

# Frits Mastik

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

102  
papers

4,409  
citations

34  
h-index

65  
g-index

142  
ext. papers

5,118  
ext. citations

4.6  
avg, IF

4.69  
L-index

#	Paper	IF	Citations
102	Lipid-rich Plaques Detected by Near-infrared Spectroscopy Are More Frequently Exposed to High Shear Stress. <i>Journal of Cardiovascular Translational Research</i> , <b>2021</b> , 14, 416-425	3.3	4
101	Real-Time Coded Excitation Imaging Using a CMUT-Based Side Looking Array for Intravascular Ultrasound. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2021</b> , 68, 2048-2058	3.2	2
100	High-Resolution Imaging of Intracellular Calcium Fluctuations Caused by Oscillating Microbubbles. <i>Ultrasound in Medicine and Biology</i> , <b>2020</b> , 46, 2017-2029	3.5	11
99	Opening of endothelial cell-cell contacts due to sonoporation. <i>Journal of Controlled Release</i> , <b>2020</b> , 322, 426-438	11.7	18
98	NIMG-19. USING FUNCTIONAL ULTRASOUND (FUS) TO MAP BRAIN FUNCTIONALITY AND TUMOR VASCULATURE WITH MICROMETER-MILLISECOND PRECISION. <i>Neuro-Oncology</i> , <b>2020</b> , 22, ii151-ii151	1	
97	Simultaneous Morphological and Flow Imaging Enabled by Megahertz Intravascular Doppler Optical Coherence Tomography. <i>IEEE Transactions on Medical Imaging</i> , <b>2020</b> , 39, 1535-1544	11.7	7
96	Functional Ultrasound (fUS) During Awake Brain Surgery: The Clinical Potential of Intra-Operative Functional and Vascular Brain Mapping. <i>Frontiers in Neuroscience</i> , <b>2019</b> , 13, 1384	5.1	25
95	Combined Confocal Microscope and Brandaris 128 Ultra-High-Speed Camera. <i>Ultrasound in Medicine and Biology</i> , <b>2019</b> , 45, 2575-2582	3.5	10
94	In vivo intravascular photoacoustic imaging of plaque lipid in coronary atherosclerosis. <i>EuroIntervention</i> , <b>2019</b> , 15, 452-456	3.1	11
93	Real-time photoacoustic assessment of radiofrequency ablation lesion formation in the left atrium. <i>Photoacoustics</i> , <b>2019</b> , 16, 100150	9	12
92	Sparse Ultrasound Image Reconstruction From a Shape-Sensing Single-Element Forward-Looking Catheter. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2018</b> , 65, 2210-2218	5	7
91	3D functional ultrasound imaging of pigeons. <i>NeuroImage</i> , <b>2018</b> , 183, 469-477	7.9	24
90	Non-spherical oscillations drive the ultrasound-mediated release from targeted microbubbles. <i>Communications Physics</i> , <b>2018</b> , 1,	5.4	23
89	Catheter design optimization for practical intravascular photoacoustic imaging (IVPA) of vulnerable plaques <b>2018</b> ,		2
88	Validation of Resting Diastolic Pressure Ratio Calculated by a Novel Algorithm and Its Correlation With Distal Coronary Artery Pressure to Aortic Pressure, Instantaneous Wave-Free Ratio, and Fractional Flow Reserve. <i>Circulation: Cardiovascular Interventions</i> , <b>2018</b> , 11, e006911	6	19
87	Structured ultrasound microscopy. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 251901	3.4	7
86	Compressive 3D ultrasound imaging using a single sensor. <i>Science Advances</i> , <b>2017</b> , 3, e1701423	14.3	48

