

Elizabeth M C Hillman

List of Publications by Year in descending order

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137
papers

8,346
citations

61984

43
h-index

51608

86
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150
all docs

150
docs citations

150
times ranked

8292
citing authors

#	ARTICLE	IF	CITATIONS
1	High-speed light-sheet microscopy for the in-situ acquisition of volumetric histological images of living tissue. <i>Nature Biomedical Engineering</i> , 2022, 6, 569-583.	22.5	28
2	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. <i>Neurophotonics</i> , 2022, 9, 013001.	3.3	17
3	MesoSCAPE - Highspeed Functional Volumetric Imaging of Multi-millimeter Biological Sample with Cellular Resolution. , 2022, , .		1
4	High-speed, high-content volumetric microscopy with sub-cellular resolution applied to cell-identity resolved <i>C. elegans</i> . , 2022, , .		0
5	Miniaturized MediSCAPE microscopy for label-free, real-time volumetric histological imaging at the point of care. , 2022, , .		0
6	An early endothelial cell-specific requirement for Glut1 is revealed in Glut1 deficiency syndrome model mice. <i>JCI Insight</i> , 2021, 6, .	5.0	17
7	3DeeCellTracker, a deep learning-based pipeline for segmenting and tracking cells in 3D time lapse images. <i>ELife</i> , 2021, 10, .	6.0	53
8	High-speed 3D Imaging of Multiphase Systems: Applying SCAPE Microscopy to Analog Experiments in Volcanology and Earth Sciences. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2020GC009410.	2.5	1
9	Evaluation of at-home methods for N95 filtering facepiece respirator decontamination. <i>Scientific Reports</i> , 2021, 11, 19750.	3.3	0
10	Neurovascular dynamics of repeated cortical spreading depolarizations after acute brain injury. <i>Cell Reports</i> , 2021, 37, 109794.	6.4	15
11	A human-specific modifier of cortical connectivity and circuit function. <i>Nature</i> , 2021, 599, 640-644.	27.8	40
12	Widespread receptor-driven modulation in peripheral olfactory coding. <i>Science</i> , 2020, 368, .	12.6	98
13	Glioma-Induced Alterations in Neuronal Activity and Neurovascular Coupling during Disease Progression. <i>Cell Reports</i> , 2020, 31, 107500.	6.4	61
14	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. <i>PLoS Computational Biology</i> , 2020, 16, e1007791.	3.2	52
15	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0
16	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0
17	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0
18	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0

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19	Light-Sheet Microscopy in Neuroscience. Annual Review of Neuroscience, 2019, 42, 295-313.	10.7	130
20	Characterization of Proprioceptive System Dynamics in Behaving Drosophila Larvae Using High-Speed Volumetric Microscopy. Current Biology, 2019, 29, 935-944.e4.	3.9	84
21	Real-time volumetric microscopy of in vivo dynamics and large-scale samples with SCAPE 2.0. Nature Methods, 2019, 16, 1054-1062.	19.0	222
22	High-speed 3D imaging of cellular activity in the brain using axially-extended beams and light sheets. Current Opinion in Neurobiology, 2018, 50, 190-200.	4.2	34
23	Skip the salt: your brain might thank you. Nature Neuroscience, 2018, 21, 154-155.	14.8	2
24	Perfusion-based fluorescence imaging method delineates diverse organs and identifies multifocal tumors using generic near-infrared molecular probes. Journal of Biophotonics, 2018, 11, e201700232.	2.3	6
25	Whole-volume clustering of time series data from zebrafish brain calcium images via mixture modeling. Statistical Analysis and Data Mining, 2018, 11, 5-16.	2.8	7
26	In vivo Optical Imaging / Intravital Microscopy. Journal of Biophotonics, 2017, 10, 760-761.	2.3	3
27	PLGA nano/microparticles loaded with cresyl violet as a tracer for drug delivery: Characterization and in-situ hyperspectral fluorescence and 2-photon localization. Materials Science and Engineering C, 2017, 70, 505-511.	7.3	13
28	Developing SCAPE Microscopy for Real-time, 3D Cellular Imaging at the Point-of-Care. , 2017, , .		0
29	Wide-field optical mapping of neural activity in awake mice and the importance of hemodynamic correction. , 2017, , .		2
30	Imaging the nervous system at different spatiotemporal scales with SCAPE microscopy. , 2017, , .		0
31	Measuring the thermodynamic effects of neurovascular coupling in the awake, behaving mouse brain. , 2016, , .		1
32	Neurovascular and Immuno-Imaging: From Mechanisms to Therapies. Proceedings of the Inaugural Symposium. Frontiers in Neuroscience, 2016, 10, 46.	2.8	3
33	Introduction to the BIOMED 2016 feature issue. Biomedical Optics Express, 2016, 7, 4415.	2.9	0
34	Neurovascular coupling develops alongside neural circuits in the postnatal brain. Neurogenesis (Austin, Tex), 2016, 3, e1244439.	1.5	15
35	Resting-state hemodynamics are spatiotemporally coupled to synchronized and symmetric neural activity in excitatory neurons. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8463-E8471.	7.1	269
36	Neurovascular coupling and energy metabolism in the developing brain. Progress in Brain Research, 2016, 225, 213-242.	1.4	80

