

Frdric E Theunissen

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

51
papers

5,180
citations

32
h-index

56
g-index

56
ext. papers

6,105
ext. citations

7.3
avg, IF

5.9
L-index

#	Paper	IF	Citations
51	Information theory and neural coding. <i>Nature Neuroscience</i> , 1999 , 2, 947-57	25.5	754
50	Natural speech reveals the semantic maps that tile human cerebral cortex. <i>Nature</i> , 2016 , 532, 453-8	50.4	630
49	Spectral-temporal receptive fields of nonlinear auditory neurons obtained using natural sounds. <i>Journal of Neuroscience</i> , 2000 , 20, 2315-31	6.6	403
48	Modulation spectra of natural sounds and ethological theories of auditory processing. <i>Journal of the Acoustical Society of America</i> , 2003 , 114, 3394-411	2.2	326
47	The modulation transfer function for speech intelligibility. <i>PLoS Computational Biology</i> , 2009 , 5, e1000302		250
46	Tuning for spectro-temporal modulations as a mechanism for auditory discrimination of natural sounds. <i>Nature Neuroscience</i> , 2005 , 8, 1371-9	25.5	212
45	Feature analysis of natural sounds in the songbird auditory forebrain. <i>Journal of Neurophysiology</i> , 2001 , 86, 1445-58	3.2	193
44	Temporal and spectral sensitivity of complex auditory neurons in the nucleus HVC of male zebra finches. <i>Journal of Neuroscience</i> , 1998 , 18, 3786-802	6.6	173
43	Estimating spatio-temporal receptive fields of auditory and visual neurons from their responses to natural stimuli. <i>Network: Computation in Neural Systems</i> , 2001 , 12, 289-316	0.7	158
42	Selectivity for conspecific song in the zebra finch auditory forebrain. <i>Journal of Neurophysiology</i> , 2003 , 89, 472-87	3.2	146
41	Neural processing of natural sounds. <i>Nature Reviews Neuroscience</i> , 2014 , 15, 355-66	13.5	144
40	Representation of sensory information in the cricket cercal sensory system. I. Response properties of the primary interneurons. <i>Journal of Neurophysiology</i> , 1991 , 66, 1680-9	3.2	128
39	Representation of sensory information in the cricket cercal sensory system. II. Information theoretic calculation of system accuracy and optimal tuning-curve widths of four primary interneurons. <i>Journal of Neurophysiology</i> , 1991 , 66, 1690-703	3.2	124
38	Stimulus-dependent auditory tuning results in synchronous population coding of vocalizations in the songbird midbrain. <i>Journal of Neuroscience</i> , 2006 , 26, 2499-512	6.6	117
37	The Hierarchical Cortical Organization of Human Speech Processing. <i>Journal of Neuroscience</i> , 2017 , 37, 6539-6557	6.6	111
36	Song selectivity in the song system and in the auditory forebrain. <i>Annals of the New York Academy of Sciences</i> , 2004 , 1016, 222-45	6.5	106
35	Modulation power and phase spectrum of natural sounds enhance neural encoding performed by single auditory neurons. <i>Journal of Neuroscience</i> , 2004 , 24, 9201-11	6.6	100

