Michael L Oelze

List of Publications by Year
in descending order

125	3,268	136950	168389
papers	citations	32 h-index	53 g-index

144	144	144	1828
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Review of Quantitative Ultrasound: Envelope Statistics and Backscatter Coefficient Imaging and Contributions to Diagnostic Ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 336-351.	3.0	256
2	Differentiation and Characterization of Rat Mammary Fibroadenomas and 4T1 Mouse Carcinomas Using Quantitative Ultrasound Imaging. IEEE Transactions on Medical Imaging, 2004, 23, 764-771.	8.9	203
3	Characterization of tissue microstructure using ultrasonic backscatter: Theory and technique for optimization using a Gaussian form factor. Journal of the Acoustical Society of America, 2002, 112, 1202-1211.	1.1	171
4	Three-Dimensional High-Frequency Backscatter and Envelope Quantification of Cancerous Human Lymph Nodes. Ultrasound in Medicine and Biology, 2011, 37, 345-357.	1.5	139
5	Interlaboratory Comparison of Ultrasonic Backscatter Coefficient Measurements From 2 to 9 MHz. Journal of Ultrasound in Medicine, 2005, 24, 1235-1250.	1.7	135
6	ExÂvivo Study of Quantitative Ultrasound Parameters in Fatty Rabbit Livers. Ultrasound in Medicine and Biology, 2012, 38, 2238-2248.	1.5	106
7	Frequency-dependent attenuation-compensation functions for ultrasonic signals backscattered from random media. Journal of the Acoustical Society of America, 2002, 111, 2308.	1.1	95
8	Examination of cancer in mouse models using high-frequency quantitative ultrasound. Ultrasound in Medicine and Biology, 2006, 32, 1639-1648.	1.5	95
9	Non-invasive evaluation of breast cancer response to chemotherapy using quantitative ultrasonic backscatter parameters. Medical Image Analysis, 2015, 20, 224-236.	11.6	93
10	Measurement of Attenuation and Speed of Sound in Soils. Soil Science Society of America Journal, 2002, 66, 788-796.	2.2	79
11	Identifying ultrasonic scattering sites from three-dimensional impedance maps. Journal of the Acoustical Society of America, 2005, 117, 413-423.	1.1	75
12	Application of Three Scattering Models to Characterization of Solid Tumors in Mice. Ultrasonic Imaging, 2006, 28, 83-96.	2.6	72
13	In vivo ultrasonic attenuation slope estimates for detecting cervical ripening in rats: Preliminary results. Journal of the Acoustical Society of America, 2008, 123, 1794-1800.	1.1	61
14	Defining optimal axial and lateral resolution for estimating scatterer properties from volumes using ultrasound backscatter. Journal of the Acoustical Society of America, 2004, 115, 3226-3234.	1.1	60
15	Estimation of total attenuation and scatterer size from backscattered ultrasound waveforms. Journal of the Acoustical Society of America, 2005, 117, 1431-1439.	1.1	59
16	Temperature dependent ultrasonic characterization of biological media. Journal of the Acoustical Society of America, 2011, 130, 2203-2211.	1.1	58
17	High-intensity focused ultrasound-induced mechanochemical transduction in synthetic elastomers. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 10214-10222.	7.1	57
18	Tomographic Reconstruction of Three-Dimensional Volumes Using the Distorted Born Iterative Method. IEEE Transactions on Medical Imaging, 2009, 28, 1643-1653.	8.9	56

