

# Mark A Anastasio

## List of Publications by Year in descending order

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116  
papers

3,712  
citations

147801

31  
h-index

149698

56  
g-index

119  
all docs

119  
docs citations

119  
times ranked

2903  
citing authors

#	ARTICLE	IF	CITATIONS
1	3-D Stochastic Numerical Breast Phantoms for Enabling Virtual Imaging Trials of Ultrasound Computed Tomography. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 135-146.	3.0	16
2	A Multivariate Functional Connectivity Approach to Mapping Brain Networks and Imputing Neural Activity in Mice. Cerebral Cortex, 2022, 32, 1593-1607.	2.9	3
3	Automated sleep state classification of wide-field calcium imaging data via multiplex visibility graphs and deep learning. Journal of Neuroscience Methods, 2022, 366, 109421.	2.5	18
4	A Hybrid Approach for Approximating the Ideal Observer for Joint Signal Detection and Estimation Tasks by Use of Supervised Learning and Markov-Chain Monte Carlo Methods. IEEE Transactions on Medical Imaging, 2022, 41, 1114-1124.	8.9	5
5	Computing a projection operator onto the null space of a linear imaging operator: tutorial. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2022, 39, 470.	1.5	2
6	Learning stochastic object models from medical imaging measurements by use of advanced ambient generative adversarial networks. Journal of Medical Imaging, 2022, 9, 015503.	1.5	5
7	Normalization of optical fluence distribution for three-dimensional functional optoacoustic tomography of the breast. Journal of Biomedical Optics, 2022, 27, .	2.6	9
8	Evaluating procedures for establishing generative adversarial network-based stochastic image models in medical imaging. , 2022, , .		1
9	A learned filtered backprojection method for use with half-time circular radon transform data. , 2022, , .		0
10	Investigation of an elevation-focused transducer model for three-dimensional full-waveform inversion in ultrasound computed tomography. , 2022, , .		2
11	Dynamic Heterochromatin States in Anisotropic Nuclei of Cells on Aligned Nanofibers. ACS Nano, 2022, 16, 10754-10767.	14.6	9
12	Deeply-supervised density regression for automatic cell counting in microscopy images. Medical Image Analysis, 2021, 68, 101892.	11.6	34
13	Decoding visual information from high-density diffuse optical tomography neuroimaging data. NeuroImage, 2021, 226, 117516.	4.2	11
14	Compressible Latent-Space Invertible Networks for Generative Model-Constrained Image Reconstruction. IEEE Transactions on Computational Imaging, 2021, 7, 209-223.	4.4	13
15	3D microscopy and deep learning reveal the heterogeneity of crown-like structure microenvironments in intact adipose tissue. Science Advances, 2021, 7, .	10.3	31
16	Task-based performance evaluation of deep neural network-based image denoising. , 2021, , .		5
17	Supervised learning-based ideal observer approximation for joint detection and estimation tasks. , 2021, , .		4
18	Task-based evaluation of deep image super-resolution in medical imaging. , 2021, , .		3

