Mathieu Pernot

List of Publications by Year
in descending order

124	6,882	66250	73587
papers	citations	44 h-index	79 g-index

133	133	133	5324
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Smart Ultrasound Device for Non-Invasive Real-Time Myocardial Stiffness Quantification of the Human Heart. IEEE Transactions on Biomedical Engineering, 2022, 69, 42-52.	2.5	12
2	Carotid Plaque Vulnerability Assessed by Combined Shear Wave Elastography and Ultrafast Doppler Compared to Histology. Translational Stroke Research, 2022, 13, 100-111.	2.3	8
3	Assessing cardiac stiffness using ultrasound shear wave elastography. Physics in Medicine and Biology, 2022, 67, 02TR01.	1.6	22
4	A guide for assessment of myocardial stiffness in health and disease. , 2022, 1, 8-22.		21
5	Decrease of Pdzrn3 is required for heart maturation and protects against heart failure. Scientific Reports, 2022, 12, 8.	1.6	5
6	PHACTR-1 (Phosphatase and Actin Regulator 1) Deficiency in Either Endothelial or Smooth Muscle Cells Does Not Predispose Mice to Nonatherosclerotic Arteriopathies in 3 Transgenic Mice. Arteriosclerosis, Thrombosis, and Vascular Biology, 2022, 42, 597-609.	1.1	8
7	Boosting transducer matrix sensitivity for 3D large field ultrasound localization microscopy using a multi-lens diffracting layer: a simulation study. Physics in Medicine and Biology, 2022, 67, 085009.	1.6	4
8	Coronary Flow Assessment Using 3-Dimensional Ultrafast Ultrasound Localization Microscopy. JACC: Cardiovascular Imaging, 2022, 15, 1193-1208.	2.3	23
9	In vivo whole brain microvascular imaging in mice using transcranial 3D Ultrasound Localization Microscopy. EBioMedicine, 2022, 79, 103995.	2.7	45
10	Increased Capillary Permeability in Heart Induces Diastolic Dysfunction Independently of Inflammation, Fibrosis, or Cardiomyocyte Dysfunction. Arteriosclerosis, Thrombosis, and Vascular Biology, 2022, 42, 745-763.	1.1	9
11	Wall Shear Stress Measurement by Ultrafast Vector Flow Imaging forÂAtherosclerotic Carotid Stenosis. Ultraschall in Der Medizin, 2021, 42, 297-305.	0.8	29
12	Noninvasive ultrafast ultrasound for imaging the coronary vasculature and assessing the arterial wall's biomechanics. , 2021, , 517-528.		0
13	Transcranial ultrafast ultrasound localization microscopy of brain vasculature in patients. Nature Biomedical Engineering, 2021, 5, 219-228.	11.6	157
14	Feasibility and Performance of Noninvasive Ultrasound Therapy in Patients With Severe Symptomatic Aortic Valve Stenosis. Circulation, 2021, 143, 968-970.	1.6	20
15	Von Willebrand factor multimers during non-invasive ultrasound therapy for aortic valve stenosis. Angiogenesis, 2021, 24, 715-717.	3.7	2
16	Dealiasing High-Frame-Rate Color Doppler Using Dual-Wavelength Processing. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 2117-2128.	1.7	11
17	XDoppler: Cross-Correlation of Orthogonal Apertures for 3D Blood Flow Imaging. IEEE Transactions on Medical Imaging, 2021, 40, 3358-3368.	5.4	14
18	4D Functional Imaging of the Rat Brain Using a Large Aperture Row-Column Array. IEEE Transactions on Medical Imaging, 2020, 39, 1884-1893.	5.4	51

