

Herve Liebgott

List of Publications by Year in descending order

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145
papers

2,461
citations

159525

30
h-index

233338

45
g-index

149
all docs

149
docs citations

149
times ranked

1720
citing authors

#	ARTICLE	IF	CITATIONS
1	Pre-beamformed RF signal reconstruction in medical ultrasound using compressive sensing. <i>Ultrasonics</i> , 2013, 53, 525-533.	2.1	109
2	Design of Optimal 2-D Nongrid Sparse Arrays for Medical Ultrasound. <i>IEEE Transactions on Biomedical Engineering</i> , 2013, 60, 3093-3102.	2.5	92
3	A Virtual Imaging Platform for Multi-Modality Medical Image Simulation. <i>IEEE Transactions on Medical Imaging</i> , 2013, 32, 110-118.	5.4	92
4	High-Quality Plane Wave Compounding Using Convolutional Neural Networks. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2017, 64, 1637-1639.	1.7	87
5	Model Fitting Using RANSAC for Surgical Tool Localization in 3-D Ultrasound Images. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 1907-1916.	2.5	84
6	Myocardial Motion Estimation From Medical Images Using the Monogenic Signal. <i>IEEE Transactions on Image Processing</i> , 2013, 22, 1084-1095.	6.0	72
7	Comparison of Carotid Artery Blood Velocity Measurements by Vector and Standard Doppler Approaches. <i>Ultrasound in Medicine and Biology</i> , 2015, 41, 1354-1362.	0.7	70
8	Experimental 3-D Ultrasound Imaging with 2-D Sparse Arrays using Focused and Diverging Waves. <i>Scientific Reports</i> , 2018, 8, 9108.	1.6	68
9	Compressed Sensing Reconstruction of 3D Ultrasound Data Using Dictionary Learning and Line-Wise Subsampling. <i>IEEE Transactions on Medical Imaging</i> , 2015, 34, 2467-2477.	5.4	66
10	Evaluation and comparison of current biopsy needle localization and tracking methods using 3D ultrasound. <i>Ultrasonics</i> , 2017, 73, 206-220.	2.1	64
11	2-D arterial wall motion imaging using ultrafast ultrasound and transverse oscillations. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015, 62, 1047-1058.	1.7	63
12	2-D Ultrasound Sparse Arrays Multidepth Radiation Optimization Using Simulated Annealing and Spiral-Array Inspired Energy Functions. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2016, 63, 2138-2149.	1.7	62
13	3D Strain Assessment in Ultrasound (Straus): A Synthetic Comparison of Five Tracking Methodologies. <i>IEEE Transactions on Medical Imaging</i> , 2013, 32, 1632-1646.	5.4	54
14	Fast Volumetric Ultrasound B-Mode and Doppler Imaging with a New High-Channels Density Platform for Advanced 4D Cardiac Imaging/Therapy. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 200.	1.3	54
15	Automatic Needle Detection and Tracking in 3D Ultrasound Using an ROI-Based RANSAC and Kalman Method. <i>Ultrasonic Imaging</i> , 2013, 35, 283-306.	1.4	52
16	High-frame-rate 2-D vector blood flow imaging in the frequency domain. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2014, 61, 1504-1514.	1.7	51
17	Plane-wave transverse oscillation for high-frame-rate 2-D vector flow imaging. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015, 62, 2126-2137.	1.7	51
18	Parallel integral projection transform for straight electrode localization in 3-D ultrasound images. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2008, 55, 1559-1569.	1.7	50

