Ian C Bruce

List of Publications by Year
in descending order

45 papers	2,262 citations	430874 18 h-index	330143 37 g-index
45 all docs	45 docs citations	45 times ranked	1062 citing authors

#	Article	IF	Citations
1	A phenomenological model for the responses of auditory-nerve fibers: I. Nonlinear tuning with compression and suppression. Journal of the Acoustical Society of America, 2001, 109, 648-670.	1.1	303
2	A phenomenological model of the synapse between the inner hair cell and auditory nerve: Long-term adaptation with power-law dynamics. Journal of the Acoustical Society of America, 2009, 126, 2390-2412.	1.1	291
3	Updated parameters and expanded simulation options for a model of the auditory periphery. Journal of the Acoustical Society of America, 2014, 135, 283-286.	1.1	255
4	Modeling auditory-nerve responses for high sound pressure levels in the normal and impaired auditory periphery. Journal of the Acoustical Society of America, 2006, 120, 1446-1466.	1.1	185
5	Auditory nerve model for predicting performance limits of normal and impaired listeners. Acoustics Research Letters Online: ARLO, 2001, 2, 91-96.	0.7	126
6	An auditory-periphery model of the effects of acoustic trauma on auditory nerve responses. Journal of the Acoustical Society of America, 2003, 113, 369-388.	1.1	118
7	Representation of the vowel /Îµ/ in normal and impaired auditory nerve fibers: Model predictions of responses in cats. Journal of the Acoustical Society of America, 2007, 122, 402-417.	1.1	112
8	Superior time perception for lower musical pitch explains why bass-ranged instruments lay down musical rhythms. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10383-10388.	7.1	100
9	A phenomenological model of the synapse between the inner hair cell and auditory nerve: Implications of limited neurotransmitter release sites. Hearing Research, 2018, 360, 40-54.	2.0	96
10	Temporal Considerations for Stimulating Spiral Ganglion Neurons with Cochlear Implants. JARO - Journal of the Association for Research in Otolaryngology, 2016, 17, 1-17.	1.8	89
11	Evidence that hidden hearing loss underlies amplitude modulation encoding deficits in individuals with and without tinnitus. Hearing Research, 2017, 344, 170-182.	2.0	79
12	Can homeostatic plasticity in deafferented primary auditory cortex lead to travelling waves of excitation?. Journal of Computational Neuroscience, 2011, 30, 279-299.	1.0	38
13	Explaining the high voice superiority effect in polyphonic music: Evidence from cortical evoked potentials and peripheral auditory models. Hearing Research, 2014, 308, 60-70.	2.0	37
14	Evaluation of Stochastic Differential Equation Approximation of Ion Channel Gating Models. Annals of Biomedical Engineering, 2009, 37, 824-838.	2.5	35
15	Evidence for differential modulation of primary and nonprimary auditory cortex by forward masking in tinnitus. Hearing Research, 2015, 327, 9-27.	2.0	33
16	Implementation Issues in Approximate Methods for Stochastic Hodgkinâ€“Huxley Models. Annals of Biomedical Engineering, 2007, 35, 315-318.	2.5	31
17	The Effects of HCN and KLT Ion Channels on Adaptation and Refractoriness in a Stochastic Auditory Nerve Model. IEEE Transactions on Biomedical Engineering, 2014, 61, 2749-2759.	4.2	29
18	Biological Basis of Hearing-Aid Design. Annals of Biomedical Engineering, 2002, 30, 157-168.	2.5	28

