

# Michael L Oelze

## List of Publications by Year in descending order

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125  
papers

3,268  
citations

136740

32  
h-index

168136

53  
g-index

144  
all docs

144  
docs citations

144  
times ranked

1828  
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.	1.7	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.	5.4	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.	0.5	171
4	Three-Dimensional High-Frequency Backscatter and Envelope Quantification of Cancerous Human Lymph Nodes. Ultrasound in Medicine and Biology, 2011, 37, 345-357.	0.7	139
5	Interlaboratory Comparison of Ultrasonic Backscatter Coefficient Measurements From 2 to 9 MHz. Journal of Ultrasound in Medicine, 2005, 24, 1235-1250.	0.8	135
6	Ex Vivo Study of Quantitative Ultrasound Parameters in Fatty Rabbit Livers. Ultrasound in Medicine and Biology, 2012, 38, 2238-2248.	0.7	106
7	Frequency-dependent attenuation-compensation functions for ultrasonic signals backscattered from random media. Journal of the Acoustical Society of America, 2002, 111, 2308.	0.5	95
8	Examination of cancer in mouse models using high-frequency quantitative ultrasound. Ultrasound in Medicine and Biology, 2006, 32, 1639-1648.	0.7	95
9	Non-invasive evaluation of breast cancer response to chemotherapy using quantitative ultrasonic backscatter parameters. Medical Image Analysis, 2015, 20, 224-236.	7.0	93
10	Measurement of Attenuation and Speed of Sound in Soils. Soil Science Society of America Journal, 2002, 66, 788-796.	1.2	79
11	Identifying ultrasonic scattering sites from three-dimensional impedance maps. Journal of the Acoustical Society of America, 2005, 117, 413-423.	0.5	75
12	Application of Three Scattering Models to Characterization of Solid Tumors in Mice. Ultrasonic Imaging, 2006, 28, 83-96.	1.4	72
13	<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.	0.5	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.	0.5	60
15	Estimation of total attenuation and scatterer size from backscattered ultrasound waveforms. Journal of the Acoustical Society of America, 2005, 117, 1431-1439.	0.5	59
16	Temperature dependent ultrasonic characterization of biological media. Journal of the Acoustical Society of America, 2011, 130, 2203-2211.	0.5	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.	3.3	57
18	Tomographic Reconstruction of Three-Dimensional Volumes Using the Distorted Born Iterative Method. IEEE Transactions on Medical Imaging, 2009, 28, 1643-1653.	5.4	56

#	ARTICLE	IF	CITATIONS
19	Comparison of Ultrasound Attenuation and Backscatter Estimates in Layered Tissue-Mimicking Phantoms among Three Clinical Scanners. <i>Ultrasonic Imaging</i> , 2012, 34, 209-221.	1.4	54
20	Interlaboratory Comparison of Backscatter Coefficient Estimates for Tissue-Mimicking Phantoms. <i>Ultrasonic Imaging</i> , 2010, 32, 48-64.	1.4	53
21	On the estimation of backscatter coefficients using single-element focused transducers. <i>Journal of the Acoustical Society of America</i> , 2011, 129, 2903-2911.	0.5	50
22	Extended three-dimensional impedance map methods for identifying ultrasonic scattering sites. <i>Journal of the Acoustical Society of America</i> , 2008, 123, 1195-1208.	0.5	47
23	Parametric Imaging of Rat Mammary Tumors In Vivo for the Purposes of Tissue Characterization. <i>Journal of Ultrasound in Medicine</i> , 2002, 21, 1201-1210.	0.8	46
24	Noninvasive and Spatiotemporal Control of DNAzyme-Based Imaging of Metal Ions <i>in Vivo</i> Using High-Intensity Focused Ultrasound. <i>Journal of the American Chemical Society</i> , 2022, 144, 5812-5819.	6.6	46
25	Method of improved scatterer size estimation and application to parametric imaging using ultrasound. <i>Journal of the Acoustical Society of America</i> , 2002, 112, 3053-3063.	0.5	45
26	Ultrasonic Attenuation and Backscatter Coefficient Estimates of Rodent-Tumor-Mimicking Structures: Comparison of Results among Clinical Scanners. <i>Ultrasonic Imaging</i> , 2011, 33, 233-250.	1.4	45
27	Density imaging using inverse scattering. <i>Journal of the Acoustical Society of America</i> , 2009, 125, 793-802.	0.5	44
28	Characterization of Thyroid Cancer in Mouse Models Using High-Frequency Quantitative Ultrasound Techniques. <i>Ultrasound in Medicine and Biology</i> , 2013, 39, 2333-2341.	0.7	44
29	Production of uniformly sized serum albumin and dextrose microbubbles. <i>Ultrasonics Sonochemistry</i> , 2012, 19, 198-208.	3.8	41
30	Quantitative Ultrasound Assessment of the Rat Cervix. <i>Journal of Ultrasound in Medicine</i> , 2006, 25, 1031-1040.	0.8	38
31	Cross-imaging system comparison of backscatter coefficient estimates from a tissue-mimicking material. <i>Journal of the Acoustical Society of America</i> , 2012, 132, 1319-1324.	0.5	38
32	A contactless ultrasonic surface wave approach to characterize distributed cracking damage in concrete. <i>Ultrasonics</i> , 2017, 75, 46-57.	2.1	36
33	Three-dimensional quantitative ultrasound for detecting lymph node metastases. <i>Journal of Surgical Research</i> , 2013, 183, 258-269.	0.8	34
34	Ultrasonic Assessment of Thermal Therapy in Rat Liver. <i>Ultrasound in Medicine and Biology</i> , 2012, 38, 2130-2137.	0.7	31
35	Ultrasound controlled mechanophore activation in hydrogels for cancer therapy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	27
36	Emergency ventilator for COVID-19. <i>PLoS ONE</i> , 2020, 15, e0244963.	1.1	26