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37	Wide-field optical mapping of neural activity and brain haemodynamics: considerations and novel approaches. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150360.	4.0	243
38	Rapid Postnatal Expansion of Neural Networks Occurs in an Environment of Altered Neurovascular and Neurometabolic Coupling. <i>Journal of Neuroscience</i> , 2016, 36, 6704-6717.	3.6	63
39	Glioblastoma Induces Vascular Dysregulation in Nonenhancing Peritumoral Regions in Humans. <i>American Journal of Roentgenology</i> , 2016, 206, 1073-1081.	2.2	30
40	High-speed, 3D SCAPE Microscopy of Fresh Tissues for in situ Histopathology. , 2016, , .		0
41	Towards Two-Photon Swept Confocally Aligned Planar Excitation Microscopy (2P-SCAPE). , 2016, , .		0
42	SCAPE microscopy for high-speed volumetric functional imaging of the awake, behaving brain. , 2016, , .		1
43	Swept Confocally-Aligned Planar Excitation (SCAPE) Microscopy for High Speed Volumetric Imaging in Behaving Animals. <i>Microscopy and Microanalysis</i> , 2015, 21, 413-414.	0.4	1
44	Swept confocally-aligned planar excitation (SCAPE) microscopy for high-speed volumetric imaging of behaving organisms. <i>Nature Photonics</i> , 2015, 9, 113-119.	31.4	494
45	Fast, Volumetric Imaging of In Vivo Mouse Brain with Swept Confocally Aligned Planar Excitation (SCAPE) Microscopy. , 2015, , .		0
46	Simple wavefront correction framework for two-photon microscopy of in-vivo brain. <i>Biomedical Optics Express</i> , 2015, 6, 2997.	2.9	26
47	COX-2-Derived Prostaglandin E2 Produced by Pyramidal Neurons Contributes to Neurovascular Coupling in the Rodent Cerebral Cortex. <i>Journal of Neuroscience</i> , 2015, 35, 11791-11810.	3.6	85
48	Simple Signal-Based Wavefront Correction for In-Vivo Two-Photon Microscopy in Mouse Brain. , 2015, , .		0
49	Swept confocally-aligned planar excitation (SCAPE) microscopy for high speed volumetric imaging in behaving animals. , 2015, , .		1
50	High Resolution Fluorescence Imaging of Human Hand Pharmacokinetics using a Low-Cost Flatbed Scanner. , 2015, , .		0
51	Simultaneous wide-field imaging of neuronal activity, hemodynamics and blood flow in awake, behaving mice.. , 2015, , .		1
52	Out for Blood. <i>Scientific American Mind</i> , 2014, 25, 58-65.	0.0	6
53	A Critical Role for the Vascular Endothelium in Functional Neurovascular Coupling in the Brain. <i>Journal of the American Heart Association</i> , 2014, 3, e000787.	3.7	269
54	Calcium imaging of infrared-stimulated activity in rodent brain. <i>Cell Calcium</i> , 2014, 55, 183-190.	2.4	44

