

# Laura Marcu

## List of Publications by Year in descending order

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Version: 2024-02-01

118  
papers

3,556  
citations

109264

35  
h-index

161767

54  
g-index

121  
all docs

121  
docs citations

121  
times ranked

2656  
citing authors

#	ARTICLE	IF	CITATIONS
1	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, .	1.4	7
2	Assessment of Murine Colon Inflammation Using Intraluminal Fluorescence Lifetime Imaging. <i>Molecules</i> , 2022, 27, 1317.	1.7	4
3	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.	0.9	7
4	Engineering the gain and bandwidth in avalanche photodetectors. <i>Optics Express</i> , 2022, 30, 16873.	1.7	3
5	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.	2.3	18
6	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.	2.5	42
7	Mesoscopic fluorescence lifetime imaging: Fundamental principles, clinical applications and future directions. <i>Journal of Biophotonics</i> , 2021, 14, e202000472.	1.1	27
8	Multispectral fluorescence lifetime imaging device with a silicon avalanche photodetector. <i>Optics Express</i> , 2021, 29, 20105.	1.7	14
9	Multimodal Scanning Microscope Combining Optical Coherence Tomography, Raman Spectroscopy and Fluorescence Lifetime Microscopy for Mesoscale Label-Free Imaging of Tissue. <i>Analytical Chemistry</i> , 2021, 93, 11479-11487.	3.2	5
10	Intraoperative Mapping of Parathyroid Glands Using Fluorescence Lifetime Imaging. <i>Journal of Surgical Research</i> , 2021, 265, 42-48.	0.8	6
11	Real-time augmented reality for delineation of surgical margins during neurosurgery using autofluorescence lifetime contrast. <i>Journal of Biophotonics</i> , 2020, 13, e201900108.	1.1	42
12	Investigating Origins of FLIm Contrast in Atherosclerotic Lesions Using Combined FLIm-Raman Spectroscopy. <i>Frontiers in Cardiovascular Medicine</i> , 2020, 7, 122.	1.1	7
13	FLIm and Raman Spectroscopy for Investigating Biochemical Changes of Bovine Pericardium upon Genipin Cross-Linking. <i>Molecules</i> , 2020, 25, 3857.	1.7	6
14	Physical, Biomechanical, and Optical Characterization of Collagen and Elastin Blend Hydrogels. <i>Annals of Biomedical Engineering</i> , 2020, 48, 2924-2935.	1.3	14
15	FLIm-Guided Raman Imaging to Study Cross-Linking and Calcification of Bovine Pericardium. <i>Analytical Chemistry</i> , 2020, 92, 10659-10667.	3.2	14
16	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.	1.5	40
17	FLImBrush: dynamic visualization of intraoperative free-hand fiber-based fluorescence lifetime imaging. <i>Biomedical Optics Express</i> , 2020, 11, 5166.	1.5	16
18	Dual-Modality Fluorescence Lifetime and Intravascular Ultrasound for Label-Free Intravascular Coronary Imaging. , 2020, , 153-171.		1

