

Laura Marcu

List of Publications by Year in descending order

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118
papers

3,556
citations

109321

35
h-index

161849

54
g-index

121
all docs

121
docs citations

121
times ranked

2656
citing authors

#	ARTICLE	IF	CITATIONS
1	Fluorescence Lifetime Techniques in Medical Applications. <i>Annals of Biomedical Engineering</i> , 2012, 40, 304-331.	2.5	195
2	Hybrid intravascular imaging: recent advances, technical considerations, and current applications in the study of plaque pathophysiology. <i>European Heart Journal</i> , 2017, 38, 400-412.	2.2	152
3	Fluorescence lifetime imaging microscopy for brain tumor image-guided surgery. <i>Journal of Biomedical Optics</i> , 2010, 15, 056022.	2.6	127
4	Time-domain laser-induced fluorescence spectroscopy apparatus for clinical diagnostics. <i>Review of Scientific Instruments</i> , 2004, 75, 151-162.	1.3	122
5	Fluorescence lifetime imaging microscopy: in vivo application to diagnosis of oral carcinoma. <i>Optics Letters</i> , 2009, 34, 2081.	3.3	117
6	Discrimination of Human Coronary Artery Atherosclerotic Lipid-Rich Lesions by Time-Resolved Laser-Induced Fluorescence Spectroscopy. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2001, 21, 1244-1250.	2.4	103
7	Fast model-free deconvolution of fluorescence decay for analysis of biological systems. <i>Journal of Biomedical Optics</i> , 2004, 9, 743.	2.6	103
8	A novel method for fast and robust estimation of fluorescence decay dynamics using constrained least-squares deconvolution with Laguerre expansion. <i>Physics in Medicine and Biology</i> , 2012, 57, 843-865.	3.0	103
9	Fluorescence lifetime spectroscopy for guided therapy of brain tumors. <i>NeuroImage</i> , 2011, 54, S125-S135.	4.2	81
10	Detection of rupture-prone atherosclerotic plaques by time-resolved laser-induced fluorescence spectroscopy. <i>Atherosclerosis</i> , 2009, 204, 156-164.	0.8	77
11	Design and evaluation of a device for fast multispectral time-resolved fluorescence spectroscopy and imaging. <i>Review of Scientific Instruments</i> , 2014, 85, 034303.	1.3	77
12	Fluorescence Lifetime Spectroscopy of Glioblastoma Multiforme. <i>Photochemistry and Photobiology</i> , 2004, 80, 98.	2.5	75
13	Endoscopic Fluorescence Lifetime Imaging for <i>In Vivo</i> Intraoperative Diagnosis of Oral Carcinoma. <i>Microscopy and Microanalysis</i> , 2013, 19, 791-798.	0.4	73
14	In vivo detection of macrophages in a rabbit atherosclerotic model by time-resolved laser-induced fluorescence spectroscopy. <i>Atherosclerosis</i> , 2005, 181, 295-303.	0.8	65
15	Intraoperative delineation of primary brain tumors using time-resolved fluorescence spectroscopy. <i>Journal of Biomedical Optics</i> , 2010, 15, 027008.	2.6	65
16	Time-resolved Fluorescence Spectra of Arterial Fluorescent Compounds: Reconstruction with the Laguerre Expansion Technique. <i>Photochemistry and Photobiology</i> , 2000, 71, 178.	2.5	62
17	Simultaneous time- and wavelength-resolved fluorescence spectroscopy for near real-time tissue diagnosis. <i>Optics Letters</i> , 2008, 33, 630.	3.3	58
18	Multimodal in vivo imaging of oral cancer using fluorescence lifetime, photoacoustic and ultrasound techniques. <i>Biomedical Optics Express</i> , 2013, 4, 1724.	2.9	57