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19	A signal detection model for quantifying overregularization in nonlinear image reconstruction. <i>Medical Physics</i> , 2021, 48, 6312-6323.	3.0	1
20	Model-based optical and acoustical compensation for photoacoustic tomography of heterogeneous mediums. <i>Photoacoustics</i> , 2021, 23, 100275.	7.8	28
21	Assessing the Impact of Deep Neural Network-Based Image Denoising on Binary Signal Detection Tasks. <i>IEEE Transactions on Medical Imaging</i> , 2021, 40, 2295-2305.	8.9	32
22	On Hallucinations in Tomographic Image Reconstruction. <i>IEEE Transactions on Medical Imaging</i> , 2021, 40, 3249-3260.	8.9	38
23	Impact of deep learning-based image super-resolution on binary signal detection. <i>Journal of Medical Imaging</i> , 2021, 8, 065501.	1.5	11
24	Photoacoustic Imaging in Tissue Engineering and Regenerative Medicine. <i>Tissue Engineering - Part B: Reviews</i> , 2020, 26, 79-102.	4.8	28
25	A partial-dithering strategy for edge-illumination x-ray phase-contrast tomography enabled by a joint reconstruction method. <i>Physics in Medicine and Biology</i> , 2020, 65, 105007.	3.0	3
26	Gold nanorods enable noninvasive longitudinal monitoring of hydrogels in vivo with photoacoustic tomography. <i>Acta Biomaterialia</i> , 2020, 117, 374-383.	8.3	15
27	Approximating the Ideal Observer for Joint Signal Detection and Localization Tasks by use of Supervised Learning Methods. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3992-4000.	8.9	8
28	Iterative image reconstruction in transcranial photoacoustic tomography based on the elastic wave equation. <i>Physics in Medicine and Biology</i> , 2020, 65, 055009.	3.0	25
29	Joint reconstruction of initial pressure distribution and spatial distribution of acoustic properties of elastic media with application to transcranial photoacoustic tomography. <i>Inverse Problems</i> , 2020, 36, 124007.	2.0	8
30	Medical image reconstruction with image-adaptive priors learned by use of generative adversarial networks. , 2020, , .		9
31	Optimal breast cancer diagnostic strategy using combined ultrasound and diffuse optical tomography. <i>Biomedical Optics Express</i> , 2020, 11, 2722.	2.9	13
32	High-resolution transcriptional and morphogenetic profiling of cells from micropatterned human ESC gastruloid cultures. <i>ELife</i> , 2020, 9, .	6.0	62
33	Progressively-Growing AmbientGANs for learning stochastic object models from imaging measurements. , 2020, , .		2
34	Markov-Chain Monte Carlo approximation of the Ideal Observer using generative adversarial networks. , 2020, , .		8
35	Realistic three-dimensional optoacoustic tomography imaging trials using the VICTRE breast phantom of FDA (Conference Presentation). , 2020, , .		3
36	Approximating the Ideal Observer and Hotelling Observer for Binary Signal Detection Tasks by Use of Supervised Learning Methods. <i>IEEE Transactions on Medical Imaging</i> , 2019, 38, 2456-2468.	8.9	33

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37	Task-based image quality assessment in radiation therapy: initial characterization and demonstration with computer-simulation study. <i>Physics in Medicine and Biology</i> , 2019, 64, 145020.	3.0	1
38	Quantification of image texture in X-ray phase-contrast-enhanced projection images of in vivo mouse lungs observed at varied inflation pressures. <i>Physiological Reports</i> , 2019, 7, e14208.	1.7	2
39	Analysis of the Use of Unmatched Backward Operators in Iterative Image Reconstruction With Application to Three-Dimensional Optoacoustic Tomography. <i>IEEE Transactions on Computational Imaging</i> , 2019, 5, 437-449.	4.4	4
40	A survey of computational frameworks for solving the acoustic inverse problem in three-dimensional photoacoustic computed tomography. <i>Physics in Medicine and Biology</i> , 2019, 64, 14TR01.	3.0	69
41	Reconstruction-Aware Imaging System Ranking by Use of a Sparsity-Driven Numerical Observer Enabled by Variational Bayesian Inference. <i>IEEE Transactions on Medical Imaging</i> , 2019, 38, 1251-1262.	8.9	3
42	Treatment Outcome Prediction for Cancer Patients Based on Radiomics and Belief Function Theory. <i>IEEE Transactions on Radiation and Plasma Medical Sciences</i> , 2019, 3, 216-224.	3.7	21
43	Learning stochastic object model from noisy imaging measurements using AmbientGANs. , 2019, , .		2
44	All-reflective ring illumination system for photoacoustic tomography. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	9
45	A deep Boltzmann machine-driven level set method for heart motion tracking using cine MRI images. <i>Medical Image Analysis</i> , 2018, 47, 68-80.	11.6	23
46	Learning-based stochastic object models for characterizing anatomical variations. <i>Physics in Medicine and Biology</i> , 2018, 63, 065004.	3.0	4
47	First point-spread function and x-ray phase-contrast imaging results with an 88-mm diameter single crystal. <i>Review of Scientific Instruments</i> , 2018, 89, 073704.	1.3	2
48	Parameterized Joint Reconstruction of the Initial Pressure and Sound Speed Distributions for Photoacoustic Computed Tomography. <i>SIAM Journal on Imaging Sciences</i> , 2018, 11, 1560-1588.	2.2	28
49	Subspace-based resolution-enhancing image reconstruction method for few-view differential phase-contrast tomography. <i>Journal of Medical Imaging</i> , 2018, 5, 1.	1.5	1
50	Joint reconstruction of initial pressure distribution and acoustic skull parameters in transcranial photoacoustic computed tomography (Conference Presentation). , 2018, , .		2
51	Parameterized joint reconstruction of the initial pressure and sound speed distributions in photoacoustic computed tomography (Conference Presentation). , 2018, , .		2
52	Joint-reconstruction-enabled data acquisition design for single-shot edge-illumination x-ray phase-contrast tomography. , 2018, , .		2
53	Generation of anatomically realistic numerical phantoms for photoacoustic and ultrasonic breast imaging. <i>Journal of Biomedical Optics</i> , 2017, 22, 041015.	2.6	70
54	Special Section Guest Editorial: Photoacoustic Imaging and Sensing. <i>Journal of Biomedical Optics</i> , 2017, 22, 041001.	2.6	7

