

# Michael L Oelze

## List of Publications by Year in descending order

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125  
papers

3,268  
citations

136950

32  
h-index

168389

53  
g-index

144  
all docs

144  
docs citations

144  
times ranked

1828  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	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
4	Noninvasive and Spatiotemporal Control of DNAzyme-Based Imaging of Metal Ions <i>In Vivo</i> Using High-Intensity Focused Ultrasound. Journal of the American Chemical Society, 2022, 144, 5812-5819.	13.7	46
5	Identifying and overcoming limitations with <i>in situ</i> calibration beads for quantitative ultrasound. Journal of the Acoustical Society of America, 2022, 151, 2701-2711.	1.1	4
6	Ultrasonic backscatter coefficient estimation in nonlinear regime using an <i>in situ</i> calibration target. Journal of the Acoustical Society of America, 2022, 151, 4196-4206.	1.1	5
7	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
8	Video-Capable Ultrasonic Wireless Communications Through Biological Tissues. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 664-674.	3.0	8
9	High Data Rate Communications In Vivo Using Ultrasound. IEEE Transactions on Biomedical Engineering, 2021, 68, 3308-3316.	4.2	7
10	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
11	Total attenuation compensation for backscatter coefficient estimation using full angular spatial compounding. Ultrasonics, 2021, 114, 106376.	3.9	7
12	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
13	Optimization of microbubble enhancement of hyperthermia for cancer therapy in an in vivo breast tumour model. PLoS ONE, 2020, 15, e0237372.	2.5	12
14	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
15	Estimation of Backscatter Coefficients Using an <i>In Situ</i> Calibration Source. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 308-317.	3.0	6
16	Emergency ventilator for COVID-19. PLoS ONE, 2020, 15, e0244963.	2.5	26
17	Fast High-Resolution Ultrasound Microvessel Imaging with Null Subtraction Imaging-based Beamforming. , 2020, , .		4
18	Real-Time Visualization of a Focused Ultrasound Beam Using Ultrasonic Backscatter for Monitoring of Mechanical-Based Therapies. , 2020, , .		1

#	ARTICLE	IF	CITATIONS
19	Visualization of the Intensity Field of a Focused Ultrasound Source <i>&amp;lt;italic&gt;In Situ&amp;/italic&gt;</i> . IEEE Transactions on Medical Imaging, 2019, 38, 124-133.	8.9	10
20	Effects of acoustic nonlinearities on the ultrasonic backscatter coefficient estimation. Journal of the Acoustical Society of America, 2019, 146, 85-94.	1.1	11
21	Characterizing Fatty Liver in vivo in Rabbits, Using Quantitative Ultrasound. Ultrasound in Medicine and Biology, 2019, 45, 2049-2062.	1.5	25
22	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
23	Ultrasound microbubble potentiated enhancement of hyperthermia-effect in tumours. PLoS ONE, 2019, 14, e0226475.	2.5	15
24	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
25	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
26	In Situ Calibration to Account for Transmission Losses in Backscatter Coefficient Estimation. , 2018, , .		0
27	Sensitivity Analysis of Reference-Free Quantitative Ultrasound Tissue Classification. , 2018, , .		1
28	Analysis of the Accuracy and Precision of the Least Square Fitting Method for Simultaneous Estimation of Backscatter and Attenuation Coefficients. , 2018, , .		0
29	In-Vivo Multiparametric Ultrasound Imaging of Structural and Functional Tumor Modifications during Therapy. Ultrasound in Medicine and Biology, 2017, 43, 2000-2012.	1.5	14
30	A contactless ultrasonic surface wave approach to characterize distributed cracking damage in concrete. Ultrasonics, 2017, 75, 46-57.	3.9	36
31	Limitations on estimation of effective scatterer diameters. Journal of the Acoustical Society of America, 2017, 142, 3677-3690.	1.1	7
32	In-vivo study of quantitative ultrasound parameters in fatty rabbit livers. , 2017, , .		0
33	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
34	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
35	Species-Independent Modeling of High-Frequency Ultrasound Backscatter in Hyaline Cartilage. Ultrasound in Medicine and Biology, 2016, 42, 1375-1384.	1.5	5
36	Mbps experimental acoustic through-tissue communications: MEAT-COMMS. , 2016, , .		20