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19	Diagnosis of meningioma by time-resolved fluorescence spectroscopy. <i>Journal of Biomedical Optics</i> , 2005, 10, 064026.	2.6	53
20	Fluorescence lifetime in cardiovascular diagnostics. <i>Journal of Biomedical Optics</i> , 2010, 15, 011106.	2.6	51
21	Distinction of brain tissue, low grade and high grade glioma with time-resolved fluorescence spectroscopy. <i>Frontiers in Bioscience - Landmark</i> , 2006, 11, 1255.	3.0	50
22	Laguerre-based method for analysis of time-resolved fluorescence data: application to in-vivo characterization and diagnosis of atherosclerotic lesions. <i>Journal of Biomedical Optics</i> , 2006, 11, 021004.	2.6	50
23	Combined fiber probe for fluorescence lifetime and Raman spectroscopy. <i>Analytical and Bioanalytical Chemistry</i> , 2015, 407, 8291-8301.	3.7	47
24	Activating Photodynamic Therapy in vitro with Cerenkov Radiation Generated from Yttrium-90. <i>Journal of Environmental Pathology, Toxicology and Oncology</i> , 2016, 35, 185-192.	1.2	44
25	Real-time augmented reality for delineation of surgical margins during neurosurgery using autofluorescence lifetime contrast. <i>Journal of Biophotonics</i> , 2020, 13, e201900108.	2.3	42
26	Intraoperative Margin Assessment in Oral and Oropharyngeal Cancer Using Label-Free Fluorescence Lifetime Imaging and Machine Learning. <i>IEEE Transactions on Biomedical Engineering</i> , 2021, 68, 857-868.	4.2	42
27	Dynamic tissue analysis using time- and wavelength-resolved fluorescence spectroscopy for atherosclerosis diagnosis. <i>Optics Express</i> , 2011, 19, 3890.	3.4	41
28	In vivo label-free structural and biochemical imaging of coronary arteries using an integrated ultrasound and multispectral fluorescence lifetime catheter system. <i>Scientific Reports</i> , 2017, 7, 8960.	3.3	41
29	Multimodal characterization of compositional, structural and functional features of human atherosclerotic plaques. <i>Biomedical Optics Express</i> , 2011, 2, 2288.	2.9	40
30	Noninvasive Multimodal Evaluation of Bioengineered Cartilage Constructs Combining Time-Resolved Fluorescence and Ultrasound Imaging. <i>Tissue Engineering - Part C: Methods</i> , 2011, 17, 495-504.	2.1	40
31	Real-time diagnosis and visualization of tumor margins in excised breast specimens using fluorescence lifetime imaging and machine learning. <i>Biomedical Optics Express</i> , 2020, 11, 1216.	2.9	40
32	Time-resolved fluorescence of human aortic wall: Use for improved identification of atherosclerotic lesions. <i>Lasers in Surgery and Medicine</i> , 2000, 27, 241-254.	2.1	39
33	Ultrafast method for the analysis of fluorescence lifetime imaging microscopy data based on the Laguerre expansion technique. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2005, 11, 835-845.	2.9	39
34	Real-Time Visualization of Tissue Surface Biochemical Features Derived From Fluorescence Lifetime Measurements. <i>IEEE Transactions on Medical Imaging</i> , 2016, 35, 1802-1811.	8.9	39
35	Noninvasive in Situ Evaluation of Osteogenic Differentiation by Time-Resolved Laser-Induced Fluorescence Spectroscopy. <i>Tissue Engineering</i> , 2004, 10, 411-420.	4.6	38
36	Photobleaching of Arterial Fluorescent Compounds: Characterization of Elastin, Collagen and Cholesterol Time-Resolved Spectra during Prolonged Ultraviolet Irradiation. <i>Photochemistry and Photobiology</i> , 1999, 69, 713-721.	2.5	35