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55	Mitigation of artifacts due to isolated acoustic heterogeneities in photoacoustic computed tomography using a variable data truncation-based reconstruction method. <i>Journal of Biomedical Optics</i> , 2017, 22, 041018.	2.6	21
56	Regularized Dual Averaging Image Reconstruction for Full-Wave Ultrasound Computed Tomography. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2017, 64, 811-825.	3.0	34
57	Iterative image reconstruction in elastic inhomogeneous media with application to transcranial photoacoustic tomography. <i>Proceedings of SPIE</i> , 2017, , .	0.8	2
58	A Forward-Adjoint Operator Pair Based on the Elastic Wave Equation for Use in Transcranial Photoacoustic Computed Tomography. <i>SIAM Journal on Imaging Sciences</i> , 2017, 10, 2022-2048.	2.2	27
59	Joint reconstruction of the initial pressure and speed of sound distributions from combined photoacoustic and ultrasound tomography measurements. <i>Inverse Problems</i> , 2017, 33, 124002.	2.0	29
60	Two step imaging reconstruction using truncated pseudoinverse as a preliminary estimate in ultrasound guided diffuse optical tomography. <i>Biomedical Optics Express</i> , 2017, 8, 5437.	2.9	21
61	Recent advances in edge illumination x-ray phase-contrast tomography. <i>Journal of Medical Imaging</i> , 2017, 4, 1.	1.5	17
62	Single-shot edge illumination x-ray phase-contrast tomography enabled by joint image reconstruction. <i>Optics Letters</i> , 2017, 42, 619.	3.3	15
63	Winner of the student award in the undergraduate category, 10th World Biomaterials Congress, May 17-22, 2016, Montreal QC, Canada: Evaluation of the tissue response to alginate encapsulated islets in an omentum pouch model. <i>Journal of Biomedical Materials Research - Part A</i> , 2016, 104, 1581-1590.	4.0	17
64	Practical considerations for noise power spectra estimation for clinical CT scanners. <i>Journal of Applied Clinical Medical Physics</i> , 2016, 17, 392-407.	1.9	38
65	Accelerated fast iterative shrinkage thresholding algorithms for sparsity-regularized cone-beam CT image reconstruction. <i>Medical Physics</i> , 2016, 43, 1849-1872.	3.0	30
66	An integrated model-driven method for in-treatment upper airway motion tracking using cine MRI in head and neck radiation therapy. <i>Medical Physics</i> , 2016, 43, 4700-4710.	3.0	14
67	Label-free photoacoustic tomography of whole mouse brain structures ex vivo. <i>Neurophotonics</i> , 2016, 3, 1.	3.3	47
68	Imaging of Hydrogel Microsphere Structure and Foreign Body Response Based on Endogenous X-Ray Phase Contrast. <i>Tissue Engineering - Part C: Methods</i> , 2016, 22, 1038-1048.	2.1	8
69	Joint Reconstruction of Absorbed Optical Energy Density and Sound Speed Distributions in Photoacoustic Computed Tomography: A Numerical Investigation. <i>IEEE Transactions on Computational Imaging</i> , 2016, 2, 136-149.	4.4	30
70	X-ray Phase Contrast Allows Three Dimensional, Quantitative Imaging of Hydrogel Implants. <i>Annals of Biomedical Engineering</i> , 2016, 44, 773-781.	2.5	11
71	Impact of nonstationary optical illumination on image reconstruction in photoacoustic tomography. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2016, 33, 2333.	1.5	9
72	Automated contouring error detection based on supervised geometric attribute distribution models for radiation therapy: A general strategy. <i>Medical Physics</i> , 2015, 42, 1048-1059.	3.0	45