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37	Focused Ultrasound Treatment of Cervical Lymph Nodes in Rats with EAE: A Pilot Study. <i>Ultrasound in Medicine and Biology</i> , 2016, 42, 2957-2964.	1.5	1
38	Review of Quantitative Ultrasound: Envelope Statistics and Backscatter Coefficient Imaging and Contributions to Diagnostic Ultrasound. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2016, 63, 336-351.	3.0	256
39	Enhancing cell kill <i>in vitro</i> from hyperthermia through pre-sensitizing with ultrasound-stimulated microbubbles. <i>Journal of the Acoustical Society of America</i> , 2015, 138, EL493-EL497.	1.1	4
40	Visualization of the intensity field of a high intensity focused ultrasound (HIFU) source in situ. , 2015, , .		1
41	Improving lateral resolution in ultrasonic Imaging by utilizing nulls in the beam pattern. , 2015, , .		4
42	Non-invasive evaluation of breast cancer response to chemotherapy using quantitative ultrasonic backscatter parameters. <i>Medical Image Analysis</i> , 2015, 20, 224-236.	11.6	93
43	Quantitative Ultrasound Comparison of MAT and 4T1 Mammary Tumors in Mice and Rats Across Multiple Imaging Systems. <i>Journal of Ultrasound in Medicine</i> , 2015, 34, 1373-1383.	1.7	11
44	Experimental Application of Ultrafast Imaging to Spectral Tissue Characterization. <i>Ultrasound in Medicine and Biology</i> , 2015, 41, 2506-2519.	1.5	16
45	Backscatter Coefficient Estimation Using Tapers with Gaps. <i>Ultrasonic Imaging</i> , 2015, 37, 117-134.	2.6	9
46	Scattering by single physically large and weak scatterers in the beam of a single-element transducer. <i>Journal of the Acoustical Society of America</i> , 2015, 137, 1153-1163.	1.1	3
47	Quantitative imaging of temperature elevations in tissues due to thermal therapies. , 2014, , .		1
48	Experimental validation of plane wave imaging using k-space beamforming for spectral characterization of isotropic media. , 2014, , .		1
49	Exploring potential mechanisms responsible for observed changes of ultrasonic backscattered energy with temperature variations. <i>Medical Physics</i> , 2014, 41, 052901.	3.0	13
50	Improving the quality of attenuation imaging using full angular spatial compounding. , 2014, , .		4
51	Quantitative Ultrasound Imaging for Monitoring In Situ High-Intensity Focused Ultrasound Exposure. <i>Ultrasonic Imaging</i> , 2014, 36, 239-255.	2.6	17
52	3-D High-Frequency Ultrasound Backscatter Analysis of Human Articular Cartilage. <i>Ultrasound in Medicine and Biology</i> , 2014, 40, 244-257.	1.5	16
53	Amplitude modulated chirp excitation to reduce grating lobes and maintain ultrasound intensity at the focus of an array. <i>Ultrasonics</i> , 2013, 53, 1293-1303.	3.9	11
54	Characterization of Thyroid Cancer in Mouse Models Using High-Frequency Quantitative Ultrasound Techniques. <i>Ultrasound in Medicine and Biology</i> , 2013, 39, 2333-2341.	1.5	44

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55	Three-dimensional quantitative ultrasound for detecting lymph node metastases. Journal of Surgical Research, 2013, 183, 258-269.	1.6	34
56	Modeling volume power spectra for collections of spheres in a finite container. , 2013, , .		0
57	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
58	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
59	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
60	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
61	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
62	Changes in quantitative ultrasound parameters during HIFU application. , 2012, , .		2
63	Quantitative ultrasound assessment of thermal damage in excised liver. , 2012, , .		0
64	A quantitative ultrasound-based method and device for reliably guiding pathologists to metastatic regions of dissected lymph nodes. , 2012, , .		5
65	Time domain attenuation estimation method from ultrasonic backscattered signals. Journal of the Acoustical Society of America, 2012, 132, 533-543.	1.1	15
66	Ultrasonic Assessment of Thermal Therapy in Rat Liver. Ultrasound in Medicine and Biology, 2012, 38, 2130-2137.	1.5	31
67	ExÂvivo Study of Quantitative Ultrasound Parameters in Fatty Rabbit Livers. Ultrasound in Medicine and Biology, 2012, 38, 2238-2248.	1.5	106
68	Quantitative ultrasound techniques and improvements to diagnostic ultrasonic imaging. , 2012, , .		10
69	Accuracy of backscatter coefficient estimation using highly focused transducers. , 2012, , .		1
70	Production of uniformly sized serum albumin and dextrose microbubbles. Ultrasonics Sonochemistry, 2012, 19, 198-208.	8.2	41
71	Attenuation estimation using a synthetic aperture focusing technique. , 2011, , .		0
72	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

