Melissa C Skala

List of Publications by Year in Descending Order

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	Interactions with stromal cells promote a more oxidized cancer cell redox state in pancreatic tumors.. *Science Advances*, **2022**, 8, eabg6383	14.3	3
99	In vivo fluorescence lifetime imaging of macrophage intracellular metabolism during wound responses in zebrafish.. *ELife*, **2022**, 11,	8.9	1
98	Impact of baseline culture conditions of cancer organoids when determining therapeutic response and tumor heterogeneity.. *Scientific Reports*, **2022**, 12, 5205	4.9	1
97	Microphysiological model of renal cell carcinoma to inform anti-angiogenic therapy.. *Biomaterials*, **2022**, 283, 121454	15.6	1
96	Label-Free Imaging to Track Reprogramming of Human Somatic Cells. **2022**, 1, 176-191		
95	Innate immune cell response to host-parasite interaction in a human intestinal tissue microphysiological system.. *Science Advances*, **2022**, 8, eabm8012	14.3	1
94	Patient-derived cancer organoid tracking with wide-field one-photon redox imaging to assess treatment response. *Journal of Biomedical Optics*, **2021**, 26,	3.5	4
93	Intravital Metabolic Autofluorescence Imaging Captures Macrophage Heterogeneity Across Normal and Cancerous Tissue. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 644648	5.8	3
92	The NIH Somatic Cell Genome Editing program. *Nature*, **2021**, 592, 195-204	50.4	21
91	Autofluorescence Imaging of Treatment Response in Neuroendocrine Tumor Organoids. *Cancers*, **2021**, 13,	6.6	2
90	Time-domain single photon-excited autofluorescence lifetime for label-free detection of T cell activation. *Optics Letters*, **2021**, 46, 2168-2171	3	3
89	Volumetric growth tracking of patient-derived cancer organoids using optical coherence tomography. *Biomedical Optics Express*, **2021**, 12, 3789-3805	3.5	1
88	Optical Coherence Tomography Angiography in the Thirteen-Lined Ground Squirrel. *Translational Vision Science and Technology*, **2021**, 10, 5	3.3	
87	Recent innovations in fluorescence lifetime imaging microscopy for biology and medicine. *Journal of Biomedical Optics*, **2021**, 26,	3.5	6
86	Label-free imaging for quality control of cardiomyocyte differentiation. *Nature Communications*, **2021**, 12, 4580	17.4	5
85	Classification of T-cell activation via autofluorescence lifetime imaging. *Nature Biomedical Engineering*, **2021**, 5, 77-88	19	27
84	Microfluidic tumor-on-a-chip model to evaluate the role of tumor environmental stress on NK cell exhaustion. *Science Advances*, **2021**, 7,	14.3	22