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55	Direct, intraoperative observation of ~ 0.1 Hz hemodynamic oscillations in awake human cortex: Implications for fMRI. <i>NeuroImage</i> , 2014, 87, 323-331.	4.2	80
56	Coupling Mechanism and Significance of the BOLD Signal: A Status Report. <i>Annual Review of Neuroscience</i> , 2014, 37, 161-181.	10.7	446
57	A noninvasive approach to determine viscoelastic properties of an individual adherent cell under fluid flow. <i>Journal of Biomechanics</i> , 2014, 47, 1537-1541.	2.1	14
58	Unsupervised Deconvolution of Dynamic Imaging Reveals Intratumor Vascular Heterogeneity and Repopulation Dynamics. <i>PLoS ONE</i> , 2014, 9, e112143.	2.5	15
59	Design of a second generation Laser-Scanning Intersecting Plane Tomography (LSIPT) system. , 2014, , .		0
60	Simultaneous tracking of 3D actin and microtubule strains in individual MLO-Y4 osteocytes under oscillatory flow. <i>Biochemical and Biophysical Research Communications</i> , 2013, 431, 718-723.	2.1	16
61	Resolving the transition from negative to positive blood oxygen level-dependent responses in the developing brain. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 4380-4385.	7.1	105
62	What secrets can functional MRI reveal about the developing infant brain?. <i>Imaging in Medicine</i> , 2013, 5, 203-206.	0.0	2
63	In vivo dynamic and hyperspectral microscopy. <i>FASEB Journal</i> , 2013, 27, 313.2.	0.5	0
64	Advances in optics for biotechnology, medicine and surgery. <i>Biomedical Optics Express</i> , 2012, 3, 531.	2.9	1
65	Analysis of skin lesions using laminar optical tomography. <i>Biomedical Optics Express</i> , 2012, 3, 1701.	2.9	22
66	Simultaneous multiplane in vivo nonlinear microscopy using spectral encoding. <i>Optics Letters</i> , 2012, 37, 2967.	3.3	8
67	Dynamic contrast-enhanced optical imaging of in vivo organ function. <i>Journal of Biomedical Optics</i> , 2012, 17, 1.	2.6	11
68	Optical Imaging and Microscopy of the Living Brain. , 2012, , .		0
69	Theoretical Analysis of Novel Quasi-3D Microscopy of Cell Deformation. <i>Cellular and Molecular Bioengineering</i> , 2012, 5, 165-172.	2.1	6
70	High-speed vascular dynamics of the hemodynamic response. <i>NeuroImage</i> , 2011, 54, 1021-1030.	4.2	111
71	Spectral Characterization and Unmixing of Intrinsic Contrast in Intact Normal and Diseased Gastric Tissues Using Hyperspectral Two-Photon Microscopy. <i>PLoS ONE</i> , 2011, 6, e19925.	2.5	38
72	<i>in vivo</i> 3D Morphology of Astrocyte-Vasculature Interactions in the Somatosensory Cortex: Implications for Neurovascular Coupling. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2011, 31, 795-806.	4.3	144