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19	Effects of Peripheral Tuning on the Auditory Nerveâ€™s Representation of Speech Envelope and Temporal Fine Structure Cues. , 2010, , 429-438.		28
20	A comparative study of eight human auditory models of monaural processing. Acta Acustica, 2022, 6, 17.	1.0	21
21	Predictions of Speech Intelligibility with a Model of the Normal and Impaired Auditory-periphery. , 2007, , .		18
22	Subcortical amplitude modulation encoding deficits suggest evidence of cochlear synaptopathy in normal-hearing 18â€“19 year olds with higher lifetime noise exposure. Journal of the Acoustical Society of America, 2017, 142, EL434-EL440.	1.1	18
23	Modulation of Electrocortical Brain Activity by Attention in Individuals with and without Tinnitus. Neural Plasticity, 2014, 2014, 1-16.	2.2	17
24	Physiological assessment of contrast-enhancing frequency shaping and multiband compression in hearing aids. Physiological Measurement, 2004, 25, 945-956.	2.1	16
25	Renewal-process approximation of a stochastic threshold model for electrical neural stimulation. Journal of Computational Neuroscience, 2000, 9, 119-132.	1.0	15
26	An investigation of dendritic delay in octopus cells of the mammalian cochlear nucleus. Frontiers in Computational Neuroscience, 2012, 6, 83.	2.1	13
27	Measuring temporal response properties of auditory nerve fibers in cochlear implant recipients. Hearing Research, 2019, 380, 187-196.	2.0	13
28	Phenomenological modelling of electrically stimulated auditory nerve fibers: A review. Network: Computation in Neural Systems, 2016, 27, 157-185.	3.6	11
29	Lateral-inhibitory-network models of tinnitus. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 359-363.	0.4	10
30	Effects of I<inf>h</inf> and I<inf>KLT</inf> on the response of the auditory nerve to electrical stimulation in a stochastic Hodgkin-Huxley model. , 2008, 2008, 5539-42.		10
31	Predictions of the Contribution of HCN Half-Maximal Activation Potential Heterogeneity to Variability in Intrinsic Adaptation of Spiral Ganglion Neurons. JARO - Journal of the Association for Research in Otolaryngology, 2017, 18, 301-322.	1.8	10
32	A Novel Model-Based Hearing Compensation Design Using a Gradient-Free Optimization Method. Neural Computation, 2005, 17, 2648-2671.	2.2	9
33	Predicting phoneme and word recognition in noise using a computational model of the auditory periphery. Journal of the Acoustical Society of America, 2017, 141, 300-312.	1.1	9
34	Envelope following responses, noise exposure, and evidence of cochlear synaptopathy in humans: Correction and comment. Journal of the Acoustical Society of America, 2018, 143, EL487-EL489.	1.1	9
35	The history and future of neural modeling for cochlear implants. Network: Computation in Neural Systems, 2016, 27, 53-66.	3.6	8
36	Perceptual and Model-Based Evaluation of Ideal Time-Frequency Noise Reduction in Hearing-Impaired Listeners. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 687-697.	4.9	8

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37	Predicting the quality of enhanced wideband speech with a cochlear model. Journal of the Acoustical Society of America, 2017, 142, EL319-EL325.	1.1	7
38	Predictions of Speech Chimaera Intelligibility Using Auditory Nerve Mean-Rate and Spike-Timing Neural Cues. JARO - Journal of the Association for Research in Otolaryngology, 2017, 18, 687-710.	1.8	7
39	Physiological prediction of masking release for normal-hearing and hearing-impaired listeners. Proceedings of Meetings on Acoustics, 2013, , .	0.3	6
40	Computationally Efficient DNN-Based Approximation of an Auditory Model for Applications in Speech Processing. , 2021, , .		5
41	Phenomenological model of auditory nerve population responses to cochlear implant stimulation. Journal of Neuroscience Methods, 2021, 358, 109212.	2.5	5
42	Hearing aid gain prescriptions balance restoration of auditory nerve mean-rate and spike-timing representations of speech. , 2008, 2008, 1793-6.		4
43	Evaluation of approximate stochastic Hodgkin-Huxley models. , 2007, , .		0
44	Effects of an improved auditory-periphery model on the response properties of modeled neurons in the Dorsal Cochlear Nucleus. , 2008, 2008, 2477-80.		0
45	Analysis of Spatiotemporal Pattern Correction Using a Computational Model of the Auditory Periphery. Ear and Hearing, 2014, 35, 246-255.	2.1	0