83	Carbomer-based adjuvant elicits CD8 T-cell immunity by inducing a distinct metabolic state in cross-presenting dendritic cells. *PLoS Pathogens*, **2021**, 17, e1009168	7.6	6
82	Microfluidic Tumor-on-a-Chip Model to Study Tumor Metabolic Vulnerability. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	5
81	Metabolic Heterogeneity in Patient Tumor-Derived Organoids by Primary Site and Drug Treatment. *Frontiers in Oncology*, **2020**, 10, 553	5.3	21
80	Fluorescence lifetime imaging microscopy: fundamentals and advances in instrumentation, analysis, and applications. *Journal of Biomedical Optics*, **2020**, 25, 1-43	3.5	129
79	MEK activation modulates glycolysis and supports suppressive myeloid cells in TNBC. *JCI Insight*, **2020**, 5,	9.9	8
78	Label-free redox imaging of patient-derived organoids using selective plane illumination microscopy. *Biomedical Optics Express*, **2020**, 11, 2591-2606	3.5	11
77	Sample preparation strategies for high-throughput mass spectrometry imaging of primary tumor organoids. *Journal of Mass Spectrometry*, **2020**, 55, e4452	2.2	13
76	Classifying T cell activity in autofluorescence intensity images with convolutional neural networks. *Journal of Biophotonics*, **2020**, 13, e201960050	3.1	5
75	Human Tumor-Lymphatic Microfluidic Model Reveals Differential Conditioning of Lymphatic Vessels by Breast Cancer Cells. *Advanced Healthcare Materials*, **2020**, 9, e1900925	10.1	26
74	Autofluorescence Imaging of 3D Tumor-Macrophage Microscale Cultures Resolves Spatial and Temporal Dynamics of Macrophage Metabolism. *Cancer Research*, **2020**, 80, 5408-5423	10.1	8
73	A bioengineered organotypic prostate model for the study of tumor microenvironment-induced immune cell activation. *Integrative Biology (United Kingdom)*, **2020**, 12, 250-262	3.7	3
72	Adaptable pulsatile flow generated from stem cell-derived cardiomyocytes using quantitative imaging-based signal transduction. *Lab on A Chip*, **2020**, 20, 3744-3756	7.2	3
71	Metabolomics revealed the influence of breast cancer on lymphatic endothelial cell metabolism, metabolic crosstalk, and lymphangiogenic signaling in co-culture. *Scientific Reports*, **2020**, 10, 21244	4.9	6
70	Tumor-on-a-chip: a microfluidic model to study cell response to environmental gradients. *Lab on A Chip*, **2019**, 19, 3461-3471	7.2	41
69	Effects of culture method on response to EGFR therapy in head and neck squamous cell carcinoma cells. *Scientific Reports*, **2019**, 9, 12480	4.9	14
68	Patient-Derived Cancer Organoid Cultures to Predict Sensitivity to Chemotherapy and Radiation. *Clinical Cancer Research*, **2019**, 25, 5376-5387	12.9	73
67	Photothermal Optical Coherence Tomography of Anti-Angiogenic Treatment in the Mouse Retina Using Gold Nanorods as Contrast Agents. *Translational Vision Science and Technology*, **2019**, 8, 18	3.3	13
66	Imaging intratumoral metabolic heterogeneity. *Nature Biomedical Engineering*, **2019**, 3, 333-334	19	1

65	Cellular Metabolic Heterogeneity In Vivo Is Recapitulated in Tumor Organoids. *Neoplasia*, **2019**, 21, 615-626	6.4	32
64	Derivation of adult canine intestinal organoids for translational research in gastroenterology. *BMC Biology*, **2019**, 17, 33	7.3	38
63	Quantitative Label-Free Imaging of 3D Vascular Networks Self-Assembled in Synthetic Hydrogels. *Advanced Healthcare Materials*, **2019**, 8, e1801186	10.1	10
62	Redox imaging and optical coherence tomography of the respiratory ciliated epithelium. *Journal of Biomedical Optics*, **2019**, 24, 1-4	3.5	1
61	Quantitative Spatial Analysis of Metabolic Heterogeneity Across and Tumor Models. *Frontiers in Oncology*, **2019**, 9, 1144	5.3	12
60	Development of a Microfluidic Array to Study Drug Response in Breast Cancer. *Molecules*, **2019**, 24,	4.8	6
59	Evaluating natural killer cell cytotoxicity against solid tumors using a microfluidic model. *OncoImmunology*, **2019**, 8, 1553477	7.2	47
58	MTORC1/2 Inhibition as a Therapeutic Strategy for Mutant Cancers. *Molecular Cancer Therapeutics*, **2019**, 18, 346-355	6.1	13
57	Protein-bound NAD(P)H Lifetime is Sensitive to Multiple Fates of Glucose Carbon. *Scientific Reports*, **2018**, 8, 5456	4.9	45
56	Oxidative stress via inhibition of the mitochondrial electron transport and Nrf-2-mediated anti-oxidative response regulate the cytotoxic activity of plumbagin. *Scientific Reports*, **2018**, 8, 1073	4.9	20
55	Pharmacological blockade of ASCT2-dependent glutamine transport leads to antitumor efficacy in preclinical models. *Nature Medicine*, **2018**, 24, 194-202	50.5	177
54	Autofluorescence imaging identifies tumor cell-cycle status on a single-cell level. *Journal of Biophotonics*, **2018**, 11, e201600276	3.1	21
53	Drug-Free ROS Sponge Polymeric Microspheres Reduce Tissue Damage from Ischemic and Mechanical Injury. *ACS Biomaterials Science and Engineering*, **2018**, 4, 1251-1264	5.5	29
52	Quantifying optical properties with visible and near-infrared optical coherence tomography to visualize esophageal microwave ablation zones. *Biomedical Optics Express*, **2018**, 9, 1648-1663	3.5	4
51	Photothermal optical coherence tomography of indocyanine green in ex vivo eyes. *Optics Letters*, **2018**, 43, 2470-2473	3	6
50	BET inhibitors reduce cell size and induce reversible cell cycle arrest in AML. *Journal of Cellular Biochemistry*, **2018**, 120, 7309	4.7	12
49	Imaging retinal melanin: a review of current technologies. *Journal of Biological Engineering*, **2018**, 12, 29	6.3	27
48	Organotypic microfluidic breast cancer model reveals starvation-induced spatial-temporal metabolic adaptations. *EBioMedicine*, **2018**, 37, 144-157	8.8	45