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19	Simultaneous intraluminal imaging of tissue autofluorescence and eGFP-labeled cells in engineered vascular grafts inside a bioreactor. <i>Methods and Applications in Fluorescence</i> , 2019, 7, 044003.	1.1	2
20	Multimodal Label-Free Imaging for Detecting Maturation of Engineered Osteogenic Grafts. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 1956-1966.	2.6	4
21	Raman ChemLighter: Fiber optic Raman probe imaging in combination with augmented chemical reality. <i>Journal of Biophotonics</i> , 2019, 12, e201800447.	1.1	9
22	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.	1.3	11
23	Bovine pericardial extracellular matrix niche modulates human aortic endothelial cell phenotype and function. <i>Scientific Reports</i> , 2019, 9, 16688.	1.6	9
24	Fluorescence lifetime imaging for intraoperative cancer delineation in transoral robotic surgery. <i>Translational Biophotonics</i> , 2019, 1, e201900017.	1.4	26
25	Multiscale, multispectral fluorescence lifetime imaging using a double-clad fiber. <i>Optics Letters</i> , 2019, 44, 2302.	1.7	4
26	Fiber-based platform for synchronous imaging of endogenous and exogenous fluorescence of biological tissue. <i>Optics Letters</i> , 2019, 44, 3350.	1.7	8
27	Broadband, freeform focusing micro-optics for a side-viewing imaging catheter. <i>Optics Letters</i> , 2019, 44, 4961.	1.7	6
28	Automated detection of breast cancer in resected specimens with fluorescence lifetime imaging. <i>Physics in Medicine and Biology</i> , 2018, 63, 015003.	1.6	33
29	Label-free assessment of carotid artery biochemical composition using fiber-based fluorescence lifetime imaging. <i>Biomedical Optics Express</i> , 2018, 9, 4064.	1.5	12
30	Label-free fluorescence lifetime spectroscopy detects radiation-induced necrotic changes in live brain in real-time. <i>Biomedical Optics Express</i> , 2018, 9, 3559.	1.5	7
31	Label-Free Assessment of Collagenase Digestion on Bovine Pericardium Properties by Fluorescence Lifetime Imaging. <i>Annals of Biomedical Engineering</i> , 2018, 46, 1870-1881.	1.3	12
32	Fiber-based fluorescence lifetime imaging of recellularization processes on vascular tissue constructs. <i>Journal of Biophotonics</i> , 2018, 11, e201700391.	1.1	21
33	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.	1.7	10
34	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.	1.4	14
35	Detection of glycosaminoglycan loss in articular cartilage by fluorescence lifetime imaging. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	1.4	20
36	Nondestructive assessment of collagen hydrogel cross-linking using time-resolved autofluorescence imaging. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	1.4	22

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37	Detection of Pentosidine Cross-Links in Cell-Secreted Decellularized Matrices Using Time Resolved Fluorescence Spectroscopy. ACS Biomaterials Science and Engineering, 2017, 3, 1944-1954.	2.6	20
38	Hybrid intravascular imaging: recent advances, technical considerations, and current applications in the study of plaque pathophysiology. European Heart Journal, 2017, 38, 400-412.	1.0	152
39	The effect of radiation dose on the onset and progression of radiation-induced brain necrosis in the rat model. International Journal of Radiation Biology, 2017, 93, 676-682.	1.0	14
40	In vivo label-free structural and biochemical imaging of coronary arteries using an integrated ultrasound and multispectral fluorescence lifetime catheter system. Scientific Reports, 2017, 7, 8960.	1.6	41
41	Rapid fluorescence lifetime estimation with modified phasor approach and Laguerre deconvolution: a comparative study. Methods and Applications in Fluorescence, 2017, 5, 035003.	1.1	17
42	In vivo Optical Imaging / Intravital Microscopy. Journal of Biophotonics, 2017, 10, 760-761.	1.1	3
43	Intravascular imaging for characterization of coronary atherosclerosis. Current Opinion in Biomedical Engineering, 2017, 3, 1-12.	1.8	25
44	Simultaneous, label-free, multispectral fluorescence lifetime imaging and optical coherence tomography using a double-clad fiber. Optics Letters, 2017, 42, 3753.	1.7	27
45	Biophotonics: the big picture. Journal of Biomedical Optics, 2017, 23, 1.	1.4	22
46	Label-free optical imaging technologies for rapid translation and use during intraoperative surgical and tumor margin assessment. Journal of Biomedical Optics, 2017, 23, 1.	1.4	30
47	Fluorescence Lifetime Imaging for Intra-Operative Guidance during Thyroid Surgery. , 2017, , .		1
48	Comparing Raman and fluorescence lifetime spectroscopy from human atherosclerotic lesions using a bimodal probe. Journal of Biophotonics, 2016, 9, 958-966.	1.1	18
49	Online multispectral fluorescence lifetime values estimation and overlay onto tissue white-light video frames. , 2016, , .		0
50	Real-Time Visualization of Tissue Surface Biochemical Features Derived From Fluorescence Lifetime Measurements. IEEE Transactions on Medical Imaging, 2016, 35, 1802-1811.	5.4	39
51	Activating Photodynamic Therapy in vitro with Cerenkov Radiation Generated from Yttrium-90. Journal of Environmental Pathology, Toxicology and Oncology, 2016, 35, 185-192.	0.6	44
52	Fluorescence Lifetime Spectroscopy and Imaging Techniques in Medical Applications. Progress in Optical Science and Photonics, 2016, , 1-46.	0.3	4
53	Fluorescence Lifetime Imaging Combined with Conventional Intravascular Ultrasound for Enhanced Assessment of Atherosclerotic Plaques: an Ex Vivo Study in Human Coronary Arteries. Journal of Cardiovascular Translational Research, 2015, 8, 253-263.	1.1	34
54	In-vivo validation of fluorescence lifetime imaging (FLIm) of coronary arteries in swine. Proceedings of SPIE, 2015, , .	0.8	1

