

Melissa C Skala

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

100
papers

3,770
citations

32
h-index

60
g-index

122
ext. papers

5,088
ext. citations

6.8
avg, IF

5.58
L-index

#	Paper	IF	Citations
100	In vivo multiphoton microscopy of NADH and FAD redox states, fluorescence lifetimes, and cellular morphology in precancerous epithelia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 19494-9	11.5	691
99	In vivo multiphoton fluorescence lifetime imaging of protein-bound and free nicotinamide adenine dinucleotide in normal and precancerous epithelia. <i>Journal of Biomedical Optics</i> , 2007 , 12, 024014	3.5	247
98	Optical metabolic imaging identifies glycolytic levels, subtypes, and early-treatment response in breast cancer. <i>Cancer Research</i> , 2013 , 73, 6164-74	10.1	196
97	Multiphoton microscopy of endogenous fluorescence differentiates normal, precancerous, and cancerous squamous epithelial tissues. <i>Cancer Research</i> , 2005 , 65, 1180-6	10.1	184
96	Pharmacological blockade of ASCT2-dependent glutamine transport leads to antitumor efficacy in preclinical models. <i>Nature Medicine</i> , 2018 , 24, 194-202	50.5	177
95	Quantitative optical imaging of primary tumor organoid metabolism predicts drug response in breast cancer. <i>Cancer Research</i> , 2014 , 74, 5184-94	10.1	169
94	Fluorescence lifetime imaging microscopy: fundamentals and advances in instrumentation, analysis, and applications. <i>Journal of Biomedical Optics</i> , 2020 , 25, 1-43	3.5	129
93	Photothermal optical coherence tomography of epidermal growth factor receptor in live cells using immunotargeted gold nanospheres. <i>Nano Letters</i> , 2008 , 8, 3461-7	11.5	126
92	Signal Transducer and Activator of Transcription 3, Mediated Remodeling of the Tumor Microenvironment Results in Enhanced Tumor Drug Delivery in a Mouse Model of Pancreatic Cancer. <i>Gastroenterology</i> , 2015 , 149, 1932-1943.e9	13.3	107
91	Optical Imaging of Drug-Induced Metabolism Changes in Murine and Human Pancreatic Cancer Organoids Reveals Heterogeneous Drug Response. <i>Pancreas</i> , 2016 , 45, 863-9	2.6	79
90	Patient-Derived Cancer Organoid Cultures to Predict Sensitivity to Chemotherapy and Radiation. <i>Clinical Cancer Research</i> , 2019 , 25, 5376-5387	12.9	73
89	Multiphoton redox ratio imaging for metabolic monitoring in vivo. <i>Methods in Molecular Biology</i> , 2010 , 594, 155-62	1.4	59
88	Drug response in organoids generated from frozen primary tumor tissues. <i>Scientific Reports</i> , 2016 , 6, 18889	4.9	55
87	In Vivo Autofluorescence Imaging of Tumor Heterogeneity in Response to Treatment. <i>Neoplasia</i> , 2015 , 17, 862-870	6.4	54
86	Investigation of fiber-optic probe designs for optical spectroscopic diagnosis of epithelial pre-cancers. <i>Lasers in Surgery and Medicine</i> , 2004 , 34, 25-38	3.6	53
85	Optical metabolic imaging quantifies heterogeneous cell populations. <i>Biomedical Optics Express</i> , 2015 , 6, 559-73	3.5	52
84	Optical imaging of metabolism in HER2 overexpressing breast cancer cells. <i>Biomedical Optics Express</i> , 2012 , 3, 75-85	3.5	52