34	Functional groups in the avian auditory system. <i>Journal of Neuroscience</i> , 2009 , 29, 2780-93	6.6	74
33	Acoustic features of rhesus vocalizations and their representation in the ventrolateral prefrontal cortex. <i>Journal of Neurophysiology</i> , 2007 , 97, 1470-84	3.2	74
32	Sound representation methods for spectro-temporal receptive field estimation. <i>Journal of Computational Neuroscience</i> , 2006 , 21, 5-20	1.4	73
31	Propagation of correlated activity through multiple stages of a neural circuit. <i>Journal of Neuroscience</i> , 2003 , 23, 5750-61	6.6	73
30	Auditory processing of vocal sounds in birds. <i>Current Opinion in Neurobiology</i> , 2006 , 16, 400-7	7.6	69
29	Acoustic structure of the five perceptual dimensions of timbre in orchestral instrument tones. <i>Journal of the Acoustical Society of America</i> , 2013 , 133, 389-404	2.2	59
28	Encoding and Decoding Models in Cognitive Electrophysiology. <i>Frontiers in Systems Neuroscience</i> , 2017 , 11, 61	3.5	55
27	The vocal repertoire of the domesticated zebra finch: a data-driven approach to decipher the information-bearing acoustic features of communication signals. <i>Animal Cognition</i> , 2016 , 19, 285-315	3.1	54
26	Whats that sound? Auditory area CLM encodes stimulus surprise, not intensity or intensity changes. <i>Journal of Neurophysiology</i> , 2008 , 99, 2809-20	3.2	54
25	Quantifying variability in neural responses and its application for the validation of model predictions. <i>Network: Computation in Neural Systems</i> , 2004 , 15, 91-109	0.7	53
24	Rapid tuning shifts in human auditory cortex enhance speech intelligibility. <i>Nature Communications</i> , 2016 , 7, 13654	17.4	48
23	Noise-invariant neurons in the avian auditory cortex: hearing the song in noise. <i>PLoS Computational Biology</i> , 2013 , 9, e1002942	5	46
22	Zebra finches identify individuals using vocal signatures unique to each call type. <i>Nature Communications</i> , 2018 , 9, 4026	17.4	41
21	Quantifying variability in neural responses and its application for the validation of model predictions. <i>Network: Computation in Neural Systems</i> , 2004 , 15, 91-109	0.7	38
20	Acoustic communication and sound degradation: how do the individual signatures of male and female zebra finch calls transmit over distance?. <i>PLoS ONE</i> , 2014 , 9, e102842	3.7	33
19	Meaning in the avian auditory cortex: neural representation of communication calls. <i>European Journal of Neuroscience</i> , 2015 , 41, 546-67	3.5	31
18	From synchrony to sparseness. <i>Trends in Neurosciences</i> , 2003 , 26, 61-4	13.3	29
17	Physiological resonance between mates through calls as possible evidence of empathic processes in songbirds. <i>Hormones and Behavior</i> , 2015 , 75, 130-41	3.7	26

16	Mothersstone of voice depends on the nature of infantsctransgressions. <i>Emotion</i> , 2014 , 14, 651-65	4.1	25
15	Nonverbal sound processing in semantic dementia: a functional MRI study. <i>NeuroImage</i> , 2012 , 61, 170-80	7.9	25
14	Single Neurons in the Avian Auditory Cortex Encode Individual Identity and Propagation Distance in Naturally Degraded Communication Calls. <i>Journal of Neuroscience</i> , 2017 , 37, 3491-3510	6.6	19
13	Selective and efficient neural coding of communication signals depends on early acoustic and social environment. <i>PLoS ONE</i> , 2013 , 8, e61417	3.7	18
12	Experience-dependence of neural responses to social versus isolate conspecific songs in the forebrain of female Zebra Finches. <i>Journal Fur Ornithologie</i> , 2007 , 148, 231-239		15
11	Learning to cope with degraded sounds: female zebra finches can improve their expertise in discriminating between male voices at long distances. <i>Journal of Experimental Biology</i> , 2014 , 217, 3169-77		12
10	Evolution of communication signals and information during species radiation. <i>Nature Communications</i> , 2020 , 11, 4970	17.4	10
9	A single microphone noise reduction algorithm based on the detection and reconstruction of spectro-temporal features. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015 , 471, 20150309	2.4	7
8	Quantifying variability in neural responses and its application for the validation of model predictions		7
7	Invariant neural responses for sensory categories revealed by the time-varying information for communication calls. <i>PLoS Computational Biology</i> , 2019 , 15, e1006698	5	6
6	Anthropic Correction of Information Estimates and Its Application to Neural Coding. <i>IEEE Transactions on Information Theory</i> , 2010 , 56, 890-900	2.8	6
5	The Neuroethology of Vocal Communication in Songbirds: Production and Perception of a Call Repertoire. <i>Springer Handbook of Auditory Research</i> , 2020 , 175-209	1.2	6
4	High-capacity auditory memory for vocal communication in a social songbird. <i>Science Advances</i> , 2020 , 6,	14.3	5
3	A Low-Rank Method for Characterizing High-Level Neural Computations. <i>Frontiers in Computational Neuroscience</i> , 2017 , 11, 68	3.5	4
2	Population code, noise correlations, and memory. <i>Neuron</i> , 2013 , 78, 209-10	13.9	4
1	Rapid Adaptation to the Timbre of Natural Sounds. <i>Scientific Reports</i> , 2018 , 8, 13826	4.9	4