Hermann Wagner

List of Publications by Year
in descending order

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136 papers	5,271 citations	117625 34 h-index	98798 67 g-index
138 all docs	138 docs citations	138 times ranked	3149 citing authors

#	Article	IF	Citations
1	A neuronal learning rule for sub-millisecond temporal coding. Nature, 1996, 383, 76-78.	27.8	1,038
2	Flow-field variables trigger landing in flies. Nature, 1982, 297, 147-148.	27.8	360
3	Neural encoding of binocular disparity: Energy models, position shifts and phase shifts. Vision Research, 1996, 36, 1839-1857.	1.4	318
4	Flight performance and visual control of flight of the free-flying housefly (Musca domestica L.) II. Pursuit of targets. Philosophical Transactions of the Royal Society of London Series B, Biological Sciences, 1986, 312, 553-579.	2.3	203
5	A cortex-like canonical circuit in the avian forebrain. Science, 2020, 369, .	12.6	133
6	Morphometric characterisation of wing feathers of the barn owl Tyto alba pratincola and the pigeon Columba livia. Frontiers in Zoology, 2007, 4, 23.	2.0	110
7	Perception and neuronal coding of subjective contours in the owl. Nature Neuroscience, 1999, 2, 660-663.	14.8	101
8	Flight performance and visual control of flight of the free-flying housefly (Musca domestica L.) I. Organization of the flight motor. Philosophical Transactions of the Royal Society of London Series B, Biological Sciences, 1986, 312, 527-551.	2.3	96
9	Extracting Oscillations: Neuronal Coincidence Detection with Noisy Periodic Spike Input. Neural Computation, 1998, 10, 1987-2017.	2.2	92
10	Features of owl wings that promote silent flight. Interface Focus, 2017, 7, 20160078.	3.0	81
11	Flexural stiffness of feather shafts: geometry rules over material properties. Journal of Experimental Biology, 2012, 215, 405-415.	1.7	80
12	Stereoscopic depth perception in the owl. NeuroReport, 1998, 9, 1233-1237.	1.2	67
13	Role of commissural projections in the representation of bilateral auditory space in the barn owl's inferior colliculus. Journal of Comparative Neurology, 1989, 281, 545-554.	1.6	65
14	Experimental analysis of the flow field over a novel owl based airfoil. Experiments in Fluids, 2009, 46, 975-989.	2.4	62
15	Flight performance and visual control of flight of the free-flying housefly (musca domestical L.) III. Interactions between angular movement induced by wide- and smallfield stimuli. Philosophical Transactions of the Royal Society of London Series B, Biological Sciences, 1986, 312, 581-595.	2.3	61
16	Disparity-sensitive cells in the owl have a characteristic disparity. Nature, 1993, 364, 796-798.	27.8	61
17	The three-dimensional shape of serrations at barn owl wings: towards a typical natural serration as a role model for biomimetic applications. Journal of Anatomy, 2011, 219, 192-202.	1.5	60
18	Formation of temporal-feature maps by axonal propagation of synaptic learning. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 4166-4171.	7.1	59