85	Real-time volumetric lipid imaging in vivo by intravascular photoacoustics at 20 frames per second. <i>Biomedical Optics Express</i> , <b>2017</b> , 8, 943-953	3.5	60
84	Focal areas of increased lipid concentration on the coating of microbubbles during short tone-burst ultrasound insonification. <i>PLoS ONE</i> , <b>2017</b> , 12, e0180747	3.7	13
83	3D Imaging with a single-element forward-looking steerable IVUS catheter: initial testing <b>2016</b> ,		2
82	Combined optical sizing and acoustical characterization of single freely-floating microbubbles. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 234104	3.4	1
81	Unique pumping-out fracturing mechanism of a polymer-shelled contrast agent: an acoustic characterization and optical visualization. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2015</b> , 62, 451-62	3.2	7
80	Carotid artery wall dynamics captured with multi-plane high-frame-rate imaging <b>2015</b> ,		2
79	Measuring submicrometer displacement vectors using high-frame-rate ultrasound imaging. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2015</b> , 62, 1733-44	3.2	5
78	High-definition imaging of carotid artery wall dynamics. <i>Ultrasound in Medicine and Biology</i> , <b>2014</b> , 40, 2392-403	3.5	58
77	High frame rate ultrasound displacement vector imaging <b>2014</b> ,		2
76	Ultrasound-guided photoacoustic image reconstruction: image completion and boundary suppression. <i>Journal of Biomedical Optics</i> , <b>2013</b> , 18, 096017	3.5	2
75	Plane-wave ultrasound beamforming using a nonuniform fast Fourier transform. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2012</b> , 59, 2684-91	3.2	41
74	Brandaris 128 ultra-high-speed imaging facility: 10 years of operation, updates, and enhanced features. <i>Review of Scientific Instruments</i> , <b>2012</b> , 83, 103706	1.7	46
73	Segmented high speed imaging of vibrating microbubbles during long ultrasound pulses <b>2012</b> ,		2
72	High frame rate ultrasound imaging of human carotid artery dynamics <b>2012</b> ,		4
71	High shear stress induces a strain increase in human coronary plaques over a 6-month period. <i>EuroIntervention</i> , <b>2011</b> , 7, 121-7	3.1	34
70	Contrast-enhanced intravascular ultrasound 3D reconstruction of a vasa vasorum mimicking model <b>2010</b> ,		1
69	In vivo 3D distribution of lipid-core plaque in human coronary artery as assessed by fusion of near infrared spectroscopy-intravascular ultrasound and multislice computed tomography scan. <i>Circulation: Cardiovascular Imaging</i> , <b>2010</b> , 3, e6-7	3.9	25
68	First-in-man clinical use of combined near-infrared spectroscopy and intravascular ultrasound: a potential key to predict distal embolization and no-reflow?. <i>Journal of the American College of Cardiology</i> , <b>2010</b> , 56, 314	15.1	54

67	An intravascular photoacoustic imaging catheter <b>2010</b> ,		2
66	Combined optical coherence tomography and intravascular ultrasound radio frequency data analysis for plaque characterization. Classification accuracy of human coronary plaques in vitro. <i>International Journal of Cardiovascular Imaging</i> , <b>2010</b> , 26, 843-50	2.5	20
65	First use in patients of a combined near infra-red spectroscopy and intra-vascular ultrasound catheter to identify composition and structure of coronary plaque. <i>EuroIntervention</i> , <b>2010</b> , 5, 755-6	3.1	45
64	Reconstructive compounding for IVUS palpography. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2009</b> , 56, 2630-42	3.2	3
63	A study of coronary artery rotational motion with dense scale-space optical flow in intravascular ultrasound. <i>Physics in Medicine and Biology</i> , <b>2009</b> , 54, 1397-418	3.8	8
62	Accuracy in prediction of catheter rotation in IVUS with feature-based optical flow--a phantom study. <i>IEEE Transactions on Information Technology in Biomedicine</i> , <b>2008</b> , 12, 356-65		12
61	An inverse method for imaging the local elasticity of atherosclerotic coronary plaques. <i>IEEE Transactions on Information Technology in Biomedicine</i> , <b>2008</b> , 12, 277-89		43
60	Improving IVUS palpography by incorporation of motion compensation based on block matching and optical flow. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2008</b> , 55, 2392-404	3.2	11
59	Effects of the direct lipoprotein-associated phospholipase A(2) inhibitor darapladib on human coronary atherosclerotic plaque. <i>Circulation</i> , <b>2008</b> , 118, 1172-82	16.7	432
58	Strain distribution over plaques in human coronary arteries relates to shear stress. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2008</b> , 295, H1608-14	5.2	143
57	In vitro demonstration of an SpO2-camera <b>2007</b> ,		3
56	"Compression-only" behavior of phospholipid-coated contrast bubbles. <i>Ultrasound in Medicine and Biology</i> , <b>2007</b> , 33, 653-6	3.5	135
55	Local elasticity imaging of vulnerable atherosclerotic coronary plaques. <i>Advances in Cardiology</i> , <b>2007</b> , 44, 35-61		23
54	Current diagnostic modalities for vulnerable plaque detection. <i>Current Pharmaceutical Design</i> , <b>2007</b> , 13, 995-1001	3.3	60
53	Robust intravascular optical coherence elastography by line correlations. <i>Physics in Medicine and Biology</i> , <b>2007</b> , 52, 2445-58	3.8	43
52	P3A-5 Two Methods for Catheter Motion Correction in IVUS Palpography. <i>Proceedings IEEE Ultrasonics Symposium</i> , <b>2007</b> ,		2
51	Robust intravascular optical coherence elastography driven by acoustic radiation pressure <b>2007</b> ,		3
50	Intravascular palpography for vulnerable plaque assessment <b>2007</b> , 191-198		