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73	<i>In vivo</i> optical imaging and dynamic contrast methods for biomedical research. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 4620-4643.	3.4	98
74	CAM-CM: a signal deconvolution tool for <i>in vivo</i> dynamic contrast-enhanced imaging of complex tissues. Bioinformatics, 2011, 27, 2607-2609.	4.1	24
75	Optical Imaging: A New Window to the Adult Brain. Journal of Neuropsychiatry and Clinical Neurosciences, 2010, 22, iv-iv.	1.8	12
76	3D visualization of intrinsic contrast in neoplastic colon tissue using hyperspectral two-photon microscopy. , 2010, , .		1
77	Cortical depth-specific microvascular dilation underlies laminar differences in blood oxygenation level-dependent functional MRI signal. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15246-15251.	7.1	267
78	Quasi-3D Cytoskeletal Dynamics of Osteocytes under Fluid Flow. Biophysical Journal, 2010, 99, 2812-2820.	0.5	22
79	SPLASH: Open source software for camera-based high-speed, multispectral <i>in vivo</i> optical image acquisition. Biomedical Optics Express, 2010, 1, 385.	2.9	21
80	Feature Issue Introduction: Bio-Optics in Clinical Applications, Nanotechnology, and Drug Discovery. Biomedical Optics Express, 2010, 1, 746.	2.9	1
81	Fiber-optic and articulating arm implementations of laminar optical tomography for clinical applications. Biomedical Optics Express, 2010, 1, 780.	2.9	13
82	A Low-Cost, Portable System for High-Speed Multispectral Optical Imaging. , 2010, , .		1
83	Fiber-Optic and Articulating Arm Implementations of Laminar Optical Tomography for Clinical Applications. , 2010, , .		0
84	Laser-Scanning Intersecting Plane Tomography (L-SIPT) for High Speed 3D Optical Imaging and Microscopy. , 2010, , .		0
85	A system for high-resolution depth-resolved optical imaging of fluorescence and absorption contrast. Review of Scientific Instruments, 2009, 80, 043706.	1.3	43
86	Classification of NPY-Expressing Neocortical Interneurons. Journal of Neuroscience, 2009, 29, 3642-3659.	3.6	212
87	Spatiotemporal precision and hemodynamic mechanism of optical point spreads in alert primates. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18390-18395.	7.1	117
88	Submillimeter resolution 3D optical imaging of living tissue using laminar optical tomography. Laser and Photonics Reviews, 2009, 3, 159-179.	8.7	54
89	Hepatic stellate cell lipid droplets: A specialized lipid droplet for retinoid storage. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2009, 1791, 467-473.	2.4	337
90	Ultra-fast multispectral optical imaging of cortical oxygenation, blood flow, and intracellular calcium dynamics. Optics Express, 2009, 17, 15670.	3.4	191

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91	Topics in Biomedical Optics: introduction to the feature issue. Applied Optics, 2009, 48, TBO1.	2.1	1
92	Hyperspectral in vivo two-photon microscopy of intrinsic contrast. Optics Letters, 2008, 33, 2164.	3.3	66
93	Simultaneous multiwavelength laminar optical tomography. Optics Letters, 2008, 33, 2710.	3.3	25
94	Stimulus-Induced Changes in Blood Flow and 2-Deoxyglucose Uptake Dissociate in Ipsilateral Somatosensory Cortex. Journal of Neuroscience, 2008, 28, 14347-14357.	3.6	184
95	Simultaneous Multi-Wavelength Laminar Optical Tomography Imaging of Skin Cancer. , 2008, , .		2
96	Hyperspectral in-vivo two-photon microscopy of intrinsic fluorophores. , 2008, , .		1
97	Diffusion vs. Monte Carlo for Image Reconstruction in Mesoscopic Volumes. , 2008, , .		1
98	Dynamic Molecular Imaging: Anatomical co-registration and dynamic contrast enhancement. , 2008, , .		0
99	Multidimensional functional optical imaging of the brain. , 2008, , .		0
100	Mouse Organ Imaging. , 2008, , .		0
101	Multidimensional functional optical imaging of the brain. , 2008, , .		0
102	Feasibility of 3-D Frequency-Domain Fluorescence Lifetime Imaging based on Laminar Optical Tomography. , 2008, , .		0
103	Suppressed Neuronal Activity and Concurrent Arteriolar Vasoconstriction May Explain Negative Blood Oxygenation Level-Dependent Signal. Journal of Neuroscience, 2007, 27, 4452-4459.	3.6	345
104	High-resolution 3D imaging of tissue. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	3
105	Depth-resolved optical imaging of transmural electrical propagation in perfused heart. Optics Express, 2007, 15, 17827.	3.4	78
106	Depth-resolved optical imaging and microscopy of vascular compartment dynamics during somatosensory stimulation. NeuroImage, 2007, 35, 89-104.	4.2	284
107	Optical brain imaging in vivo: techniques and applications from animal to man. Journal of Biomedical Optics, 2007, 12, 051402.	2.6	377
108	All-optical anatomical co-registration for molecular imaging of small animals using dynamic contrast. Nature Photonics, 2007, 1, 526-530.	31.4	173