83	Optical metabolic imaging of treatment response in human head and neck squamous cell carcinoma. <i>PLoS ONE</i> , 2014 , 9, e90746	3.7	50
82	Evaluating natural killer cell cytotoxicity against solid tumors using a microfluidic model. <i>Oncolmmunology</i> , 2019 , 8, 1553477	7.2	47
81	Longitudinal optical imaging of tumor metabolism and hemodynamics. <i>Journal of Biomedical Optics</i> , 2010 , 15, 011112	3.5	46
80	Protein-bound NAD(P)H Lifetime is Sensitive to Multiple Fates of Glucose Carbon. <i>Scientific Reports</i> , 2018 , 8, 5456	4.9	45
79	Organotypic microfluidic breast cancer model reveals starvation-induced spatial-temporal metabolic adaptations. <i>EBioMedicine</i> , 2018 , 37, 144-157	8.8	45
78	Tumor-on-a-chip: a microfluidic model to study cell response to environmental gradients. <i>Lab on A Chip</i> , 2019 , 19, 3461-3471	7.2	41
77	Combined hyperspectral and spectral domain optical coherence tomography microscope for noninvasive hemodynamic imaging. <i>Optics Letters</i> , 2009 , 34, 289-91	3	39
76	Derivation of adult canine intestinal organoids for translational research in gastroenterology. <i>BMC Biology</i> , 2019 , 17, 33	7.3	38
75	Dysfunctional BMP2 signaling drives an abnormal endothelial requirement for glutamine in pulmonary arterial hypertension. <i>Pulmonary Circulation</i> , 2017 , 7, 186-199	2.7	38
74	Metabolic Imaging of Head and Neck Cancer Organoids. <i>PLoS ONE</i> , 2017 , 12, e0170415	3.7	35
73	In vivo imaging of nanoparticle delivery and tumor microvasculature with multimodal optical coherence tomography. <i>Biomedical Optics Express</i> , 2014 , 5, 1731-43	3.5	35
72	Comparison of a physical model and principal component analysis for the diagnosis of epithelial neoplasias in vivo using diffuse reflectance spectroscopy. <i>Optics Express</i> , 2007 , 15, 7863-75	3.3	35
71	Ex vivo optical metabolic measurements from cultured tissue reflect in vivo tissue status. <i>Journal of Biomedical Optics</i> , 2012 , 17, 116015	3.5	33
70	Cellular Metabolic Heterogeneity In Vivo Is Recapitulated in Tumor Organoids. <i>Neoplasia</i> , 2019 , 21, 615-626	6.2	32
69	In vivo photothermal optical coherence tomography of endogenous and exogenous contrast agents in the eye. <i>Scientific Reports</i> , 2017 , 7, 9228	4.9	32
68	Drug-Free ROS Sponge Polymeric Microspheres Reduce Tissue Damage from Ischemic and Mechanical Injury. <i>ACS Biomaterials Science and Engineering</i> , 2018 , 4, 1251-1264	5.5	29
67	Classification of T-cell activation via autofluorescence lifetime imaging. <i>Nature Biomedical Engineering</i> , 2021 , 5, 77-88	19	27
66	Imaging retinal melanin: a review of current technologies. <i>Journal of Biological Engineering</i> , 2018 , 12, 29	6.3	27

65	Functional Optical Imaging of Primary Human Tumor Organoids: Development of a Personalized Drug Screen. <i>Journal of Nuclear Medicine</i> , 2017 , 58, 1367-1372	8.9	26
64	In vivo hyperspectral imaging of microvessel response to trastuzumab treatment in breast cancer xenografts. <i>Biomedical Optics Express</i> , 2014 , 5, 2247-61	3.5	26
63	Human Tumor-Lymphatic Microfluidic Model Reveals Differential Conditioning of Lymphatic Vessels by Breast Cancer Cells. <i>Advanced Healthcare Materials</i> , 2020 , 9, e1900925	10.1	26
62	Temporal binning of time-correlated single photon counting data improves exponential decay fits and imaging speed. <i>Biomedical Optics Express</i> , 2016 , 7, 1385-99	3.5	26
61	Collagen density and alignment in responsive and resistant trastuzumab-treated breast cancer xenografts. <i>Journal of Biomedical Optics</i> , 2015 , 20, 26004	3.5	24
60	Dual-modality photothermal optical coherence tomography and magnetic-resonance imaging of carbon nanotubes. <i>Optics Letters</i> , 2012 , 37, 872-4	3	23
59	Microfluidic tumor-on-a-chip model to evaluate the role of tumor environmental stress on NK cell exhaustion. <i>Science Advances</i> , 2021 , 7,	14.3	22
58	Metabolic Heterogeneity in Patient Tumor-Derived Organoids by Primary Site and Drug Treatment. <i>Frontiers in Oncology</i> , 2020 , 10, 553	5.3	21
57	Autofluorescence imaging identifies tumor cell-cycle status on a single-cell level. <i>Journal of Biophotonics</i> , 2018 , 11, e201600276	3.1	21
56	The NIH Somatic Cell Genome Editing program. <i>Nature</i> , 2021 , 592, 195-204	50.4	21
55	Oxidative stress via inhibition of the mitochondrial electron transport and Nrf-2-mediated anti-oxidative response regulate the cytotoxic activity of plumbagin. <i>Scientific Reports</i> , 2018 , 8, 1073	4.9	20
54	Imaging Melanin Distribution in the Zebrafish Retina Using Photothermal Optical Coherence Tomography. <i>Translational Vision Science and Technology</i> , 2018 , 7, 4	3.3	17
53	Photothermal optical lock-in optical coherence tomography for in vivo imaging. <i>Biomedical Optics Express</i> , 2015 , 6, 2268-82	3.5	16
52	Quantifying the vascular response to ischemia with speckle variance optical coherence tomography. <i>Biomedical Optics Express</i> , 2014 , 5, 4118-30	3.5	15
51	Effects of culture method on response to EGFR therapy in head and neck squamous cell carcinoma cells. <i>Scientific Reports</i> , 2019 , 9, 12480	4.9	14
50	High-throughput measurements of the optical redox ratio using a commercial microplate reader. <i>Journal of Biomedical Optics</i> , 2015 , 20, 010503	3.5	14
49	Photothermal Optical Coherence Tomography of Anti-Angiogenic Treatment in the Mouse Retina Using Gold Nanorods as Contrast Agents. <i>Translational Vision Science and Technology</i> , 2019 , 8, 18	3.3	13
48	Sample preparation strategies for high-throughput mass spectrometry imaging of primary tumor organoids. <i>Journal of Mass Spectrometry</i> , 2020 , 55, e4452	2.2	13