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19	Ultrafast Ultrasound Imaging in PediatricÂand Adult Cardiology. JACC: Cardiovascular Imaging, 2020, 13, 1771-1791.	2.3	54
20	Non-invasive imaging techniques to assess myocardial perfusion. Expert Review of Medical Devices, 2020, 17, 1133-1144.	1.4	8
21	Myocardial Stiffness Assessment byÂUltrasound. JACC: Cardiovascular Imaging, 2020, 13, 2314-2315.	2.3	3
22	Feasibility and safety of non-invasive ultrasound therapy (NIUT) on an porcine aortic valve. Physics in Medicine and Biology, 2020, 65, 215004.	1.6	9
23	Nonâ€invasive recanalization of deep venous thrombosis by high frequency ultrasound in a swine model with followâ€up. Journal of Thrombosis and Haemostasis, 2020, 18, 2889-2898.	1.9	9
24	4D Ultrafast Ultrasound Imaging of Naturally Occurring Shear Waves in the Human Heart. IEEE Transactions on Medical Imaging, 2020, 39, 4436-4444.	5.4	22
25	Innovative Multiparametric Characterization of Carotid Plaque Vulnerability by Ultrasound. Frontiers in Physiology, 2020, 11, 157.	1.3	10
26	Abstract 17142: Long Term Results of Non-Invasive Ultrasound Therapy (NIUT) in Severe Symptomatic Aortic Valve Stenosis - First-in-Man. Circulation, 2020, 142, .	1.6	0
27	Segmental aortic stiffness in patients with bicuspid aortic valve compared with first-degree relatives. Heart, 2019, 105, 130-136.	1.2	18
28	4D functional ultrasound imaging of whole-brain activity in rodents. Nature Methods, 2019, 16, 994-997.	9.0	135
29	In the Heart of Stiffness. JACC: Cardiovascular Imaging, 2019, 12, 2399-2401.	2.3	12
30	Ultrafast 3D Ultrasound Localization Microscopy Using a 32 $imes$ 32 Matrix Array. IEEE Transactions on Medical Imaging, 2019, 38, 2005-2015.	5.4	89
31	Aortic Wall Elastic Properties in Case of Bicuspid Aortic Valve. Frontiers in Physiology, 2019, 10, 299.	1.3	23
32	Mapping Biological Current Densities With Ultrafast Acoustoelectric Imaging: Application to the Beating Rat Heart. IEEE Transactions on Medical Imaging, 2019, 38, 1852-1857.	5.4	14
33	Real-time monitoring of pulsed cavitational ultrasound therapy using coherent passive cavitation imaging: perspectives for volumetric imaging. , 2019, , .		0
34	Multi-plane-transmit (MPT) Volumetric Imaging based on A Matrix Array: Experimental Validation. , 2019, , .		0
35	Carotid Stiffness Assessment With Ultrafast Ultrasound Imaging in Case of Bicuspid Aortic Valve. Frontiers in Physiology, 2019, 10, 1330.	1.3	15
36	Arterial Stiffness Assessment by Shear Wave Elastography and Ultrafast Pulse Wave Imaging: Comparison with Reference Techniques in Normotensives and Hypertensives. Ultrasound in Medicine and Biology, 2019, 45, 758-772.	0.7	59

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37	Arterial Stiffening with Ultrafast Ultrasound Imaging Gives NewÂInsight into Arterial Phenotype of Vascular Ehlers-Danlos MouseÂModels. Ultraschall in Der Medizin, 2019, 40, 734-742.	0.8	15
38	Stone Liver, Heart in Danger. JACC: Cardiovascular Imaging, 2019, 12, 965-966.	2.3	1
39	Myocardial Stiffness Evaluation Using Noninvasive Shear Wave Imaging in Healthy and Hypertrophic Cardiomyopathic Adults. JACC: Cardiovascular Imaging, 2019, 12, 1135-1145.	2.3	108
40	Anin silicoframework to analyze the anisotropic shear wave mechanics in cardiac shear wave elastography. Physics in Medicine and Biology, 2018, 63, 075005.	1.6	18
41	Simultaneous positron emission tomography and ultrafast ultrasound for hybrid molecular, anatomical and functional imaging. Nature Biomedical Engineering, 2018, 2, 85-94.	11.6	44
42	Myocardial Stiffness Assessment Using Shear Wave Imaging in Pediatric Hypertrophic Cardiomyopathy. JACC: Cardiovascular Imaging, 2018, 11, 779-781.	2.3	36
43	Functional ultrasound neuroimaging: a review of the preclinical and clinical state of the art. Current Opinion in Neurobiology, 2018, 50, 128-135.	2.0	140
44	Noninvasive Imaging of the Coronary Vasculature Using Ultrafast Ultrasound. JACC: Cardiovascular Imaging, 2018, 11, 798-808.	2.3	43
45	Quantitative Cardiac Output Assessment Using 4D Ultrafast Doppler Imaging: An in Vitro Study. , 2018, , .		1
46	2D and 3D real-time passive cavitation imaging of pulsed cavitation ultrasound therapy in moving tissues. Physics in Medicine and Biology, 2018, 63, 235028.	1.6	11
47	Ultrafast 4D Doppler Imaging of the Rat Brain with a Large Aperture Row Column Addressed Probe. , 2018, , .		3
48	Multi-parametric functional ultrasound imaging of cerebral hemodynamics in a cardiopulmonary resuscitation model. Scientific Reports, 2018, 8, 16436.	1.6	12
49	Adaptive Spatiotemporal Filtering for Coronary Ultrafast Doppler Angiography. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 2201-2204.	1.7	17
50	Myocardial Thermal Ablation with a Transesophageal High-Intensity Focused Ultrasound Probe: Experiments on Beating Heart Models. Ultrasound in Medicine and Biology, 2018, 44, 2625-2636.	0.7	6
51	PDZRN3 destabilizes endothelial cell-cell junctions through a PKCÎ¶-containing polarity complex to increase vascular permeability. Science Signaling, 2017, 10, .	1.6	35
52	Toward Noninvasive Assessment of CVPÂVariations Using Real-Time and Quantitative Liver Stiffness Estimation. JACC: Cardiovascular Imaging, 2017, 10, 1285-1286.	2.3	8
53	An integrated and highly sensitive ultrafast acoustoelectric imaging system for biomedical applications. Physics in Medicine and Biology, 2017, 62, 5808-5822.	1.6	25
54	Pulsed Cavitational Ultrasound Softening. JACC Basic To Translational Science, 2017, 2, 372-383.	1.9	16

