

# Zhen Xu

## List of Publications by Citations

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101  
papers

3,347  
citations

32  
h-index

55  
g-index

125  
ext. papers

4,229  
ext. citations

3.2  
avg, IF

5.19  
L-index

#	Paper	IF	Citations
101	Controlled ultrasound tissue erosion. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2004</b> , 51, 726-36	3.2	197
100	Probability of cavitation for single ultrasound pulses applied to tissues and tissue-mimicking materials. <i>Ultrasound in Medicine and Biology</i> , <b>2013</b> , 39, 449-65	3.5	172
99	Noninvasive thrombolysis using pulsed ultrasound cavitation therapy - histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2009</b> , 35, 1982-94	3.5	159
98	Histotripsy methods in mechanical disintegration of tissue: towards clinical applications. <i>International Journal of Hyperthermia</i> , <b>2015</b> , 31, 145-62	3.7	140
97	Controlled ultrasound tissue erosion: the role of dynamic interaction between insonation and microbubble activity. <i>Journal of the Acoustical Society of America</i> , <b>2005</b> , 117, 424-35	2.2	139
96	Noninvasive treatment of deep venous thrombosis using pulsed ultrasound cavitation therapy (histotripsy) in a porcine model. <i>Journal of Vascular and Interventional Radiology</i> , <b>2011</b> , 22, 369-77	2.4	117
95	Image-guided non-invasive ultrasound liver ablation using histotripsy: feasibility study in an in vivo porcine model. <i>Ultrasound in Medicine and Biology</i> , <b>2013</b> , 39, 1398-409	3.5	94
94	Effects of acoustic parameters on bubble cloud dynamics in ultrasound tissue erosion (histotripsy). <i>Journal of the Acoustical Society of America</i> , <b>2007</b> , 122, 229-36	2.2	90
93	Histotripsy beyond the intrinsic cavitation threshold using very short ultrasound pulses: microtripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 251-65	3.2	85
92	Noninvasive creation of an atrial septal defect by histotripsy in a canine model. <i>Circulation</i> , <b>2010</b> , 121, 742-9	16.7	85
91	High speed imaging of bubble clouds generated in pulsed ultrasound cavitation therapy--histotripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2007</b> , 54, 2091-101	3.2	84
90	A tissue phantom for visualization and measurement of ultrasound-induced cavitation damage. <i>Ultrasound in Medicine and Biology</i> , <b>2010</b> , 36, 2132-43	3.5	81
89	Effects of ultrasound frequency and tissue stiffness on the histotripsy intrinsic threshold for cavitation. <i>Ultrasound in Medicine and Biology</i> , <b>2015</b> , 41, 1651-67	3.5	80
88	Effects of tissue mechanical properties on susceptibility to histotripsy-induced tissue damage. <i>Physics in Medicine and Biology</i> , <b>2014</b> , 59, 253-70	3.8	74
87	Investigation of intensity thresholds for ultrasound tissue erosion. <i>Ultrasound in Medicine and Biology</i> , <b>2005</b> , 31, 1673-82	3.5	74
86	An efficient treatment strategy for histotripsy by removing cavitation memory. <i>Ultrasound in Medicine and Biology</i> , <b>2012</b> , 38, 753-66	3.5	72
85	Histotripsy-induced cavitation cloud initiation thresholds in tissues of different mechanical properties. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 341-52	3.2	67