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19	Comparison of Ultrasound Attenuation and Backscatter Estimates in Layered Tissue-Mimicking Phantoms among Three Clinical Scanners. Ultrasonic Imaging, 2012, 34, 209-221.	2.6	54
20	Interlaboratory Comparison of Backscatter Coefficient Estimates for Tissue-Mimicking Phantoms. Ultrasonic Imaging, 2010, 32, 48-64.	2.6	53
21	On the estimation of backscatter coefficients using single-element focused transducers. Journal of the Acoustical Society of America, 2011, 129, 2903-2911.	1.1	50
22	Extended three-dimensional impedance map methods for identifying ultrasonic scattering sites. Journal of the Acoustical Society of America, 2008, 123, 1195-1208.	1.1	47
23	Parametric Imaging of Rat Mammary Tumors In Vivo for the Purposes of Tissue Characterization. Journal of Ultrasound in Medicine, 2002, 21, 1201-1210.	1.7	46
24	Noninvasive and Spatiotemporal Control of DNAzyme-Based Imaging of Metal Ions In Vivo Using High-Intensity Focused Ultrasound. Journal of the American Chemical Society, 2022, 144, 5812-5819.	13.7	46
25	Method of improved scatterer size estimation and application to parametric imaging using ultrasound. Journal of the Acoustical Society of America, 2002, 112, 3053-3063.	1.1	45
26	Ultrasonic Attenuation and Backscatter Coefficient Estimates of Rodent-Tumor-Mimicking Structures: Comparison of Results among Clinical Scanners. Ultrasonic Imaging, 2011, 33, 233-250.	2.6	45
27	Density imaging using inverse scattering. Journal of the Acoustical Society of America, 2009, 125, 793-802.	1.1	44
28	Characterization of Thyroid Cancer in Mouse Models Using High-Frequency Quantitative Ultrasound Techniques. Ultrasound in Medicine and Biology, 2013, 39, 2333-2341.	1.5	44
29	Production of uniformly sized serum albumin and dextrose microbubbles. Ultrasonics Sonochemistry, 2012, 19, 198-208.	8.2	41
30	Quantitative Ultrasound Assessment of the Rat Cervix. Journal of Ultrasound in Medicine, 2006, 25, 1031-1040.	1.7	38
31	Cross-imaging system comparison of backscatter coefficient estimates from a tissue-mimicking material. Journal of the Acoustical Society of America, 2012, 132, 1319-1324.	1.1	38
32	A contactless ultrasonic surface wave approach to characterize distributed cracking damage in concrete. Ultrasonics, 2017, 75, 46-57.	3.9	36
33	Three-dimensional quantitative ultrasound for detecting lymph node metastases. Journal of Surgical Research, 2013, 183, 258-269.	1.6	34
34	Ultrasonic Assessment of Thermal Therapy in Rat Liver. Ultrasound in Medicine and Biology, 2012, 38, 2130-2137.	1.5	31
35	Ultrasound controlled mechanophore activation in hydrogels for cancer therapy. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	27
36	Emergency ventilator for COVID-19. PLoS ONE, 2020, 15, e0244963.	2.5	26

