

# Georg Schmitz

## List of Publications by Year in descending order

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Version: 2024-02-01

168  
papers

2,355  
citations

257101

24  
h-index

253896

43  
g-index

176  
all docs

176  
docs citations

176  
times ranked

2241  
citing authors

#	ARTICLE	IF	CITATIONS
1	Super-resolution Ultrasound Imaging. <i>Ultrasound in Medicine and Biology</i> , 2020, 46, 865-891.	0.7	253
2	Motion model ultrasound localization microscopy for preclinical and clinical multiparametric tumor characterization. <i>Nature Communications</i> , 2018, 9, 1527.	5.8	161
3	Detection and Tracking of Multiple Microbubbles in Ultrasound B-Mode Images. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2016, 63, 72-82.	1.7	129
4	Gradient Spin Echo (GraSE) imaging for fast myocardial T2 mapping. <i>Journal of Cardiovascular Magnetic Resonance</i> , 2015, 17, 12.	1.6	113
5	Analysis of Ultrasound Fields in Cell Culture Wells for In Vitro Ultrasound Therapy Experiments. <i>Ultrasound in Medicine and Biology</i> , 2011, 37, 2105-2115.	0.7	93
6	Bursting Bubbles and Bilayers. <i>Theranostics</i> , 2012, 2, 1140-1159.	4.6	75
7	Tissue-characterization of the prostate using radio frequency ultrasonic signals. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 1999, 46, 126-138.	1.7	68
8	Magnetic and Acoustically Active Lipospheres for Magnetically Targeted Nucleic Acid Delivery. <i>Advanced Functional Materials</i> , 2010, 20, 3881-3894.	7.8	65
9	Ultrasonic bubbles in medicine: Influence of the shell. <i>Ultrasonics Sonochemistry</i> , 2007, 14, 438-444.	3.8	61
10	Clinical Pilot Application of Super-Resolution US Imaging in Breast Cancer. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 517-526.	1.7	56
11	Bubble dynamics involved in ultrasonic imaging. <i>Expert Review of Molecular Diagnostics</i> , 2006, 6, 493-502.	1.5	55
12	Multispectral photoacoustic coded excitation imaging using unipolar orthogonal Golay codes. <i>Optics Express</i> , 2010, 18, 9076.	1.7	54
13	Targeted Ultrasound Imaging of Cancer: An Emerging Technology on its Way to Clinics. <i>Current Pharmaceutical Design</i> , 2012, 18, 2184-2199.	0.9	54
14	Unilateral deep brain stimulation suppresses alpha and beta oscillations in sensorimotor cortices. <i>NeuroImage</i> , 2018, 174, 201-207.	2.1	53
15	Imaging tumor vascularity by tracing single microbubbles. , 2011, , .		49
16	Advanced Ultrasound Technologies for Diagnosis and Therapy. <i>Journal of Nuclear Medicine</i> , 2018, 59, 740-746.	2.8	47
17	Advanced Characterization and Refinement of Poly N-Butyl Cyanoacrylate Microbubbles for Ultrasound Imaging. <i>Ultrasound in Medicine and Biology</i> , 2011, 37, 1622-1634.	0.7	45
18	Fast pulse-echo ultrasound imaging employing compressive sensing. , 2011, , .		44