84	Effects of tissue stiffness, ultrasound frequency, and pressure on histotripsy-induced cavitation bubble behavior. <i>Physics in Medicine and Biology</i> , <b>2015</b> , 60, 2271-92	3.8	62
83	Nanodroplet-mediated histotripsy for image-guided targeted ultrasound cell ablation. <i>Theranostics</i> , <b>2013</b> , 3, 851-64	12.1	58
82	Histotripsy of the prostate: dose effects in a chronic canine model. <i>Urology</i> , <b>2009</b> , 74, 932-7	1.6	58
81	Evolution of bubble clouds induced by pulsed cavitation ultrasound therapy - histotripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2008</b> , 55, 1122-32	3.2	58
80	Quantitative ultrasound backscatter for pulsed cavitation ultrasound therapy- histotripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2009</b> , 56, 995-1005	3.2	57
79	Size measurement of tissue debris particles generated from pulsed ultrasound cavitation therapy-histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2009</b> , 35, 245-55	3.5	52
78	Histotripsy fractionation of prostate tissue: local effects and systemic response in a canine model. <i>Journal of Urology</i> , <b>2011</b> , 185, 1484-9	2.5	50
77	Optical and acoustic monitoring of bubble cloud dynamics at a tissue-fluid interface in ultrasound tissue erosion. <i>Journal of the Acoustical Society of America</i> , <b>2007</b> , 121, 2421-30	2.2	50
76	Noninvasive thrombolysis using histotripsy beyond the intrinsic threshold (microtripsy). <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2015</b> , 62, 1342-55	3.2	42
75	Visualizing the Histotripsy Process: Bubble Cloud-Cancer Cell Interactions in a Tissue-Mimicking Environment. <i>Ultrasound in Medicine and Biology</i> , <b>2016</b> , 42, 2466-77	3.5	42
74	Focused ultrasound: tumour ablation and its potential to enhance immunological therapy to cancer. <i>British Journal of Radiology</i> , <b>2018</b> , 91, 20170641	3.4	42
73	Therapeutic ultrasound to noninvasively create intracardiac communications in an intact animal model. <i>Catheterization and Cardiovascular Interventions</i> , <b>2011</b> , 77, 580-8	2.7	36
72	A new strategy to enhance cavitation tissue erosion using a high-intensity, Initiating sequence. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2006</b> , 53, 1412-24	3.2	36
71	Histotripsy Thrombolysis on Retracted Clots. <i>Ultrasound in Medicine and Biology</i> , <b>2016</b> , 42, 1903-18	3.5	34
70	Non-thermal histotripsy tumor ablation promotes abscopal immune responses that enhance cancer immunotherapy <b>2020</b> , 8,		34
69	Non-Invasive Ultrasound Liver Ablation Using Histotripsy: Chronic Study in an In Vivo Rodent Model. <i>Ultrasound in Medicine and Biology</i> , <b>2016</b> , 42, 1890-902	3.5	32
68	Rapid prototyping fabrication of focused ultrasound transducers. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 1559-74	3.2	31
67	Effects of Ultrasound Frequency on Nanodroplet-Mediated Histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2015</b> , 41, 2135-47	3.5	30

66	Non-Invasive Thrombolysis Using Microtripsy in a Porcine Deep Vein Thrombosis Model. <i>Ultrasound in Medicine and Biology</i> , <b>2017</b> , 43, 1378-1390	3.5	29
65	. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 582-593	3.2	29
64	Predicting Tissue Susceptibility to Mechanical Cavitation Damage in Therapeutic Ultrasound. <i>Ultrasound in Medicine and Biology</i> , <b>2017</b> , 43, 1421-1440	3.5	28
63	Targeted Lesion Generation Through the Skull Without Aberration Correction Using Histotripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2016</b> , 63, 671-682	3.2	28
62	Polyvinyl chloride as a multimodal tissue-mimicking material with tuned mechanical and medical imaging properties. <i>Medical Physics</i> , <b>2016</b> , 43, 5577	4.4	27
61	Prostate histotripsy in an anticoagulated model. <i>Urology</i> , <b>2010</b> , 75, 207-11	1.6	26
60	Effects of Temperature on the Histotripsy Intrinsic Threshold for Cavitation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2016</b> , 63, 1064-1077	3.2	25
59	Real-time feedback of histotripsy thrombolysis using bubble-induced color Doppler. <i>Ultrasound in Medicine and Biology</i> , <b>2015</b> , 41, 1386-401	3.5	24
58	The role of positive and negative pressure on cavitation nucleation in nanodroplet-mediated histotripsy. <i>Physics in Medicine and Biology</i> , <b>2016</b> , 61, 663-82	3.8	23
57	Non-Invasive Liver Ablation Using Histotripsy: Preclinical Safety Study in an In Vivo Porcine Model. <i>Ultrasound in Medicine and Biology</i> , <b>2017</b> , 43, 1237-1251	3.5	22
56	Effects of f-number on the histotripsy intrinsic threshold and cavitation bubble cloud behavior. <i>Physics in Medicine and Biology</i> , <b>2017</b> , 62, 1269-1290	3.8	21
55	Noninvasive thrombolysis using microtripsy: a parameter study. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2015</b> , 62, 2092-105	3.2	21
54	In vivo histotripsy brain treatment. <i>Journal of Neurosurgery</i> , <b>2018</b> , 1-8	3.2	21
53	Non-invasive, Rapid Ablation of Tissue Volume Using Histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2017</b> , 43, 2834-2847	3.5	20
52	Dual-beam histotripsy: a low-frequency pump enabling a high-frequency probe for precise lesion formation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2014</b> , 61, 325-40	3.2	20
51	Modeling tissue-selective cavitation damage. <i>Physics in Medicine and Biology</i> , <b>2019</b> , 64, 225001	3.8	19
50	Noninvasive Ablation of Prostate Cancer Spheroids Using Acoustically-Activated Nanodroplets. <i>Molecular Pharmaceutics</i> , <b>2016</b> , 13, 4054-4065	5.6	19
49	Comparative study of the dynamics of laser and acoustically generated bubbles in viscoelastic media. <i>Physical Review E</i> , <b>2019</b> , 99, 043103	2.4	17

