James A Simmons

List of Publications by Year
in descending order

78 papers	2,828 citations	186265 28 h-index	189892 50 g-index
86 all docs	86 docs citations	86 times ranked	903 citing authors

#	Article	IF	Citations
1	The resolution of target range by echolocating bats. Journal of the Acoustical Society of America, 1973, 54, 157-173.	1.1	390
2	A view of the world through the bat's ear: The formation of acoustic images in echolocation. Cognition, 1989, 33, 155-199.	2.2	175
3	A computational model of echo processing and acoustic imaging in frequencyâ€•modulated echolocating bats: The spectrogram correlation and transformation receiver. Journal of the Acoustical Society of America, 1993, 94, 2691-2712.	1.1	156
4	A possible neuronal basis for representation of acoustic scenes in auditory cortex of the big brown bat. Nature, 1993, 364, 620-623.	27.8	113
5	FM echolocating bats shift frequencies to avoid broadcastâ€“echo ambiguity in clutter. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7048-7053.	7.1	100
6	Bats Use Echo Harmonic Structure to Distinguish Their Targets from Background Clutter. Science, 2011, 333, 627-630.	12.6	99
7	Spatially dependent acoustic cues generated by the external ear of the big brown bat, Eptesicus fuscus. Journal of the Acoustical Society of America, 1995, 98, 1423-1445.	1.1	97
8	The acoustic basis for target discrimination by FM echolocating bats. Journal of the Acoustical Society of America, 1989, 86, 1333-1350.	1.1	89
9	Jamming avoidance response of big brown bats in target detection. Journal of Experimental Biology, 2008, 211, 106-113.	1.7	82
10	Clutter interference and the integration time of echoes in the echolocating bat, Eptesicus fuscus. Journal of the Acoustical Society of America, 1989, 86, 1318-1332.	1.1	76
11	Interpulse interval modulation by echolocating big brown bats (Eptesicus fuscus) in different densities of obstacle clutter. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 603-617.	1.6	76
12	Spatial memory and stereotypy of flight paths by big brown bats in cluttered surroundings. Journal of Experimental Biology, 2013, 216, 1053-1063.	1.7	74
13	Echolocation in dolphins and bats. Physics Today, 2007, 60, 40-45.	0.3	66
14	The structure of echolocation sounds used by the big brown bat Eptesicus fuscus: Some consequences for echo processing. Journal of the Acoustical Society of America, 1991, 89, 1402-1413.	1.1	62
15	Bats use a neuronally implemented computational acoustic model to form sonar images. Current Opinion in Neurobiology, 2012, 22, 311-319.	4.2	58
16	Rapid shifts of sonar attention by<i>Pipistrellus abramus</i>during natural hunting for multiple prey. Journal of the Acoustical Society of America, 2014, 136, 3389-3400.	1.1	44
17	Estimating colony sizes of emerging bats using acoustic recordings. Royal Society Open Science, 2016, 3, 160022.	2.4	44
18	Versatility of biosonar in the big brown bat,Eptesicus fuscus. Acoustics Research Letters Online: ARLO, 2001, 2, 43-48.	0.7	43

