Mohammad R N Avanaki

List of Publications by Year
in descending order

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98 papers	2,817 citations	159585 30 h-index	189892 50 g-index
98 all docs	98 docs citations	98 times ranked	2022 citing authors

#	Article	IF	Citations
1	High-resolution photoacoustic tomography of resting-state functional connectivity in the mouse brain. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 21-26.	7.1	276
2	Noninvasive photoacoustic computed tomography of mouse brain metabolism in vivo. NeuroImage, 2013, 64, 257-266.	4.2	199
3	Double-Stage Delay Multiply and Sum Beamforming Algorithm: Application to Linear-Array Photoacoustic Imaging. IEEE Transactions on Biomedical Engineering, 2018, 65, 31-42.	4.2	147
4	Linear-array photoacoustic imaging using minimum variance-based delay multiply and sum adaptive beamforming algorithm. Journal of Biomedical Optics, 2018, 23, 1.	2.6	90
5	Optical Radiomic Signatures Derived from Optical Coherence Tomography Images Improve Identification of Melanoma. Cancer Research, 2019, 79, 2021-2030.	0.9	88
6	OCT skin image enhancement through attenuation compensation. Applied Optics, 2012, 51, 4927.	1.8	84
7	Development of low-cost photoacoustic imaging systems using very low-energy pulsed laser diodes. Journal of Biomedical Optics, 2017, 22, 075001.	2.6	77
8	Review of cost reduction methods in photoacoustic computed tomography. Photoacoustics, 2019, 15, 100137.	7.8	72
9	Overview of Ultrasound Detection Technologies for Photoacoustic Imaging. Micromachines, 2020, 11, 692.	2.9	72
10	The connectivity domain: Analyzing resting state fMRI data using feature-based data-driven and model-based methods. NeuroImage, 2016, 134, 494-507.	4.2	69
11	Optical coherence tomography imaging of melanoma skin cancer. Lasers in Medical Science, 2019, 34, 411-420.	2.1	64
12	Universal in vivo Textural Model for Human Skin based on Optical Coherence Tomograms. Scientific Reports, 2017, 7, 17912.	3.3	63
13	Spatial Compounding Algorithm for Speckle Reduction of Dynamic Focus OCT Images. IEEE Photonics Technology Letters, 2013, 25, 1439-1442.	2.5	60
14	A Novel Dictionary-Based Image Reconstruction for Photoacoustic Computed Tomography. Applied Sciences (Switzerland), 2018, 8, 1570.	2.5	57
15	Neonatal brain resting-state functional connectivity imaging modalities. Photoacoustics, 2018, 10, 1-19.	7.8	56
16	Photoacoustic Signal Enhancement: Towards Utilization of Low Energy Laser Diodes in Real-Time Photoacoustic Imaging. Sensors, 2018, 18, 3498.	3.8	53
17	Wide-field two-dimensional multifocal optical-resolution photoacoustic-computed microscopy. Optics Letters, 2013, 38, 5236.	3.3	50
18	Photoacoustic/Ultrasound/Optical Coherence Tomography Evaluation of Melanoma Lesion and Healthy Skin in a Swine Model. Sensors, 2019, 19, 2815.	3.8	50

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19	Development of Low-Cost Fast Photoacoustic Computed Tomography: System Characterization and Phantom Study. Applied Sciences (Switzerland), 2019, 9, 374.	2.5	46
20	Technical considerations in the Verasonics research ultrasound platform for developing a photoacoustic imaging system. Biomedical Optics Express, 2021, 12, 1050.	2.9	46
21	Low Temperature-Mediated Enhancement of Photoacoustic Imaging Depth. Scientific Reports, 2018, 8, 4873.	3.3	45
22	Deep learning protocol for improved photoacoustic brain imaging. Journal of Biophotonics, 2020, 13, e202000212.	2.3	45
23	Investigation of computer-based skin cancer detection using optical coherence tomography. Journal of Modern Optics, 2009, 56, 1536-1544.	1.3	42
24	Speckle reduction using an artificial neural network algorithm. Applied Optics, 2013, 52, 5050.	1.8	40
25	Investigation of basal cell carcinoma using dynamic focus optical coherence tomography. Applied Optics, 2013, 52, 2116.	1.8	38
26	Quantitative evaluation of scattering in optical coherence tomography skin images using the extended Huygensâ€“Fresnel theorem. Applied Optics, 2013, 52, 1574.	1.8	37
27	Vibration analysis of healthy skin: toward a noninvasive skin diagnosis methodology. Journal of Biomedical Optics, 2019, 24, 1.	2.6	37
28	Semi-automated localization of dermal epidermal junction in optical coherence tomography images of skin. Applied Optics, 2017, 56, 3116.	2.1	36
29	Simulated annealing optimization in wavefront shaping controlled transmission. Applied Optics, 2018, 57, 6233.	1.8	35
30	Learnable despeckling framework for optical coherence tomography images. Journal of Biomedical Optics, 2018, 23, 1.	2.6	33
31	Melanoma Biomarkers and Their Potential Application for In Vivo Diagnostic Imaging Modalities. International Journal of Molecular Sciences, 2020, 21, 9583.	4.1	31
32	Two applications of solid phantoms in performance assessment of optical coherence tomography systems. Applied Optics, 2013, 52, 7054.	1.8	30
33	A numerical analysis of a semi-dry coupling configuration in photoacoustic computed tomography for infant brain imaging. Photoacoustics, 2017, 7, 27-35.	7.8	30
34	Optical Coherence Tomography Technology and Quality Improvement Methods for Optical Coherence Tomography Images of Skin: A Short Review. Biomedical Engineering and Computational Biology, 2017, 8, 117959721771347.	2.0	30
35	Skullâ€™s Photoacoustic Attenuation and Dispersion Modeling with Deterministic Ray-Tracing: Towards Real-Time Aberration Correction. Sensors, 2019, 19, 345.	3.8	30
36	Investigation of the Effect of the Skull in Transcranial Photoacoustic Imaging: A Preliminary Ex Vivo Study. Sensors, 2020, 20, 4189.	3.8	28