48	Effects of Droplet Composition on Nanodroplet-Mediated Histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2016</b> , 42, 931-46	3.5	16
47	Histotripsy: the first noninvasive, non-ionizing, non-thermal ablation technique based on ultrasound. <i>International Journal of Hyperthermia</i> , <b>2021</b> , 38, 561-575	3.7	16
46	Development of nanodroplets for histotripsy-mediated cell ablation. <i>Molecular Pharmaceutics</i> , <b>2014</b> , 11, 3684-95	5.6	15
45	Effect of Frequency and Focal Spacing on Transcranial Histotripsy Clot Liquefaction, Using Electronic Focal Steering. <i>Ultrasound in Medicine and Biology</i> , <b>2017</b> , 43, 2302-2317	3.5	15
44	A Comparison of Sonothrombolysis in Aged Clots between Low-Boiling-Point Phase-Change Nanodroplets and Microbubbles of the Same Composition. <i>Ultrasound in Medicine and Biology</i> , <b>2020</b> , 46, 3059-3068	3.5	14
43	Nanodroplet-mediated catheter-directed sonothrombolysis of retracted blood clots. <i>Microsystems and Nanoengineering</i> , <b>2021</b> , 7, 3	7.7	14
42	The role of compressional pressure in the formation of dense bubble clouds in histotripsy <b>2009</b> ,		13
41	Histotripsy Clot Liquefaction in a Porcine Intracerebral Hemorrhage Model. <i>Neurosurgery</i> , <b>2020</b> , 86, 429-436		13
40	Histotripsy for Non-Invasive Ablation of Hepatocellular Carcinoma (HCC) Tumor in a Subcutaneous Xenograft Murine Model. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2018</b> , 2018, 6064-6067	0.9	13
39	Effects of Thermal Preconditioning on Tissue Susceptibility to Histotripsy. <i>Ultrasound in Medicine and Biology</i> , <b>2015</b> , 41, 2938-54	3.5	11
38	Catheter Hydrophone Aberration Correction for Transcranial Histotripsy Treatment of Intracerebral Hemorrhage: Proof-of-Concept. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2017</b> , 64, 1684-1697	3.2	11
37	Soft-Tissue Aberration Correction for Histotripsy. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2018</b> , 65, 2073-2085	3.2	11
36	Integrated Histotripsy and Bubble Coalescence Transducer for Thrombolysis. <i>Ultrasound in Medicine and Biology</i> , <b>2018</b> , 44, 2697-2709	3.5	11
35	Robotically Assisted Sonic Therapy (RAST) for Noninvasive Hepatic Ablation in a Porcine Model: Mitigation of Body Wall Damage with a Modified Pulse Sequence. <i>CardioVascular and Interventional Radiology</i> , <b>2019</b> , 42, 1016-1023	2.7	10
34	Bubble-Induced Color Doppler Feedback Correlates with Histotripsy-Induced Destruction of Structural Components in Liver Tissue. <i>Ultrasound in Medicine and Biology</i> , <b>2018</b> , 44, 602-612	3.5	9
33	Why Are Short Pulses More Efficient in Tissue Erosion Using Pulsed Cavitation Ultrasound Therapy (Histotripsy)? <b>2010</b> ,		9
32	Single-bubble dynamics in histotripsy and high-amplitude ultrasound: Modeling and validation. <i>Physics in Medicine and Biology</i> , <b>2020</b> , 65, 225014	3.8	9
31	Effects of Histotripsy on Local Tumor Progression in an Orthotopic Rodent Liver Tumor Model. <i>BME Frontiers</i> , <b>2020</b> , 2020,	4.4	8

