

# Matthew O'Donnell

## List of Publications by Year in descending order

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Version: 2024-02-01

70  
papers

1,843  
citations

236612  
25  
h-index

276539  
41  
g-index

72  
all docs

72  
docs citations

72  
times ranked

1888  
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical coherence elastography in ophthalmology. Journal of Biomedical Optics, 2017, 22, 1.	1.4	154
2	Acoustic micro-tapping for non-contact 4D imaging of tissue elasticity. Scientific Reports, 2016, 6, 38967.	1.6	102
3	Shear modulus imaging by direct visualization of propagating shear waves with phase-sensitive optical coherence tomography. Journal of Biomedical Optics, 2013, 18, 1.	1.4	88
4	Broadband all-optical ultrasound transducers. Applied Physics Letters, 2007, 91, .	1.5	87
5	Deep-Learning Image Reconstruction for Real-Time Photoacoustic System. IEEE Transactions on Medical Imaging, 2020, 39, 3379-3390.	5.4	73
6	Nearly-incompressible transverse isotropy (NITI) of cornea elasticity: model and experiments with acoustic micro-tapping OCE. Scientific Reports, 2020, 10, 12983.	1.6	60
7	Real-time integrated photoacoustic and ultrasound (PAUS) imaging system to guide interventional procedures: ex vivo study. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 319-328.	1.7	56
8	Low-noise wideband ultrasound detection using polymer microring resonators. Applied Physics Letters, 2008, 92, 193509.	1.5	55
9	Imaging current flow in lobster nerve cord using the acoustoelectric effect. Applied Physics Letters, 2007, 90, 163902.	1.5	54
10	Characterization of a broadband all-optical ultrasound transducer-from optical and acoustical properties to imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2008, 55, 1867-1877.	1.7	52
11	NDT of fiber-reinforced composites with a new fiber-optic pump-probe laser-ultrasound system. Photoacoustics, 2014, 2, 63-74.	4.4	51
12	Strategies to improve phase-stability of ultrafast swept source optical coherence tomography for single shot imaging of transient mechanical waves at 16%kHz frame rate. Applied Physics Letters, 2016, 108, 191104.	1.5	51
13	Polypyrrole-Coated Perfluorocarbon Nanoemulsions as a Sono-Photoacoustic Contrast Agent. Nano Letters, 2017, 17, 6184-6194.	4.5	51
14	Magneto-Optical Nanoparticles for Cyclic Magnetomotive Photoacoustic Imaging. ACS Nano, 2015, 9, 1964-1976.	7.3	50
15	Sono-photoacoustic imaging of gold nanoemulsions: Part I. Exposure thresholds. Photoacoustics, 2015, 3, 3-10.	4.4	50
16	High resolution imaging of impacted CFRP composites with a fiber-optic laser-ultrasound scanner. Photoacoustics, 2016, 4, 55-64.	4.4	49
17	Real-time interleaved spectroscopic photoacoustic and ultrasound (PAUS) scanning with simultaneous fluence compensation and motion correction. Nature Communications, 2021, 12, 716.	5.8	48
18	Spontaneous Nucleation of Stable Perfluorocarbon Emulsions for Ultrasound Contrast Agents. Nano Letters, 2019, 19, 173-181.	4.5	45