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19	Neural Responses to Overlapping FM Sounds in the Inferior Colliculus of Echolocating Bats. Journal of Neurophysiology, 2000, 83, 1840-1855.	1.8	42
20	Delay accuracy in bat sonar is related to the reciprocal of normalized echo bandwidth, or Q. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 3638-3643.	7.1	42
21	Auditory Dimensions of Acoustic Images in Echolocation. Springer Handbook of Auditory Research, 1995, , 146-190.	0.7	41
22	Big brown bats and June beetles: Multiple pursuit strategies in a seasonal acoustic predatorâ€“prey system. Acoustics Research Letters Online: ARLO, 2005, 6, 238-242.	0.7	41
23	The Performance of Echolocation: Acoustic Images Perceived by Echolocating Bats. , 1988, , 353-385.		38
24	Sound source elevation and external ear cues influence the discrimination of spectral notches by the big brown bat, Eptesicus fuscus. Journal of the Acoustical Society of America, 1996, 100, 1764-1776.	1.1	37
25	Echolocating Big Brown Bats, Eptesicus fuscus, Modulate Pulse Intervals to Overcome Range Ambiguity in Cluttered Surroundings. Frontiers in Behavioral Neuroscience, 2016, 10, 125.	2.0	37
26	Selectivity for Echo Spectral Interference and Delay in the Auditory Cortex of the Big Brown Bat Eptesicus fuscus. Journal of Neurophysiology, 2002, 87, 2823-2834.	1.8	32
27	Evaluation of an auditory model for echo delay accuracy in wideband biosonar. Journal of the Acoustical Society of America, 2003, 114, 1648-1659.	1.1	32
28	Acoustic image representation of a point target in the bat Eptesicus fuscus: Evidence for sensitivity to echo phase in bat sonar. Journal of the Acoustical Society of America, 1993, 93, 1553-1562.	1.1	31
29	Temporal binding of neural responses for focused attention in biosonar. Journal of Experimental Biology, 2014, 217, 2834-2843.	1.7	31
30	Evidence for spatial representation of object shape by echolocating bats (<i>Eptesicus fuscus</i>). Journal of the Acoustical Society of America, 2008, 123, 4582-4598.	1.1	30
31	Time-frequency model for echo-delay resolution in wideband biosonar. Journal of the Acoustical Society of America, 2003, 113, 2137-2145.	1.1	27
32	Biosonar signals impinging on the target during interception by big brown bats, Eptesicus fuscus. Journal of the Acoustical Society of America, 2007, 121, 3001-3010.	1.1	27
33	Effects of filtering of harmonics from biosonar echoes on delay acuity by big brown bats (<i>Eptesicus fuscus</i>). Journal of the Acoustical Society of America, 2010, 128, 936-946.	1.1	27
34	Lancet Dynamics in Greater Horseshoe Bats, Rhinolophus ferrumequinum. PLoS ONE, 2015, 10, e0121700.	2.5	26
35	Role of broadcast harmonics in echo delay perception by big brown bats. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 79-89.	1.6	25
36	Auditory Computations for Biosonar Target Imaging in Bats. Springer Handbook of Auditory Research, 1996, , 401-468.	0.7	25

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37	Perception of echo delay is disrupted by small temporal misalignment of echo harmonics in bat sonar. Journal of Experimental Biology, 2011, 214, 394-401.	1.7	23
38	Effective biosonar echo-to-clutter rejection ratio in a complex dynamic scene. Journal of the Acoustical Society of America, 2015, 138, 1090-1101.	1.1	22
39	Target representation of naturalistic echolocation sequences in single unit responses from the inferior colliculus of big brown bats. Journal of the Acoustical Society of America, 2005, 118, 3352-3361.	1.1	21
40	Clinical Equipoise and Shared Decision-making in Pulmonary Nodule Management. A Survey of American Thoracic Society Clinicians. Annals of the American Thoracic Society, 2017, 14, 968-975.	3.2	21
41	Interaction of vestibular, echolocation, and visual modalities guiding flight by the big brown bat, Eptesicus fuscus. Journal of Vestibular Research: Equilibrium and Orientation, 2004, 14, 17-32.	2.0	20
42	Bats and frogs and animals in between: evidence for a common central timing mechanism to extract periodicity pitch. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2011, 197, 585-594.	1.6	19
43	Broadband noise exposure does not affect hearing sensitivity in big brown bats (<i>Eptesicus) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	1.7	19
44	A comprehensive computational model of animal biosonar signal processing. PLoS Computational Biology, 2021, 17, e1008677.	3.2	17
45	Spatial release from simultaneous echo masking in bat sonar. Journal of the Acoustical Society of America, 2014, 135, 3077-3085.	1.1	16
46	Auditory brainstem response of the Japanese house bat (Pipistrellus abramus). Journal of the Acoustical Society of America, 2015, 137, 1063-1068.	1.1	15
47	Echolocation behavior in big brown bats is not impaired after intense broadband noise exposures. Journal of Experimental Biology, 2016, 219, 3253-3260.	1.7	15
48	Cognitive Adaptation of Sonar Gain Control in the Bottlenose Dolphin. PLoS ONE, 2014, 9, e105938.	2.5	13
49	Auditory brainstem responses of Japanese house bats (<i>Pipistrellus abramus</i>) after exposure to broadband ultrasonic noise. Journal of the Acoustical Society of America, 2015, 138, 2430-2437.	1.1	12
50	Localization and Classification of Targets by Echolocating Bats and Dolphins. Springer Handbook of Auditory Research, 2014, , 169-193.	0.7	12
51	Big brown bats (Eptesicus fuscus) successfully navigate through clutter after exposure to intense band-limited sound. Scientific Reports, 2018, 8, 13555.	3.3	11
52	Spike Train Similarity Space (SSIMS) Method Detects Effects of Obstacle Proximity and Experience on Temporal Patterning of Bat Biosonar. Frontiers in Behavioral Neuroscience, 2018, 12, 13.	2.0	10
53	Neuronal connexin expression in the cochlear nucleus of big brown bats. Brain Research, 2008, 1197, 76-84.	2.2	9
54	Big brown bats (<i>Eptesicus fuscus</i>) maintain hearing sensitivity after exposure to intense band-limited noise. Journal of the Acoustical Society of America, 2017, 141, 1481-1489.	1.1	9