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37	Fluorescence Lifetime Imaging Combined with Conventional Intravascular Ultrasound for Enhanced Assessment of Atherosclerotic Plaques: an Ex Vivo Study in Human Coronary Arteries. <i>Journal of Cardiovascular Translational Research</i> , 2015, 8, 253-263.	2.4	34
38	Automated detection of breast cancer in resected specimens with fluorescence lifetime imaging. <i>Physics in Medicine and Biology</i> , 2018, 63, 015003.	3.0	33
39	Multispectral fluorescence lifetime imaging system for intravascular diagnostics with ultrasound guidance: in vivo validation in swine arteries. <i>Journal of Biophotonics</i> , 2014, 7, 281-285.	2.3	32
40	Characterizing low fluence thresholds for in vitro photodynamic therapy. <i>Biomedical Optics Express</i> , 2015, 6, 770.	2.9	32
41	Fluorescence lifetime imaging for the characterization of the biochemical composition of atherosclerotic plaques. <i>Journal of Biomedical Optics</i> , 2011, 16, 096018.	2.6	31
42	Label-free optical imaging technologies for rapid translation and use during intraoperative surgical and tumor margin assessment. <i>Journal of Biomedical Optics</i> , 2017, 23, 1.	2.6	30
43	Time-resolved laser-induced fluorescence spectroscopy as a diagnostic instrument in head and neck carcinoma. <i>Otolaryngology - Head and Neck Surgery</i> , 2010, 142, 838-844.	1.9	28
44	Multispectral scanning time-resolved fluorescence spectroscopy (TRFS) technique for intravascular diagnosis. <i>Biomedical Optics Express</i> , 2012, 3, 1521.	2.9	28
45	Technique for real-time tissue characterization based on scanning multispectral fluorescence lifetime spectroscopy (ms-TRFS). <i>Biomedical Optics Express</i> , 2015, 6, 987.	2.9	28
46	Rotational multispectral fluorescence lifetime imaging and intravascular ultrasound: bimodal system for intravascular applications. <i>Journal of Biomedical Optics</i> , 2014, 19, 066004.	2.6	27
47	Simultaneous, label-free, multispectral fluorescence lifetime imaging and optical coherence tomography using a double-clad fiber. <i>Optics Letters</i> , 2017, 42, 3753.	3.3	27
48	Mesoscopic fluorescence lifetime imaging: Fundamental principles, clinical applications and future directions. <i>Journal of Biophotonics</i> , 2021, 14, e202000472.	2.3	27
49	Fluorescence lifetime imaging for intraoperative cancer delineation in transoral robotic surgery. <i>Translational Biophotonics</i> , 2019, 1, e201900017.	2.7	26
50	Intraluminal fluorescence spectroscopy catheter with ultrasound guidance. <i>Journal of Biomedical Optics</i> , 2009, 14, 030505.	2.6	25
51	Development of a dual-modal tissue diagnostic system combining time-resolved fluorescence spectroscopy and ultrasonic backscatter microscopy. <i>Review of Scientific Instruments</i> , 2009, 80, 065104.	1.3	25
52	Time-Resolved Fluorescence Spectroscopy as a Diagnostic Technique of Oral Carcinoma. <i>JAMA Otolaryngology</i> , 2010, 136, 126.	1.2	25
53	Design, construction, and validation of a rotary multifunctional intravascular diagnostic catheter combining multispectral fluorescence lifetime imaging and intravascular ultrasound. <i>Journal of Biomedical Optics</i> , 2012, 17, 1060121.	2.6	25
54	A fluorescence lifetime imaging classification method to investigate the collagen to lipid ratio in fibrous caps of atherosclerotic plaque. <i>Lasers in Surgery and Medicine</i> , 2012, 44, 564-571.	2.1	25

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55	Intravascular imaging for characterization of coronary atherosclerosis. <i>Current Opinion in Biomedical Engineering</i> , 2017, 3, 1-12.	3.4	25
56	Fluorescence Lifetime Spectroscopy and Imaging in Neurosurgery. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2012, 18, 1465-1477.	2.9	22
57	Biophotonics: the big picture. <i>Journal of Biomedical Optics</i> , 2017, 23, 1.	2.6	22
58	Nondestructive assessment of collagen hydrogel cross-linking using time-resolved autofluorescence imaging. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	2.6	22
59	Fiber-based fluorescence lifetime imaging of recellularization processes on vascular tissue constructs. <i>Journal of Biophotonics</i> , 2018, 11, e201700391.	2.3	21
60	Detection of Pentosidine Cross-Links in Cell-Secreted Decellularized Matrices Using Time Resolved Fluorescence Spectroscopy. <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 1944-1954.	5.2	20
61	Detection of glycosaminoglycan loss in articular cartilage by fluorescence lifetime imaging. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	2.6	20
62	Comparing Raman and fluorescence lifetime spectroscopy from human atherosclerotic lesions using a bimodal probe. <i>Journal of Biophotonics</i> , 2016, 9, 958-966.	2.3	18
63	Label-Free Visualization and Quantification of Biochemical Markers of Atherosclerotic Plaque Progression Using Intravascular Fluorescence Lifetime. <i>JACC: Cardiovascular Imaging</i> , 2021, 14, 1832-1842.	5.3	18
64	Rapid fluorescence lifetime estimation with modified phasor approach and Laguerre deconvolution: a comparative study. <i>Methods and Applications in Fluorescence</i> , 2017, 5, 035003.	2.3	17
65	FLImBrush: dynamic visualization of intraoperative free-hand fiber-based fluorescence lifetime imaging. <i>Biomedical Optics Express</i> , 2020, 11, 5166.	2.9	16
66	Two-photon excited fluorescence lifetime measurements through a double-clad photonic crystal fiber for tissue microendoscopy. <i>Journal of Biophotonics</i> , 2012, 5, 14-19.	2.3	15
67	The effect of radiation dose on the onset and progression of radiation-induced brain necrosis in the rat model. <i>International Journal of Radiation Biology</i> , 2017, 93, 676-682.	1.8	14
68	Physical, Biomechanical, and Optical Characterization of Collagen and Elastin Blend Hydrogels. <i>Annals of Biomedical Engineering</i> , 2020, 48, 2924-2935.	2.5	14
69	FLIm-Guided Raman Imaging to Study Cross-Linking and Calcification of Bovine Pericardium. <i>Analytical Chemistry</i> , 2020, 92, 10659-10667.	6.5	14
70	Multispectral fluorescence lifetime imaging device with a silicon avalanche photodetector. <i>Optics Express</i> , 2021, 29, 20105.	3.4	14
71	Method for accurate registration of tissue autofluorescence imaging data with corresponding histology: a means for enhanced tumor margin assessment. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	2.6	14
72	<i>In vivo</i> validation of a bimodal technique combining time-resolved fluorescence spectroscopy and ultrasonic backscatter microscopy for diagnosis of oral carcinoma. <i>Journal of Biomedical Optics</i> , 2012, 17, 116003.	2.6	13