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55	Functional ultrasound imaging of brain activity in human newborns. Science Translational Medicine, 2017, 9, .	5.8	154
56	Imaging the dynamics of cardiac fiber orientation in vivo using 3D Ultrasound Backscatter Tensor Imaging. Scientific Reports, 2017, 7, 830.	1.6	57
57	Investigating Shear Wave Physics in a Generic Pediatric Left Ventricular Model via In Vitro Experiments and Finite Element Simulations. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 349-361.	1.7	17
58	Effect of Ultrafast Imaging on Shear Wave Visualization and Characterization: An Experimental and Computational Study in a Pediatric Ventricular Model. Applied Sciences (Switzerland), 2017, 7, 840.	1.3	12
59	The effect of stretching on transmural shear wave anisotropy in cardiac shear wave elastography. , 2017, , .		2
60	4D ultrafast ultrasound flow imaging:in vivoquantification of arterial volumetric flow rate in a single heartbeat. Physics in Medicine and Biology, 2016, 61, L48-L61.	1.6	101
61	Shear Wave Imaging of Passive DiastolicÂMyocardial Stiffness. JACC: Cardiovascular Imaging, 2016, 9, 1023-1030.	2.3	59
62	A Comparison of the Performance of Different Multiline Transmit Setups for Fast Volumetric Cardiac Ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 2082-2091.	1.7	19
63	Pulsed cavitational ultrasound for non-invasive chordal cutting guided by real-time 3D echocardiography. European Heart Journal Cardiovascular Imaging, 2016, 17, 1101-1107.	0.5	7
64	Scimitar Syndrome Repair in Adults: Intermediate-Term Results Using an Extracardiac Conduit. Annals of Thoracic Surgery, 2016, 102, 2070-2076.	0.7	9
65	Functional ultrasound imaging of the brain activity in human neonates. , 2016, , .		1
66	4D microvascular imaging based on ultrafast Doppler tomography. NeuroImage, 2016, 127, 472-483.	2.1	104
67	Nanofibrous clinical-grade collagen scaffolds seeded with human cardiomyocytes induces cardiac remodeling in dilated cardiomyopathy. Biomaterials, 2016, 80, 157-168.	5.7	65
68	Ultrafast Harmonic Coherent Compound (UHCC) Imaging for High Frame Rate Echocardiography and Shear-Wave Elastography. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 420-431.	1.7	61
69	Carotid stiffness change over the cardiac cycle by ultrafast ultrasound imaging in healthy volunteers and vascular Ehlersâ€“Danlos syndrome. Journal of Hypertension, 2015, 33, 1890-1896.	0.3	54
70	Hypothermic Total Liquid Ventilation Is Highly Protective Through Cerebral Hemodynamic Preservation and Sepsis-Like Mitigation After Asphyxial Cardiac Arrest*. Critical Care Medicine, 2015, 43, e420-e430.	0.4	31
71	Cardiac shear-wave elastography using a transesophageal transducer: application to the mapping of thermal lesions in ultrasound transesophageal cardiac ablation. Physics in Medicine and Biology, 2015, 60, 7829-7846.	1.6	21
72	Shear wave elastography for lipid content detection in transverse arterial cross-sections. , 2015, , .		5

