Laurel H Carney

List of Publications by Year
in descending order

107 papers	5,037 citations	117625 34 h-index	98798 67 g-index
123 all docs	123 docs citations	123 times ranked	1753 citing authors

#	Article	IF	Citations
1	Enhancement of neural synchronization in the anteroventral cochlear nucleus. I. Responses to tones at the characteristic frequency. Journal of Neurophysiology, 1994, 71, 1022-1036.	1.8	397
2	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
3	Projections of physiologically characterized globular bushy cell axons from the cochlear nucleus of the cat. Journal of Comparative Neurology, 1991, 304, 387-407.	1.6	293
4	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
5	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
6	A model for the responses of lowâ€frequency auditoryâ€nerve fibers in cat. Journal of the Acoustical Society of America, 1993, 93, 401-417.	1.1	228
7	Evaluating Auditory Performance Limits: I. One-Parameter Discrimination Using a Computational Model for the Auditory Nerve. Neural Computation, 2001, 13, 2273-2316.	2.2	169
8	Temporal coding of resonances by low-frequency auditory nerve fibers: single-fiber responses and a population model. Journal of Neurophysiology, 1988, 60, 1653-1677.	1.8	152
9	A phenomenological model of peripheral and central neural responses to amplitude-modulated tones. Journal of the Acoustical Society of America, 2004, 116, 2173-2186.	1.1	151
10	Effects of interaural time delays of noise stimuli on low-frequency cells in the cat's inferior colliculus. III. Evidence for cross-correlation. Journal of Neurophysiology, 1987, 58, 562-583.	1.8	131
11	Auditory nerve model for predicting performance limits of normal and impaired listeners. Acoustics Research Letters Online: ARLO, 2001, 2, 91-96.	0.7	126
12	Supra-Threshold Hearing and Fluctuation Profiles: Implications for Sensorineural and Hidden Hearing Loss. JARO - Journal of the Association for Research in Otolaryngology, 2018, 19, 331-352.	1.8	113
13	A Model for Interaural Time Difference Sensitivity in the Medial Superior Olive: Interaction of Excitatory and Inhibitory Synaptic Inputs, Channel Dynamics, and Cellular Morphology. Journal of Neuroscience, 2005, 25, 3046-3058.	3.6	106
14	Frequency glides in the impulse responses of auditory-nerve fibers. Journal of the Acoustical Society of America, 1999, 105, 2384-2391.	1.1	104
15	Responses of low-frequency cells in the inferior colliculus to interaural time differences of clicks: excitatory and inhibitory components. Journal of Neurophysiology, 1989, 62, 144-161.	1.8	102
16	Neural Rate and Timing Cues for Detection and Discrimination of Amplitude-Modulated Tones in the Awake Rabbit Inferior Colliculus. Journal of Neurophysiology, 2007, 97, 522-539.	1.8	102
17	Time and frequency domain methods for heart rate variability analysis: A methodological comparison. Psychophysiology, 1995, 32, 492-504.	2.4	86
18	Determination of the Potential Benefit of Time-Frequency Gain Manipulation. Ear and Hearing, 2006, 27, 480-492.	2.1	86

#	Article	IF	Citations
19	Spatiotemporal encoding of sound level: Models for normal encoding and recruitment of loudness. Hearing Research, 1994, 76, 31-44.	2.0	74
20	Speech Coding in the Brain: Representation of Vowel Formants by Midbrain Neurons Tuned to Sound Fluctuations. ENeuro, 2015, 2, ENEURO.0004-15.2015.	1.9	73
21	Evidence for two distinct mechanisms of neurogenesis and cellular pattern formation in regenerated goldfish retinas. Journal of Comparative Neurology, 2001, 431, 363-381.	1.6	69