47	MTORC1/2 Inhibition as a Therapeutic Strategy for Mutant Cancers. <i>Molecular Cancer Therapeutics</i> , 2019 , 18, 346-355	6.1	13
46	Mutant KRAS Exosomes Alter the Metabolic State of Recipient Colonic Epithelial Cells. <i>Cellular and Molecular Gastroenterology and Hepatology</i> , 2018 , 5, 627-629.e6	7.9	13
45	Quantitative Spatial Analysis of Metabolic Heterogeneity Across and Tumor Models. <i>Frontiers in Oncology</i> , 2019 , 9, 1144	5.3	12
44	BET inhibitors reduce cell size and induce reversible cell cycle arrest in AML. <i>Journal of Cellular Biochemistry</i> , 2018 , 120, 7309	4.7	12
43	Label-free redox imaging of patient-derived organoids using selective plane illumination microscopy. <i>Biomedical Optics Express</i> , 2020 , 11, 2591-2606	3.5	11
42	Quantitative Label-Free Imaging of 3D Vascular Networks Self-Assembled in Synthetic Hydrogels. <i>Advanced Healthcare Materials</i> , 2019 , 8, e1801186	10.1	10
41	An automated image processing routine for segmentation of cell cytoplasm in high-resolution autofluorescence images 2014 ,		10
40	Depth-resolved analytical model and correction algorithm for photothermal optical coherence tomography. <i>Biomedical Optics Express</i> , 2016 , 7, 2607-22	3.5	10
39	MEK activation modulates glycolysis and supports suppressive myeloid cells in TNBC. <i>JCI Insight</i> , 2020 , 5,	9.9	8
38	Autofluorescence Imaging of 3D Tumor-Macrophage Microscale Cultures Resolves Spatial and Temporal Dynamics of Macrophage Metabolism. <i>Cancer Research</i> , 2020 , 80, 5408-5423	10.1	8
37	Label-free Method for Classification of T cell Activation		7
36	Photothermal optical coherence tomography of indocyanine green in ex vivo eyes. <i>Optics Letters</i> , 2018 , 43, 2470-2473	3	6
35	Blind deconvolution estimation of fluorescence measurements through quadratic programming. <i>Journal of Biomedical Optics</i> , 2015 , 20, 075010	3.5	6
34	Three-dimensional molecular imaging with photothermal optical coherence tomography. <i>Methods in Molecular Biology</i> , 2013 , 1026, 85-92	1.4	6
33	Autofluorescence imaging of 3D tumor-macrophage microscale cultures resolves spatial and temporal dynamics of macrophage metabolism		6
32	Metabolomics revealed the influence of breast cancer on lymphatic endothelial cell metabolism, metabolic crosstalk, and lymphangiogenic signaling in co-culture. <i>Scientific Reports</i> , 2020 , 10, 21244	4.9	6
31	Recent innovations in fluorescence lifetime imaging microscopy for biology and medicine. <i>Journal of Biomedical Optics</i> , 2021 , 26,	3.5	6
30	Development of a Microfluidic Array to Study Drug Response in Breast Cancer. <i>Molecules</i> , 2019 , 24,	4.8	6