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19	Influence of the facial ruff on the sound-receiving characteristics of the barn owlâ€™s ears. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 1073-1082.	1.6	58
20	Spatial contrast sensitivity and grating acuity of barn owls. Journal of Vision, 2009, 9, 13-13.	0.3	57
21	Maternal corticosterone is transferred into the egg yolk. General and Comparative Endocrinology, 2012, 178, 139-144.	1.8	55
22	Horizontal-Disparity Tuning of Neurons in the Visual Forebrain of the Behaving Barn Owl. Journal of Neurophysiology, 2000, 83, 2967-2979.	1.8	52
23	Distribution of Interaural Time Difference in the Barn Owl's Inferior Colliculus in the Low- and High-Frequency Ranges. Journal of Neuroscience, 2007, 27, 4191-4200.	3.6	52
24	Sound-Localization Experiments with Barn Owls in Virtual Space: Influence of Interaural Time Difference on Head-Turning Behavior. , 2001, 2, 1-21.		51
25	Improvements of Sound Localization Abilities by the Facial Ruff of the Barn Owl (Tyto alba) as Demonstrated by Virtual Ruff Removal. PLoS ONE, 2009, 4, e7721.	2.5	51
26	Hierarchical Processing of Horizontal Disparity Information in the Visual Forebrain of Behaving Owls. Journal of Neuroscience, 2001, 21, 4514-4522.	3.6	50
27	Depth generalization from stereo to motion parallax in the owl. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2002, 187, 997-1007.	1.6	45
28	Microsecond Precision of Phase Delay in the Auditory System of the Barn Owl. Journal of Neurophysiology, 2005, 94, 1655-1658.	1.8	43
29	Receptive Fields of Neurons in the Owl's Auditory Brainstem Change Dynamically. European Journal of Neuroscience, 1990, 2, 949-959.	2.6	42
30	Development of calretinin immunoreactivity in the brainstem auditory nuclei of the barn owl (Tyto) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50		42
31	Night vision in barn owls: Visual acuity and contrast sensitivity under dark adaptation. Journal of Vision, 2012, 12, 4-4.	0.3	42
32	Anatomical markers for the subdivisions of the barn owl's inferiorâ€collicular complex and adjacent periâ€•and subventricular structures. Journal of Comparative Neurology, 2003, 465, 145-159.	1.6	38
33	The Cervical Spine of the American Barn Owl (Tyto furcata pratincola): I. Anatomy of the Vertebrae and Regionalization in Their S-Shaped Arrangement. PLoS ONE, 2014, 9, e91653.	2.5	38
34	Detecting interaural time differences and remodeling their representation. Trends in Neurosciences, 2014, 37, 289-300.	8.6	38
35	Embryonic and posthatching development of the barn owl (Tyto alba): Reference data for age determination. Developmental Dynamics, 2005, 233, 1248-1260.	1.8	37
36	On the Origin of the Extracellular Field Potential in the Nucleus Laminaris of the Barn Owl (<i>Tyto) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.8	37

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37	Sound-localization experiments with barn owls in virtual space: influence of broadband interaural level difference on head-turning behavior. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2001, 187, 225-233.	1.6	36
38	On the barn owlâ€™s visual pre-attack behavior: I. Structure of head movements and motion patterns. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 927-940.	1.6	36
39	Tuning to Interaural Time Difference and Frequency Differs Between the Auditory Arcopallium and the External Nucleus of the Inferior Colliculus. Journal of Neurophysiology, 2009, 101, 2348-2361.	1.8	34
40	Response properties of neurons in the core of the central nucleus of the inferior colliculus of the barn owl. European Journal of Neuroscience, 2002, 15, 1343-1352.	2.6	33
41	Through a barn owlâ€™s eyes: interactions between scene content and visual attention. Biological Cybernetics, 2008, 98, 115-132.	1.3	32
42	Disparity sensitivity in man and owl: Psychophysical evidence for equivalent perception of shape-from-stereo. Journal of Vision, 2011, 10, 10-10.	0.3	32
43	Neuroethology of prey capture in the barn owl (Tyto alba L.). Journal of Physiology (Paris), 2013, 107, 51-61.	2.1	32
44	A Candidate Pathway for a Visual Instructional Signal to the Barn Owl's Auditory System. Journal of Neuroscience, 2000, 20, RC70-RC70.	3.6	29
45	A threshold explains modulation of neural responses to opposite-contrast stereograms. NeuroReport, 2001, 12, 3205-3208.	1.2	29
46	In-flight corrections in free-flying barn owls (Tyto alba)during sound localization tasks. Journal of Experimental Biology, 2008, 211, 2976-2988.	1.7	29
47	Overt attention toward oriented objects in free-viewing barn owls. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8461-8466.	7.1	29
48	Inner vane fringes of barn owl feathers reconsidered: morphometric data and functional aspects. Journal of Anatomy, 2012, 221, 1-8.	1.5	29
49	Encoding of both vertical and horizontal disparity in random-dot stereograms by Wulst neurons of awake barn owls. Visual Neuroscience, 2001, 18, 541-547.	1.0	28
50	Visual search in barn owls: Task difficulty and saccadic behavior. Journal of Vision, 2018, 18, 4.	0.3	28
51	From optics to attention: visual perception in barn owls. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2011, 197, 1031-1042.	1.6	27
52	Neurons in the midbrain of the barn owl are sensitive to the direction of apparent acoustic motion. Die Naturwissenschaften, 1990, 77, 439-442.	1.6	26
53	Spatial Attention Modulates Sound Localization in Barn Owls. Journal of Neurophysiology, 2001, 85, 1009-1012.	1.8	26
54	Morphological Variations of Leading-Edge Serrations in Owls (Strigiformes). PLoS ONE, 2016, 11, e0149236.	2.5	26