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73	Boundary-enhancement in propagation-based x-ray phase-contrast tomosynthesis improves depth position characterization. <i>Physics in Medicine and Biology</i> , 2015, 60, N151-N165.	3.0	6
74	Waveform inversion with source encoding for breast sound speed reconstruction in ultrasound computed tomography. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015, 62, 475-493.	3.0	111
75	X-ray phase contrast imaging of calcified tissue and biomaterial structure in bioreactor engineered tissues. <i>Biotechnology and Bioengineering</i> , 2015, 112, 612-620.	3.3	16
76	Tripling the detection view of high-frequency linear-array-based photoacoustic computed tomography by using two planar acoustic reflectors. <i>Quantitative Imaging in Medicine and Surgery</i> , 2015, 5, 57-62.	2.0	16
77	Discrete Imaging Models for Three-Dimensional Optoacoustic Tomography Using Radially Symmetric Expansion Functions. <i>IEEE Transactions on Medical Imaging</i> , 2014, 33, 1180-1193.	8.9	31
78	Automatic CT simulation optimization for radiation therapy: A general strategy. <i>Medical Physics</i> , 2014, 41, 031913.	3.0	9
79	3D laser optoacoustic ultrasonic imaging system for research in mice (LOUIS-3DM). <i>Proceedings of SPIE</i> , 2014, , .	0.8	6
80	Fast spatiotemporal image reconstruction based on low-rank matrix estimation for dynamic photoacoustic computed tomography. <i>Journal of Biomedical Optics</i> , 2014, 19, 1.	2.6	25
81	Sparsity-regularized image reconstruction of decomposed K-edge data in spectral CT. <i>Physics in Medicine and Biology</i> , 2014, 59, N65-N79.	3.0	30
82	Investigation of the far-field approximation for modeling a transducer's spatial impulse response in photoacoustic computed tomography. <i>Photoacoustics</i> , 2014, 2, 21-32.	7.8	48
83	Accelerating image reconstruction in three-dimensional optoacoustic tomography on graphics processing units. <i>Medical Physics</i> , 2013, 40, 023301.	3.0	53
84	Full-Wave Iterative Image Reconstruction in Photoacoustic Tomography With Acoustically Inhomogeneous Media. <i>IEEE Transactions on Medical Imaging</i> , 2013, 32, 1097-1110.	8.9	201
85	Imaging challenges in biomaterials and tissue engineering. <i>Biomaterials</i> , 2013, 34, 6615-6630.	11.4	236
86	Enhancement of photoacoustic tomography by ultrasonic computed tomography based on optical excitation of elements of a full-ring transducer array. <i>Optics Letters</i> , 2013, 38, 3140.	3.3	86
87	Tumor glucose metabolism imaged <i>in vivo</i> in small animals with whole-body photoacoustic computed tomography. <i>Journal of Biomedical Optics</i> , 2012, 17, 0760121.	2.6	62
88	Aberration correction for transcranial photoacoustic tomography of primates employing adjunct image data. <i>Journal of Biomedical Optics</i> , 2012, 17, 066016.	2.6	77
89	Numerical investigation of the effects of shear waves in transcranial photoacoustic tomography with a planar geometry. <i>Journal of Biomedical Optics</i> , 2012, 17, 061215.	2.6	20
90	Photoacoustic tomography through a whole adult human skull with a photon recycler. <i>Journal of Biomedical Optics</i> , 2012, 17, 110506.	2.6	105