29	Carbomer-based adjuvant elicits CD8 T-cell immunity by inducing a distinct metabolic state in cross-presenting dendritic cells. <i>PLoS Pathogens</i> , 2021 , 17, e1009168	7.6	6
28	Microfluidic Tumor-on-a-Chip Model to Study Tumor Metabolic Vulnerability. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	5
27	Autofluorescence flow sorting of breast cancer cell metabolism. <i>Journal of Biophotonics</i> , 2017 , 10, 1026-1033	3.0	5
26	Longitudinal study of arteriogenesis with swept source optical coherence tomography and hyperspectral imaging 2014 ,		5
25	Classifying T cell activity in autofluorescence intensity images with convolutional neural networks. <i>Journal of Biophotonics</i> , 2020 , 13, e201960050	3.1	5
24	Label-free imaging for quality control of cardiomyocyte differentiation. <i>Nature Communications</i> , 2021 , 12, 4580	17.4	5
23	Copolymer-Mediated Cell Aggregation Promotes a Proangiogenic Stem Cell Phenotype In Vitro and In Vivo. <i>Advanced Healthcare Materials</i> , 2016 , 5, 2866-2871	10.1	5
22	Quantifying optical properties with visible and near-infrared optical coherence tomography to visualize esophageal microwave ablation zones. <i>Biomedical Optics Express</i> , 2018 , 9, 1648-1663	3.5	4
21	Fluorescence Lifetime Measurements of NAD(P)H in Live Cells and Tissue. <i>Springer Series in Chemical Physics</i> , 2015 , 435-456	0.3	4
20	Patient-derived cancer organoid tracking with wide-field one-photon redox imaging to assess treatment response. <i>Journal of Biomedical Optics</i> , 2021 , 26,	3.5	4
19	Interactions with stromal cells promote a more oxidized cancer cell redox state in pancreatic tumors.. <i>Science Advances</i> , 2022 , 8, eabg6383	14.3	3
18	A bioengineered organotypic prostate model for the study of tumor microenvironment-induced immune cell activation. <i>Integrative Biology (United Kingdom)</i> , 2020 , 12, 250-262	3.7	3
17	Adaptable pulsatile flow generated from stem cell-derived cardiomyocytes using quantitative imaging-based signal transduction. <i>Lab on A Chip</i> , 2020 , 20, 3744-3756	7.2	3
16	Intravital Metabolic Autofluorescence Imaging Captures Macrophage Heterogeneity Across Normal and Cancerous Tissue. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 644648	5.8	3
15	Time-domain single photon-excited autofluorescence lifetime for label-free detection of T cell activation. <i>Optics Letters</i> , 2021 , 46, 2168-2171	3	3
14	Optical Metabolic Imaging of Heterogeneous Drug Response in Pancreatic Cancer Patient Organoids		2
13	Autofluorescence Imaging of Treatment Response in Neuroendocrine Tumor Organoids. <i>Cancers</i> , 2021 , 13,	6.6	2
12	Imaging intratumoral metabolic heterogeneity. <i>Nature Biomedical Engineering</i> , 2019 , 3, 333-334	19	1

11	Interactions with stromal cells promote a more oxidized cancer cell redox state in pancreatic tumors		1
10	Integrating Subclonal Response Heterogeneity to Define Cancer Organoid Therapeutic Sensitivity		1
9	Redox imaging and optical coherence tomography of the respiratory ciliated epithelium. <i>Journal of Biomedical Optics</i> , 2019 , 24, 1-4	3.5	1
8	In vivofluorescence lifetime imaging captures metabolic changes in macrophages during wound responses in zebrafish		1
7	Volumetric growth tracking of patient-derived cancer organoids using optical coherence tomography. <i>Biomedical Optics Express</i> , 2021 , 12, 3789-3805	3.5	1
6	In vivo fluorescence lifetime imaging of macrophage intracellular metabolism during wound responses in zebrafish.. <i>ELife</i> , 2022 , 11,	8.9	1
5	Impact of baseline culture conditions of cancer organoids when determining therapeutic response and tumor heterogeneity.. <i>Scientific Reports</i> , 2022 , 12, 5205	4.9	1
4	Microphysiological model of renal cell carcinoma to inform anti-angiogenic therapy.. <i>Biomaterials</i> , 2022 , 283, 121454	15.6	1
3	Innate immune cell response to host-parasite interaction in a human intestinal tissue microphysiological system.. <i>Science Advances</i> , 2022 , 8, eabm8012	14.3	1
2	Optical Coherence Tomography Angiography in the Thirteen-Lined Ground Squirrel. <i>Translational Vision Science and Technology</i> , 2021 , 10, 5	3.3	
1	Label-Free Imaging to Track Reprogramming of Human Somatic Cells. 2022 , 1, 176-191		