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37	Characterizing Fatty Liver in vivo in Rabbits, Using Quantitative Ultrasound. Ultrasound in Medicine and Biology, 2019, 45, 2049-2062.	1.5	25
38	Measurement of Attenuation and Speed of Sound in Soils. Soil Science Society of America Journal, 2002, 66, 788.	2.2	24
39	Improved scatterer property estimates from ultrasound backscatter for small gate lengths using a gate-edge correction factor. Journal of the Acoustical Society of America, 2004, 116, 3212-3223.	1.1	22
40	Cross-Imaging Platform Comparison of Ultrasonic Backscatter Coefficient Measurements of Live Rat Tumors. Journal of Ultrasound in Medicine, 2010, 29, 1117-1123.	1.7	20
41	Mbps experimental acoustic through-tissue communications: MEAT-COMMS. , 2016, , .		20
42	Estimation of the acoustic impedance of lung versus level of inflation for different species and ages of animals. Journal of the Acoustical Society of America, 2008, 124, 2340-2352.	1.1	19
43	Improving Spatial Resolution Using Incoherent Subtraction of Receive Beams Having Different Apodizations. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 5-17.	3.0	19
44	Quantitative Ultrasound Imaging for Monitoring In Situ High-Intensity Focused Ultrasound Exposure. Ultrasonic Imaging, 2014, 36, 239-255.	2.6	17
45	3-D High-Frequency Ultrasound Backscatter Analysis of Human Articular Cartilage. Ultrasound in Medicine and Biology, 2014, 40, 244-257.	1.5	16
46	Experimental Application of Ultrafast Imaging to Spectral Tissue Characterization. Ultrasound in Medicine and Biology, 2015, 41, 2506-2519.	1.5	16
47	Time domain attenuation estimation method from ultrasonic backscattered signals. Journal of the Acoustical Society of America, 2012, 132, 533-543.	1.1	15
48	Ultrasound microbubble potentiated enhancement of hyperthermia-effect in tumours. PLoS ONE, 2019, 14, e0226475.	2.5	15
49	Impedance measurements ofex vivorat lung at different volumes of inflation. Journal of the Acoustical Society of America, 2003, 114, 3384-3393.	1.1	14
50	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. Soil Science Society of America Journal, 2003, 67, 241-250.	2.2	14
51	Ultrasonic backscatter coefficients for weakly scattering, agar spheres in agar phantoms. Journal of the Acoustical Society of America, 2010, 128, 903-908.	1.1	14
52	InÂVivo Multiparametric Ultrasound Imaging of Structural and Functional Tumor Modifications during Therapy. Ultrasound in Medicine and Biology, 2017, 43, 2000-2012.	1.5	14
53	Use of a convolutional neural network and quantitative ultrasound for diagnosis of fatty liver. Ultrasound in Medicine and Biology, 2021, 47, 556-568.	1.5	14
54	Exploring potential mechanisms responsible for observed changes of ultrasonic backscattered energy with temperature variations. Medical Physics, 2014, 41, 052901.	3.0	13

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55	Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 1088-1096.	4.0	13
56	Improved scatterer size estimation using backscatter coefficient measurements with coded excitation and pulse compression. Journal of the Acoustical Society of America, 2008, 123, 4599-4607.	1.1	12
57	High-frequency ultrasound detection of cell death: Spectral differentiation of different forms of cell death in vitro. Oncoscience, 2016, 3, 275-287.	2.2	12
58	Optimization of microbubble enhancement of hyperthermia for cancer therapy in an in vivo breast tumour model. PLoS ONE, 2020, 15, e0237372.	2.5	12
59	Analysis of Human Fibroadenomas Using Three-Dimensional Impedance Maps. IEEE Transactions on Medical Imaging, 2011, 30, 1206-1213.	8.9	11
60	Amplitude modulated chirp excitation to reduce grating lobes and maintain ultrasound intensity at the focus of an array. Ultrasonics, 2013, 53, 1293-1303.	3.9	11
61	Quantitative Ultrasound Comparison of MAT and 4T1 Mammary Tumors in Mice and Rats Across Multiple Imaging Systems. Journal of Ultrasound in Medicine, 2015, 34, 1373-1383.	1.7	11
62	Effects of acoustic nonlinearities on the ultrasonic backscatter coefficient estimation. Journal of the Acoustical Society of America, 2019, 146, 85-94.	1.1	11
63	Roughness characterization of porous soil with acoustic backscatter. Journal of the Acoustical Society of America, 2001, 109, 1826-1832.	1.1	10
64	Quantitative ultrasound techniques and improvements to diagnostic ultrasonic imaging. , 2012, , .		10
65	Assessment of high-intensity focused ultrasound treatment of rodent mammary tumors using ultrasound backscatter coefficients. Journal of the Acoustical Society of America, 2013, 134, 1559-1568.	1.1	10
66	Visualization of the Intensity Field of a Focused Ultrasound Source <italic>In Situ</italic>. IEEE Transactions on Medical Imaging, 2019, 38, 124-133.	8.9	10
67	Improved Ultrasound Localization Microscopy Based on Microbubble Uncoupling via Transmit Excitation. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 1041-1052.	3.0	10
68	Improving the quality of QUS imaging using full angular spatial compounding. , 2008, , .		9
69	Backscatter Coefficient Estimation Using Tapers with Gaps. Ultrasonic Imaging, 2015, 37, 117-134.	2.6	9
70	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. Soil Science Society of America Journal, 2003, 67, 241.	2.2	9
71	Video-Capable Ultrasonic Wireless Communications Through Biological Tissues. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 664-674.	3.0	8
72	Estimating concentration of ultrasound contrast agents with backscatter coefficients: Experimental and theoretical aspects. Journal of the Acoustical Society of America, 2012, 131, 2295-2305.	1.1	7