#	ARTICLE	IF	CITATIONS
19	Experimental evaluation of photoacoustic coded excitation using unipolar golay codes. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 1583-1593.	1.7	34
20	Rejecting deep brain stimulation artefacts from MEG data using ICA and mutual information. Journal of Neuroscience Methods, 2016, 268, 131-141.	1.3	34
21	Phospholipid-stabilized microbubbles: Influence of shell chemistry on cavitation threshold and binding to giant uni-lamellar vesicles. Applied Acoustics, 2009, 70, 1313-1322.	1.7	28
22	Nonlinear simultaneous reconstruction of inhomogeneous compressibility and mass density distributions in unidirectional pulse-echo ultrasound imaging. Physics in Medicine and Biology, 2013, 58, 6163-6178.	1.6	28
23	Nitric oxide delivery by ultrasonic cracking: Some limitations. Ultrasonics, 2006, 44, e109-e113.	2.1	27
24	Compressed Sensing for Fast Image Acquisition in Pulse-Echo Ultrasound. Biomedizinische Technik, 2012, 57, .	0.9	27
25	The EASI project-improving the effectiveness and quality of image-guided surgery. IEEE Transactions on Information Technology in Biomedicine, 1998, 2, 156-168.	3.6	25
26	Influence of Shell Composition on the Resonance Frequency of Microbubble Contrast Agents. Ultrasound in Medicine and Biology, 2013, 39, 1292-1302.	0.7	25
27	Size-dependent multispectral photoacoustic response of solid and hollow gold nanoparticles. Nanotechnology, 2012, 23, 225707.	1.3	24
28	Synergistic Effects of Sonoporation and Taurolidin/TRAIL on Apoptosis in Human Fibrosarcoma. Ultrasound in Medicine and Biology, 2010, 36, 1893-1906.	0.7	22
29	Low-Dose Molecular Ultrasound Imaging with E-Selectin-Targeted PBCA Microbubbles. Molecular Imaging and Biology, 2016, 18, 180-190.	1.3	21
30	Photoacoustic clutter reduction by inversion of a linear scatter model using plane wave ultrasound measurements. Biomedical Optics Express, 2016, 7, 1468.	1.5	20
31	Generation of a Droplet Inside a Microbubble with the Aid of an Ultrasound Contrast Agent: First Result. Letters in Drug Design and Discovery, 2007, 4, 74-77.	0.4	19
32	Ultrasonic imaging of molecular targets. Basic Research in Cardiology, 2008, 103, 174-181.	2.5	19
33	Model-based estimation of quantitative ultrasound variables at the proximal femur. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 1304-1315.	1.7	19
34	A Gaussian approach for the calculation of the accuracy of stereotactic frame systems. Medical Physics, 1999, 26, 381-391.	1.6	17
35	Assessing Vessel Reconstruction in Ultrasound Localization Microscopy by Maximum Likelihood Estimation of a Zero-Inflated Poisson Model. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 1603-1612.	1.7	17
36	Effects of contrast-enhanced ultrasound treatment on neoadjuvant chemotherapy in breast cancer. Theranostics, 2021, 11, 9557-9570.	4.6	17

