*, **2019**, 6,	3.9	5
88	Neural activity in a hippocampus-like region of the teleost pallium is associated with active sensing and navigation. *ELife*, **2019**, 8,	8.9	26
87	Brain Evolution: Intelligence without a Cortex. *Current Biology*, **2018**, 28, R213-R215	6.3	4
86	A time-stamp mechanism may provide temporal information necessary for egocentric to allocentric spatial transformations. *ELife*, **2018**, 7,	8.9	24
85	Transparent Danionella translucida as a genetically tractable vertebrate brain model. *Nature Methods*, **2018**, 15, 977-983	21.6	37
84	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
83	Feedback Synthesizes Neural Codes for Motion. *Current Biology*, **2017**, 27, 1356-1361	6.3	28
82	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	
81	Nonstationary Stochastic Dynamics Underlie Spontaneous Transitions between Active and Inactive Behavioral States. *ENeuro*, **2017**, 4,	3.9	6
80	Balanced ionotropic receptor dynamics support signal estimation via voltage-dependent membrane noise. *Journal of Neurophysiology*, **2016**, 115, 530-45	3.2	9
79	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
78	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

77	Active sensing associated with spatial learning reveals memory-based attention in an electric fish. *Journal of Neurophysiology*, **2016**, 115, 2577-92	3.2	36
76	Weak signal amplification and detection by higher-order sensory neurons. *Journal of Neurophysiology*, **2016**, 115, 2158-75	3.2	11
75	Stimulus-induced up states in the dorsal pallium of a weakly electric fish. *Journal of Neurophysiology*, **2015**, 114, 2071-6	3.2	9
74	Oscillatorylike behavior in feedforward neuronal networks. *Physical Review E*, **2015**, 92, 012703	2.4	6
73	The neural dynamics of sensory focus. *Nature Communications*, **2015**, 6, 8764	17.4	22
72	Contrast coding in the electrosensory system: parallels with visual computation. *Nature Reviews Neuroscience*, **2015**, 16, 733-44	13.5	50
71	Neural maps in the electrosensory system of weakly electric fish. *Current Opinion in Neurobiology*, **2014**, 24, 13-21	7.6	83
70	Long-term behavioral tracking of freely swimming weakly electric fish. *Journal of Visualized Experiments*, **2014**,	1.6	6
69	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
68	Enhanced sensory sampling precedes self-initiated locomotion in an electric fish. *Journal of Experimental Biology*, **2014**, 217, 3615-28	3	19
67	Dendritic SK channels convert NMDA-R-dependent LTD to burst timing-dependent plasticity. *Journal of Neurophysiology*, **2013**, 110, 2689-703	3.2	10
66	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
65	Linear response theory for two neural populations applied to gamma oscillation generation. *Physical Review E*, **2013**, 87,	2.4	1
64	Precision measurement of electric organ discharge timing from freely moving weakly electric fish. *Journal of Neurophysiology*, **2012**, 107, 1996-2007	3.2	12
63	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
62	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
61	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
60	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

59	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
58	Efficient computation via sparse coding in electrosensory neural networks. *Current Opinion in Neurobiology*, **2011**, 21, 752-60	7.6	70
57	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
56	Linear versus nonlinear signal transmission in neuron models with adaptation currents or dynamic thresholds. *Journal of Neurophysiology*, **2010**, 104, 2806-20	3.2	73
55	Neural heterogeneity and efficient population codes for communication signals. *Journal of Neurophysiology*, **2010**, 104, 2543-55	3.2	86
54	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
53	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
52	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
51	Transient signals trigger synchronous bursts in an identified population of neurons. *Journal of Neurophysiology*, **2009**, 102, 714-23	3.2	70
50	Intrinsic frequency tuning in ELL pyramidal cells varies across electrosensory maps. *Journal of Neurophysiology*, **2008**, 99, 2641-55	3.2	40
49	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
48	Neural strategies for optimal processing of sensory signals. *Progress in Brain Research*, **2007**, 165, 135-54	2.9	21
47	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
46	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
45	A synchronization-desynchronization code for natural communication signals. *Neuron*, **2006**, 52, 347-58	13.9	86
44	Electroreceptor neuron dynamics shape information transmission. *Nature Neuroscience*, **2005**, 8, 673-8	25.5	100
43	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
42	Subtractive and divisive inhibition: effect of voltage-dependent inhibitory conductances and noise. *Neural Computation*, **2001**, 13, 227-48	2.9	86

41	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
40	Differential expression of the PSD-95 gene family in electrosensory neurons. *Journal of Comparative Neurology*, **2000**, 426, 429-40	3.4	7
39	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
38	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
37	Distribution of calcium/calmodulin-dependent kinase 2 in the brain of Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **1999**, 408, 177-203	3.4	20
36	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
35	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
34	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
33	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
32	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
31	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
30	Evoked chirping in the weakly electric fish Apteronotus leptorhynchus: a quantitative biophysical analysis. *Canadian Journal of Zoology*, **1993**, 71, 2301-2310	1.5	112
29	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
28	Connections of the olfactory bulb in the gymnotiform fish, Apteronotus leptorhynchus. *Journal of Comparative Neurology*, **1993**, 335, 486-507	3.4	51
27	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
26	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
25	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
24	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

23	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
22	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
21	Catecholaminergic systems in the brain of a gymnotiform teleost fish: an immunohistochemical study. *Journal of Comparative Neurology*, **1990**, 292, 127-62	3.4	120
20	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
19	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
18	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
17	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
16	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
15	Inter-male aggressive signals in weakly electric fish are modulated by monoamines. *Behavioural Brain Research*, **1987**, 25, 75-81	3.4	103
14	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
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		97
12	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
11	Ultrastructural studies of physiologically identified electrosensory afferent synapses in the gymnotiform fish, Eigenmannia. *Journal of Comparative Neurology*, **1987**, 255, 526-37	3.4	42
10	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
9	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
8	Peripheral organization and central projections of the electrosensory nerves in gymnotiform fish. *Journal of Comparative Neurology*, **1982**, 211, 139-53	3.4	167
7	Efferent projections of the posterior lateral line lobe in gymnotiform fish. *Journal of Comparative Neurology*, **1982**, 211, 154-64	3.4	86
6	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

5	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
4	The posterior lateral line lobe of certain gymnotoid fish: quantitative light microscopy. *Journal of Comparative Neurology*, **1979**, 183, 323-63	3.4	177
3	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons		14
2	Neural activity in a hippocampus-like region of the teleost pallium are associated with navigation and active sensing		2
1	Cellular and network mechanisms may generate sparse coding of sequential object encounters in hippocampal-like circuits		1