Frdric E Theunissen

List of Publications by Year in Descending Order

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	The Neuroethology of Vocal Communication in Songbirds: Production and Perception of a Call Repertoire. *Springer Handbook of Auditory Research*, **2020**, 175-209	1.2	6
50	High-capacity auditory memory for vocal communication in a social songbird. *Science Advances*, **2020**, 6,	14.3	5
49	Evolution of communication signals and information during species radiation. *Nature Communications*, **2020**, 11, 4970	17.4	10
48	Invariant neural responses for sensory categories revealed by the time-varying information for communication calls. *PLoS Computational Biology*, **2019**, 15, e1006698	5	6
47	Rapid Adaptation to the Timbre of Natural Sounds. *Scientific Reports*, **2018**, 8, 13826	4.9	4
46	Zebra finches identify individuals using vocal signatures unique to each call type. *Nature Communications*, **2018**, 9, 4026	17.4	41
45	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	6.6	19
44	The Hierarchical Cortical Organization of Human Speech Processing. *Journal of Neuroscience*, **2017**, 37, 6539-6557	6.6	111
43	A Low-Rank Method for Characterizing High-Level Neural Computations. *Frontiers in Computational Neuroscience*, **2017**, 11, 68	3.5	4
42	Encoding and Decoding Models in Cognitive Electrophysiology. *Frontiers in Systems Neuroscience*, **2017**, 11, 61	3.5	55
41	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	3.1	54
40	Rapid tuning shifts in human auditory cortex enhance speech intelligibility. *Nature Communications*, **2016**, 7, 13654	17.4	48
39	Natural speech reveals the semantic maps that tile human cerebral cortex. *Nature*, **2016**, 532, 453-8	50.4	630
38	Physiological resonance between mates through calls as possible evidence of empathic processes in songbirds. *Hormones and Behavior*, **2015**, 75, 130-41	3.7	26
37	Meaning in the avian auditory cortex: neural representation of communication calls. *European Journal of Neuroscience*, **2015**, 41, 546-67	3.5	31
36	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	2.4	7
35	Neural processing of natural sounds. *Nature Reviews Neuroscience*, **2014**, 15, 355-66	13.5	144

34	Mothersctone of voice depends on the nature of infantsctransgressions. *Emotion*, **2014**, 14, 651-65	4.1	25
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	3.7	33
32	Learning to cope with degraded sounds: female zebra finches can improve their expertise in discriminating between male voices at long distances. *Journal of Experimental Biology*, **2014**, 217, 3169-77	3	12
31	Acoustic structure of the five perceptual dimensions of timbre in orchestral instrument tones. *Journal of the Acoustical Society of America*, **2013**, 133, 389-404	2.2	59
30	Population code, noise correlations, and memory. *Neuron*, **2013**, 78, 209-10	13.9	4
29	Selective and efficient neural coding of communication signals depends on early acoustic and social environment. *PLoS ONE*, **2013**, 8, e61417	3.7	18
28	Noise-invariant neurons in the avian auditory cortex: hearing the song in noise. *PLoS Computational Biology*, **2013**, 9, e1002942	5	46
27	Nonverbal sound processing in semantic dementia: a functional MRI study. *NeuroImage*, **2012**, 61, 170-80	7.9	25
26	Anthropic Correction of Information Estimates and Its Application to Neural Coding. *IEEE Transactions on Information Theory*, **2010**, 56, 890-900	2.8	6
25	Functional groups in the avian auditory system. *Journal of Neuroscience*, **2009**, 29, 2780-93	6.6	74
24	The modulation transfer function for speech intelligibility. *PLoS Computational Biology*, **2009**, 5, e1000302	5	250
23	Whatcs that sound? Auditory area CLM encodes stimulus surprise, not intensity or intensity changes. *Journal of Neurophysiology*, **2008**, 99, 2809-20	3.2	54
22	Acoustic features of rhesus vocalizations and their representation in the ventrolateral prefrontal cortex. *Journal of Neurophysiology*, **2007**, 97, 1470-84	3.2	74
21	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		15
20	Auditory processing of vocal sounds in birds. *Current Opinion in Neurobiology*, **2006**, 16, 400-7	7.6	69
19	Stimulus-dependent auditory tuning results in synchronous population coding of vocalizations in the songbird midbrain. *Journal of Neuroscience*, **2006**, 26, 2499-512	6.6	117
18	Sound representation methods for spectro-temporal receptive field estimation. *Journal of Computational Neuroscience*, **2006**, 21, 5-20	1.4	73
17	Tuning for spectro-temporal modulations as a mechanism for auditory discrimination of natural sounds. *Nature Neuroscience*, **2005**, 8, 1371-9	25.5	212

16	Modulation power and phase spectrum of natural sounds enhance neural encoding performed by single auditory neurons. *Journal of Neuroscience*, **2004**, 24, 9201-11	6.6	100
15	Song selectivity in the song system and in the auditory forebrain. *Annals of the New York Academy of Sciences*, **2004**, 1016, 222-45	6.5	106
14	Quantifying variability in neural responses and its application for the validation of model predictions. *Network: Computation in Neural Systems*, **2004**, 15, 91-109	0.7	53
13	Quantifying variability in neural responses and its application for the validation of model predictions. *Network: Computation in Neural Systems*, **2004**, 15, 91-109	0.7	38
12	Propagation of correlated activity through multiple stages of a neural circuit. *Journal of Neuroscience*, **2003**, 23, 5750-61	6.6	73
11	Selectivity for conspecific song in the zebra finch auditory forebrain. *Journal of Neurophysiology*, **2003**, 89, 472-87	3.2	146
10	Modulation spectra of natural sounds and ethological theories of auditory processing. *Journal of the Acoustical Society of America*, **2003**, 114, 3394-411	2.2	326
9	From synchrony to sparseness. *Trends in Neurosciences*, **2003**, 26, 61-4	13.3	29
8	Feature analysis of natural sounds in the songbird auditory forebrain. *Journal of Neurophysiology*, **2001**, 86, 1445-58	3.2	193
7	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	0.7	158
6	Spectral-temporal receptive fields of nonlinear auditory neurons obtained using natural sounds. *Journal of Neuroscience*, **2000**, 20, 2315-31	6.6	403
5	Information theory and neural coding. *Nature Neuroscience*, **1999**, 2, 947-57	25.5	754
4	Temporal and spectral sensitivity of complex auditory neurons in the nucleus HVc of male zebra finches. *Journal of Neuroscience*, **1998**, 18, 3786-802	6.6	173
3	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, 1690-703	3.2	124
2	Representation of sensory information in the cricket cercal sensory system. I. Response properties of the primary interneurons. *Journal of Neurophysiology*, **1991**, 66, 1680-9	3.2	128
1	Quantifying variability in neural responses and its application for the validation of model predictions		7