47	Imaging Melanin Distribution in the Zebrafish Retina Using Photothermal Optical Coherence Tomography. *Translational Vision Science and Technology*, **2018**, 7, 4	3.3	17
46	Mutant KRAS Exosomes Alter the Metabolic State of Recipient Colonic Epithelial Cells. *Cellular and Molecular Gastroenterology and Hepatology*, **2018**, 5, 627-629.e6	7.9	13
45	Functional Optical Imaging of Primary Human Tumor Organoids: Development of a Personalized Drug Screen. *Journal of Nuclear Medicine*, **2017**, 58, 1367-1372	8.9	26
44	Metabolic Imaging of Head and Neck Cancer Organoids. *PLoS ONE*, **2017**, 12, e0170415	3.7	35
43	In vivo photothermal optical coherence tomography of endogenous and exogenous contrast agents in the eye. *Scientific Reports*, **2017**, 7, 9228	4.9	32
42	Dysfunctional BMPR2 signaling drives an abnormal endothelial requirement for glutamine in pulmonary arterial hypertension. *Pulmonary Circulation*, **2017**, 7, 186-199	2.7	38
41	Autofluorescence flow sorting of breast cancer cell metabolism. *Journal of Biophotonics*, **2017**, 10, 1026-1033	3.1	5
40	Temporal binning of time-correlated single photon counting data improves exponential decay fits and imaging speed. *Biomedical Optics Express*, **2016**, 7, 1385-99	3.5	26
39	Depth-resolved analytical model and correction algorithm for photothermal optical coherence tomography. *Biomedical Optics Express*, **2016**, 7, 2607-22	3.5	10
38	Optical Imaging of Drug-Induced Metabolism Changes in Murine and Human Pancreatic Cancer Organoids Reveals Heterogeneous Drug Response. *Pancreas*, **2016**, 45, 863-9	2.6	79
37	Drug response in organoids generated from frozen primary tumor tissues. *Scientific Reports*, **2016**, 6, 18889	4.9	55
36	Copolymer-Mediated Cell Aggregation Promotes a Proangiogenic Stem Cell Phenotype In Vitro and In Vivo. *Advanced Healthcare Materials*, **2016**, 5, 2866-2871	10.1	5
35	High-throughput measurements of the optical redox ratio using a commercial microplate reader. *Journal of Biomedical Optics*, **2015**, 20, 010503	3.5	14
34	Collagen density and alignment in responsive and resistant trastuzumab-treated breast cancer xenografts. *Journal of Biomedical Optics*, **2015**, 20, 26004	3.5	24
33	Optical metabolic imaging quantifies heterogeneous cell populations. *Biomedical Optics Express*, **2015**, 6, 559-73	3.5	52
32	Photothermal optical lock-in optical coherence tomography for in vivo imaging. *Biomedical Optics Express*, **2015**, 6, 2268-82	3.5	16
31	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. *Gastroenterology*, **2015**, 149, 1932-1943.e9	13.3	107
30	In Vivo Autofluorescence Imaging of Tumor Heterogeneity in Response to Treatment. *Neoplasia*, **2015**, 17, 862-870	6.4	54