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73	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
74	Analysis of Human Fibroadenomas Using Three-Dimensional Impedance Maps. IEEE Transactions on Medical Imaging, 2011, 30, 1206-1213.	8.9	11
75	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
76	Quantitative ultrasound assessment of treated MAT tumors. , 2011, , .		0
77	Temperature dependent ultrasonic characterization of biological media. Journal of the Acoustical Society of America, 2011, 130, 2203-2211.	1.1	58
78	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
79	Low-frequency sound wave parameter measurement in gravels. Applied Acoustics, 2010, 71, 45-51.	3.3	3
80	Small Lesion Detection with Resolution Enhancement Compression. Ultrasonic Imaging, 2010, 32, 16-32.	2.6	6
81	Quantitative ultrasound assessment of HIFU induced lesions in rodent liver. , 2010, , .		2
82	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
83	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
84	A spatially varying pulse compression filter for coded excitation signals. , 2010, , .		0
85	Interlaboratory Comparison of Backscatter Coefficient Estimates for Tissue-Mimicking Phantoms. Ultrasonic Imaging, 2010, 32, 48-64.	2.6	53
86	A new approach for detecting attenuation changes during high-intensity focused ultrasound. , 2010, , .		2
87	Assessment of the effects of scatterer size distributions on effective scatterer diameter estimates. , 2010, , .		3
88	Reducing the effects of specular scatterers on QUS imaging using the generalized spectrum. , 2010, , .		0
89	Improving image contrast using coded excitation for ultrasonic imaging. , 2010, , .		2
90	Improved estimation of parameters of the homodyned K distribution. , 2009, , .		1

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91	Analysis of human fibroadenomas using three-dimensional impedance maps. , 2009, , .		0
92	Use of quantitative ultrasound to detect temperature variations in biological phantoms due to heating. , 2009, , .		2
93	Estimating scatterer properties in rat fibroadenomas using various mathematical form factors. , 2009, , .		0
94	Tomographic Reconstruction of Three-Dimensional Volumes Using the Distorted Born Iterative Method. IEEE Transactions on Medical Imaging, 2009, 28, 1643-1653.	8.9	56
95	Density imaging using inverse scattering. Journal of the Acoustical Society of America, 2009, 125, 793-802.	1.1	44
96	Implementation of scatterer size imaging on an ultrasonic breast tomography scanner. , 2009, , .		5
97	An improved method for tomographic density imaging using a multiple frequency inverse scattering approach. , 2009, , .		2
98	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
99	Improving the quality of QUS imaging using full angular spatial compounding. , 2008, , .		9
100	<i>In vivo</i> 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
101	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
102	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
103	Two approaches for tomographic density imaging using inverse scattering. , 2008, , .		5
104	Using resolution enhancement compression to reduce variance of scatterer size estimates from ultrasonic backscattered signals. , 2008, , .		0
105	Quantitative Ultrasound Assessment of the Rat Cervix. Journal of Ultrasound in Medicine, 2006, 25, 1031-1040.	1.7	38
106	Examination of cancer in mouse models using high-frequency quantitative ultrasound. Ultrasound in Medicine and Biology, 2006, 32, 1639-1648.	1.5	95
107	Application of Three Scattering Models to Characterization of Solid Tumors in Mice. Ultrasonic Imaging, 2006, 28, 83-96.	2.6	72
108	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

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109	Interlaboratory Comparison of Ultrasonic Backscatter Coefficient Measurements From 2 to 9 MHz. Journal of Ultrasound in Medicine, 2005, 24, 1235-1250.	1.7	135
110	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
111	Identifying ultrasonic scattering sites from three-dimensional impedance maps. Journal of the Acoustical Society of America, 2005, 117, 413-423.	1.1	75
112	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
113	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
114	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
115	Impedance measurements of ex vivo rat lung at different volumes of inflation. Journal of the Acoustical Society of America, 2003, 114, 3384-3393.	1.1	14
116	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. Soil Science Society of America Journal, 2003, 67, 241-250.	2.2	14
117	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. Soil Science Society of America Journal, 2003, 67, 241.	2.2	9
118	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
119	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
120	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
121	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
122	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
123	Measurement of Attenuation and Speed of Sound in Soils. Soil Science Society of America Journal, 2002, 66, 788.	2.2	24
124	Measurement of Attenuation and Speed of Sound in Soils. Soil Science Society of America Journal, 2002, 66, 788-796.	2.2	79
125	Roughness characterization of porous soil with acoustic backscatter. Journal of the Acoustical Society of America, 2001, 109, 1826-1832.	1.1	10