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37	Characterizing Fatty Liver in vivo in Rabbits, Using Quantitative Ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2019, 45, 2049-2062.	0.7	25
38	Measurement of Attenuation and Speed of Sound in Soils. <i>Soil Science Society of America Journal</i> , 2002, 66, 788.	1.2	24
39	Improved scatterer property estimates from ultrasound backscatter for small gate lengths using a gate-edge correction factor. <i>Journal of the Acoustical Society of America</i> , 2004, 116, 3212-3223.	0.5	22
40	Cross-Imaging Platform Comparison of Ultrasonic Backscatter Coefficient Measurements of Live Rat Tumors. <i>Journal of Ultrasound in Medicine</i> , 2010, 29, 1117-1123.	0.8	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. <i>Journal of the Acoustical Society of America</i> , 2008, 124, 2340-2352.	0.5	19
43	Improving Spatial Resolution Using Incoherent Subtraction of Receive Beams Having Different Apodizations. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 5-17.	1.7	19
44	Quantitative Ultrasound Imaging for Monitoring In Situ High-Intensity Focused Ultrasound Exposure. <i>Ultrasonic Imaging</i> , 2014, 36, 239-255.	1.4	17
45	3-D High-Frequency Ultrasound Backscatter Analysis of Human Articular Cartilage. <i>Ultrasound in Medicine and Biology</i> , 2014, 40, 244-257.	0.7	16
46	Experimental Application of Ultrafast Imaging to Spectral Tissue Characterization. <i>Ultrasound in Medicine and Biology</i> , 2015, 41, 2506-2519.	0.7	16
47	Time domain attenuation estimation method from ultrasonic backscattered signals. <i>Journal of the Acoustical Society of America</i> , 2012, 132, 533-543.	0.5	15
48	Ultrasound microbubble potentiated enhancement of hyperthermia-effect in tumours. <i>PLoS ONE</i> , 2019, 14, e0226475.	1.1	15
49	Impedance measurements of ex vivo rat lung at different volumes of inflation. <i>Journal of the Acoustical Society of America</i> , 2003, 114, 3384-3393.	0.5	14
50	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. <i>Soil Science Society of America Journal</i> , 2003, 67, 241-250.	1.2	14
51	Ultrasonic backscatter coefficients for weakly scattering, agar spheres in agar phantoms. <i>Journal of the Acoustical Society of America</i> , 2010, 128, 903-908.	0.5	14
52	In Vivo Multiparametric Ultrasound Imaging of Structural and Functional Tumor Modifications during Therapy. <i>Ultrasound in Medicine and Biology</i> , 2017, 43, 2000-2012.	0.7	14
53	Use of a convolutional neural network and quantitative ultrasound for diagnosis of fatty liver. <i>Ultrasound in Medicine and Biology</i> , 2021, 47, 556-568.	0.7	14
54	Exploring potential mechanisms responsible for observed changes of ultrasonic backscattered energy with temperature variations. <i>Medical Physics</i> , 2014, 41, 052901.	1.6	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.	2.7	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.	0.5	12
57	High-frequency ultrasound detection of cell death: Spectral differentiation of different forms of cell death in vitro. Oncoscience, 2016, 3, 275-287.	0.9	12
58	Optimization of microbubble enhancement of hyperthermia for cancer therapy in an in vivo breast tumour model. PLoS ONE, 2020, 15, e0237372.	1.1	12
59	Analysis of Human Fibroadenomas Using Three-Dimensional Impedance Maps. IEEE Transactions on Medical Imaging, 2011, 30, 1206-1213.	5.4	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.	2.1	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.	0.8	11
62	Effects of acoustic nonlinearities on the ultrasonic backscatter coefficient estimation. Journal of the Acoustical Society of America, 2019, 146, 85-94.	0.5	11
63	Roughness characterization of porous soil with acoustic backscatter. Journal of the Acoustical Society of America, 2001, 109, 1826-1832.	0.5	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.	0.5	10
66	Visualization of the Intensity Field of a Focused Ultrasound Source &lt;itali&gt;In Situ&lt;/itali&gt;. IEEE Transactions on Medical Imaging, 2019, 38, 124-133.	5.4	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.	1.7	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.	1.4	9
70	Roughness Measurements of Soil Surfaces by Acoustic Backscatter. Soil Science Society of America Journal, 2003, 67, 241.	1.2	9
71	Video-Capable Ultrasonic Wireless Communications Through Biological Tissues. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 664-674.	1.7	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.	0.5	7