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55	Fluorescence Lifetime Imaging and Intravascular Ultrasound: Co-Registration Study Using Ex Vivo Human Coronaries. IEEE Transactions on Medical Imaging, 2015, 34, 156-166.	5.4	13
56	Combined fiber probe for fluorescence lifetime and Raman spectroscopy. Analytical and Bioanalytical Chemistry, 2015, 407, 8291-8301.	1.9	47
57	Fluorescence lifetime spectroscopy for breast cancer margins assessment. Proceedings of SPIE, 2015, , .	0.8	4
58	Characterizing low fluence thresholds for in vitro photodynamic therapy. Biomedical Optics Express, 2015, 6, 770.	1.5	32
59	Technique for real-time tissue characterization based on scanning multispectral fluorescence lifetime spectroscopy (ms-TRFS). Biomedical Optics Express, 2015, 6, 987.	1.5	28
60	In vivo high speed multispectral fluorescence lifetime imaging (FLIm) of swine coronary arteries. , 2015, , .		1
61	Technique for Real-Time Fluorescence Lifetime Overlay on Tissue White-Light Images. , 2015, , .		0
62	Multispectral fluorescence lifetime imaging system for intravascular diagnostics with ultrasound guidance:in vivovalidation in swine arteries. Journal of Biophotonics, 2014, 7, 281-285.	1.1	32
63	Design and evaluation of a device for fast multispectral time-resolved fluorescence spectroscopy and imaging. Review of Scientific Instruments, 2014, 85, 034303.	0.6	77
64	Rotational multispectral fluorescence lifetime imaging and intravascular ultrasound: bimodal system for intravascular applications. Journal of Biomedical Optics, 2014, 19, 066004.	1.4	27
65	Time-resolved fluorescence spectroscopy and ultrasound backscatter microscopy for nondestructive evaluation of vascular grafts. Journal of Biomedical Optics, 2014, 19, 080503.	1.4	6
66	Computational analysis of the effectiveness of blood flushing with saline injection from an intravascular diagnostic catheter. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 1278-1293.	1.0	6
67	Overview of fluorescence lifetime imaging and metrology. , 2014, , 3-22.		0
68	Multimodal in vivo imaging of oral cancer using fluorescence lifetime, photoacoustic and ultrasound techniques. Biomedical Optics Express, 2013, 4, 1724.	1.5	57
69	Endoscopic Fluorescence Lifetime Imaging for <i>In Vivo</i> Intraoperative Diagnosis of Oral Carcinoma. Microscopy and Microanalysis, 2013, 19, 791-798.	0.2	73
70	Design, construction, and validation of a rotary multifunctional intravascular diagnostic catheter combining multispectral fluorescence lifetime imaging and intravascular ultrasound. Journal of Biomedical Optics, 2012, 17, 1060121.	1.4	25
71	<i>In vivo</i> validation of a bimodal technique combining time-resolved fluorescence spectroscopy and ultrasonic backscatter microscopy for diagnosis of oral carcinoma. Journal of Biomedical Optics, 2012, 17, 116003.	1.4	13
72	Multispectral scanning time-resolved fluorescence spectroscopy (TRFS) technique for intravascular diagnosis. Biomedical Optics Express, 2012, 3, 1521.	1.5	28