22	A phenomenological model for the responses of auditory-nerve fibers. II. Nonlinear tuning with a frequency glide. Journal of the Acoustical Society of America, 2003, 114, 2007-2020.	1.1	67
23	Rate and timing cues associated with the cochlear amplifier: Level discrimination based on monaural cross-frequency coincidence detection. Journal of the Acoustical Society of America, 2001, 110, 2065-2084.	1.1	65
24	Sensitivities of cells in anteroventral cochlear nucleus of cat to spatiotemporal discharge patterns across primary afferents. Journal of Neurophysiology, 1990, 64, 437-456.	1.8	61
25	Power-Law Dynamics in an Auditory-Nerve Model Can Account for Neural Adaptation to Sound-Level Statistics. Journal of Neuroscience, 2010, 30, 10380-10390.	3.6	58
26	A temporal analysis of auditoryâ€nerve fiber responses to spoken stop consonantâ€“vowel syllables. Journal of the Acoustical Society of America, 1986, 79, 1896-1914.	1.1	57
27	Cell mosaic patterns in the native and regenerated inner retina of zebrafish: Implications for retinal assembly. Journal of Comparative Neurology, 2000, 416, 356-367.	1.6	57
28	Quantifying the Information in Auditory-Nerve Responses for Level Discrimination. JARO - Journal of the Association for Research in Otolaryngology, 2003, 4, 294-311.	1.8	56
29	A model for binaural response properties of inferior colliculus neurons. I. A model with interaural time difference-sensitive excitatory and inhibitory inputs. Journal of the Acoustical Society of America, 1998, 103, 475-493.	1.1	51
30	Influence of Inhibitory Inputs on Rate and Timing of Responses in the Anteroventral Cochlear Nucleus. Journal of Neurophysiology, 2008, 99, 1077-1095.	1.8	50
31	A model for binaural response properties of inferior colliculus neurons. II. A model with interaural time difference-sensitive excitatory and inhibitory inputs and an adaptation mechanism. Journal of the Acoustical Society of America, 1998, 103, 494-506.	1.1	45
32	The radiation impedance of the external ear of cat: Measurements and applications. Journal of the Acoustical Society of America, 1988, 84, 1695-1708.	1.1	44
33	Effects of Inhibitory Feedback in a Network Model of Avian Brain Stem. Journal of Neurophysiology, 2005, 94, 400-414.	1.8	40
34	Quantifying the implications of nonlinear cochlear tuning for auditory-filter estimates. Journal of the Acoustical Society of America, 2002, 111, 996-1011.	1.1	38
35	Amplitude modulation transfer functions reveal opposing populations within both the inferior colliculus and medial geniculate body. Journal of Neurophysiology, 2020, 124, 1198-1215.	1.8	33
36	Auditory Distance Coding in Rabbit Midbrain Neurons and Human Perception: Monaural Amplitude Modulation Depth as a Cue. Journal of Neuroscience, 2015, 35, 5360-5372.	3.6	29

#	ARTICLE	IF	CITATIONS
37	Midbrain Synchrony to Envelope Structure Supports Behavioral Sensitivity to Single-Formant Vowel-Like Sounds in Noise. JARO - Journal of the Association for Research in Otolaryngology, 2017, 18, 165-181.	1.8	28
38	Evaluating Auditory Performance Limits: II. One-Parameter Discrimination with Random-Level Variation. Neural Computation, 2001, 13, 2317-2338.	2.2	27
39	Cellular patterns in the inner retina of adult zebrafish: Quantitative analyses and a computational model of their formation. Journal of Comparative Neurology, 2004, 471, 11-25.	1.6	27
40	Interaural time sensitivity in the inferior colliculus of the albino cat. Journal of Comparative Neurology, 1990, 295, 438-448.	1.6	26
41	Analysis of models for the synapse between the inner hair cell and the auditory nerve. Journal of the Acoustical Society of America, 2005, 118, 1540-1553.	1.1	26