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37	A comparative study of optimization algorithms for wavefront shaping. Journal of Innovative Optical Health Sciences, 2019, 12, .	1.0	26
38	Skull acoustic aberration correction in photoacoustic microscopy using a vector space similarity model: a proof-of-concept simulation study. Biomedical Optics Express, 2020, 11, 5542.	2.9	26
39	Cluster-based filtering framework for speckle reduction in OCT images. Biomedical Optics Express, 2018, 9, 6359.	2.9	26
40	<scp>OCT</scp> image atlas of healthy skin on sunâ€exposed areas. Skin Research and Technology, 2018, 24, 570-586.	1.6	25
41	Skin layer detection of optical coherence tomography images. Optik, 2013, 124, 5665-5668.	2.9	23
42	Wavelength and pulse energy optimization for detecting hypoxia in photoacoustic imaging of the neonatal brain: a simulation study. Biomedical Optics Express, 2021, 12, 7458.	2.9	21
43	En-face time-domain optical coherence tomography with dynamic focus for high-resolution imaging. Journal of Biomedical Optics, 2017, 22, 056009.	2.6	20
44	An overview of methods to mitigate artifacts in optical coherence tomography imaging of the skin. Skin Research and Technology, 2018, 24, 265-273.	1.6	20
45	Transfontanelle photoacoustic imaging: ultrasound transducer selection analysis. Biomedical Optics Express, 2022, 13, 676.	2.9	20
46	Development of a Stationary 3D Photoacoustic Imaging System Using Sparse Single-Element Transducers: Phantom Study. Applied Sciences (Switzerland), 2019, 9, 4505.	2.5	19
47	Refractive index correction in optical coherence tomography images of multilayer tissues. Journal of Biomedical Optics, 2018, 23, 1.	2.6	19
48	Hidradenitis suppurativa: Current understanding, diagnostic and surgical challenges, and developments in ultrasound application. Skin Research and Technology, 2020, 26, 11-19.	1.6	17
49	Algorithm for Excitation Optimization of Fabryâ€“PÃ©rot Filters Used in Swept Sources. IEEE Photonics Technology Letters, 2013, 25, 472-475.	2.5	16
50	Direct measurement of neuronal ensemble activity using photoacoustic imaging in the stimulated Fos-LacZ transgenic rat brain: A proof-of-principle study. Photoacoustics, 2021, 24, 100297.	7.8	16
51	High-resolution wavelet-fractal compressed optical coherence tomography images. Applied Optics, 2017, 56, 1119.	2.1	15
52	Improving vascular imaging with co-planar mutually guided photoacoustic and diffuse optical tomography: a simulation study. Biomedical Optics Express, 2020, 11, 4333.	2.9	15
53	Swept-Source Optical Coherence Tomographyâ€“Supervised Biopsy. Dermatologic Surgery, 2018, 44, 768-775.	0.8	14
54	Couplants in Acoustic Biosensing Systems. Chemosensors, 2022, 10, 181.	3.6	13