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73	Synergistic Effects of Ultrasound-Activated Microbubbles and Doxorubicin on Short-Term Survival of Mouse Mammary Tumor Cells. Ultrasonic Imaging, 2012, 34, 15-22.	2.6	7
74	Using two-dimensional impedance maps to study weak scattering in sparse random media. Journal of the Acoustical Society of America, 2016, 139, 1557-1564.	1.1	7
75	Limitations on estimation of effective scatterer diameters. Journal of the Acoustical Society of America, 2017, 142, 3677-3690.	1.1	7
76	High Data Rate Communications In Vivo Using Ultrasound. IEEE Transactions on Biomedical Engineering, 2021, 68, 3308-3316.	4.2	7
77	Total attenuation compensation for backscatter coefficient estimation using full angular spatial compounding. Ultrasonics, 2021, 114, 106376.	3.9	7
78	Small Lesion Detection with Resolution Enhancement Compression. Ultrasonic Imaging, 2010, 32, 16-32.	2.6	6
79	Scattering by an arrangement of eccentric cylinders embedded on a coated cylinder with applications to tomographic density imaging. Journal of the Acoustical Society of America, 2010, 127, 645-648.	1.1	6
80	Estimation of Backscatter Coefficients Using an In Situ Calibration Source. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 308-317.	3.0	6
81	Real-Time Visualization of a Focused Ultrasound Beam Using Ultrasonic Backscatter. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1213-1223.	3.0	6
82	Combined Therapy Planning, Real-Time Monitoring, and Low Intensity Focused Ultrasound Treatment Using a Diagnostic Imaging Array. IEEE Transactions on Medical Imaging, 2022, 41, 1410-1419.	8.9	6
83	Application of an acoustic backscatter technique for characterizing the roughness of porous soil. Journal of the Acoustical Society of America, 2002, 111, 1565-1577.	1.1	5
84	Two approaches for tomographic density imaging using inverse scattering. , 2008, , .		5
85	Implementation of scatterer size imaging on an ultrasonic breast tomography scanner. , 2009, , .		5
86	A quantitative ultrasound-based method and device for reliably guiding pathologists to metastatic regions of dissected lymph nodes. , 2012, , .		5
87	Species-Independent Modeling of High-Frequency Ultrasound Backscatter in Hyaline Cartilage. Ultrasound in Medicine and Biology, 2016, 42, 1375-1384.	1.5	5
88	Effects of acoustic nonlinearity on pulse-echo attenuation coefficient estimation from tissue-mimicking phantoms. Journal of the Acoustical Society of America, 2020, 148, 805-814.	1.1	5
89	Ultrasonic backscatter coefficient estimation in nonlinear regime using an in situ calibration target. Journal of the Acoustical Society of America, 2022, 151, 4196-4206.	1.1	5
90	Improving the quality of attenuation imaging using full angular spatial compounding. , 2014, , .		4