30	Robotically-Assisted Sonic Therapy for Renal Ablation in a Live Porcine Model: Initial Preclinical Results. <i>Journal of Vascular and Interventional Radiology</i> , <b>2019</b> , 30, 1293-1302	2.4	7
29	Hemodynamic and Hematologic Effects of Histotripsy of Free-Flowing Blood: Implications for Ultrasound-Mediated Thrombolysis. <i>Journal of Vascular and Interventional Radiology</i> , <b>2015</b> , 26, 1559-65	2.4	7
28	Integrated Histotripsy and Bubble Coalescence Transducer for Rapid Tissue Ablation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2018</b> , 65, 1822-1831	3.2	7
27	Examining the Influence of Low-Dose Tissue Plasminogen Activator on Microbubble-Mediated Forward-Viewing Intravascular Sonothrombolysis. <i>Ultrasound in Medicine and Biology</i> , <b>2020</b> , 46, 1698-1706	3.5	6
26	In-vivo study of non-invasive thrombolysis by histotripsy in a porcine model <b>2009</b> ,		6
25	Real-Time Transcranial Histotripsy Treatment Localization and Mapping Using Acoustic Cavitation Emission Feedback. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2020</b> , 67, 1178-1191	3.2	6
24	Acoustic cavitation rheometry. <i>Soft Matter</i> , <b>2021</b> , 17, 2931-2941	3.6	6
23	Histotripsy Lesion Formation Using an Ultrasound Imaging Probe Enabled by a Low-Frequency Pump Transducer. <i>Ultrasound in Medicine and Biology</i> , <b>2015</b> , 41, 2148-60	3.5	5
22	Transcranial MR-Guided Histotripsy System. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 2917-2929	3.2	5
21	A cost-effective, multi-flash, "ghost" imaging technique for high temporal and spatial resolution imaging of cavitation using "still-frame" cameras. <i>Journal of the Acoustical Society of America</i> , <b>2020</b> , 147, 1339	2.2	4
20	Safety Evaluation of a Forward-Viewing Intravascular Transducer for Sonothrombolysis: An in Vitro and ex Vivo Study. <i>Ultrasound in Medicine and Biology</i> , <b>2021</b> , 47, 3231-3239	3.5	4
19	Enhanced Shock Scattering Histotripsy With Pseudomonopolar Ultrasound Pulses. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2019</b> , 66, 1185-1197	3.2	3
18	Real-time elastography-based monitoring of histotripsy tissue fractionation using color Doppler <b>2012</b> ,		3
17	The effect of histotripsy on tissues with different mechanical properties <b>2011</b> ,		3
16	Non-invasive thrombolysis induced by histotripsy pulsed cavitation ultrasound therapy <b>2008</b> ,		3
15	Impact of Histotripsy on Development of Intrahepatic Metastases in a Rodent Liver Tumor Model.. <i>Cancers</i> , <b>2022</b> , 14,	6.6	3
14	Optical and Acoustic Monitoring of Bubble Dynamics at a Tissue-fluid Interface in Ultrasound Tissue Erosion. <i>AIP Conference Proceedings</i> , <b>2006</b> ,	0	2
13	Histotripsy Ablations in a Porcine Liver Model: Feasibility of Respiratory Motion Compensation by Alteration of the Ablation Zone Prescription Shape. <i>CardioVascular and Interventional Radiology</i> , <b>2020</b> , 43, 1695-1701	2.7	2

12	Coalescence of residual histotripsy cavitation nuclei using low-gain regions of the therapy beam during electronic focal steering. <i>Physics in Medicine and Biology</i> , <b>2018</b> , 63, 225010	3.8	2
11	Investigation of the mechanism of ARFI-based Color Doppler feedback of histotripsy tissue fractionation <b>2013</b> ,		1
10	Real-time motion tracking for non-invasive ultrasound cardiac therapy using histotripsy <b>2011</b> ,		1
9	Dual-Frequency Intravascular Thrombolysis with Miniaturized Forward-Looking Transducers <b>2020</b> ,		1
8	Transcranial Magnetic Resonance-Guided Histotripsy for Brain Surgery: Pre-clinical Investigation. <i>Ultrasound in Medicine and Biology</i> , <b>2022</b> , 48, 98-110	3.5	1
7	Acoustic Measurements of Nucleus Size Distribution at the Cavitation Threshold. <i>Ultrasound in Medicine and Biology</i> , <b>2021</b> , 47, 1024-1031	3.5	1
6	Intravascular Sonothrombolysis, in vitro, Using a Small Aperture, Forward-Viewing, Sub-Megahertz Transducer to Enhance tPA Treatment <b>2019</b> ,		1
5	Endocavity Histotripsy for Efficient Tissue Ablation-Transducer Design and Characterization. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 2896-2905	3.2	1
4	Dual-Frequency Intravascular Sonothrombolysis: An In Vitro Study. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 3599-3607	3.2	0
3	Transcostal Histotripsy Ablation in an In Vivo Acute Hepatic Porcine Model. <i>CardioVascular and Interventional Radiology</i> , <b>2021</b> , 44, 1643-1650	2.7	0
2	In Vivo Porcine Aged Deep Vein Thrombosis Model for Testing Ultrasound-based Thrombolysis Techniques. <i>Ultrasound in Medicine and Biology</i> , <b>2021</b> , 47, 3447-3457	3.5	0
1	Stereotactic Transcranial Focused Ultrasound Targeting System for Murine Brain Models. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 154-163	3.2	