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73	Synergistic Effects of Ultrasound-Activated Microbubbles and Doxorubicin on Short-Term Survival of Mouse Mammary Tumor Cells. <i>Ultrasonic Imaging</i> , 2012, 34, 15-22.	1.4	7
74	Using two-dimensional impedance maps to study weak scattering in sparse random media. <i>Journal of the Acoustical Society of America</i> , 2016, 139, 1557-1564.	0.5	7
75	Limitations on estimation of effective scatterer diameters. <i>Journal of the Acoustical Society of America</i> , 2017, 142, 3677-3690.	0.5	7
76	High Data Rate Communications In Vivo Using Ultrasound. <i>IEEE Transactions on Biomedical Engineering</i> , 2021, 68, 3308-3316.	2.5	7
77	Total attenuation compensation for backscatter coefficient estimation using full angular spatial compounding. <i>Ultrasonics</i> , 2021, 114, 106376.	2.1	7
78	Small Lesion Detection with Resolution Enhancement Compression. <i>Ultrasonic Imaging</i> , 2010, 32, 16-32.	1.4	6
79	Scattering by an arrangement of eccentric cylinders embedded on a coated cylinder with applications to tomographic density imaging. <i>Journal of the Acoustical Society of America</i> , 2010, 127, 645-648.	0.5	6
80	Estimation of Backscatter Coefficients Using an <i>In Situ</i> Calibration Source. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 308-317.	1.7	6
81	Real-Time Visualization of a Focused Ultrasound Beam Using Ultrasonic Backscatter. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 1213-1223.	1.7	6
82	Combined Therapy Planning, Real-Time Monitoring, and Low Intensity Focused Ultrasound Treatment Using a Diagnostic Imaging Array. <i>IEEE Transactions on Medical Imaging</i> , 2022, 41, 1410-1419.	5.4	6
83	Application of an acoustic backscatter technique for characterizing the roughness of porous soil. <i>Journal of the Acoustical Society of America</i> , 2002, 111, 1565-1577.	0.5	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. <i>Ultrasound in Medicine and Biology</i> , 2016, 42, 1375-1384.	0.7	5
88	Effects of acoustic nonlinearity on pulse-echo attenuation coefficient estimation from tissue-mimicking phantoms. <i>Journal of the Acoustical Society of America</i> , 2020, 148, 805-814.	0.5	5
89	Ultrasonic backscatter coefficient estimation in nonlinear regime using an <i>in situ</i> calibration target. <i>Journal of the Acoustical Society of America</i> , 2022, 151, 4196-4206.	0.5	5
90	Improving the quality of attenuation imaging using full angular spatial compounding. , 2014, , .		4

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91	Enhancing cell kill <i>in vitro</i> from hyperthermia through pre-sensitizing with ultrasound-stimulated microbubbles. Journal of the Acoustical Society of America, 2015, 138, EL493-EL497.	0.5	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 <i>in situ</i> calibration beads for quantitative ultrasound. Journal of the Acoustical Society of America, 2022, 151, 2701-2711.	0.5	4
95	Low-frequency sound wave parameter measurement in gravels. Applied Acoustics, 2010, 71, 45-51.	1.7	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.	0.5	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.	0.5	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.	0.7	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.	0.5	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