#	ARTICLE	IF	CITATIONS
19	A new fiber-optic non-contact compact laser-ultrasound scanner for fast non-destructive testing and evaluation of aircraft composites. <i>Journal of Applied Physics</i> , 2014, 115, 113105.	1.1	44
20	Sono-photoacoustic imaging of gold nanoemulsions: Part II. Real time imaging. <i>Photoacoustics</i> , 2015, 3, 11-19.	4.4	42
21	Air-coupled acoustic radiation force for non-contact generation of broadband mechanical waves in soft media. <i>Applied Physics Letters</i> , 2016, 109, 043701.	1.5	41
22	Limitations and artifacts in shear-wave elastography of the liver. <i>Biomedical Engineering Letters</i> , 2017, 7, 81-89.	2.1	41
23	Spatial resolution in dynamic optical coherence elastography. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	1.4	34
24	Functional Photoacoustic Imaging of Gastric Acid Secretion Using pH-Responsive Polyaniline Nanoprobes. <i>Small</i> , 2016, 12, 4690-4696.	5.2	32
25	Does group velocity always reflect elastic modulus in shear wave elastography?. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	1.4	30
26	Radial Basis Functions for Combining Shape and Speckle Tracking in 4D Echocardiography. <i>IEEE Transactions on Medical Imaging</i> , 2014, 33, 1275-1289.	5.4	25
27	Stably Doped Conducting Polymer Nanoshells by Surface Initiated Polymerization. <i>Nano Letters</i> , 2015, 15, 8217-8222.	4.5	24
28	A 1 kHz a-scan rate pump-probe laser-ultrasound system for robust inspection of composites. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2015, 62, 1696-1703.	1.7	23
29	Ultrasound-based formation of nano-Pickering emulsions investigated via in-situ SAXS. <i>Journal of Colloid and Interface Science</i> , 2019, 536, 281-290.	5.0	23
30	High-resolution ultrasonic imaging using an etalon detector array. <i>Applied Physics Letters</i> , 2008, 93, 113501.	1.5	22
31	Magnetomotive photoacoustic imaging: <i>in vitro</i> studies of magnetic trapping with simultaneous photoacoustic detection of rare circulating tumor cells. <i>Journal of Biophotonics</i> , 2013, 6, 513-522.	1.1	21
32	Imaging of porosity in fiber-reinforced composites with a fiber-optic pump-probe laser-ultrasound system. <i>Composites Part A: Applied Science and Manufacturing</i> , 2015, 79, 43-51.	3.8	20
33	Heat damage evaluation in carbon fiber-reinforced composites with a kHz A-scan rate fiber-optic pump-probe laser-ultrasound system. <i>Composites Part A: Applied Science and Manufacturing</i> , 2016, 84, 417-427.	3.8	20
34	Sonocrystallization of conjugated polymers with ultrasound fields. <i>Soft Matter</i> , 2018, 14, 4963-4976.	1.2	20
35	Synthesis of hybrid magneto-plasmonic nanoparticles with potential use in photoacoustic detection of circulating tumor cells. <i>Mikrochimica Acta</i> , 2018, 185, 130.	2.5	19
36	Correction of wavelength-dependent laser fluence in swept-beam spectroscopic photoacoustic imaging with a hand-held probe. <i>Photoacoustics</i> , 2020, 19, 100192.	4.4	19