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73	Fluorescence Lifetime Imaging and Intravascular Ultrasound: Co-Registration Study Using Ex Vivo Human Coronaries. <i>IEEE Transactions on Medical Imaging</i> , 2015, 34, 156-166.	8.9	13
74	Label-free assessment of carotid artery biochemical composition using fiber-based fluorescence lifetime imaging. <i>Biomedical Optics Express</i> , 2018, 9, 4064.	2.9	12
75	Label-Free Assessment of Collagenase Digestion on Bovine Pericardium Properties by Fluorescence Lifetime Imaging. <i>Annals of Biomedical Engineering</i> , 2018, 46, 1870-1881.	2.5	12
76	Non-destructive detection of matrix stabilization correlates with enhanced mechanical properties of self-assembled articular cartilage. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2019, 13, 637-648.	2.7	11
77	A fluorescence lifetime spectroscopy study of matrix metalloproteinases 2 and 9 in human atherosclerotic plaque. <i>Journal of Biophotonics</i> , 2011, 4, 650-658.	2.3	10
78	Electrocautery effects on fluorescence lifetime measurements: An in vivo study in the oral cavity. <i>Journal of Photochemistry and Photobiology B: Biology</i> , 2018, 185, 90-99.	3.8	10
79	Fluorescence lifetime imaging microscopy for the characterization of atherosclerotic plaques. , 2009, 7161, 7161-7162G.		9
80	Raman ChemLighter: Fiber optic Raman probe imaging in combination with augmented chemical reality. <i>Journal of Biophotonics</i> , 2019, 12, e201800447.	2.3	9
81	Bovine pericardial extracellular matrix niche modulates human aortic endothelial cell phenotype and function. <i>Scientific Reports</i> , 2019, 9, 16688.	3.3	9
82	Fiber-based platform for synchronous imaging of endogenous and exogenous fluorescence of biological tissue. <i>Optics Letters</i> , 2019, 44, 3350.	3.3	8
83	Label-free fluorescence lifetime spectroscopy detects radiation-induced necrotic changes in live brain in real-time. <i>Biomedical Optics Express</i> , 2018, 9, 3559.	2.9	7
84	Investigating Origins of FLIm Contrast in Atherosclerotic Lesions Using Combined FLIm-Raman Spectroscopy. <i>Frontiers in Cardiovascular Medicine</i> , 2020, 7, 122.	2.4	7
85	First in patient assessment of brain tumor infiltrative margins using simultaneous time-resolved measurements of 5-ALA-induced PpIX fluorescence and tissue autofluorescence. <i>Journal of Biomedical Optics</i> , 2022, 27, .	2.6	7
86	Intraoperative delineation of p16+ oropharyngeal carcinoma of unknown primary origin with fluorescence lifetime imaging: Preliminary report. <i>Head and Neck</i> , 2022, 44, 1765-1776.	2.0	7
87	Time-resolved fluorescence spectroscopy and ultrasound backscatter microscopy for nondestructive evaluation of vascular grafts. <i>Journal of Biomedical Optics</i> , 2014, 19, 080503.	2.6	6
88	Computational analysis of the effectiveness of blood flushing with saline injection from an intravascular diagnostic catheter. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 1278-1293.	2.1	6
89	FLIm and Raman Spectroscopy for Investigating Biochemical Changes of Bovine Pericardium upon Genipin Cross-Linking. <i>Molecules</i> , 2020, 25, 3857.	3.8	6
90	Intraoperative Mapping of Parathyroid Glands Using Fluorescence Lifetime Imaging. <i>Journal of Surgical Research</i> , 2021, 265, 42-48.	1.6	6