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37	Determination of microbubble cavitation threshold pressure as function of shell chemistry. <i>Bubble Science, Engineering &amp; Technology</i> , 2010, 2, 55-64.	0.2	16
38	Magnetic Microbubbles: Magnetically Targeted and Ultrasound-Triggered Vectors for Gene Delivery in Vitro. <i>AIP Conference Proceedings</i> , 2010, , .	0.3	16
39	Evaluation of Ferucarbotran (Resovist®) as a photoacoustic contrast agent / Evaluation von Ferucarbotran (Resovist®) als photoakustisches Kontrastmittel. <i>Biomedizinische Technik</i> , 2009, 54, 83-88.	0.9	15
40	Optimized SNR simultaneous multispectral photoacoustic imaging with laser diodes. <i>Optics Express</i> , 2015, 23, 1816.	1.7	14
41	Plane Wave Pulse-Echo Ultrasound Diffraction Tomography with a Fixed Linear Transducer Array. <i>Acoustical Imaging</i> , 2012, , 19-30.	0.2	14
42	Discussion of the application of finite Volterra series for the modeling of the oscillation behavior of ultrasound contrast agents. <i>Applied Acoustics</i> , 2009, 70, 1363-1369.	1.7	13
43	On the Performance of Time Domain Displacement Estimators for Magnetomotive Ultrasound Imaging. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 911-921.	1.7	13
44	Estimation of multipath transmission parameters for quantitative ultrasound measurements of bone. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2013, 60, 1884-1895.	1.7	11
45	Compensating the combined effects of absorption and dispersion in plane wave pulse-echo ultrasound imaging using sparse recovery. , 2013, , .		11
46	Pulse-echo ultrasound imaging combining compressed sensing and the fast multipole method. , 2014, , .		11
47	Low-Energy Ultrasound Treatment Improves Regional Tumor Vessel Infarction by Retargeted Tissue Factor. <i>Journal of Ultrasound in Medicine</i> , 2015, 34, 1227-1236.	0.8	11
48	Coencapsulation of lipid microbubbles within polymer microcapsules for contrast applications. <i>Bubble Science, Engineering &amp; Technology</i> , 2011, 3, 12-19.	0.2	10
49	Multispectral photoacoustic coded excitation using pseudorandom codes. , 2012, , .		9
50	Modeling and Measurement of the Nonlinear Force on Nanoparticles in Magnetomotive Techniques. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 679-690.	1.7	9
51	Transversally travelling ultrasound for light guiding deep into scattering media. <i>Communications Physics</i> , 2020, 3, .	2.0	9
52	A Statistical Model for the Quantification of Microbubbles in Destructive Imaging. <i>Investigative Radiology</i> , 2010, 45, 592-599.	3.5	8
53	Fast image acquisition in pulse-echo ultrasound imaging using compressed sensing. , 2012, , .		8
54	Hybrid 3D Sono/PET in a mouse. <i>European Journal of Nuclear Medicine and Molecular Imaging</i> , 2007, 34, 1706-1707.	3.3	7

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55	Simulation study of photoacoustic coded excitation using Golay Codes. , 2008, , .		7
56	Model-based parameter estimation in the frequency domain for Quantitative Ultrasound measurement of bone. , 2009, , .		7
57	Size distribution of microbubbles as a function of shell composition. Ultrasonics, 2013, 53, 1363-1367.	2.1	7
58	Evaluation of bubble tracking algorithms for super-resolution imaging of microvessels. , 2016, , .		7
59	Spatiotemporal multiscale vessel enhancement for coronary angiograms. , 2002, , .		6
60	Ultrasound in Medical Diagnosis. , 2002, , 162-174.		6
61	Electro-acoustical characterization procedure for cMUTs. Ultrasonics, 2005, 43, 383-390.	2.1	6
62	7A-3 Optimal Pulse Sequences for the Suppression of Memoryless Tissue Harmonics. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	6
63	A method for the determination of the inertial cavitation threshold of ultrasound contrast agents. , 2008, , .		6
64	Monospectral photoacoustic imaging using Legendre sequences. , 2010, , .		6
65	Reconstruction of flow velocity inside vessels by tracking single microbubbles with an MCMC data association algorithm. , 2013, , .		6
66	Assessment of the potential of beamforming for needle enhancement in punctures. , 2015, , .		6
67	Piezoelectric Thin Films: A Technology Platform for Innovative Devices. Integrated Ferroelectrics, 2012, 134, 25-36.	0.3	5
68	Ultrafast volumetric B1+mapping for improved radiofrequency shimming in 3 tesla body MRI. Journal of Magnetic Resonance Imaging, 2014, 40, 857-863.	1.9	5
69	Iterative photoacoustic reconstruction in heterogeneous media using the Kaczmarz method. , 2014, , .		5
70	Frequency response of soft tissue displacements induced by the force on magnetic nanoparticles. , 2017, , .		5
71	Automated Generation of Reliable Blood Velocity Parameter Maps from Contrast-Enhanced Ultrasound Data. Contrast Media and Molecular Imaging, 2017, 2017, 1-8.	0.4	5
72	Real-Time Magnetomotive Ultrasound Imaging Using a Recursive Estimator. , 2018, , .		5