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37	High-Resolution Ultrasound Elasticity Imaging to Evaluate Dialysis Fistula Stenosis. <i>Seminars in Dialysis</i> , 2009, 22, 84-89.	0.7	18
38	Super-shear evanescent waves for non-contact elastography of soft tissues. <i>Applied Physics Letters</i> , 2019, 115, 083701.	1.5	16
39	Regional myocardial strain analysis via 2D speckle tracking echocardiography: validation with sonomicrometry and correlation with regional blood flow in the presence of graded coronary stenoses and dobutamine stress. <i>Cardiovascular Ultrasound</i> , 2020, 18, 2.	0.5	14
40	Probing elastic anisotropy of human skin in vivo with light using non-contact acoustic micro-tapping OCE and polarization sensitive OCT. <i>Scientific Reports</i> , 2022, 12, 3963.	1.6	14
41	Phase-Aberration Correction for HIFU Therapy Using a Multielement Array and Backscattering of Nonlinear Pulses. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 1040-1050.	1.7	12
42	Learning-Based Regularization for Cardiac Strain Analysis via Domain Adaptation. <i>IEEE Transactions on Medical Imaging</i> , 2021, 40, 2233-2245.	5.4	12
43	Molecular fingerprinting of nanoparticles in complex media with non-contact photoacoustics: beyond the light scattering limit. <i>Scientific Reports</i> , 2018, 8, 14425.	1.6	9
44	Inexpensive acoustoelectric hydrophone for mapping high intensity ultrasonic fields. <i>Journal of Applied Physics</i> , 2008, 104, 54701.	1.1	8
45	Can Molecular Imaging Enable Personalized Diagnostics? An Example Using Magnetomotive Photoacoustic Imaging. <i>Annals of Biomedical Engineering</i> , 2013, 41, 2237-2247.	1.3	7
46	Efficient Two-Pass 3-D Speckle Tracking for Ultrasound Imaging. <i>IEEE Access</i> , 2018, 6, 17415-17428.	2.6	7
47	Clinically translatable ultrasound/photoacoustic imaging for real-time needle biopsy guidance. , 2014, , .		6
48	Integrated Dynamic Shape Tracking and RF Speckle Tracking for Cardiac Motion Analysis. <i>Lecture Notes in Computer Science</i> , 2016, , 431-438.	1.0	6
49	Sparsity and Biomechanics Inspired Integration of Shape and Speckle Tracking for Cardiac Deformation Analysis. <i>Lecture Notes in Computer Science</i> , 2015, 9126, 57-64.	1.0	6
50	3D Elasticity imaging using principal stretches on an open-chest dog heart. , 2010, , .		4
51	Contrast-enhanced photoacoustic imaging. , 2010, , .		3
52	Optimization of the laser irradiation pattern in a high frame rate integrated photoacoustic / ultrasound (PAUS) imaging system. , 2015, 2015, .		3
53	Distance and Angle Correction System (DACS) for a kHz A-Scan Rate Pump-Probe Laser-Ultrasound Inspection. <i>Sensors</i> , 2020, 20, 7266.	2.1	3
54	Nanoparticles: Trapping and Photoacoustic Detection of CTCs at the Single Cell per Milliliter Level with Magneto-Optical Coupled Nanoparticles ( <i>Small</i> 12/2013). <i>Small</i> , 2013, 9, 2045-2045.	5.2	2

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55	4-D echocardiography assessment of local myocardial strain using 3-D speckle tracking combined with shape tracking. , 2013, , .		2
56	Shear wave elastography method combining phase-sensitive optical coherence tomography and coded acoustic radiation force. , 2014, , .		2
57	Improving sensitivity in acoustoelectric imaging with coded excitation and optimized inverse filter. , 2017, , .		2
58	Hybrid Imaging System for Developing Novel Neural Contrast Agents. , 2007, , .		1
59	A synthetic lateral phase (SLP) displacement estimator using complex FIR filters. , 2010, , .		1
60	A confidence index weighted least squares filter for ultrasound displacement regularization. , 2010, , .		1
61	Trapping and dynamic manipulation of magnetic contrast agent targeted cancer cells in photoacoustic imaging: Phantom study. , 2011, , .		1
62	Photoacoustic imaging using narrow beam scanning. , 2011, , .		1
63	Phase rotation in correlation coefficient filtering and multi-pass methods for 3-D speckle tracking in 4-D echocardiography. , 2014, , .		1
64	Reducing peak hopping artifacts in ultrasonic strain estimation with the Viterbi algorithm. , 2008, , .		0
65	A multi-resolution displacement estimator for ultrasonic myocardial strain imaging. , 2009, , .		0
66	Magnetic trapping and photoacoustic detection of rare circulating tumor cells. , 2012, , .		0
67	Moving beam shear wave reconstruction for both ultrasound and optical coherence tomography applications. , 2015, , .		0
68	Notice of Removal: Acoustic wave directed assembly of conjugated polymers. , 2017, , .		0
69	Notice of Removal: Sono-photoacoustic imaging using polypyrrole coated phase-change contrast agents. , 2017, , .		0
70	Notice of Removal: Air-coupled ARF-based excitation of broadband mechanical waves for dynamic elastography. , 2017, , .		0