Rong Z Gan

List of Publications by Year
in descending order

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82 papers	2,454 citations	172207 29 h-index	214527 47 g-index
83 all docs	83 docs citations	83 times ranked	957 citing authors

#	Article	IF	Citations
1	Three-Dimensional Finite Element Modeling of Human Ear for Sound Transmission. Annals of Biomedical Engineering, 2004, 32, 847-859.	1.3	228
2	Modeling of Sound Transmission from Ear Canal to Cochlea. Annals of Biomedical Engineering, 2007, 35, 2180-2195.	1.3	143
3	Viscoelastic Properties of Human Tympanic Membrane. Annals of Biomedical Engineering, 2007, 35, 305-314.	1.3	128
4	Acousticâ€“structural coupled finite element analysis for sound transmission in human earâ€”Pressure distributions. Medical Engineering and Physics, 2006, 28, 395-404.	0.8	124
5	Three-dimensional Modeling of Middle Ear Biomechanics and Its Applications. Otology and Neurotology, 2002, 23, 271-280.	0.7	93
6	Human Middle Ear Transfer Function Measured by Double Laser Interferometry System. Otology and Neurotology, 2004, 25, 423-435.	0.7	92
7	A Comprehensive Model of Human Ear for Analysis of Implantable Hearing Devices. IEEE Transactions on Biomedical Engineering, 2011, 58, 3024-3027.	2.5	80
8	Finite element modeling of sound transmission with perforations of tympanic membrane. Journal of the Acoustical Society of America, 2009, 126, 243-253.	0.5	70
9	Mass Loading on the Ossicles and Middle Ear Function. Annals of Otology, Rhinology and Laryngology, 2001, 110, 478-485.	0.6	69
10	Characterization of the linearly viscoelastic behavior of human tympanic membrane by nanoindentation. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 82-92.	1.5	61
11	Fixation and detachment of superior and anterior malleolar ligaments in human middle ear: Experiment and modeling. Hearing Research, 2007, 230, 24-33.	0.9	58
12	An advanced computer-aided geometric modeling and fabrication method for human middle ear. Medical Engineering and Physics, 2002, 24, 595-606.	0.8	55
13	Finite-element analysis of middle-ear pressure effects on static and dynamic behavior of human ear. Journal of the Acoustical Society of America, 2007, 122, 906-917.	0.5	55
14	Lumped parametric model of the human ear for sound transmission. Biomechanics and Modeling in Mechanobiology, 2004, 3, 33-47.	1.4	49
15	Laser interferometry measurements of middle ear fluid and pressure effects on sound transmission. Journal of the Acoustical Society of America, 2006, 120, 3799-3810.	0.5	49
16	Measurement of Youngâ€™s Modulus of Human Tympanic Membrane at High Strain Rates. Journal of Biomechanical Engineering, 2009, 131, 064501.	0.6	49
17	Mechanical properties of stapedial annular ligament. Medical Engineering and Physics, 2011, 33, 330-339.	0.8	49
18	Finite element modeling of energy absorbance in normal and disordered human ears. Hearing Research, 2013, 301, 146-155.	0.9	47

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19	Multifield coupled finite element analysis for sound transmission in otitis media with effusion. Journal of the Acoustical Society of America, 2007, 122, 3527-3538.	0.5	45
20	A Method for Measuring Linearly Viscoelastic Properties of Human Tympanic Membrane Using Nanoindentation. Journal of Biomechanical Engineering, 2008, 130, 014501.	0.6	40
21	Dynamic properties of human round window membrane in auditory frequencies running head: Dynamic properties of round window membrane. Medical Engineering and Physics, 2013, 35, 310-318.	0.8	38
22	Mechanical properties of anterior malleolar ligament from experimental measurement and material modeling analysis. Biomechanics and Modeling in Mechanobiology, 2008, 7, 387-394.	1.4	36
23	Dynamic Properties of Human Tympanic Membrane Based on Frequency-Temperature Superposition. Annals of Biomedical Engineering, 2013, 41, 205-214.	1.3	36
24	A totally implantable hearing system â€“ Design and function characterization in 3D computational model and temporal bones. Hearing Research, 2010, 263, 138-144.	0.9	35
25	Experimental measurement and modeling analysis on mechanical properties of incudostapedial joint. Biomechanics and Modeling in Mechanobiology, 2011, 10, 713-726.	1.4	34
26	Mechanical damage of tympanic membrane in relation to impulse pressure waveform â€“ A study in chinchillas. Hearing Research, 2016, 340, 25-34.	0.9	34
27	Mechanical Properties of Stapedial Tendon in Human Middle Ear. Journal of Biomechanical Engineering, 2007, 129, 913-918.	0.6	32
28	Change of middle ear transfer function in otitis media with effusion model of guinea pigs. Hearing Research, 2008, 243, 78-86.	0.9	32
29	Experimental measurement and modeling analysis on mechanical properties of tensor tympani tendon. Medical Engineering and Physics, 2008, 30, 358-366.	0.8	31
30	Effect of middle ear fluid on sound transmission and auditory brainstem response in guinea pigs. Hearing Research, 2011, 277, 96-106.	0.9	29
31	Implantable Hearing Device Performance Measured by Laser Doppler Interferometry. Ear, Nose and Throat Journal, 1997, 76, 297-309.	0.4	28
32	Dynamic properties of human tympanic membrane – experimental measurement and modelling analysis. International Journal of Experimental and Computational Biomechanics, 2010, 1, 252.	0.4	25
33	Experimental and Modeling Study of Human Tympanic Membrane Motion in the Presence of Middle Ear Liquid. JARO - Journal of the Association for Research in Otolaryngology, 2014, 15, 867-881.	0.9	25
34	Combined effect of fluid and pressure on middle ear function. Hearing Research, 2008, 236, 22-32.	0.9	23
35	3D finite element model of the chinchilla ear for characterizing middle ear functions. Biomechanics and Modeling in Mechanobiology, 2016, 15, 1263-1277.	1.4	23
36	Dynamic Properties of Human Stapedial Annular Ligament Measured With Frequencyâ€“Temperature Superposition. Journal of Biomechanical Engineering, 2014, 136, .	0.6	21