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91	Time-resolved Laser-induced Fluorescence Spectroscopy For Staging Atherosclerotic Lesions. , 2003, , .		6
92	Broadband, freeform focusing micro-optics for a side-viewing imaging catheter. Optics Letters, 2019, 44, 4961.	3.3	6
93	Photobleaching of Arterial Fluorescent Compounds: Characterization of Elastin, Collagen and Cholesterol Time-resolved Spectra during Prolonged Ultraviolet Irradiation. Photochemistry and Photobiology, 1999, 69, 713.	2.5	6
94	Multimodal Scanning Microscope Combining Optical Coherence Tomography, Raman Spectroscopy and Fluorescence Lifetime Microscopy for Mesoscale Label-Free Imaging of Tissue. Analytical Chemistry, 2021, 93, 11479-11487.	6.5	5
95	Time-resolved Fluorescence Spectra of Arterial Fluorescent Compounds: Reconstruction with the Laguerre Expansion Technique. Photochemistry and Photobiology, 2007, 71, 178-187.	2.5	4
96	Fluorescence lifetime spectroscopy for breast cancer margins assessment. Proceedings of SPIE, 2015, , .	0.8	4
97	Multimodal Label-Free Imaging for Detecting Maturation of Engineered Osteogenic Grafts. ACS Biomaterials Science and Engineering, 2019, 5, 1956-1966.	5.2	4
98	Multiscale, multispectral fluorescence lifetime imaging using a double-clad fiber. Optics Letters, 2019, 44, 2302.	3.3	4
99	Fluorescence Lifetime Spectroscopy and Imaging Techniques in Medical Applications. Progress in Optical Science and Photonics, 2016, , 1-46.	0.5	4
100	Assessment of Murine Colon Inflammation Using Intraluminal Fluorescence Lifetime Imaging. Molecules, 2022, 27, 1317.	3.8	4
101	Fluorescence Lifetime Spectroscopy of Glioblastoma Multiforme $\hat{\pi}$. Photochemistry and Photobiology, 2004, 80, 98-103.	2.5	3
102	Endoscopic fluorescence lifetime imaging microscopy (FLIM) images of aortic plaque: an automated classification method. , 2010, , .		3
103	In vivo Optical Imaging / Intravital Microscopy. Journal of Biophotonics, 2017, 10, 760-761.	2.3	3
104	Engineering the gain and bandwidth in avalanche photodetectors. Optics Express, 2022, 30, 16873.	3.4	3
105	Multi-Cantilever-Driven Rotational Micrograting for MOEMS Spectrometer. , 2007, , .		2
106	Simultaneous intraluminal imaging of tissue autofluorescence and eGFP-labeled cells in engineered vascular grafts inside a bioreactor. Methods and Applications in Fluorescence, 2019, 7, 044003.	2.3	2
107	Wafer-level packaging of three-dimensional MOEMS device with lens diaphragm. , 2007, , .		1
108	Multilayered MOEMS Tunable Spectrometer for Fluorescence Lifetime Detection. IEEE Photonics Technology Letters, 2010, 22, 486-488.	2.5	1

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109	In-vivo validation of fluorescence lifetime imaging (FLIm) of coronary arteries in swine. Proceedings of SPIE, 2015, , .	0.8	1
110	Fluorescence Lifetime Imaging Microscopy (FLIM) for Intraoperative Tumor Delineation: A Study in Patients. , 2011, , .		1
111	In vivo high speed multispectral fluorescence lifetime imaging (FLIm) of swine coronary arteries. , 2015, , .		1
112	Fluorescence Lifetime Imaging for Intra-Operative Guidance during Thyroid Surgery. , 2017, , .		1
113	Dual-Modality Fluorescence Lifetime and Intravascular Ultrasound for Label-Free Intravascular Coronary Imaging. , 2020, , 153-171.		1
114	Electropermeabilization of Mammalian Cells Visualized with Fluorescent Semiconductor Nanocrystals (Quantum Dots). Materials Research Society Symposia Proceedings, 2005, 873, 1.	0.1	0
115	Overview of fluorescence lifetime imaging and metrology. , 2014, , 3-22.		0
116	Online multispectral fluorescence lifetime values estimation and overlay onto tissue white-light video frames. , 2016, , .		0
117	Utility of Quantum Dots for Labeling and Tracking Leukemic Cell Lines, Human Bone Marrow and CD 34+ Umbilical Cord Blood.. Blood, 2005, 106, 1729-1729.	1.4	0
118	Technique for Real-Time Fluorescence Lifetime Overlay on Tissue White-Light Images. , 2015, , .		0