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73	Fluorescence Lifetime Spectroscopy and Imaging in Neurosurgery. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1465-1477.	1.9	22
74	A fluorescence lifetime imaging classification method to investigate the collagen to lipid ratio in fibrous caps of atherosclerotic plaque. Lasers in Surgery and Medicine, 2012, 44, 564-571.	1.1	25
75	A novel method for fast and robust estimation of fluorescence decay dynamics using constrained least-squares deconvolution with Laguerre expansion. Physics in Medicine and Biology, 2012, 57, 843-865.	1.6	103
76	Two-photon excited fluorescence lifetime measurements through a double-clad photonic crystal fiber for tissue micro-endoscopy. Journal of Biophotonics, 2012, 5, 14-19.	1.1	15
77	Fluorescence Lifetime Techniques in Medical Applications. Annals of Biomedical Engineering, 2012, 40, 304-331.	1.3	195
78	Fluorescence lifetime spectroscopy for guided therapy of brain tumors. NeuroImage, 2011, 54, S125-S135.	2.1	81
79	Multimodal characterization of compositional, structural and functional features of human atherosclerotic plaques. Biomedical Optics Express, 2011, 2, 2288.	1.5	40
80	Dynamic tissue analysis using time- and wavelength-resolved fluorescence spectroscopy for atherosclerosis diagnosis. Optics Express, 2011, 19, 3890.	1.7	41
81	A fluorescence lifetime spectroscopy study of matrix metalloproteinases 2 and 9 in human atherosclerotic plaque. Journal of Biophotonics, 2011, 4, 650-658.	1.1	10
82	Noninvasive Multimodal Evaluation of Bioengineered Cartilage Constructs Combining Time-Resolved Fluorescence and Ultrasound Imaging. Tissue Engineering - Part C: Methods, 2011, 17, 495-504.	1.1	40
83	Fluorescence lifetime imaging for the characterization of the biochemical composition of atherosclerotic plaques. Journal of Biomedical Optics, 2011, 16, 096018.	1.4	31
84	Fluorescence Lifetime Imaging Microscopy (FLIM) for Intraoperative Tumor Delineation: A Study in Patients. , 2011, , .		1
85	Time-Resolved Fluorescence Spectroscopy as a Diagnostic Technique of Oral Carcinoma. JAMA Otolaryngology, 2010, 136, 126.	1.5	25
86	Fluorescence lifetime imaging microscopy for brain tumor image-guided surgery. Journal of Biomedical Optics, 2010, 15, 056022.	1.4	127
87	Intraoperative delineation of primary brain tumors using time-resolved fluorescence spectroscopy. Journal of Biomedical Optics, 2010, 15, 027008.	1.4	65
88	Endoscopic fluorescence lifetime imaging microscopy (FLIM) images of aortic plaque: an automated classification method. , 2010, , .		3
89	Multilayered MOEMS Tunable Spectrometer for Fluorescence Lifetime Detection. IEEE Photonics Technology Letters, 2010, 22, 486-488.	1.3	1
90	Time-resolved laser-induced fluorescence spectroscopy as a diagnostic instrument in head and neck carcinoma. Otolaryngology - Head and Neck Surgery, 2010, 142, 838-844.	1.1	28