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19	High-Frame-Rate Speckle-Tracking Echocardiography. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 720-728.	1.7	49
20	Transverse oscillations for tissue motion estimation. Ultrasonics, 2010, 50, 548-555.	2.1	47
21	Phase-based block matching applied to motion estimation with unconventional beamforming strategies. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 945-957.	1.7	46
22	Beamforming Scheme for 2D Displacement Estimation in Ultrasound Imaging. Eurasip Journal on Advances in Signal Processing, 2005, 2005, 1.	1.0	44
23	Compressive sensing in medical ultrasound. , 2012, , .		43
24	A method for vector displacement estimation with ultrasound imaging and its application for thyroid nodular disease. Medical Image Analysis, 2008, 12, 259-274.	7.0	41
25	PSF dedicated to estimation of displacement vectors for tissue elasticity imaging with ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 746-756.	1.7	40
26	Wideband 2-D Array Design Optimization With Fabrication Constraints for 3-D US Imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 108-125.	1.7	39
27	Investigation of PVA cryogel Young's modulus stability with time, controlled by a simple reliable technique. Medical Physics, 2009, 36, 656-661.	1.6	37
28	Line filtering for surgical tool localization in 3D ultrasound images. Computers in Biology and Medicine, 2013, 43, 2036-2045.	3.9	35
29	Extension of Fourier-Based Techniques for Ultrafast Imaging in Ultrasound With Diverging Waves. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 2125-2137.	1.7	35
30	A Sparse Reconstruction Framework for Fourier-Based Plane-Wave Imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 2092-2106.	1.7	32
31	A New Technique for the Estimation of Cardiac Motion in Echocardiography Based on Transverse Oscillations: A Preliminary Evaluation In Silico and a Feasibility Demonstration In Vivo. IEEE Transactions on Medical Imaging, 2014, 33, 1148-1162.	5.4	30
32	Motion Estimation in Echocardiography Using Sparse Representation and Dictionary Learning. IEEE Transactions on Image Processing, 2018, 27, 64-77.	6.0	30
33	Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy. Radiotherapy and Oncology, 2014, 111, 132-137.	0.3	27
34	Analytic Estimation of Subsample Spatial Shift Using the Phases of Multidimensional Analytic Signals. IEEE Transactions on Image Processing, 2009, 18, 440-447.	6.0	26
35	Full 3-D transverse oscillations: a method for tissue motion estimation. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1473-1485.	1.7	24
36	Aorta calcification burden: Towards an integrative predictor of cardiac outcome after transcatheter aortic valve implantation. Atherosclerosis, 2016, 246, 161-168.	0.4	21

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37	Simulation of realistic echocardiographic sequences for ground-truth validation of motion estimation. , 2012, , .		20
38	Compressed Sensing Doppler Ultrasound Reconstruction Using Block Sparse Bayesian Learning. IEEE Transactions on Medical Imaging, 2016, 35, 978-987.	5.4	20
39	The UltraSound ToolBox. , 2017, , .		20
40	Lateral RF image synthesis using a synthetic aperture imaging technique. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 2097-2103.	1.7	18
41	Estimation methods for flow imaging with high frequency ultrasound. Ultrasonics, 2006, 44, e135-e140.	2.1	17
42	Multi-resolution transverse oscillation in ultrasound imaging for motion estimation. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 1333-1342.	1.7	17
43	Experimental evaluation of spectral-based quantitative ultrasound imaging using plane wave compounding. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 1824-1834.	1.7	17
44	Blood Velocity Estimation Using Compressive Sensing. IEEE Transactions on Medical Imaging, 2013, 32, 1979-1988.	5.4	16
45	Biopsy Needle Localization and Tracking Using ROI-RK Method. Abstract and Applied Analysis, 2014, 2014, 1-7.	0.3	15
46	Medical ultrasound image reconstruction using distributed compressive sampling. , 2013, , .		14
47	Ultrasound Fourier slice imaging: a novel approach for ultrafast imaging technique. , 2014, , .		14
48	Comparison of the existing tool localisation methods on two-dimensional ultrasound images and their tracking results. IET Control Theory and Applications, 2015, 9, 1124-1134.	1.2	14
49	Plane wave transverse oscillation (PWTO): An ultra-fast transverse oscillation imaging mode performed in the Fourier domain for 2D motion estimation of the carotid artery. , 2014, , .		13
50	Video Magnification Applied in Ultrasound. IEEE Transactions on Biomedical Engineering. 2019, 66, 283-288.	2.5	13
51	Parametric Deformable Block Matching for Ultrasound Imaging. , 2007, , .		12
52	Tangential oscillations for motion estimation in echocardiography. , 2008, , .		12
53	Real-time ultrasound tagging to track the 2D motion of the common carotid artery wall <i>in vivo</i> . Medical Physics, 2015, 42, 820-830.	1.6	12
54	An alternative method to classical beamforming for transverse oscillation images: Application to elastography. , 2013, , .		11