42	Predictions of diotic tone-in-noise detection based on a nonlinear optimal combination of energy, envelope, and fine-structure cues. Journal of the Acoustical Society of America, 2013, 134, 396-406.	1.1	26
43	The Spontaneous-Rate Histogram of the Auditory Nerve Can Be Explained by Only Two or Three Spontaneous Rates and Long-Range Dependence. JARO - Journal of the Association for Research in Otolaryngology, 2005, 6, 148-159.	1.8	25
44	Binaural detection with narrowband and wideband reproducible noise maskers: I. Results for human. Journal of the Acoustical Society of America, 2002, 111, 336-345.	1.1	24
45	Binaural detection with narrowband and wideband reproducible noise maskers. III. Monaural and diotic detection and model results. Journal of the Acoustical Society of America, 2006, 119, 2258-2275.	1.1	24
46	Forward Masking in the Amplitude-Modulation Domain for Tone Carriers: Psychophysical Results and Physiological Correlates. JARO - Journal of the Association for Research in Otolaryngology, 2011, 12, 361-373.	1.8	24
47	Neural correlates of behavioral amplitude modulation sensitivity in the budgerigar midbrain. Journal of Neurophysiology, 2016, 115, 1905-1916.	1.8	24
48	Temporal response properties of neurons in the auditory pathway. Current Opinion in Neurobiology, 1999, 9, 442-446.	4.2	23
49	Control of Cellular Pattern Formation in the Vertebrate Inner Retina by Homotypic Regulation of Cell-Fate Decisions. Journal of Neuroscience, 2005, 25, 4565-4576.	3.6	23
50	An evaluation of models for diotic and dichotic detection in reproducible noises. Journal of the Acoustical Society of America, 2009, 126, 1906-1925.	1.1	23
51	Effects of Musical Training and Hearing Loss on Fundamental Frequency Discrimination and Temporal Fine Structure Processing: Psychophysics and Modeling. JARO - Journal of the Association for Research in Otolaryngology, 2019, 20, 263-277.	1.8	23
52	Suboptimal Use of Neural Information in a Mammalian Auditory System. Journal of Neuroscience, 2014, 34, 1306-1313.	3.6	22
53	A comparative study of eight human auditory models of monaural processing. Acta Acustica, 2022, 6, 17.	1.0	21
54	Tone-in-Noise Detection Using Envelope Cues: Comparison of Signal-Processing-Based and Physiological Models. JARO - Journal of the Association for Research in Otolaryngology, 2015, 16, 121-133.	1.8	19

#	Article	IF	Citations
55	Binaural detection with narrowband and wideband reproducible noise maskers: II. Results for rabbit. Journal of the Acoustical Society of America, 2002, 111, 346-356.	1.1	18
56	Semi-supervised spike sorting using pattern matching and a scaled Mahalanobis distance metric. Journal of Neuroscience Methods, 2012, 206, 120-131.	2.5	18
57	Nonlinear auditory models yield new insights into representations of vowels. Attention, Perception, and Psychophysics, 2019, 81, 1034-1046.	1.3	18
58	Neural fluctuation cues for simultaneous notched-noise masking and profile-analysis tasks: Insights from model midbrain responses. Journal of the Acoustical Society of America, 2020, 147, 3523-3537.	1.1	18
59	Comparison of slow and fast neocortical neuron migration using a new in vitromodel. BMC Neuroscience, 2008, 9, 50.	1.9	16
60	Detection Thresholds for Amplitude Modulations of Tones in Budgerigar, Rabbit, and Human. Advances in Experimental Medicine and Biology, 2013, 787, 391-398.	1.6	16
61	Temporal Measures and Neural Strategies for Detection of Tones in Noise Based on Responses in Anteroventral Cochlear Nucleus. Journal of Neurophysiology, 2006, 96, 2451-2464.	1.8	14
62	Diotic and dichotic detection with reproducible chimeric stimuli. Journal of the Acoustical Society of America, 2009, 126, 1889.	1.1	14