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109	Functional optical imaging of brain activation: a multi-scale, multi-modality approach. , 2006, , .		4
110	Effective scattering coefficient of the cerebral spinal fluid in adult head models for diffuse optical imaging. Applied Optics, 2006, 45, 4747.	2.1	125
111	Video-rate two-photon microscopy of cortical hemodynamics in-vivo. , 2006, , MI1.		3
112	Laminar optical tomography: high-resolution 3D functional imaging of superficial tissues. , 2006, 6143, 534.		10
113	High-resolution functional optical imaging: sub-millimeter physiology of living tissue. , 2006, , MB1.		0
114	Applying optical imaging to study neurovascular coupling in cerebral cortex: from populational scale to single-cell single-vessel measurements. , 2006, , .		0
115	Optimal linear inverse solution with multiple priors in diffuse optical tomography. Applied Optics, 2005, 44, 1948.	2.1	75
116	Diffuse optical tomography with spectral constraints and wavelength optimization. Applied Optics, 2005, 44, 2082.	2.1	192
117	Laminar optical tomography:â€f demonstration of millimeter-scale depth-resolved imaging in turbid media. Optics Letters, 2004, 29, 1650.	3.3	149
118	Optimum wavelengths in continuous-wave multi-spectral diffuse optical tomography. , 2004, , .		0
119	Uniqueness and wavelength optimization in continuous-wave multispectral diffuse optical tomography. Optics Letters, 2003, 28, 2339.	3.3	168
120	Assessment of an in situ temporal calibration method for time-resolved optical tomography. Journal of Biomedical Optics, 2003, 8, 87.	2.6	35
121	Three-dimensional optical tomography of the premature infant brain. Physics in Medicine and Biology, 2002, 47, 4155-4166.	3.0	254
122	Optical tomography of the breast using a 32-channel time-resolved imager. , 2002, , .		0
123	Optical tomography of a realistic head-shaped phantom. , 2002, , .		0
124	Time resolved optical imaging of the newborn infant brain: initial clinical results. , 2002, , .		0
125	Oxygen saturation and blood-volume derivation from multiwavelength time-resolved optical tomography data.. , 2002, , .		0
126	Three-dimensional time-resolved optical tomography of a conical breast phantom. Applied Optics, 2001, 40, 3278.	2.1	128

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127	Time resolved optical tomography of the human forearm. Physics in Medicine and Biology, 2001, 46, 1117-1130.	3.0	137
128	<title>Radiosity diffusion model in 3D</title>. , 2001, , .		3
129	<title>Optical tomography of a 3D multilayered head model</title>. , 2001, , .		1
130	<title>Differential imaging in heterogeneous media: limitations of linearization assumptions in optical tomography</title>. , 2001, , .		7
131	A method for three-dimensional time-resolved optical tomography. International Journal of Imaging Systems and Technology, 2000, 11, 2-11.	4.1	77
132	Calibration techniques and datatype extraction for time-resolved optical tomography. Review of Scientific Instruments, 2000, 71, 3415-3427.	1.3	84
133	Multiple-slice imaging of a tissue-equivalent phantom by use of time-resolved optical tomography. Applied Optics, 2000, 39, 3380.	2.1	41
134	A 32-channel time-resolved instrument for medical optical tomography. Review of Scientific Instruments, 2000, 71, 256-265.	1.3	257
135	A method for three-dimensional time-resolved optical tomography. International Journal of Imaging Systems and Technology, 2000, 11, 2-11.	4.1	4
136	Initial clinical testing of the UCL 32 channel time-resolved instrument for optical tomography. , 2000, , .		0
137	Simultaneous reconstruction of absorption and scattering images by multichannel measurement of purely temporal data. Optics Letters, 1999, 24, 534.	3.3	66