FrÃ©dÃ©ric E Theunissen

List of Publications by Year
in descending order

52 papers	6,697 citations	126907 33 h-index	168389 53 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. Nature, 2016, 532, 453-458.	27.8	1,038
2	Information theory and neural coding. Nature Neuroscience, 1999, 2, 947-957.	14.8	914
3	Spectral-Temporal Receptive Fields of Nonlinear Auditory Neurons Obtained Using Natural Sounds. Journal of Neuroscience, 2000, 20, 2315-2331.	3.6	488
4	Modulation spectra of natural sounds and ethological theories of auditory processing. Journal of the Acoustical Society of America, 2003, 114, 3394-3411.	1.1	396
5	The Modulation Transfer Function for Speech Intelligibility. PLoS Computational Biology, 2009, 5, e1000302.	3.2	355
6	Tuning for spectro-temporal modulations as a mechanism for auditory discrimination of natural sounds. Nature Neuroscience, 2005, 8, 1371-1379.	14.8	257
7	Feature Analysis of Natural Sounds in the Songbird Auditory Forebrain. Journal of Neurophysiology, 2001, 86, 1445-1458.	1.8	211
8	The Hierarchical Cortical Organization of Human Speech Processing. Journal of Neuroscience, 2017, 37, 6539-6557.	3.6	208
9	Neural processing of natural sounds. Nature Reviews Neuroscience, 2014, 15, 355-366.	10.2	192
10	Temporal and Spectral Sensitivity of Complex Auditory Neurons in the Nucleus HVc of Male Zebra Finches. Journal of Neuroscience, 1998, 18, 3786-3802.	3.6	183
11	Estimating spatio-temporal receptive fields of auditory and visual neurons from their responses to natural stimuli. Network: Computation in Neural Systems, 2001, 12, 289-316.	3.6	169
12	Selectivity for Conspecific Song in the Zebra Finch Auditory Forebrain. Journal of Neurophysiology, 2003, 89, 472-487.	1.8	159
13	Representation of sensory information in the cricket cercal sensory system. I. Response properties of the primary interneurons. Journal of Neurophysiology, 1991, 66, 1680-1689.	1.8	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. Journal of Neurophysiology, 1991, 66, 1690-1703.	1.8	134
15	Stimulus-Dependent Auditory Tuning Results in Synchronous Population Coding of Vocalizations in the Songbird Midbrain. Journal of Neuroscience, 2006, 26, 2499-2512.	3.6	131
16	Modulation Power and Phase Spectrum of Natural Sounds Enhance Neural Encoding Performed by Single Auditory Neurons. Journal of Neuroscience, 2004, 24, 9201-9211.	3.6	116
17	Encoding and Decoding Models in Cognitive Electrophysiology. Frontiers in Systems Neuroscience, 2017, 11, 61.	2.5	116
18	Song Selectivity in the Song System and in the Auditory Forebrain. Annals of the New York Academy of Sciences, 2004, 1016, 222-245.	3.8	115