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91	Fluorescence lifetime in cardiovascular diagnostics. Journal of Biomedical Optics, 2010, 15, 011106.	1.4	51
92	Fluorescence lifetime imaging microscopy for the characterization of atherosclerotic plaques. , 2009, 7161, 71612G.		9
93	Intraluminal fluorescence spectroscopy catheter with ultrasound guidance. Journal of Biomedical Optics, 2009, 14, 030505.	1.4	25
94	Fluorescence lifetime imaging microscopy: in vivo application to diagnosis of oral carcinoma. Optics Letters, 2009, 34, 2081.	1.7	117
95	Development of a dual-modal tissue diagnostic system combining time-resolved fluorescence spectroscopy and ultrasonic backscatter microscopy. Review of Scientific Instruments, 2009, 80, 065104.	0.6	25
96	Detection of rupture-prone atherosclerotic plaques by time-resolved laser-induced fluorescence spectroscopy. Atherosclerosis, 2009, 204, 156-164.	0.4	77
97	Simultaneous time- and wavelength-resolved fluorescence spectroscopy for near real-time tissue diagnosis. Optics Letters, 2008, 33, 630.	1.7	58
98	Multi-Cantilever-Driven Rotational Micrograting for MOEMS Spectrometer. , 2007, , .		2
99	Wafer-level packaging of three-dimensional MOEMS device with lens diaphragm. , 2007, , .		1
100	Time-resolved Fluorescence Spectra of Arterial Fluorescent Compounds: Reconstruction with the Laguerre Expansion Technique. Photochemistry and Photobiology, 2007, 71, 178-187.	1.3	4
101	Distinction of brain tissue, low grade and high grade glioma with time-resolved fluorescence spectroscopy. Frontiers in Bioscience - Landmark, 2006, 11, 1255.	3.0	50
102	Laguerre-based method for analysis of time-resolved fluorescence data: application to in-vivo characterization and diagnosis of atherosclerotic lesions. Journal of Biomedical Optics, 2006, 11, 021004.	1.4	50
103	Ultrafast method for the analysis of fluorescence lifetime imaging microscopy data based on the Laguerre expansion technique. IEEE Journal of Selected Topics in Quantum Electronics, 2005, 11, 835-845.	1.9	39
104	Diagnosis of meningioma by time-resolved fluorescence spectroscopy. Journal of Biomedical Optics, 2005, 10, 064026.	1.4	53
105	Electropermeabilization of Mammalian Cells Visualized with Fluorescent Semiconductor Nanocrystals (Quantum Dots). Materials Research Society Symposia Proceedings, 2005, 873, 1.	0.1	0
106	In vivo detection of macrophages in a rabbit atherosclerotic model by time-resolved laser-induced fluorescence spectroscopy. Atherosclerosis, 2005, 181, 295-303.	0.4	65
107	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.	0.6	0
108	Time-domain laser-induced fluorescence spectroscopy apparatus for clinical diagnostics. Review of Scientific Instruments, 2004, 75, 151-162.	0.6	122

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109	Fast model-free deconvolution of fluorescence decay for analysis of biological systems. Journal of Biomedical Optics, 2004, 9, 743.	1.4	103
110	Noninvasive in Situ Evaluation of Osteogenic Differentiation by Time-Resolved Laser-Induced Fluorescence Spectroscopy. Tissue Engineering, 2004, 10, 411-420.	4.9	38
111	Fluorescence Lifetime Spectroscopy of Glioblastoma Multiforme $\hat{\tau}$ . Photochemistry and Photobiology, 2004, 80, 98-103.	1.3	3
112	Fluorescence Lifetime Spectroscopy of Glioblastoma Multiforme $\hat{\tau}$ . Photochemistry and Photobiology, 2004, 80, 98.	1.3	75
113	Time-resolved Laser-induced Fluorescence Spectroscopy For Staging Atherosclerotic Lesions. , 2003, , .		6
114	Discrimination of Human Coronary Artery Atherosclerotic Lipid-Rich Lesions by Time-Resolved Laser-Induced Fluorescence Spectroscopy. Arteriosclerosis, Thrombosis, and Vascular Biology, 2001, 21, 1244-1250.	1.1	103
115	Time-resolved fluorescence of human aortic wall: Use for improved identification of atherosclerotic lesions. Lasers in Surgery and Medicine, 2000, 27, 241-254.	1.1	39
116	Time-resolved Fluorescence Spectra of Arterial Fluorescent Compounds: Reconstruction with the Laguerre Expansion Technique. Photochemistry and Photobiology, 2000, 71, 178.	1.3	62
117	Photobleaching of Arterial Fluorescent Compounds: Characterization of Elastin, Collagen and Cholesterol Time-resolved Spectra during Prolonged Ultraviolet Irradiation. Photochemistry and Photobiology, 1999, 69, 713-721.	1.3	35
118	Photobleaching of Arterial Fluorescent Compounds: Characterization of Elastin, Collagen and Cholesterol Time-resolved Spectra during Prolonged Ultraviolet Irradiation. Photochemistry and Photobiology, 1999, 69, 713.	1.3	6