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37	Motion of tympanic membrane in guinea pig otitis media model measured by scanning laser Doppler vibrometry. Hearing Research, 2016, 339, 184-194.	0.9	21
38	Factors affecting loss of tympanic membrane mobility in acute otitis media model of chinchilla. Hearing Research, 2014, 309, 136-146.	0.9	20
39	Dynamic properties of round window membrane in guinea pig otitis media model measured with electromagnetic stimulation. Hearing Research, 2013, 301, 125-136.	0.9	19
40	Mechanisms of Tympanic Membrane and Incus Mobility Loss in Acute Otitis Media Model of Guinea Pig. JARO - Journal of the Association for Research in Otolaryngology, 2013, 14, 295-307.	0.9	16
41	Predictions of middle-ear and passive cochlear mechanics using a finite element model of the pediatric ear. Journal of the Acoustical Society of America, 2016, 139, 1735-1746.	0.5	14
42	Dynamic Properties of Human Tympanic Membrane After Exposure to Blast Waves. Annals of Biomedical Engineering, 2017, 45, 2383-2394.	1.3	14
43	Tympanometry and Laser Doppler Interferometry Measurements on Otitis Media With Effusion Model in Human Temporal Bones. Otology and Neurotology, 2007, 28, 551-558.	0.7	13
44	Morphological changes in the round window membrane associated with Haemophilus influenzae-induced acute otitis media in the chinchilla. International Journal of Pediatric Otorhinolaryngology, 2016, 88, 74-81.	0.4	13
45	The effect of blast overpressure on the mechanical properties of a chinchilla tympanic membrane. Hearing Research, 2017, 354, 48-55.	0.9	13
46	Hearing Damage Induced by Blast Overpressure at Mild TBI Level in a Chinchilla Model. Military Medicine, 2020, 185, 248-255.	0.4	13
47	Dynamic Properties of Tympanic Membrane in a Chinchilla Otitis Media Model Measured With Acoustic Loading. Journal of Biomechanical Engineering, 2015, 137, 081006.	0.6	12
48	Dynamic properties of human incudostapedial jointâ€"Experimental measurement and finite element modeling. Medical Engineering and Physics, 2018, 54, 14-21.	0.8	12
49	Biomechanical Measurement and Modeling of Human Eardrum Injury in Relation to Blast Wave Direction. Military Medicine, 2018, 183, 245-251.	0.4	12
50	Progressive hearing damage after exposure to repeated low-intensity blasts in chinchillas. Hearing Research, 2019, 378, 33-42.	0.9	12
51	Central and peripheral auditory abnormalities in chinchilla animal model of blast-injury. Hearing Research, 2021, 407, 108273.	0.9	12
52	Comparison of Eardrum Mobility in Acute Otitis Media and Otitis Media With Effusion Models. Otology and Neurotology, 2013, 34, 1316-1320.	0.7	11
53	3D Finite Element Modeling of Blast Wave Transmission from the External Ear to Cochlea. Annals of Biomedical Engineering, 2021, 49, 757-768.	1.3	11
54	Morphological changes in the tympanic membrane associated with Haemophilus influenzae-induced acute otitis media in the chinchilla. International Journal of Pediatric Otorhinolaryngology, 2015, 79, 1462-1471.	0.4	10