29	Blind deconvolution estimation of fluorescence measurements through quadratic programming. *Journal of Biomedical Optics*, **2015**, 20, 075010	3.5	6
28	Fluorescence Lifetime Measurements of NAD(P)H in Live Cells and Tissue. *Springer Series in Chemical Physics*, **2015**, 435-456	0.3	4
27	Quantitative optical imaging of primary tumor organoid metabolism predicts drug response in breast cancer. *Cancer Research*, **2014**, 74, 5184-94	10.1	169
26	An automated image processing routine for segmentation of cell cytoplasms in high-resolution autofluorescence images **2014**,		10
25	In vivo imaging of nanoparticle delivery and tumor microvasculature with multimodal optical coherence tomography. *Biomedical Optics Express*, **2014**, 5, 1731-43	3.5	35
24	In vivo hyperspectral imaging of microvessel response to trastuzumab treatment in breast cancer xenografts. *Biomedical Optics Express*, **2014**, 5, 2247-61	3.5	26
23	Quantifying the vascular response to ischemia with speckle variance optical coherence tomography. *Biomedical Optics Express*, **2014**, 5, 4118-30	3.5	15
22	Longitudinal study of arteriogenesis with swept source optical coherence tomography and hyperspectral imaging **2014**,		5
21	Optical metabolic imaging of treatment response in human head and neck squamous cell carcinoma. *PLoS ONE*, **2014**, 9, e90746	3.7	50
20	Optical metabolic imaging identifies glycolytic levels, subtypes, and early-treatment response in breast cancer. *Cancer Research*, **2013**, 73, 6164-74	10.1	196
19	Three-dimensional molecular imaging with photothermal optical coherence tomography. *Methods in Molecular Biology*, **2013**, 1026, 85-92	1.4	6
18	Dual-modality photothermal optical coherence tomography and magnetic-resonance imaging of carbon nanotubes. *Optics Letters*, **2012**, 37, 872-4	3	23
17	Optical imaging of metabolism in HER2 overexpressing breast cancer cells. *Biomedical Optics Express*, **2012**, 3, 75-85	3.5	52
16	Ex vivo optical metabolic measurements from cultured tissue reflect in vivo tissue status. *Journal of Biomedical Optics*, **2012**, 17, 116015	3.5	33
15	Longitudinal optical imaging of tumor metabolism and hemodynamics. *Journal of Biomedical Optics*, **2010**, 15, 011112	3.5	46
14	Multiphoton redox ratio imaging for metabolic monitoring in vivo. *Methods in Molecular Biology*, **2010**, 594, 155-62	1.4	59
13	Combined hyperspectral and spectral domain optical coherence tomography microscope for noninvasive hemodynamic imaging. *Optics Letters*, **2009**, 34, 289-91	3	39
12	Photothermal optical coherence tomography of epidermal growth factor receptor in live cells using immunotargeted gold nanospheres. *Nano Letters*, **2008**, 8, 3461-7	11.5	126

List of Publications

11	In vivo multiphoton microscopy of NADH and FAD redox states, fluorescence lifetimes, and cellular morphology in precancerous epithelia. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 19494-9	11.5	691
10	In vivo multiphoton fluorescence lifetime imaging of protein-bound and free nicotinamide adenine dinucleotide in normal and precancerous epithelia. *Journal of Biomedical Optics*, **2007**, 12, 024014	3.5	247
9	Comparison of a physical model and principal component analysis for the diagnosis of epithelial neoplasias in vivo using diffuse reflectance spectroscopy. *Optics Express*, **2007**, 15, 7863-75	3.3	35
8	Multiphoton microscopy of endogenous fluorescence differentiates normal, precancerous, and cancerous squamous epithelial tissues. *Cancer Research*, **2005**, 65, 1180-6	10.1	184
7	Investigation of fiber-optic probe designs for optical spectroscopic diagnosis of epithelial pre-cancers. *Lasers in Surgery and Medicine*, **2004**, 34, 25-38	3.6	53
6	Interactions with stromal cells promote a more oxidized cancer cell redox state in pancreatic tumors		1
5	Integrating Subclonal Response Heterogeneity to Define Cancer Organoid Therapeutic Sensitivity		1
4	Autofluorescence imaging of 3D tumor-macrophage microscale cultures resolves spatial and temporal dynamics of macrophage metabolism		6
3	In vivofluorescence lifetime imaging captures metabolic changes in macrophages during wound responses in zebrafish		1
2	Label-free Method for Classification of T cell Activation		7
1	Optical Metabolic Imaging of Heterogeneous Drug Response in Pancreatic Cancer Patient Organoids		2