63	Preferred Tempo and Low-Audio-Frequency Bias Emerge From Simulated Sub-cortical Processing of Sounds With a Musical Beat. Frontiers in Neuroscience, 2018, 12, 349.	2.8	14
64	Predicting speech intelligibility in hearing-impaired listeners using a physiologically inspired auditory model. Hearing Research, 2022, 426, 108553.	2.0	14
65	Studies of binaural detection in the rabbit (Oryctolagus cuniculus) with Pavlovian conditioning.. Behavioral Neuroscience, 2001, 115, 650-660.	1.2	13
66	Speech enhancement using the modified phase-opponency model. Journal of the Acoustical Society of America, 2007, 121, 3886.	1.1	13
67	Formant-frequency discrimination of synthesized vowels in budgerigars (Melopsittacus undulatus) and humans. Journal of the Acoustical Society of America, 2017, 142, 2073-2083.	1.1	13
68	Cues for Diotic and Dichotic Detection of a 500-Hz Tone in Noise Vary with Hearing Loss. JARO - Journal of the Association for Research in Otolaryngology, 2015, 16, 507-521.	1.8	12
69	Predicting Speech Intelligibility Based on Across-Frequency Contrast in Simulated Auditory-Nerve Fluctuations. Acta Acustica United With Acustica, 2018, 104, 914-917.	0.8	12
70	Sensorineural Hearing Loss Diminishes Use of Temporal Envelope Cues: Evidence From Roving-Level Tone-in-Noise Detection. Ear and Hearing, 2020, 41, 1009-1019.	2.1	12
71	Binaural detection with narrowband and wideband reproducible noise maskers. IV. Models using interaural time, level, and envelope differences. Journal of the Acoustical Society of America, 2014, 135, 824-837.	1.1	11
72	Speech Coding in the Midbrain: Effects of Sensorineural Hearing Loss. Advances in Experimental Medicine and Biology, 2016, 894, 427-435.	1.6	11

#	Article	IF	Citations
73	A canonical oscillator model of cochlear dynamics. Hearing Research, 2019, 380, 100-107.	2.0	11
74	Midbrain-Level Neural Correlates of Behavioral Tone-in-Noise Detection: Dependence on Energy and Envelope Cues. Journal of Neuroscience, 2021, 41, 7206-7223.	3.6	11
75	Response Properties of an Integrate-and-Fire Model That Receives Subthreshold Inputs. Neural Computation, 2005, 17, 2571-2601.	2.2	10
76	Correction of the Peripheral Spatiotemporal Response Pattern: A Potential New Signal-Processing Strategy. Journal of Speech, Language, and Hearing Research, 2006, 49, 848-855.	1.6	10
77	Modeling Responses in the Superior Paraolivary Nucleus: Implications for Forward Masking in the Inferior Colliculus. JARO - Journal of the Association for Research in Otolaryngology, 2017, 18, 441-456.	1.8	10
78	Spatiotemporal Tuning of Low-Frequency Cells in the Anteroventral Cochlear Nucleus. Journal of Neuroscience, 1998, 18, 1096-1104.	3.6	9
79	Cues for masked amplitude-modulation detection. Journal of the Acoustical Society of America, 2006, 120, 978-990.	1.1	9
80	Statistical Analyses of Temporal Information in Auditory Brainstem Responses to Tones in Noise: Correlation Index and Spike-distance Metric. JARO - Journal of the Association for Research in Otolaryngology, 2008, 9, 373-387.	1.8	9
81	Sound-localization ability of the Mongolian gerbil (Meriones unguiculatus) in a task with a simplified response map. Hearing Research, 2011, 275, 89-95.	2.0	9
82	Identifying cues for tone-in-noise detection using decision variable correlation in the budgerigar (Melopsittacus undulatus). Journal of the Acoustical Society of America, 2020, 147, 984-997.	1.1	9
83	Encoding of vowel-like sounds in the auditory nerve: Model predictions of discrimination performance. Journal of the Acoustical Society of America, 2005, 117, 1210-1222.	1.1	8