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55	Monitoring the topical delivery of ultrasmall gold nanoparticles using optical coherence tomography. Skin Research and Technology, 2020, 26, 263-268.	1.6	12
56	Review of imaging technologies used in Hidradenitis Suppurativa. Skin Research and Technology, 2020, 26, 3-10.	1.6	12
57	Optimization of excitation of fiber Fabryâ€“Perot tunable filters used in swept lasers using a phase-correction method. Applied Optics, 2017, 56, 3378.	2.1	12
58	Randomized <scp>multiâ€angle</scp> illumination for improved linear array photoacoustic computed tomography in brain. Journal of Biophotonics, 2022, 15, e202200016.	2.3	12
59	Towards low cost photoacoustic Microscopy system for evaluation of skin health. Proceedings of SPIE, 2016, , .	0.8	11
60	Granular Cell Tumor Imaging Using Optical Coherence Tomography. Biomedical Engineering and Computational Biology, 2018, 9, 117959721879025.	2.0	11
61	Contrastâ€enhanced optical coherence tomography for melanoma detection: An in vitro study. Journal of Biophotonics, 2020, 13, e201960097.	2.3	11
62	Resting-State Functional Connectivity Measurement in the Mouse Brain using a Low Cost Photoacoustic Computed Tomography. , 2016, , .		11
63	<scp>Highâ€fidelity</scp> compression for <scp>highâ€throughput</scp> photoacoustic microscopy systems. Journal of Biophotonics, 2022, 15, e202100350.	2.3	9
64	Development of a Punch-O-Meter for Sport Karate Training. Electronics (Switzerland), 2019, 8, 782.	3.1	8
65	An Application of Simulated Annealing in Compensation of Nonlinearity of Scanners. Applied Sciences (Switzerland), 2019, 9, 1655.	2.5	7
66	An Intelligent Speckle Reduction Algorithm for Optical Coherence Tomography Images. , 2016, , .		6
67	Fast algorithm for blind optimisation of optical systems; statistics and methodology. International Journal of Electronics, 2014, 101, 1179-1189.	1.4	5
68	Model-based photoacoustic image reconstruction using compressed sensing and smoothed L0 norm. , 2018, , .		5
69	De-Noising Speckled Optical Coherence Tomography Images Using an Algorithm Based on Artificial Neural Network. Journal of Neuroscience and Neuroengineering, 2013, 2, 347-352.	0.2	5
70	Towards ultrahigh resting-state functional connectivity in the mouse brain using photoacoustic microscopy. , 2016, , .		4
71	The efficacy and morphological effects of hydrogen peroxide 40% topical solution for the treatment of seborrheic keratoses, evaluated by dynamic optical coherence tomography. Skin Research and Technology, 2020, 26, 142-145.	1.6	4
72	A Lossless hybrid wavelet-fractal compression for welding radiographic images. Journal of X-Ray Science and Technology, 2016, 24, 107-118.	1.0	3

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73	Development and Optimization of a Fluorescent Imaging System to Detect Amyloid-Î² Proteins: Phantom Study. Biomedical Engineering and Computational Biology, 2018, 9, 117959721878108.	2.0	3
74	Comparative assessment of five algorithms to control an SLM for focusing coherent light through scattering media. , 2018, , .		3
75	Optimization of light illumination for photoacoustic computed tomography of human infant brain. , 2018, , .		3
76	Epidermal thickness measurement on skin OCT using time-efficient deep learning with graph search. , 2022, , .		3
77	2D-FC-ADMM reconstruction algorithm for quantitative optoacoustic tomography in a highly scattering medium: simulation study. , 2022, , .		3
78	Sensor-less aberration correction in optical imaging systems using blind optimization. , 2012, , .		2
79	Noise reduction in OCT skin images. Proceedings of SPIE, 2017, , .	0.8	2
80	A spatially-variant deconvolution method based on total variation for optical coherence tomography images. , 2017, , .		2
81	Development of fast photoacoustic microscopy system for small animal brain imaging. , 2021, , .		2
82	Blind optimization for aberration correction in confocal imaging system. , 2010, , .		1
83	A cost-effective functional connectivity photoacoustic tomography (fcPAT) of the mouse brain. , 2017, , .		1
84	An intelligent despeckling method for swept source optical coherence tomography images of skin. Proceedings of SPIE, 2017, , .	0.8	1
85	Intravascular imaging in neuroendovascular surgery: a brief review. Neurological Research, 2018, 40, 892-899.	1.3	1
86	Three-dimensional photoacoustic tomography using delay multiply and sum beamforming algorithm. , 2018, , .		1
87	High-resolution speed of sound estimation from ultrasound waves using extended full wave inversion. , 2022, , .		1
88	Challenges of transcranial photoacoustic imaging for human at 2.25 MHz: an ex vivo study. , 2022, , .		1
89	Cerebral blood oxygenation measurement in sheep brain In-vivo using transfontanelle photoacoustic spectroscopy. , 2022, , .		1
90	Novel image quality metrices for evaluation of optical coherence tomography images of skin. , 2022, , .		1

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91	Advances in Computational Imaging: Theory, Algorithms, and Systems. Mathematical Problems in Engineering, 2017, 2017, 1-2.	1.1	0
92	A new illumination scheme for photoacoustic computed tomography. , 2018, , .		0
93	Ultrasonic Echolocation Device for Assisting the Visually Impaired. Current Medical Imaging, 2020, 16, 601-610.	0.8	0
94	A fast ultra-wide laser-scanning photoacoustic microscopy: system characterization and in-vivo study. , 2022, , .		0
95	Informative OCT radiomic features towards improved melanoma detection. , 2022, , .		0
96	Transfontanelle thermoacoustic imaging characterization: simulation study. , 2022, , .		0
97	Deep learning-boosted photoacoustic microscopy with an extremely low energy laser. , 2022, , .		0
98	Compressed sensing image reconstruction algorithm for linear array transducer based on alternating directions of directional multipliers (ADMM). , 2022, , .		0