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55	Barn owls maximize head rotations by a combination of yawing and rolling in functionally diverse regions of the neck. Journal of Anatomy, 2017, 231, 12-22.	1.5	25
56	How owls structure visual information. Animal Cognition, 2003, 6, 39-55.	1.8	24
57	Auditory Responses in the Barn Owl's Nucleus Laminaris to Clicks: Impulse Response and Signal Analysis of Neurophonic Potential. Journal of Neurophysiology, 2009, 102, 1227-1240.	1.8	24
58	Barn owls have symmetrical accommodation in both eyes, but independent pupillary responses to light. Vision Research, 1992, 32, 1149-1155.	1.4	23
59	Transformation from a Pure Time Delay to a Mixed Time and Phase Delay Representation in the Auditory Forebrain Pathway. Journal of Neuroscience, 2012, 32, 5911-5923.	3.6	23
60	Dipolar extracellular potentials generated by axonal projections. ELife, 2017, 6, .	6.0	23
61	Principles of acoustic motion detection in animals and man. Trends in Neurosciences, 1997, 20, 583-588.	8.6	22
62	Azimuthal sound localization using coincidence of timing across frequency on a robotic platform. Journal of the Acoustical Society of America, 2007, 121, 2034-2048.	1.1	22
63	Maps of interaural delay in the owl's nucleus laminaris. Journal of Neurophysiology, 2015, 114, 1862-1873.	1.8	22
64	GABAergic Inhibition Influences Auditory Motion-Direction Sensitivity in Barn Owls. Journal of Neurophysiology, 1998, 80, 172-185.	1.8	21
65	The representation of sound localization cues in the barn owl's inferior colliculus. Frontiers in Neural Circuits, 2012, 6, 45.	2.8	21
66	Low frequency eardrum directionality in the barn owl induced by sound transmission through the interaural canal. Biological Cybernetics, 2016, 110, 333-343.	1.3	21
67	Kocuria tytonis sp. nov., isolated from the uropygial gland of an American barn owl (Tyto furcata). International Journal of Systematic and Evolutionary Microbiology, 2019, 69, 447-451.	1.7	21
68	A temporal window for lateralization of interaural time difference by barn owls. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1991, 169, 281-9.	1.6	20
69	Barn owls (Tyto alba) use accommodation as a distance cue. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1991, 169, 515.	1.6	19
70	Ocular aberrations in barn owl eyes. Vision Research, 2007, 47, 2934-2942.	1.4	19
71	Linear summation in the barn owl's brainstem underlies responses to interaural time differences. Journal of Neurophysiology, 2013, 110, 117-130.	1.8	19
72	Inhibitory properties underlying non-monotonic input-output relationship in low-frequency spherical bushy neurons of the gerbil. Frontiers in Neural Circuits, 2015, 9, 14.	2.8	18