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55	OntoVIP: An ontology for the annotation of object models used for medical image simulation. Journal of Biomedical Informatics, 2014, 52, 279-292.	2.5	11
56	Multiscale optical flow computation from the monogenic signal. Irbm, 2013, 34, 33-37.	3.7	10
57	Semiautomatic registration of 3D transabdominal ultrasound images for patient repositioning during postprostatectomy radiotherapy. Medical Physics, 2014, 41, 122903.	1.6	10
58	Real-Time 3-D Spectral Doppler Analysis With a Sparse Spiral Array. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1742-1751.	1.7	10
59	Estimation of Time-Scaling Factor for Ultrasound Medical Images Using the Hilbert Transform. Eurasip Journal on Advances in Signal Processing, 2006, 2007, 1.	1.0	9
60	Translation of Simultaneous Vessel Wall Motion and Vectorial Blood Flow Imaging in Healthy and Diseased Carotids to the Clinic: A Pilot Study. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 558-569.	1.7	9
61	Two-dimensional least-squares estimation for motion tracking in ultrasound elastography. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2155-8.	0.5	8
62	Sparse Convolutional Beamforming for 3-D Ultrafast Ultrasound Imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 2444-2459.	1.7	8
63	Direct estimation of the lateral strain field using a double oscillating point spread function with a scaling factor estimator. , 2004, , .		7
64	Real time US-tagging combined with phase-based optical flow applied to 2D motion estimation of the carotid artery wall. , 2012, , .		7
65	Multi-resolution parallel integral projection for fast localization of a straight electrode in 3D ultrasound images. , 2008, , .		6
66	Multi-modality medical image simulation of biological models with the Virtual Imaging Platform (VIP). , 2011, , .		6
67	Compressive sensing ultrasound imaging using overcomplete dictionaries. , 2013, , .		6
68	Frequency-domain high frame-rate 2D vector flow imaging. , 2013, , .		6
69	Speed-up of acoustic simulation techniques for 2D sparse array optimization by simulated annealing. , 2015, , .		6
70	High-frame-rate 3-D echocardiography based on motion compensation: An in vitro evaluation. , 2017, , .		6
71	3D+t Vector Flow Imaging with Transverse Oscillations and Doppler Estimator. , 2019, , .		6
72	Spectral Doppler Measurements With 2-D Sparse Arrays. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 278-285.	1.7	6