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73	Relative Blood Volume Estimation from Clinical Super-Resolution US Imaging in Breast Cancer. , 2018, , .		5
74	Full-Wave Ultrasound Reconstruction with Linear Arrays Based on a Fourier Split-Step Approach. , 2018, , .		5
75	Deep Learning Utilization in Beamforming Enhancement for Medical Ultrasound. , 2020, , .		5
76	Microbubble Tracking with a Nonlinear Motion Model. , 2020, , .		5
77	Ultrasonic fragmentation of microbubbles: a theoretical approach of the flash in flash-echo. , 2005, 4023-6.		4
78	Comparison of linear and nonlinear unidirectional imaging approaches in ultrasound breast imaging. , 2012, , .		4
79	The separate recovery of spatial fluctuations in compressibility and mass density in plane wave pulse-echo ultrasound imaging. , 2013, , .		4
80	Color-Coded Tissue Characterization Images of the Prostate. Acoustical Imaging, 1996, , 359-364.	0.2	4
81	Microcapsules: Reverse Sonoporation and Long-lasting, Safe Contrast. Acoustical Imaging, 2012, , 81-90.	0.2	4
82	Reducing Grating Lobe Artifacts by Exploiting Lateral Transducer Motion. , 2020, , .		4
83	Monitoring and modeling of microbubble behavior during ultrasound mediated transfection of cell monolayers. , 2008, , .		3
84	Nonlinear reconstruction of compressibility and density variations using the Kaczmarz method. , 2012, , .		3
85	Phase shift variance imaging - a new technique for destructive microbubble imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 909-923.	1.7	3
86	Needle visibility for deep punctures with curved arrays. , 2014, , .		3
87	A low-rate parallel Fourier domain beamforming method for ultrafast pulse-echo imaging. , 2016, , .		3
88	Reliable Motion Estimation in Super-Resolution US by Reducing the Interference of Microbubble Movement. , 2019, , .		3
89	2A-6 Optimization Algorithm for Improved Quantitative Ultrasound Signal Processing at the Proximal Femur. , 2006, , .		2
90	Mutual Attraction of Oscillating Microbubbles. , 2007, , 75-80.		2

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91	Compact semiconductor laser sources for photoacoustic imaging. , 2009, , .		2
92	Evaluation of an analytical solution to the Burgers equation based on Volterra series. , 2009, , .		2
93	Method for the estimation and compensation of attenuating tissue layers by the acoustic observation of microbubbles for sonoporation therapy. , 2010, , .		2
94	Phase shift variance imaging for contrast agent detection. , 2010, , .		2
95	Photoacoustic coded excitation using periodically perfect sequences. , 2011, , .		2
96	Influence of Microbubble Shell Chemistry on the Destruction Threshold of Ultrasound Contrast Agent Microbubbles. Acoustical Imaging, 2012, , 91-101.	0.2	2
97	Evaluation of a nonlinear simultaneous compressibility and mass density reconstruction algorithm in contrast to established linear ultrasound imaging approaches. , 2013, , .		2
98	Notice of Removal: Random incident sound waves for fast compressed pulse-echo ultrasound imaging. , 2017, , .		2
99	Magnetomotive ultrasound imaging using the nonlinear magnetization of nanoparticles. , 2017, , .		2
100	Sonographic visibility of cannulas using convex ultrasound transducers. Biomedizinische Technik, 2019, 64, 691-698.	0.9	2
101	Advancing the Feasible Microbubble Concentration in Super-Resolution. , 2019, , .		2
102	Improving Harmonic Motion Estimation with Phase-Based Estimators for Magnetomotive Ultrasound Imaging. , 2019, , .		2
103	Beschleunigung und Bewertung blockbasierter Bewegungsschätzmethoden für die Röntgenfluoroskopie. Informatik Aktuell, 2000, , 123-130.	0.4	2
104	Transient Light Waveguides Deep Into Scattering Media by Transversal Ultrasound. , 2020, , .		2
105	Ultrasound Imaging. Recent Results in Cancer Research, 2020, 216, 135-154.	1.8	2
106	Deep Learning-based Speed-of-Sound Reconstruction for Single-Sided Pulse-Echo Ultrasound using a Coherency Measure as Input Feature. , 2021, , .		2
107	Frequency-Dependent F-Number Increases the Contrast and the Spatial Resolution in Fast Pulse-Echo Ultrasound Imaging. , 2021, , .		2
108	Velocity Filtering with a Median Filter Better Preserves Small Vessels for Ultrasound Localization Microscopy. , 2021, , .		2