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73	>A Highly Rudimentary Circadian Melatonin Profile in a Nocturnal Bird, the Barn Owl (Tyto alba). Die Naturwissenschaften, 1998, 85, 402-404.	1.6	17
74	Vernier acuity in barn owls. Vision Research, 2007, 47, 1020-1026.	1.4	17
75	Processing of Phase-Locked Spikes and Periodic Signals. , 2010, , 59-74.		17
76	Visual pop-out in barn owls: Human-like behavior in the avian brain. Journal of Vision, 2015, 15, 4.	0.3	17
77	Responses of Tectal Neurons to Contrasting Stimuli: An Electrophysiological Study in the Barn Owl. PLoS ONE, 2012, 7, e39559.	2.5	16
78	Properties of low-frequency head-related transfer functions in the barn owl (Tyto alba). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2010, 196, 601-612.	1.6	15
79	A functional circuit model of interaural time difference processing. Journal of Neurophysiology, 2014, 112, 2850-2864.	1.8	15
80	On the ability of neurons in the barn owl's inferior colliculus to sense brief appearances of interaural time difference. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1992, 170, 3-11.	1.6	14
81	Adaptation in the auditory midbrain of the barn owl (Tyto alba) induced by tonal double stimulation. European Journal of Neuroscience, 2012, 35, 445-456.	2.6	14
82	Morphometry of Auricular Feathers of Barn Owls (Tyto alba). European Journal of Morphology, 2002, 40, 15-21.	0.8	14
83	Visual-auditory integration for visual search: a behavioral study in barn owls. Frontiers in Integrative Neuroscience, 2015, 9, 11.	2.1	13
84	Contribution of action potentials to the extracellular field potential in the nucleus laminaris of barn owl. Journal of Neurophysiology, 2018, 119, 1422-1436.	1.8	13
85	Visual depth encoding in populations of neurons with localized receptive fields. Biological Cybernetics, 2002, 87, 249-261.	1.3	12
86	Development of output connections from the inferior colliculus to the optic tectum in barn owls. Journal of Comparative Neurology, 2003, 464, 511-524.	1.6	12
87	Target-approaching behavior of barn owls (Tyto alba): influence of sound frequency. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2010, 196, 227-240.	1.6	12
88	Behavioral Evidence and Neural Correlates of Perceptual Grouping by Motion in the Barn Owl. Journal of Neuroscience, 2018, 38, 6653-6664.	3.6	12
89	Disparity tuning as simulated by a neural net. Biological Cybernetics, 2000, 83, 61-72.	1.3	11
90	Sensitivity to interaural time difference and representation of azimuth in central nucleus of inferior colliculus in the barn owl. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 99-112.	1.6	11

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91	Estimated Cochlear Delays in Low Best-Frequency Neurons in the Barn Owl Cannot Explain Coding of Interaural Time Difference. Journal of Neurophysiology, 2010, 104, 1946-1954.	1.8	11
92	Maps of ITD in the Nucleus Laminaris of the Barn Owl. Advances in Experimental Medicine and Biology, 2013, 787, 215-222.	1.6	11
93	Combination of Interaural Level and Time Difference in Azimuthal Sound Localization in Owls. ENeuro, 2017, 4, ENEURO.0238-17.2017.	1.9	11
94	Muscular Arrangement and Muscle Attachment Sites in the Cervical Region of the American Barn Owl (Tyto furcata pratincola). PLoS ONE, 2015, 10, e0134272.	2.5	11
95	Neural correlates of binaural masking level difference in the inferior colliculus of the barn owl (Tyto alba). European Journal of Neuroscience, 2010, 32, 606-618.	2.6	10
96	The barn owl wing: an inspiration for silent flight in the aviation industry?. Proceedings of SPIE, 2011, , .	0.8	10
97	Development of ear asymmetry in the American barn owl (Tyto furcata pratincola). Zoology, 2018, 126, 82-88.	1.2	10
98	Kocuria tytonicola, new bacteria from the preen glands of American barn owls (Tyto furcata). Systematic and Applied Microbiology, 2019, 42, 198-204.	2.8	10
99	Distribution of auditory motion-direction sensitive neurons in the barn owl's midbrain. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2002, 188, 705-713.	1.6	9
100	A comparison of neural computations underlying stereo vision and sound localization. Journal of Physiology (Paris), 2004, 98, 135-145.	2.1	9
101	Neuronal differentiation of the early embryonic auditory hindbrain of the chicken in primary culture. European Journal of Neuroscience, 2007, 25, 974-984.	2.6	9
102	Increase of Kv3.1b expression in avian auditory brainstem neurons correlates with synaptogenesis in vivo and in vitro. Brain Research, 2009, 1302, 64-75.	2.2	9
103	Responses to Pop-Out Stimuli in the Barn Owl's Optic Tectum Can Emerge through Stimulus-Specific Adaptation. Journal of Neuroscience, 2016, 36, 4876-4887.	3.6	8
104	Distribution of the characteristics of barbs and barbules on barn owl wing feathers. Journal of Anatomy, 2017, 230, 734-742.	1.5	8
105	Flow turning effect and laminar control by the 3D curvature of leading edge serrations from owl wing. Bioinspiration and Biomimetics, 2021, 16, 026010.	2.9	8
106	Precognitive and cognitive elements in sound localization. Zoology, 2002, 105, 329-339.	1.2	7
107	From biokinematics to a robotic active vision system. Bioinspiration and Biomimetics, 2017, 12, 056004.	2.9	7
108	Response adaptation in the barn owlâ€™s auditory space map. Journal of Neurophysiology, 2018, 119, 1235-1247.	1.8	7