84	Speech Enhancement for Listeners With Hearing Loss Based on a Model for Vowel Coding in the Auditory Midbrain. IEEE Transactions on Biomedical Engineering, 2014, 61, 2081-2091.	4.2	8
85	A Closed-Loop Gain-Control Feedback Model for The Medial Efferent System of The Descending Auditory Pathway. , 2021, , .		8
86	Detection of Tones in Reproducible Noise Maskers by Rabbits and Comparison to Detection by Humans. JARO - Journal of the Association for Research in Otolaryngology, 2007, 8, 522-538.	1.8	7
87	Predictions of formant-frequency discrimination in noise based on model auditory-nerve responses. Journal of the Acoustical Society of America, 2006, 120, 1435-1445.	1.1	6
88	Near-Field Discrimination of Sound Source Distance in the Rabbit. JARO - Journal of the Association for Research in Otolaryngology, 2015, 16, 255-262.	1.8	6
89	Convergence of linear acceleration and yaw rotation signals on non-eye movement neurons in the vestibular nucleus of macaques. Journal of Neurophysiology, 2018, 119, 73-83.	1.8	6
90	Responses to diotic tone-in-noise stimuli in the inferior colliculus: stimulus envelope and neural fluctuation cues. Hearing Research, 2021, 409, 108328.	2.0	5

#	Article	IF	Citations
91	Neural processing and perception of Schroederâ€phase harmonic tone complexes in the gerbil: Relating singleâ€unit neurophysiology to behavior. European Journal of Neuroscience, 2022, 56, 4060-4085.	2.6	5
92	Perception of Temporally Processed Speech by Listeners with Hearing Impairment. Ear and Hearing, 2007, 28, 512-523.	2.1	4
93	Development of a scale for estimating procedural distress in the newborn intensive care unit: The Procedural Load Index. Early Human Development, 2013, 89, 615-619.	1.8	4
94	CS-Dependent Response Probability in an Auditory Masked-Detection Task: Considerations based on Models of Pavlovian Conditioning. Quarterly Journal of Experimental Psychology Section B: Comparative and Physiological Psychology, 2003, 56, 193-205.	2.8	3
95	Challenging One Model With Many Stimuli: Simulating Responses in the Inferior Colliculus. Acta Acustica United With Acustica, 2018, 104, 895-899.	0.8	3
96	Potential cues for the â€œlevel discriminationâ€• of a noise band in the presence of flanking bands. Journal of the Acoustical Society of America, 2019, 145, EL442-EL448.	1.1	3
97	Speeding up machine hearing. Nature Machine Intelligence, 2021, 3, 190-191.	16.0	2
98	Comparison of level discrimination, increment detection, and comodulation masking release in the audio- and envelope-frequency domains. Journal of the Acoustical Society of America, 2007, 121, 2168-2181.	1.1	1
99	A Fast Real-Time Auditory-Nerve Model. , 2007, , .		1
100	A Nonlinear Feedback Model for the Frequency Tuning of Auditory Nerve Fibers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1994, 27, 523-524.	0.4	0
101	Nonlinear feedback models for the tuning of auditory nerve fibers. Annals of Biomedical Engineering, 1996, 24, 440-450.	2.5	0
102	Amplitude modulation detection patterns of the Budgerigar. , 2012, , .		0
103	Predicting discrimination of formant frequencies in vowels with a computational model of the auditory midbrain. , 2012, , .		0
104	Modeling detection of 500-Hertz tones in reproducible noise for listeners with sensorineural hearing loss. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0
105	Special issue on computational models of hearing. Hearing Research, 2018, 360, 1-2.	2.0	0
106	Comparative auditory biomechanics probed by otoacoustic emissions. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0
107	Using a computational model for the auditory midbrain to explore the neural representation of vowels. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0