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91	Investigation of discrete imaging models and iterative image reconstruction in differential X-ray phase-contrast tomography. <i>Optics Express</i> , 2012, 20, 10724.	3.4	34
92	Whole-body ring-shaped confocal photoacoustic computed tomography of small animals in vivo. <i>Journal of Biomedical Optics</i> , 2012, 17, 1.	2.6	143
93	Investigation of iterative image reconstruction in three-dimensional optoacoustic tomography. <i>Physics in Medicine and Biology</i> , 2012, 57, 5399-5423.	3.0	163
94	Compensation of shear waves in photoacoustic tomography with layered acoustic media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2011, 28, 2091.	1.5	25
95	An Imaging Model Incorporating Ultrasonic Transducer Properties for Three-Dimensional Optoacoustic Tomography. <i>IEEE Transactions on Medical Imaging</i> , 2011, 30, 203-214.	8.9	136
96	Photoacoustic and Thermoacoustic Tomography: Image Formation Principles. , 2011, , 781-815.		34
97	Image reconstruction in photoacoustic tomography with variable speed of sound using a higher-order geometrical acoustics approximation. <i>Journal of Biomedical Optics</i> , 2010, 15, 021308.	2.6	39
98	Analysis of ideal observer signal detectability in phase-contrast imaging employing linear shift-invariant optical systems. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2010, 27, 2648.	1.5	14
99	Effects of Different Imaging Models on Least-Squares Image Reconstruction Accuracy in Photoacoustic Tomography. <i>IEEE Transactions on Medical Imaging</i> , 2009, 28, 1781-1790.	8.9	51
100	Multispectral intensity diffraction tomography: single material objects with variable densities. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2009, 26, 403.	1.5	3
101	Simultaneous reconstruction of speed-of-sound and optical absorption properties in photoacoustic tomography via a time-domain iterative algorithm. <i>Proceedings of SPIE</i> , 2008, , .	0.8	20
102	Elucidation of 2D and 3D photoacoustic tomography. , 2008, , .		2
103	An extended diffraction-enhanced imaging method for implementing multiple-image radiography. <i>Physics in Medicine and Biology</i> , 2007, 52, 1923-1945.	3.0	55
104	Region-of-interest imaging in differential phase-contrast tomography. <i>Optics Letters</i> , 2007, 32, 3167.	3.3	17
105	Local cone-beam tomography image reconstruction on chords. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2007, 24, 1569.	1.5	17
106	Application of inverse source concepts to photoacoustic tomography. <i>Inverse Problems</i> , 2007, 23, S21-S35.	2.0	101
107	Image reconstruction in optoacoustic tomography for dispersive acoustic media. <i>Optics Letters</i> , 2006, 31, 781.	3.3	77
108	Multispectral intensity diffraction tomography reconstruction theory: quasi-nondispersive objects. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2006, 23, 1359.	1.5	7

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109	Reconstruction of speed-of-sound and electromagnetic absorption distributions in photoacoustic tomography. , 2006, , .		20
110	Feasibility of half-data image reconstruction in 3-D reflectivity tomography with a spherical aperture. IEEE Transactions on Medical Imaging, 2005, 24, 1100-1112.	8.9	23
111	Half-time image reconstruction in thermoacoustic tomography. IEEE Transactions on Medical Imaging, 2005, 24, 199-210.	8.9	113
112	Image reconstruction in spherical-wave intensity diffraction tomography. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2005, 22, 2651.	1.5	25
113	Analytic image reconstruction in local phase-contrast tomography. Physics in Medicine and Biology, 2004, 49, 121-144.	3.0	32
114	Multiple-image radiography. Physics in Medicine and Biology, 2003, 48, 3875-3895.	3.0	219
115	An improved reconstruction algorithm for 3-D diffraction tomography using spherical-wave sources. IEEE Transactions on Biomedical Engineering, 2003, 50, 517-521.	4.2	14
116	A preliminary investigation of local tomography for megavoltage CT imaging. Medical Physics, 2003, 30, 2969-2980.	3.0	20