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109	Influence of double stimulation on sound-localization behavior in barn owls. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2014, 200, 1033-1044.	1.6	6
110	Identification of auditory neurons by retrograde labelling for patch-clamp recordings in a mixed culture of chick brainstem. Journal of Neuroscience Methods, 2008, 169, 55-64.	2.5	4
111	Embryonic development of the Little Owl (Athene noctua) and Tengmalmâ€™s Owl (Aegolius funereus) compared to the American Barn Owl (Tyto furcata): reference data for staging. Journal of Ornithology, 2020, 161, 267-273.	1.1	4
112	Optocollic responses in adult barn owls (Tyto furcata). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, 208, 239-251.	1.6	4
113	Effect of Ecological Pressures on Brains: Examples from Avian Neuroethology and General Meanings. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 1998, 53, 560-581.	1.4	3
114	EvoDevo in owl ear asymmetryâ€”The little owl (Athene noctua). Zoology, 2019, 132, 1-5.	1.2	3
115	Sound localization in barn owls studied with manipulated head-related transfer functions: beyond broadband interaural time and level differences. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2020, 206, 477-498.	1.6	3
116	A Developmental Learning Rule for Coincidence Tuning in the Barn Owl Auditory System. , 1997, , 665-669.		3
117	The Role of Conduction Delay in Creating Sensitivity to Interaural Time Differences. Advances in Experimental Medicine and Biology, 2016, 894, 189-196.	1.6	3
118	Side peak suppression in responses of an across-frequency integration model to stimuli of varying bandwidth as demonstrated analytically and by implementation. Journal of Computational Neuroscience, 2014, 36, 1-17.	1.0	2
119	Cholinergic top-down influences on the auditory brainstem. E-Neuroforum, 2017, 23, .	0.1	2
120	Size discrimination in barn owls as compared to humans. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2018, 204, 305-318.	1.6	2
121	Personal View: The barn owl â€” a specialist for studying sensory systems. Neuroforum, 2019, 25, 213-219.	0.3	2
122	Integrity of and damage to wings, feather vanes and serrations in barn owls. Zoology, 2021, 147, 125930.	1.2	2
123	An interaural time difference map resulting from axonal selection through non-specific learning. Neurocomputing, 2001, 38-40, 1401-1407.	5.9	1
124	WHY ARE BARN OWLS A MODEL SYSTEM FOR SOUND LOCALIZATION?. Journal of Experimental Biology, 2010, 213, 2355-2356.	1.7	1
125	Evolutionary Conservation of Kv3.1 in the Barn OwlTyto alba. Brain, Behavior and Evolution, 2013, 81, 187-193.	1.7	1
126	Envelope contributions to the representation of interaural time difference in the forebrain of barn owls. Journal of Neurophysiology, 2017, 118, 1871-1887.	1.8	1

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127	Expression patterns of chloride transporters in the auditory brainstem of developing chicken. Hearing Research, 2020, 393, 108013.	2.0	1
128	Ear asymmetry in Tengmalmâ€™s owl (Aegolius funereus): Two phases of asymmetrical development of the squamoso-occipital wing. Zoology, 2020, 141, 125814.	1.2	1
129	Silent Owl Wings. , 2016, , 3659-3669.		1
130	QUALITY OF COINCIDENCE DETECTION AND ITD TUNING: A THEORETICAL FRAMEWORK. , 1999, , 185-194.		1
131	Signal-to-noise ratio of the neurophonic potential in the laminar nucleus of the barn owl. BMC Neuroscience, 2009, 10, .	1.9	0
132	Using Virtual Acoustic Space to Investigate Sound Localisation. , 0, , .		0
133	Estimating characteristic phase and delay from broadband interaural time difference tuning curves. Journal of Computational Neuroscience, 2015, 38, 143-166.	1.0	0
134	NEURAL COMPUTATIONS IN BINAURAL HEARING. , 1999, , 169-178.		0
135	A brain for numbers. The biology of the number instinct.. Neuroforum, 2020, 26, 121-121.	0.3	0
136	Development of the horizontal optocollic reflex in juvenile barn owls (Tyto furcata pratincola). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 0, , .	1.6	0