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91	Enhancing cell kill in vitro from hyperthermia through pre-sensitizing with ultrasound-stimulated microbubbles. Journal of the Acoustical Society of America, 2015, 138, EL493-EL497.	1.1	4
92	Improving lateral resolution in ultrasonic Imaging by utilizing nulls in the beam pattern. , 2015, , .		4
93	Fast High-Resolution Ultrasound Microvessel Imaging with Null Subtraction Imaging-based Beamforming. , 2020, , .		4
94	Identifying and overcoming limitations with in situ calibration beads for quantitative ultrasound. Journal of the Acoustical Society of America, 2022, 151, 2701-2711.	1.1	4
95	Low-frequency sound wave parameter measurement in gravels. Applied Acoustics, 2010, 71, 45-51.	3.3	3
96	Assessment of the effects of scatterer size distributions on effective scatterer diameter estimates. , 2010, , .		3
97	Scattering by single physically large and weak scatterers in the beam of a single-element transducer. Journal of the Acoustical Society of America, 2015, 137, 1153-1163.	1.1	3
98	Effects of the container on structure function with impedance map analysis of dense scattering media. Journal of the Acoustical Society of America, 2018, 143, 2172-2181.	1.1	3
99	Use of quantitative ultrasound to detect temperature variations in biological phantoms due to heating. , 2009, , .		2
100	An improved method for tomographic density imaging using a multiple frequency inverse scattering approach. , 2009, , .		2
101	Quantitative ultrasound assessment of HIFU induced lesions in rodent liver. , 2010, , .		2
102	A new approach for detecting attenuation changes during high-intensity focused ultrasound. , 2010, , .		2
103	Improving image contrast using coded excitation for ultrasonic imaging. , 2010, , .		2
104	Changes in quantitative ultrasound parameters during HIFU application. , 2012, , .		2
105	Improved estimation of parameters of the homodyned K distribution. , 2009, , .		1
106	Accuracy of backscatter coefficient estimation using highly focused transducers. , 2012, , .		1
107	Quantitative imaging of temperature elevations in tissues due to thermal therapies. , 2014, , .		1
108	Experimental validation of plane wave imaging using k-space beamforming for spectral characterization of isotropic media. , 2014, , .		1

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109	Visualization of the intensity field of a high intensity focused ultrasound (HIFU) source in situ. , 2015, , .		1
110	Focused Ultrasound Treatment of Cervical Lymph Nodes in Rats with EAE: A Pilot Study. Ultrasound in Medicine and Biology, 2016, 42, 2957-2964.	1.5	1
111	Sensitivity Analysis of Reference-Free Quantitative Ultrasound Tissue Classification. , 2018, , .		1
112	On the use of inverse scattering tomographic methods for quantitative ultrasound techniques. Journal of the Acoustical Society of America, 2006, 120, 3024-3024.	1.1	1
113	Real-Time Visualization of a Focused Ultrasound Beam Using Ultrasonic Backscatter for Monitoring of Mechanical-Based Therapies. , 2020, , .		1
114	Using resolution enhancement compression to reduce variance of scatterer size estimates from ultrasonic backscattered signals. , 2008, , .		0
115	Analysis of human fibroadenomas using three-dimensional impedance maps. , 2009, , .		0
116	Estimating scatterer properties in rat fibroadenomas using various mathematical form factors. , 2009, , .		0
117	A spatially varying pulse compression filter for coded excitation signals. , 2010, , .		0
118	Reducing the effects of specular scatterers on QUS imaging using the generalized spectrum. , 2010, , .		0
119	Attenuation estimation using a synthetic aperture focusing technique. , 2011, , .		0
120	Quantitative ultrasound assessment of treated MAT tumors. , 2011, , .		0
121	Quantitative ultrasound assessment of thermal damage in excised liver. , 2012, , .		0
122	Modeling volume power spectra for collections of spheres in a finite container. , 2013, , .		0
123	In-vivo study of quantitative ultrasound parameters in fatty rabbit livers. , 2017, , .		0
124	In Situ Calibration to Account for Transmission Losses in Backscatter Coefficient Estimation. , 2018, , .		0
125	Analysis of the Accuracy and Precision of the Least Square Fitting Method for Simultaneous Estimation of Backscatter and Attenuation Coefficients. , 2018, , .		0