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109	Improvement of Ultrasound Compound Imaging by Speed-Of-Sound Estimation. Biomedizinische Technik, 2002, 47, 430-433.	0.9	1
110	Nonlinear behavior of ultrasound-insonified encapsulated microbubbles. AIP Conference Proceedings, 2006, , .	0.3	1
111	Statistical corrections for the precise estimation of cyanoacrylate microbubble concentration in targeted imaging. , 2008, , .		1
112	Fast simulation of second harmonic ultrasound fields. , 2009, , .		1
113	Performance evaluation of an automatic controlled sonoporation therapy device. , 2011, , .		1
114	Piezoelectric thin film platform for ultrasound transducer arrays. , 2011, , .		1
115	Quantitative photoacoustic blood oxygenation measurement of whole porcine blood samples using a multi-wavelength semiconductor laser system. Proceedings of SPIE, 2011, , .	0.8	1
116	Size dependent photoacoustic signal response of gold nanoparticles using a multispectral laser diode system. , 2012, , .		1
117	Photoacoustic coded excitation using pulse position modulation. , 2013, , .		1
118	Nonlinear reconstruction of bulk and shear moduli variations using the kazmarcz method. , 2013, , .		1
119	Nonlinear reconstruction of the speed of sound in soft tissues: A comparison between the simulation results applying Kaczmarz and Contrast Source Inversion methods. , 2014, , .		1
120	Multispectral photoacoustic coded excitation with low PRF high power laser diodes. , 2014, , .		1
121	Photoacoustic clutter reduction using plane wave ultrasound and a linear scatter estimation approach. , 2015, , .		1
122	An advanced interpolation approach for photoacoustic clutter reduction based on a linear plane wave scatter model. , 2016, , .		1
123	Ultrafast image acquisition in pulse-echo ultrasound imaging using compressed sensing. , 2016, , .		1
124	Aberration correction in photoacoustic imaging using paraxial backpropagation. , 2017, , .		1
125	Aberration correction in photoacoustic imaging using paraxial backpropagation. , 2017, , .		1
126	Frequency response of soft tissue displacements induced by the force on magnetic nanoparticles. , 2017, , .		1



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127	Determination of adequate measurement times for super-resolution characterization of tumor vascularization. , 2017, , .		1
128	Determination of adequate measurement times for super-resolution characterization of tumor vascularization. , 2017, , .		1
129	Extending the convergence limit of nonlinear speed of sound reconstructions towards common ultrasonic frequencies. , 2017, , .		1
130	Performance of Foreground-Background Separation Algorithms for the Detection of Microbubbles in Super-Resolution Imaging. , 2018, , .		1
131	Accelerating Nonlinear Speed of Sound Reconstructions Using a Randomized Block Kaczmarz Algorithm. , 2018, , .		1
132	Maximum-Likelihood Estimation to Assess the Degree of Reconstruction of Microvasculature from Super-Resolution US Imaging. , 2019, , .		1
133	Identification of static nonlinearities by sinusoidal excitation with variable DC offsets. Review of Scientific Instruments, 2021, 92, 035103.	0.6	1
134	A Deep Learning Signal-Based Approach to Fast Harmonic Imaging. , 2021, , .		1
135	3D Microbubble Localization with a Convolutional Neural Network for Super-Resolution Ultrasound Imaging. , 2021, , .		1
136	<title>Acceleration and evaluation of block-based motion estimation algorithms for x-ray fluoroscopy</title>. , 2001, , .		0
137	P1B-13 Simulation and Evaluation of the Sound Field of an Image-Guided Sonoporation Applicator. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	0
138	P6A-1 Photoacoustic Imaging of Fibrosarcoma Using RGD-Cy 3 as a Targeted Contrast Agent. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	0
139	Retrieving multidimensional ultrasonic image information of molecular markers. , 2008, , .		0
140	Effect of bubble interaction on contrast agent destruction behaviour under repeated insonation. , 2009, , .		0
141	Feasibility study of multispectral photoacoustic coded excitation using orthogonal unipolar Golay codes. , 2009, , .		0
142	Rapid measurement of ultrasound transducer fields in water employing compressive sensing. , 2010, , .		0
143	Detection of atherosclerosis from vessel wall vibrations using non-linear features. , 2011, , .		0
144	Separation of multipath transmission signals for quantitative ultrasound measurement at bone - A comparison study. , 2012, , .		0