49	Young's modulus reconstruction of vulnerable atherosclerotic plaque components using deformable curves. <i>Ultrasound in Medicine and Biology</i> , <b>2006</b> , 32, 201-10	3.5	45
48	Motion compensation for intravascular ultrasound palpography. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2006</b> , 53, 1269-80	3.2	27
47	INTRAVASCULAR ULTRASOUND PALPOGRAPHY: A NEW METHOD FOR THE DETECTION OF THE VULNERABLE PLAQUE. <i>Journal of Mechanics in Medicine and Biology</i> , <b>2006</b> , 06, 35-38	0.7	
46	Noninvasive detection of subclinical coronary atherosclerosis coupled with assessment of changes in plaque characteristics using novel invasive imaging modalities: the Integrated Biomarker and Imaging Study (IBIS). <i>Journal of the American College of Cardiology</i> , <b>2006</b> , 47, 1134-42	15.1	93
45	Intravascular palpography for vulnerable plaque assessment. <i>Journal of the American College of Cardiology</i> , <b>2006</b> , 47, C86-91	15.1	80
44	Clinical imaging of the vulnerable plaque in the coronary arteries: new intracoronary diagnostic methods. <i>Journal of Cardiovascular Medicine</i> , <b>2006</b> , 7, 21-8	1.9	10
43	Remote non-invasive stereoscopic imaging of blood vessels: first in-vivo results of a new multispectral contrast enhancement technology. <i>Annals of Biomedical Engineering</i> , <b>2006</b> , 34, 1870-8	4.7	20
42	Assessment of vulnerable plaque composition by matching the deformation of a parametric plaque model to measured plaque deformation. <i>IEEE Transactions on Medical Imaging</i> , <b>2005</b> , 24, 514-28	11.7	50
41	Three-dimensional palpography of human coronary arteries. Ex vivo validation and in-patient evaluation. <i>Herz</i> , <b>2005</b> , 30, 125-33	2.6	41
40	Robustness of reconstructing the Young's modulus distribution of vulnerable atherosclerotic plaques using a parametric plaque model. <i>Ultrasound in Medicine and Biology</i> , <b>2005</b> , 31, 1631-45	3.5	16
39	Contactless multiple wavelength photoplethysmographic imaging: a first step toward "SpO2 camera" technology. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 1034-41	4.7	166
38	Rationale and methods of the integrated biomarker and imaging study (IBIS): combining invasive and non-invasive imaging with biomarkers to detect subclinical atherosclerosis and assess coronary lesion biology. <i>International Journal of Cardiovascular Imaging</i> , <b>2005</b> , 21, 425-41	2.5	28
37	Intravascular Ultrasound Elastography: A Clinician's Tool for Assessing Vulnerability and Material Composition of Plaques. <i>Studies in Health Technology and Informatics</i> , <b>2005</b> , 113, 75-96	0.5	16
36	Incidence of high-strain patterns in human coronary arteries: assessment with three-dimensional intravascular palpography and correlation with clinical presentation. <i>Circulation</i> , <b>2004</b> , 109, 2716-9	16.7	127
35	A finite element model for performing intravascular ultrasound elastography of human atherosclerotic coronary arteries. <i>Ultrasound in Medicine and Biology</i> , <b>2004</b> , 30, 803-13	3.5	54
34	Finite element modeling and intravascular ultrasound elastography of vulnerable plaques: parameter variation. <i>Ultrasonics</i> , <b>2004</b> , 42, 723-9	3.5	66
33	Fully automatic luminal contour segmentation in intracoronary ultrasound imaging--a statistical approach. <i>IEEE Transactions on Medical Imaging</i> , <b>2004</b> , 23, 554-66	11.7	99
32	Fully automatic contour detection in intravascular ultrasound imaging <b>2004</b> , 5373, 108		