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73	P4B-2 Beamforming Techniques for Motion Estimation in Ultrasound Elastography. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	5
74	Transverse oscillations for tissue motion estimation. Physics Procedia, 2010, 3, 235-244.	1.2	5
75	2D matrix array optimization by simulated annealing for 3D hepatic imaging. , 2011, , .		5
76	Sharing object models for multi-modality medical image simulation: A semantic approach. , 2011, , .		5
77	Cardiac motion assessment from echocardiographic image sequences by means of the structure multivector. , 2013, , .		5
78	Variable-size elements in 2D sparse arrays for 3D medical ultrasound. , 2013, , .		5
79	A new method for 2D-vector blood flow imaging based on unconventional beamforming techniques. , 2014, , .		5
80	SA-VFI: the IEEE IUS Challenge on Synthetic Aperture Vector Flow Imaging. , 2018, , .		5
81	Investigation on 3D high frame rate imaging with motion compensation (MoCo). , 2019, , .		5
82	Monogenic phase based myocardial motion analysis from cardiac ultrasound with transverse oscillations. , 2012, , .		4
83	Multi-modality image simulation with the Virtual Imaging Platform: Illustration on cardiac echography and MRI. , 2012, , .		4
84	Realistic acoustic simulation of 2-D probe elements in simulated annealing sparse array optimization. , 2014, , .		4
85	Extension of Ultrasound Fourier Slice Imaging theory to sectorial acquisition. , 2015, , .		4
86	Spatial and Temporal Adaptive FIR Clutter Filtering. , 2018, , .		4
87	Simultaneous Tissue and Flow Estimation at High Frame Rate Using Plane Wave and Transverse Oscillation on in Vivo Carotid. , 2018, , .		4
88	Static mechanical assessment of elastic Young's modulus of tissue mimicking materials used for medical imaging. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 3450-3.	0.5	3
89	Real-time specific beamforming applied to motion trajectory estimation in ultrasound imaging. , 2009, , .		3
90	Non-grid based elements positioning for optimal 2D array beams. , 2012, , .		3

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91	OntoVIP: An Ontology for the Annotation of Object Models Used for Medical Image Simulation. , 2012, , .		3
92	Internal strain estimation for quantification of human heel pad elastic modulus: A phantom study. Ultrasonics, 2013, 53, 439-446.	2.1	3
93	A new automatically biopsy needle tracking method using 3D ultrasound. , 2013, , .		3
94	Real time 3D US-tagging combined with 3D phasebased motion estimation. , 2013, , .		3
95	Spiral array inspired multi-depth cost function for 2D sparse array optimization. , 2015, , .		3
96	Novel strategies in 2D sparse arrays for 3D ultrasound imaging. Physica Medica, 2016, 32, 420-421.	0.4	3
97	Validation of optimal 2D sparse arrays in focused mode: Phantom experiments. , 2017, , .		3
98	Feasibility of Genetic Algorithms in 2D Ultrasound Array Optimization. , 2018, , .		3
99	Prognostic significance of vascular and valvular calcifications in low- and high-gradient aortic stenosis. European Heart Journal Cardiovascular Imaging, 2022, 23, 508-514.	0.5	3
100	Sequence optimization for high frame rate imaging with a convex array. , 2020, , .		3
101	Errata for "Phase-based block matching applied to motion estimation with unconventional beamforming strategies" [May 09 945-957]. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 1289-1289.	1.7	2
102	Affine phase based motion estimation applied to echocardiography. , 2011, , .		2
103	Blood velocity measurement in healthy and diseased carotid arteries by vector Doppler techniques. , 2014, , .		2
104	Fast simulation of realistic pseudo-acoustic nonlinear radio-frequency ultrasound images. , 2014, , .		2
105	Estimation of arterial wall motion using ultrafast imaging with transverse oscillations: Phantom study. , 2014, , .		2
106	Cardiac Motion estimation based on transverse oscillation and ultrafast diverging wave imaging. , 2015, , .		2
107	Back-Propagation Beamformer Design for Motion Estimation in Echocardiography. Ultrasonic Imaging, 2015, 37, 179-204.	1.4	2
108	Comparison of different optimized irregular sparse 2D ultrasound arrays. , 2016, , .		2