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73	Myocardial stiffness assessment in pediatric cardiology using shear wave imaging. , 2015, , .		0
74	Multiplane wave imaging increases signal-to-noise ratio in ultrafast ultrasound imaging. Physics in Medicine and Biology, 2015, 60, 8549-8566.	1.6	77
75	3-D ultrafast doppler imaging applied to the noninvasive mapping of blood vessels in Vivo. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1467-1472.	1.7	95
76	4-D ultrafast shear-wave imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1059-1065.	1.7	83
77	A versatile and experimentally validated finite element model to assess the accuracy of shear wave elastography in a bounded viscoelastic medium. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 439-450.	1.7	23
78	EEG and functional ultrasound imaging in mobile rats. Nature Methods, 2015, 12, 831-834.	9.0	133
79	Modelling the impulse diffraction field of shear waves in transverse isotropic viscoelastic medium. Physics in Medicine and Biology, 2015, 60, 3639-3654.	1.6	28
80	Spatiotemporal Clutter Filtering of Ultrafast Ultrasound Data Highly Increases Doppler and fUltrasound Sensitivity. IEEE Transactions on Medical Imaging, 2015, 34, 2271-2285.	5.4	661
81	3D ultrafast ultrasound imagingin vivo. Physics in Medicine and Biology, 2014, 59, L1-L13.	1.6	290
82	Transthoracic ultrafast Doppler imaging of human left ventricular hemodynamic function. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 1268-1275.	1.7	25
83	Ultrafast Doppler Reveals the Mapping of Cerebral Vascular Resistivity in Neonates. Journal of Cerebral Blood Flow and Metabolism, 2014, 34, 1009-1017.	2.4	71
84	Anisotropic polyvinyl alcohol hydrogel phantom for shear wave elastography in fibrous biological soft tissue: a multimodality characterization. Physics in Medicine and Biology, 2014, 59, 6923-6940.	1.6	66
85	Quantitative evaluation of atrial radio frequency ablation using intracardiac shearâ€wave elastography. Medical Physics, 2014, 41, 112901.	1.6	24
86	Ultrafast acoustoelectric imaging. , 2014, , .		4
87	Anisotropic polyvinyl alcohol hydrogel phantom for shear wave elastography in fibrous biological soft tissue. , 2014, , .		3
88	Ultrasound backscatter tensor imaging (BTI): analysis of the spatial coherence of ultrasonic speckle in anisotropic soft tissues. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 986-996.	1.7	40
89	High-contrast ultrafast imaging of the heart. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 288-301.	1.7	200
90	In vivo transthoracic ultrafast Doppler imaging of left intraventricular blood flow pattern. , 2013, , .		2