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55	The effect of blast overpressure on the mechanical properties of the human tympanic membrane. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 100, 103368.	1.5	10
56	Characterization of Protection Mechanisms to Blast Overpressure for Personal Hearing Protection Devices â€“ Biomechanical Measurement and Computational Modeling. Military Medicine, 2019, 184, 251-260.	0.4	10
57	Change in Cochlear Response in an Animal Model of Otitis Media with Effusion. Audiology and Neuro-Otology, 2010, 15, 155-167.	0.6	9
58	Modeling Analysis of Biomechanical Changes of Middle Ear and Cochlea in Otitis Media. AIP Conference Proceedings, 2011, , .	0.3	9
59	Computational Modeling of Blast Wave Transmission Through Human Ear. Military Medicine, 2018, 183, 262-268.	0.4	9
60	Mapping the Young's modulus distribution of the human tympanic membrane by microindentation. Hearing Research, 2019, 378, 75-91.	0.9	9
61	Dual-laser measurement and finite element modeling of human tympanic membrane motion under blast exposure. Hearing Research, 2019, 378, 43-52.	0.9	9
62	Pressure Distribution in a Simplified Human Ear Model for High Intensity Sound Transmission. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	8
63	Factors affecting sound energy absorbance in acute otitis media model of chinchilla. Hearing Research, 2017, 350, 22-31.	0.9	7
64	Dual-laser measurement of human stapes footplate motion under blast exposure. Hearing Research, 2021, 403, 108177.	0.9	7
65	Modeling microstructure of incudostapedial joint and the effect on cochlear input. AIP Conference Proceedings, 2015, , .	0.3	6
66	Complex modulus of round window membrane over auditory frequencies in normal and otitis media chinchilla ears. International Journal of Experimental and Computational Biomechanics, 2015, 3, 27.	0.4	6
67	EFFECTS OF MIDDLE EAR SUSPENSORY LIGAMENTS ON ACOUSTIC-MECHANICAL TRANSMISSION IN HUMAN EAR. , 2007, , .		5
68	Surface Motion of Tympanic Membrane in a Chinchilla Model of Acute Otitis Media. JARO - Journal of the Association for Research in Otolaryngology, 2018, 19, 619-635.	0.9	5
69	Biomechanical Changes of Tympanic Membrane to Blast Waves. Advances in Experimental Medicine and Biology, 2018, 1097, 321-334.	0.8	5
70	Mechanical properties of the Papio anubis tympanic membrane: Change significantly from infancy to adulthood. Hearing Research, 2018, 370, 143-154.	0.9	5
71	Surface Motion Changes of Tympanic Membrane Damaged by Blast Waves. Journal of Biomechanical Engineering, 2019, 141, .	0.6	5
72	Mechanical Properties of Baboon Tympanic Membrane from Young to Adult. JARO - Journal of the Association for Research in Otolaryngology, 2020, 21, 395-407.	0.9	3

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73	A comprehensive finite element model for studying Cochlear-Vestibular interaction. Computer Methods in Biomechanics and Biomedical Engineering, 2021, , 1-11.	0.9	3
74	Dynamic property changes in stapedial annular ligament associated with acute otitis media in the chinchilla. Medical Engineering and Physics, 2017, 40, 65-74.	0.8	2
75	Prevention of Blast-induced Auditory Injury Using 3D Printed Helmet and Hearing Protection Device â€“ A Preliminary Study on Biomechanical Modeling and Animal. Military Medicine, 2021, 186, 537-545.	0.4	2
76	Three-Dimensional Finite Element Modeling of Blast Wave Transmission From the External Ear to a Spiral Cochlea. Journal of Biomechanical Engineering, 2022, 144, .	0.6	2
77	TIHS: A totally implantable hearing system. Hearing Journal, 2008, 61, 33.	0.1	1
78	ACOUSTIC-STRUCTURAL COUPLED FINITE ELEMENT ANALYSIS FOR SOUND TRANSMISSION IN HUMAN EAR â€“ MIDDLE EAR TRANSFER FUNCTION. , 2007, , .		1
79	Age-related full-field motion change in baboon tympanic membrane. AIP Conference Proceedings, 2018, , .	0.3	0
80	A novel 3D video oculography system for measuring cross-axis vestibulo-ocular reflex. Medical Engineering and Physics, 2021, 96, 41-45.	0.8	0
81	Measurement of the Viscoelastic Properties of the Chinchilla Tympanic Membrane. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 25-34.	0.3	0
82	Investigating the Geometry and Mechanical Properties of Human Round Window Membranes Using Micro-Fringe Projection. Otology and Neurotology, 2021, 42, 319-326.	0.7	0