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109	A new high channels density ultrasound platform for advanced 4D cardiac imaging. , 2017, , .		2
110	3D diverging waves with 2D sparse arrays: A feasibility study. , 2017, , .		2
111	3D diverging waves with 2D sparse arrays: A feasibility study. , 2017, , .		2
112	Spectral Doppler Measurements with 2-D Sparse Arrays. , 2018, , .		2
113	Optimization of virtual sources distribution in 3D echography. , 2019, , .		2
114	Tapered Vector Doppler for Improved Quantification of Low Velocity Blood Flow. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1017-1031.	1.7	2
115	Young's modulus imaging based on axial and lateral strain estimation from ultrasound data using a clinical linear probe. , 2005, , .		1
116	P5C-3 Field Simulation Parameters Design for Realistic Statistical Parameters of Radio - Frequency Ultrasound Images. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	1
117	Motion estimation using prebeamformed ultrasound signals. , 2010, , .		1
118	Multi resolution transverse oscillations for motion estimation in ultrasound images. , 2012, , .		1
119	Optimization of free-moving elements in 2D ultrasound sparse arrays. , 2014, , .		1
120	Estimation of arterial wall motion using ultrafast imaging and transverse oscillations: in vivo study. , 2016, , .		1
121	High-frame-rate velocity vector imaging echocardiography: an in vitro evaluation. , 2016, , .		1
122	Local Orientation Imaging for Tissue Structure Using Ultrasound Imaging. Irbm, 2017, 38, 298-303.	3.7	1
123	Biofidelic Abdominal Aorta Phantom: Cross-Over Preliminary Study Using UltraSound and Digital Image Stereo-Correlation. Irbm, 2017, 38, 238-244.	3.7	1
124	Multi-line transmission for 3D ultrasound imaging: An experimental study. , 2017, , .		1
125	Simultaneous pulse wave and flow estimation at high-framerate using plane wave and transverse oscillation on carotid phantom. , 2017, , .		1
126	Inverse problem approaches for coded high frame rate ultrasound imaging. , 2017, , .		1

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127	Towards 3-D tissue doppler ultrafast echocardiography: An in vitro study. , 2017, , .		1
128	Simultaneous pulse wave and flow estimation at high-framerate using plane wave and transverse oscillation on carotid phantom. , 2017, , .		1
129	Optimal Virtual Sources Distribution in 3-D Diverging Wave Ultrasound Imaging: An Experimental Study. , 2018, , .		1
130	Vortex Ring Phantom for Investigation of Ultrasound Vector Flow Imaging. , 2018, , .		1
131	High Frame Rate Vector Flow Imaging with a Convex Array in a simulated vessel phantom. , 2019, , .		1
132	Full 3D anisotropic estimation of tissue in ultrasound imaging. , 2019, , .		1
133	Towards high frame rate cardiac ultrasonography - a circular wave imaging approach. , 2013, , .		0
134	Speckle decorrelation of motion in Ultrasound Fourier images. , 2014, , .		0
135	Realistic Simulations for the Evaluation of Monomodal Registration Algorithms of 3D Pelvic Ultrasound Images. Physics Procedia, 2015, 70, 1169-1172.	1.2	0
136	Compressed sensing reconstruction of line-wise sub-sampled 3D echographic images based on dictionary learning: an experimental study. , 2015, , .		0
137	Sub-sampled Doppler ultrasound reconstruction using block sparse Bayesian learning. , 2015, , .		0
138	A measure of confidence for Phase-Based Motion Estimator applied to 2D US-TO images. , 2016, , .		0
139	A Fourier-based formalism for 3D ultrafast imaging with diverging waves. , 2016, , .		0
140	3D ultrasound imaging of tissue anisotropy using spatial coherence: Comparison between plane and diverging waves. , 2017, , .		0
141	Simultaneous coded plane wave imaging: Implementation on a research echograph. , 2017, , .		0
142	Guest Editorial Special Issue on Sparsity Driven Methods in Medical Ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 297-299.	1.7	0
143	Experimental Cross-Talk Reduction for 3D Multi Line Transmission. , 2018, , .		0
144	Jointly Optimized Modulation/Filtering Technique for Pseudo-Orthogonal Binary Sequences. , 2018, , .		0

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145	Spectral Doppler analysis with sparse and full 2-D arrays. , 2019, , .		0