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19	Auditory processing of vocal sounds in birds. Current Opinion in Neurobiology, 2006, 16, 400-407.	4.2	93
20	Acoustic Features of Rhesus Vocalizations and Their Representation in the Ventrolateral Prefrontal Cortex. Journal of Neurophysiology, 2007, 97, 1470-1484.	1.8	89
21	Functional Groups in the Avian Auditory System. Journal of Neuroscience, 2009, 29, 2780-2793.	3.6	88
22	Sound representation methods for spectro-temporal receptive field estimation. Journal of Computational Neuroscience, 2006, 21, 5-20.	1.0	86
23	The vocal repertoire of the domesticated zebra finch: a data-driven approach to decipher the information-bearing acoustic features of communication signals. Animal Cognition, 2016, 19, 285-315.	1.8	81
24	Quantifying variability in neural responses and its application for the validation of model predictions. Network: Computation in Neural Systems, 2004, 15, 91-109.	3.6	80
25	Propagation of Correlated Activity through Multiple Stages of a Neural Circuit. Journal of Neuroscience, 2003, 23, 5750-5761.	3.6	77
26	Acoustic structure of the five perceptual dimensions of timbre in orchestral instrument tones. Journal of the Acoustical Society of America, 2013, 133, 389-404.	1.1	73
27	Rapid tuning shifts in human auditory cortex enhance speech intelligibility. Nature Communications, 2016, 7, 13654.	12.8	71
28	Zebra finches identify individuals using vocal signatures unique to each call type. Nature Communications, 2018, 9, 4026.	12.8	71
29	What's That Sound? Auditory Area CLM Encodes Stimulus Surprise, Not Intensity or Intensity Changes. Journal of Neurophysiology, 2008, 99, 2809-2820.	1.8	62
30	Noise-invariant Neurons in the Avian Auditory Cortex: Hearing the Song in Noise. PLoS Computational Biology, 2013, 9, e1002942.	3.2	62
31	Quantifying variability in neural responses and its application for the validation of model predictions. Network: Computation in Neural Systems, 2004, 15, 91-109.	3.6	43
32	Meaning in the avian auditory cortex: neural representation of communication calls. European Journal of Neuroscience, 2015, 41, 546-567.	2.6	39
33	Acoustic Communication and Sound Degradation: How Do the Individual Signatures of Male and Female Zebra Finch Calls Transmit over Distance?. PLoS ONE, 2014, 9, e102842.	2.5	38
34	Mothersâ€™ tone of voice depends on the nature of infantsâ€™ transgressions.. Emotion, 2014, 14, 651-665.	1.8	35
35	From synchrony to sparseness. Trends in Neurosciences, 2003, 26, 61-64.	8.6	34
36	Physiological resonance between mates through calls as possible evidence of empathic processes in songbirds. Hormones and Behavior, 2015, 75, 130-141.	2.1	30

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37	Evolution of communication signals and information during species radiation. Nature Communications, 2020, 11, 4970.	12.8	30
38	Nonverbal sound processing in semantic dementia: A functional MRI study. NeuroImage, 2012, 61, 170-180.	4.2	29
39	Single Neurons in the Avian Auditory Cortex Encode Individual Identity and Propagation Distance in Naturally Degraded Communication Calls. Journal of Neuroscience, 2017, 37, 3491-3510.	3.6	24
40	Selective and Efficient Neural Coding of Communication Signals Depends on Early Acoustic and Social Environment. PLoS ONE, 2013, 8, e61417.	2.5	23
41	Experience-dependence of neural responses to social versus isolate conspecific songs in the forebrain of female Zebra Finches. Journal Fur Ornithologie, 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. Journal of Experimental Biology, 2014, 217, 3169-77.	1.7	12
43	High-capacity auditory memory for vocal communication in a social songbird. Science Advances, 2020, 6, .	10.3	12
44	A single microphone noise reduction algorithm based on the detection and reconstruction of spectro-temporal features. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150309.	2.1	11
45	Rapid Adaptation to the Timbre of Natural Sounds. Scientific Reports, 2018, 8, 13826.	3.3	11
46	The Neuroethology of Vocal Communication in Songbirds: Production and Perception of a Call Repertoire. Springer Handbook of Auditory Research, 2020, , 175-209.	0.7	11
47	Invariant neural responses for sensory categories revealed by the time-varying information for communication calls. PLoS Computational Biology, 2019, 15, e1006698.	3.2	9
48	Quantifying variability in neural responses and its application for the validation of model predictions. Network: Computation in Neural Systems, 2004, 15, 91-109.	3.6	7
49	Anthropic Correction of Information Estimates and Its Application to Neural Coding. IEEE Transactions on Information Theory, 2010, 56, 890-900.	2.4	6
50	A Low-Rank Method for Characterizing High-Level Neural Computations. Frontiers in Computational Neuroscience, 2017, 11, 68.	2.1	6
51	Population Code, Noise Correlations, and Memory. Neuron, 2013, 78, 209-210.	8.1	4
52	Anthropic correction of information estimates. , 2009, , .		0