31	Characterizing vulnerable plaque features with intravascular elastography. <i>Circulation</i> , <b>2003</b> , 108, 2636-41.7	261
30	Brandaris 128: a rotating-mirror digital camera with 128 frames at 25 Mfps <b>2003</b> , 4948, 342	6
29	Intravascular Elastography. <i>BMUS Bulletin</i> , <b>2003</b> , 11, 12-16	
28	Intravascular palpography for high-risk vulnerable plaque assessment. <i>Herz</i> , <b>2003</b> , 28, 488-95	2.6 56
27	Quantitative IVUS blood flow: validation in vitro, in animals and in patients. <i>Ultrasound in Medicine and Biology</i> , <b>2003</b> , 29, 507-15	3.5 18
26	Intravascular elastography: from bench to bedside. <i>Journal of Interventional Cardiology</i> , <b>2003</b> , 16, 253-9	1.8 25
25	Brandaris 128: A digital 25 million frames per second camera with 128 highly sensitive frames. <i>Review of Scientific Instruments</i> , <b>2003</b> , 74, 5026-5034	1.7 166
24	Incidence of vulnerable plaques in humans: assessment with intravascular palpography. <i>European Heart Journal</i> , <b>2003</b> , 24, 419	9.5 2
23	Dynamic noise correction for IVUS quantitative volume blood flow: methods and numerical validation. <i>Ultrasound in Medicine and Biology</i> , <b>2002</b> , 28, 1053-60	3.5 6
22	Effect of temperature increase and freezing on intravascular elastography. <i>Ultrasonics</i> , <b>2002</b> , 40, 879-81	3.5 20
21	IVUS flow measurements: line spread function and decorrelation pattern. <i>Ultrasonics</i> , <b>2002</b> , 40, 843-7	3.5 5
20	Identification of atherosclerotic plaque components with intravascular ultrasound elastography in vivo: a Yucatan pig study. <i>Circulation</i> , <b>2002</b> , 105, 1627-30	16.7 198
19	Morphological and mechanical information of coronary arteries obtained with intravascular elastography; feasibility study in vivo. <i>European Heart Journal</i> , <b>2002</b> , 23, 405-13	9.5 113
18	Decorrelation-based blood flow velocity estimation: effect of spread of flow velocity, linear flow velocity gradients, and parabolic flow. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , <b>2002</b> , 49, 705-14	3.2 14
17	Advancing intravascular ultrasonic palpation toward clinical applications. <i>Ultrasound in Medicine and Biology</i> , <b>2001</b> , 27, 1471-80	3.5 77
16	Flow estimation using an intravascular imaging catheter. <i>Ultrasonics</i> , <b>2000</b> , 38, 363-8	3.5 11
15	Optical imaging of contrast agent microbubbles in an ultrasound field with a 100-MHz camera. <i>Ultrasound in Medicine and Biology</i> , <b>2000</b> , 26, 487-92	3.5 87
14	Characterization of plaque components and vulnerability with intravascular ultrasound elastography. <i>Physics in Medicine and Biology</i> , <b>2000</b> , 45, 1465-75	3.8 133

13	Echo decorrelation estimated from signal powers. <i>Ultrasound in Medicine and Biology</i> , <b>1999</b> , 25, 405-9	3.5	2
12	Coronary Flow Reserve Versus Geometric Measurements of Coronary Dimensions: Advantages and Limitations of the Functional Stenosis Assessment. <i>Journal of Interventional Cardiology</i> , <b>1999</b> , 12, 411-424	1.8	5
11	Influence of data processing on cyclic variation of integrated backscatter and wall thickness in stunned porcine myocardium. <i>Ultrasound in Medicine and Biology</i> , <b>1997</b> , 23, 405-14	3.5	17
10	The relationship between myocardial integrated backscatter, perfusion pressure and wall thickness during isovolumic contraction: an isolated pig heart study. <i>Ultrasound in Medicine and Biology</i> , <b>1996</b> , 22, 43-52	3.5	12
9	Ultrasound myocardial integrated backscatter signal processing: frequency domain versus time domain. <i>Ultrasound in Medicine and Biology</i> , <b>1993</b> , 19, 211-9	3.5	25
8	Influence of attenuation on measurements of ultrasonic myocardial integrated backscatter during cardiac cycle (an in vitro study). <i>Ultrasound in Medicine and Biology</i> , <b>1991</b> , 17, 869-77	3.5	16
7	The relative contributions of myocardial wall thickness and ischemia to ultrasonic myocardial integrated backscatter during experimental ischemia. <i>Ultrasound in Medicine and Biology</i> , <b>1991</b> , 17, 41-8	3.5	20
6	Ultrasonic myocardial integrated backscatter and myocardial wall thickness in animal experiments. <i>Ultrasound in Medicine and Biology</i> , <b>1990</b> , 16, 29-36	3.5	34
5	Arterial wall characteristics determined by intravascular ultrasound imaging: an in vitro study. <i>Journal of the American College of Cardiology</i> , <b>1989</b> , 14, 947-52	15.1	54
4	Myocardial backscatter analysis in animal experiments. <i>Ultrasonics</i> , <b>1988</b> , 26, 155-63	3.5	12
3	Motion compensation for intravascular ultrasound palpography for in vivo vulnerable plaque detection		2
2			1
1	Intravascular Palpography 289-296		