

Frédéric E Theunissen

List of Publications by Year in descending order

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Version: 2024-02-01

52
papers

6,697
citations

126708

33
h-index

174990

52
g-index

56
all docs

56
docs citations

56
times ranked

4745
citing authors

#	ARTICLE	IF	CITATIONS
1	Natural speech reveals the semantic maps that tile human cerebral cortex. <i>Nature</i> , 2016, 532, 453-458.	13.7	1,038
2	Information theory and neural coding. <i>Nature Neuroscience</i> , 1999, 2, 947-957.	7.1	914
3	Spectral-Temporal Receptive Fields of Nonlinear Auditory Neurons Obtained Using Natural Sounds. <i>Journal of Neuroscience</i> , 2000, 20, 2315-2331.	1.7	488
4	Modulation spectra of natural sounds and ethological theories of auditory processing. <i>Journal of the Acoustical Society of America</i> , 2003, 114, 3394-3411.	0.5	396
5	The Modulation Transfer Function for Speech Intelligibility. <i>PLoS Computational Biology</i> , 2009, 5, e1000302.	1.5	355
6	Tuning for spectro-temporal modulations as a mechanism for auditory discrimination of natural sounds. <i>Nature Neuroscience</i> , 2005, 8, 1371-1379.	7.1	257
7	Feature Analysis of Natural Sounds in the Songbird Auditory Forebrain. <i>Journal of Neurophysiology</i> , 2001, 86, 1445-1458.	0.9	211
8	The Hierarchical Cortical Organization of Human Speech Processing. <i>Journal of Neuroscience</i> , 2017, 37, 6539-6557.	1.7	208
9	Neural processing of natural sounds. <i>Nature Reviews Neuroscience</i> , 2014, 15, 355-366.	4.9	192
10	Temporal and Spectral Sensitivity of Complex Auditory Neurons in the Nucleus HVC of Male Zebra Finches. <i>Journal of Neuroscience</i> , 1998, 18, 3786-3802.	1.7	183
11	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.	2.2	169
12	Selectivity for Conspecific Song in the Zebra Finch Auditory Forebrain. <i>Journal of Neurophysiology</i> , 2003, 89, 472-487.	0.9	159
13	Representation of sensory information in the cricket cercal sensory system. I. Response properties of the primary interneurons. <i>Journal of Neurophysiology</i> , 1991, 66, 1680-1689.	0.9	149
14	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, 1690-1703.	0.9	134
15	Stimulus-Dependent Auditory Tuning Results in Synchronous Population Coding of Vocalizations in the Songbird Midbrain. <i>Journal of Neuroscience</i> , 2006, 26, 2499-2512.	1.7	131
16	Modulation Power and Phase Spectrum of Natural Sounds Enhance Neural Encoding Performed by Single Auditory Neurons. <i>Journal of Neuroscience</i> , 2004, 24, 9201-9211.	1.7	116
17	Encoding and Decoding Models in Cognitive Electrophysiology. <i>Frontiers in Systems Neuroscience</i> , 2017, 11, 61.	1.2	116
18	Song Selectivity in the Song System and in the Auditory Forebrain. <i>Annals of the New York Academy of Sciences</i> , 2004, 1016, 222-245.	1.8	115

#	ARTICLE	IF	CITATIONS
19	Auditory processing of vocal sounds in birds. <i>Current Opinion in Neurobiology</i> , 2006, 16, 400-407.	2.0	93
20	Acoustic Features of Rhesus Vocalizations and Their Representation in the Ventrolateral Prefrontal Cortex. <i>Journal of Neurophysiology</i> , 2007, 97, 1470-1484.	0.9	89
21	Functional Groups in the Avian Auditory System. <i>Journal of Neuroscience</i> , 2009, 29, 2780-2793.	1.7	88
22	Sound representation methods for spectro-temporal receptive field estimation. <i>Journal of Computational Neuroscience</i> , 2006, 21, 5-20.	0.6	86
23	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.	0.9	81
24	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.	2.2	80
25	Propagation of Correlated Activity through Multiple Stages of a Neural Circuit. <i>Journal of Neuroscience</i> , 2003, 23, 5750-5761.	1.7	77
26	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.	0.5	73
27	Rapid tuning shifts in human auditory cortex enhance speech intelligibility. <i>Nature Communications</i> , 2016, 7, 13654.	5.8	71
28	Zebra finches identify individuals using vocal signatures unique to each call type. <i>Nature Communications</i> , 2018, 9, 4026.	5.8	71
29	What's That Sound? Auditory Area CLM Encodes Stimulus Surprise, Not Intensity or Intensity Changes. <i>Journal of Neurophysiology</i> , 2008, 99, 2809-2820.	0.9	62
30	Noise-invariant Neurons in the Avian Auditory Cortex: Hearing the Song in Noise. <i>PLoS Computational Biology</i> , 2013, 9, e1002942.	1.5	62
31	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.	2.2	43
32	Meaning in the avian auditory cortex: neural representation of communication calls. <i>European Journal of Neuroscience</i> , 2015, 41, 546-567.	1.2	39
33	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.	1.1	38
34	Mothers' tone of voice depends on the nature of infants' transgressions.. <i>Emotion</i> , 2014, 14, 651-665.	1.5	35
35	From synchrony to sparseness. <i>Trends in Neurosciences</i> , 2003, 26, 61-64.	4.2	34
36	Physiological resonance between mates through calls as possible evidence of empathic processes in songbirds. <i>Hormones and Behavior</i> , 2015, 75, 130-141.	1.0	30

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37	Evolution of communication signals and information during species radiation. <i>Nature Communications</i> , 2020, 11, 4970.	5.8	30
38	Nonverbal sound processing in semantic dementia: A functional MRI study. <i>NeuroImage</i> , 2012, 61, 170-180.	2.1	29
39	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.	1.7	24
40	Selective and Efficient Neural Coding of Communication Signals Depends on Early Acoustic and Social Environment. <i>PLoS ONE</i> , 2013, 8, e61417.	1.1	23
41	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.	1.2	16
42	Learning to cope with degraded sounds: Female zebra finches can improve their expertise at discriminating between male voices at long distance. <i>Journal of Experimental Biology</i> , 2014, 217, 3169-77.	0.8	12
43	High-capacity auditory memory for vocal communication in a social songbird. <i>Science Advances</i> , 2020, 6, .	4.7	12
44	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.	1.0	11
45	Rapid Adaptation to the Timbre of Natural Sounds. <i>Scientific Reports</i> , 2018, 8, 13826.	1.6	11
46	The Neuroethology of Vocal Communication in Songbirds: Production and Perception of a Call Repertoire. <i>Springer Handbook of Auditory Research</i> , 2020, , 175-209.	0.3	11
47	Invariant neural responses for sensory categories revealed by the time-varying information for communication calls. <i>PLoS Computational Biology</i> , 2019, 15, e1006698.	1.5	9
48	Quantifying variability in neural responses and its application for the validation of model predictions. , 0, .		7
49	Anthropic Correction of Information Estimates and Its Application to Neural Coding. <i>IEEE Transactions on Information Theory</i> , 2010, 56, 890-900.	1.5	6
50	A Low-Rank Method for Characterizing High-Level Neural Computations. <i>Frontiers in Computational Neuroscience</i> , 2017, 11, 68.	1.2	6
51	Population Code, Noise Correlations, and Memory. <i>Neuron</i> , 2013, 78, 209-210.	3.8	4
52	Anthropic correction of information estimates. , 2009, , .		0