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91	Towards backscatter tensor imaging (BTI): Analysis of the spatial coherence of ultrasonic speckle in anisotropic soft tissues. , 2013, , .		3
92	Supersonic shear wave imaging to assess arterial anisotropy: Ex-vivo testing of the horse aorta. , 2013, , .		3
93	Transcranial high intensity focused ultrasound therapy guided by 7 TESLA MRI in a rat brain tumour model: A feasibility study. International Journal of Hyperthermia, 2013, 29, 598-608.	1.1	18
94	Targeting accuracy of transcranial magnetic resonanceâ€“guided high-intensity focused ultrasound brain therapy: a fresh cadaver model. Journal of Neurosurgery, 2013, 118, 1046-1052.	0.9	62
95	Ultrafast Doppler Imaging of Blood Flow Dynamics in the Myocardium. IEEE Transactions on Medical Imaging, 2012, 31, 1661-1668.	5.4	73
96	Ultrasound elastic tensor imaging: comparison with MR diffusion tensor imaging in the myocardium. Physics in Medicine and Biology, 2012, 57, 5075-5095.	1.6	77
97	Shear Wave Imaging of the heart using a cardiac phased array with coherent spatial compound. , 2012, , .		8
98	Dynamic Study of Bloodâ€“Brain Barrier Closure after its Disruption using Ultrasound: A Quantitative Analysis. Journal of Cerebral Blood Flow and Metabolism, 2012, 32, 1948-1958.	2.4	156
99	Mapping Myocardial Fiber Orientation Using Echocardiography-Based Shear Wave Imaging. IEEE Transactions on Medical Imaging, 2012, 31, 554-562.	5.4	144
100	The link between tissue elasticity and thermal dosein vivo. Physics in Medicine and Biology, 2011, 56, 7755-7765.	1.6	43
101	Real-Time Assessment of Myocardial Contractility Using Shear Wave Imaging. Journal of the American College of Cardiology, 2011, 58, 65-72.	1.2	127
102	Monitoring of thermal therapy based on shear modulus changes: I. shear wave thermometry. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 369-378.	1.7	51
103	Combined passive detection and ultrafast active imaging of cavitation events induced by short pulses of high-intensity ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 517-532.	1.7	101
104	Monitoring of thermal therapy based on shear modulus changes: II. Shear wave imaging of thermal lesions. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 1603-1611.	1.7	66
105	In Vivo Quantitative Mapping of Myocardial Stiffening and Transmural Anisotropy During the Cardiac Cycle. IEEE Transactions on Medical Imaging, 2011, 30, 295-305.	5.4	202
106	Attenuation, scattering, and absorption of ultrasound in the skull bone. Medical Physics, 2011, 39, 299-307.	1.6	260
107	Transcranial Ultrasonic Therapy Based on Time Reversal of Acoustically Induced Cavitation Bubble Signature. IEEE Transactions on Biomedical Engineering, 2010, 57, 134-144.	2.5	70
108	Quantitative Assessment of Arterial Wall Biomechanical Properties Using Shear Wave Imaging. Ultrasound in Medicine and Biology, 2010, 36, 1662-1676.	0.7	305

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109	MR-guided adaptive focusing of ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 1734-1747.	1.7	43
110	Evaluation of local arterial stiffness using ultrafast imaging: A comparative study using local arterial pulse wave velocity estimation and shear wave imaging. , 2010, , .		7
111	Monitoring of thermal ablation therapy based on shear modulus changes: Shear wave thermometry and shear wave lesion imaging. , 2010, , .		1
112	Noninvasive assessment of myocardial anisotropy in vitro and in vivo using Supersonic Shear Wave Imaging. , 2010, , .		5
113	Experimental reverse time migration for imaging of elasticity changes. , 2010, , .		1
114	Ultrafast imaging of the heart using circular wave synthetic imaging with phased arrays. , 2009, , .		23
115	Energy-based adaptive focusing of waves: application to noninvasive aberration correction of ultrasonic wavefields. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 2388-2399.	1.7	31
116	Potential of MRI and Ultrasound Radiation Force in Elastography: Applications to Diagnosis and Therapy. Proceedings of the IEEE, 2008, 96, 490-499.	16.4	18
117	In vivo transcranial brain surgery with an ultrasonic time reversal mirror. Journal of Neurosurgery, 2007, 106, 1061-1066.	0.9	155
118	A Novel Noninvasive Technique for Pulse-Wave Imaging and Characterization of Clinically-Significant Vascular Mechanical Properties In Vivo. Ultrasonic Imaging, 2007, 29, 137-154.	1.4	99
119	Noninvasive, transcranial and localized opening of the blood-brain barrier using focused ultrasound in mice. Ultrasound in Medicine and Biology, 2007, 33, 95-104.	0.7	331
120	ECG-gated, Mechanical and Electromechanical Wave Imaging of Cardiovascular Tissues In Vivo. Ultrasound in Medicine and Biology, 2007, 33, 1075-1085.	0.7	149
121	Real-Time Monitoring Of Regional Tissue Elasticity During FUS Focused Ultrasound Therapy Using Harmonic Motion Imaging. AIP Conference Proceedings, 2006, , .	0.3	3
122	Noninvasive Blood-Brain Barrier Opening in Live Mice. AIP Conference Proceedings, 2006, , .	0.3	4
123	Single-Element Focused Ultrasound Transducer Method for Harmonic Motion Imaging. Ultrasonic Imaging, 2006, 28, 144-158.	1.4	57
124	3-D real-time motion correction in high-intensity focused ultrasound therapy. Ultrasound in Medicine and Biology, 2004, 30, 1239-1249.	0.7	116