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55	Big brown bats are challenged by acoustically-guided flights through a circular tunnel of hoops. Scientific Reports, 2020, 10, 832.	3.3	9
56	Echolocating bats perceive natural-size targets as a unitary class using micro-spectral ripples in echoes.. Behavioral Neuroscience, 2019, 133, 297-304.	1.2	9
57	Biosonar interpulse intervals and pulse-echo ambiguity in four species of echolocating bats. Journal of Experimental Biology, 2019, 222, .	1.7	8
58	Mouth gape angle has little effect on the transmitted signals of big brown bats (Eptesicus fuscus). Journal of the Acoustical Society of America, 2014, 136, 1964-1971.	1.1	7
59	High resolution acoustic measurement system and beam pattern reconstruction method for bat echolocation emissions. Journal of the Acoustical Society of America, 2014, 135, 513-520.	1.1	7
60	Perceiving the World Through Echolocation and Vision. Springer Handbook of Auditory Research, 2016, , 265-288.	0.7	7
61	Cardiopulmonary monitoring of shock. Current Opinion in Critical Care, 2017, 23, 223-231.	3.2	7
62	Transformation of external-ear spectral cues into perceived delays by the big brown bat,Eptesicus fuscus. Journal of the Acoustical Society of America, 2002, 111, 2771-2782.	1.1	6
63	Long-latency optical responses from the dorsal inferior colliculus of Sebaâ€™s fruit bat. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2020, 206, 831-844.	1.6	6
64	How frequency hopping suppresses pulse-echo ambiguity in bat biosonar. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17288-17295.	7.1	6
65	Neural spike train similarity algorithm detects differences in temporal patterning of bat echolocation call sequences. Proceedings of Meetings on Acoustics, 2017, , .	0.3	5
66	Frequency-modulated up-chirps produce larger evoked responses than down-chirps in the big brown bat auditory brainstem. Journal of the Acoustical Society of America, 2019, 146, 1671-1684.	1.1	5
67	Population registration of echo flow in the big brown bat's auditory midbrain. Journal of Neurophysiology, 2021, 126, 1314-1325.	1.8	4
68	Autocorrelation model of periodicity coding in bullfrog auditory nerve fibers. Acoustics Research Letters Online: ARLO, 2001, 2, 1-6.	0.7	3
69	A method of flight path and chirp pattern reconstruction for multiple flying bats. Acoustics Research Letters Online: ARLO, 2005, 6, 257-262.	0.7	3
70	Target shape perception and clutter rejection use the same mechanism in bat sonar. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2016, 202, 371-379.	1.6	3
71	High-frequency soundfield microphone for the analysis of bat biosonar. Journal of the Acoustical Society of America, 2019, 146, 4525-4533.	1.1	3
72	Echolocation while drinking: Pulse-timing strategies by high- and low-frequency FM bats. PLoS ONE, 2019, 14, e0226114.	2.5	3

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73	Spatiotemporal patterning of acoustic gaze in echolocating bats navigating gaps in clutter. IScience, 2021, 24, 102353.	4.1	2
74	Non-invasive auditory brainstem responses to FM sweeps in awake big brown bats. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, 208, 505-516.	1.6	2
75	Functional optical imaging from bat inferior colliculus using a micro-endoscope. Proceedings of Meetings on Acoustics, 2016, , .	0.3	1
76	Bats and Their Brains: <i>Comparative Neurobiology in Chiroptera</i> . Georg Baron, Heinz Stephan, and Heiko D. Frahm. Birkhauser Boston, Cambridge, MA, 1996. In three volumes. Vol. 1, Macromorphology, Brain Structures, Tables and Atlases. Vol. 2, Brain Characteristics in Taxonomic Units. Vol. 3, Brain Characteristics in Functional Systems, Ecoethological Adaptation, Adaptive Radiation and Evolution. x, 1596 pp., illus. $285.. Science, 1996, 273, 609-609.	12.6	1
77	Bat biosonar signals. Journal of the Acoustical Society of America, 2021, 149, R3-R4.	1.1	0
78	Bats and Echolocation. , 0, , 1819-1822.		0