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145	Quantitative Phase Shift Variance Imaging. Biomedizinische Technik, 2012, 57, .	0.9	0
146	Fast 3D Pulse-Echo Ultrasound Imaging Using Diffraction Tomography. Biomedizinische Technik, 2012, 57, .	0.9	0
147	Investigation of kerfless ultrasound arrays using inverse systems. , 2012, , .		0
148	Robust adaption algorithm for effective and safe sonoporation therapy. Biomedizinische Technik, 2012, 57, .	0.9	0
149	Real-time Processing of Coded Photoacoustic Signals. Biomedizinische Technik, 2012, 57, .	0.9	0
150	Effect of Noise on a Nonlinear Compressibility Reconstruction Approach under Various Excitation Modi. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.9	0
151	Nonlinear compressibility and mass density reconstruction under plane wave excitation using raw data with noise. , 2014, , .		0
152	Optimizing simultaneous multispectral emission photoacoustics. , 2015, , .		0
153	Model to estimate the sound velocity in a circular wave guide in a through transmission measurement setup from multiple receivers. , 2015, , .		0
154	Super-resolution velocity estimation in microvessels using Multiple Hypothesis Tracking. , 2015, , .		0
155	Increasing the robustness and convergence rate of the Kaczmarz method in reconstructing the speed of sound in solid materials using analytic signals. , 2015, , .		0
156	Optimizing a single-sided reflection mode photoacoustic setup for clinical imaging. , 2015, , .		0
157	Design of a magnetic particle imaging compatible HIFU transducer array. , 2016, , .		0
158	Phantom characterization using the mechanical resonance of a tissue embedded magnetic sphere. , 2016, , .		0
159	Extending the convergence limit of nonlinear speed of sound reconstructions towards common ultrasonic frequencies. , 2017, , .		0
160	Magnetomotive ultrasound imaging using the nonlinear magnetization of nanoparticles. , 2017, , .		0
161	High Frequency Ultrasonic Tomography Using Optimal Transport Distance. , 2018, , .		0
162	Quantification of Noise in Shear Wave Elasticity Imaging Caused by Speckle. , 2019, , .		0

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163	2-D Bayesian Displacement Estimation Improves Contrast-to-Noise/Resolution Trade-off in Shear Wave Elasticity Imaging. , 2019, , .		0
164	Tracking of Microbubbles with a Recurrent Neural Network for Super-Resolution Imaging. , 2020, , .		0
165	ROBOTIC AND LASER AIDED NAVIGATION FOR DENTAL IMPLANTS. , 2004, , .		0
166	Multispectral Photoacoustic Coded Excitation using Orthogonal Unipolar Golay Codes. IFMBE Proceedings, 2009, , 217-220.	0.2	0
167	Chapter 7.3. Design and Use of Contrast Agents for Ultrasound Imaging. RSC Drug Discovery Series, 2011, , 391-410.	0.2	0
168	The Magnetic Force Generation in Magnetomotive Ultrasound Imaging. , 2020, , .		0