Balpreet Singh Ahluwalia

List of Publications by Year
in descending order

Version: 2024-02-01

108	1,645	331259 21	377514 34
papers	citations	h-index	g-index

117	117	117	1421
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chip-based wide field-of-view nanoscopy. Nature Photonics, 2017, 11, 322-328.	15.6	128
2	Structured illumination microscopy using a photonic chip. Nature Photonics, 2020, 14, 431-438.	15.6	89
3	Surface transport and stable trapping of particles and cells by an optical waveguide loop. Lab on A Chip, 2012, 12, 3436.	3.1	69
4	Generation of self-imaged optical bottle beams. Optics Communications, 2004, 238, 177-184.	1.0	63
5	Optical trapping and propulsion of red blood cells on waveguide surfaces. Optics Express, 2010, 18, 21053.	1.7	62
6	Design and fabrication of a double-axicon for generation of tailorable self-imaged three-dimensional intensity voids. Optics Letters, 2006, 31, 987.	1.7	61
7	Silicon nitride waveguide platform for fluorescence microscopy of living cells. Optics Express, 2017, 25, 27678.	1.7	61
8	Fabrication of Submicrometer High Refractive Index Tantalum Pentoxide Waveguides for Optical Propulsion of Microparticles. IEEE Photonics Technology Letters, 2009, 21, 1408-1410.	1.3	59
9	Stimulation of exosome release by extracellular <scp>DNA</scp> is conserved across multiple cell types. FEBS Journal, 2018, 285, 3114-3133.	2.2	45
10	Roadmap on multimode light shaping. Journal of Optics (United Kingdom), 2022, 24, 013001.	1.0	41
11	SAMM50 acts with p62 in piecemeal basal- and OXPHOS-induced mitophagy of SAM and MICOS components. Journal of Cell Biology, 2021, 220, .	2.3	39
12	Transfer of â€˜pureâ€™ on-axis spin angular momentum to the absorptive particle using self-imaged bottle beam optical tweezers system. Optics Express, 2004, 12, 5172.	1.7	36
13	Liver sinusoidal endothelial cells contribute to the uptake and degradation of entero bacterial viruses. Scientific Reports, 2020, 10, 898.	1.6	35
14	Nanoscopy on-a-chip: super-resolution imaging on the millimeter scale. Optics Express, 2019, 27, 6700.	1.7	35
15	Partially spatially coherent digital holographic microscopy and machine learning for quantitative analysis of human spermatozoa under oxidative stress condition. Scientific Reports, 2019, 9, 3564.	1.6	32
16	Two-dimensional TIRF-SIMâ€“traction force microscopy (2D TIRF-SIM-TFM). Nature Communications, 2021, 12, 2169.	5.8	31
17	Optical transport, lifting and trapping of micro-particles by planar waveguides. Optics Express, 2015, 23, 6601.	1.7	29
18	High spatially sensitive quantitative phase imaging assisted with deep neural network for classification of human spermatozoa under stressed condition. Scientific Reports, 2020, 10, 13118.	1.6	28

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19	Micromanipulation of high and low indices microparticles using a microfabricated double axicon. Journal of Applied Physics, 2006, 99, 113104.	1.1	27
20	Quantitative phase microscopy of red blood cells during planar trapping and propulsion. Lab on A Chip, 2018, 18, 3025-3036.	3.1	27
21	Serial Raman spectroscopy of particles trapped on a waveguide. Optics Express, 2013, 21, 2964.	1.7	26
22	Physics-based machine learning for subcellular segmentation in living cells. Nature Machine Intelligence, 2021, 3, 1071-1080.	8.3	23
23	Effect on the longitudinal coherence properties of a pseudothermal light source as a function of source size and temporal coherence. Optics Letters, 2019, 44, 1817.	1.7	22
24	Deep learning architecture â€œLightOCTâ€•for diagnostic decision support using optical coherence tomography images of biological samples. Biomedical Optics Express, 2020, 11, 5017.	1.5	20
25	Characterization of color cross-talk of CCD detectors and its influence in multispectral quantitative phase imaging. Optics Express, 2019, 27, 4572.	1.7	19
26	Squeezing red blood cells on an optical waveguide to monitor cell deformability during blood storage. Analyst, The, 2015, 140, 223-229.	1.7	18
27	New ways of looking at very small holes â€“ using optical nanoscopy to visualize liver sinusoidal endothelial cell fenestrations. Nanophotonics, 2018, 7, 575-596.	2.9	18
28	Multi-color imaging of sub-mitochondrial structures in living cells using structured illumination microscopy. Nanophotonics, 2018, 7, 935-947.	2.9	18
29	Multi-modal chip-based fluorescence and quantitative phase microscopy for studying inflammation in macrophages. Optics Express, 2018, 26, 19864.	1.7	18
30	On-chip TIRF nanoscopy by applying Haar wavelet kernel analysis on intensity fluctuations induced by chip illumination. Optics Express, 2020, 28, 35454.	1.7	18
31	A transparent waveguide chip for versatile total internal reflection fluorescence-based microscopy and nanoscopy. Communications Materials, 2021, 2, .	2.9	15
32	Waveguide trapping of hollow glass spheres. Optics Letters, 2011, 36, 3347.	1.7	14
33	Accurate estimation of the illumination patternâ€™s orientation and wavelength in sinusoidal structured illumination microscopy. Applied Optics, 2018, 57, 1019.	0.9	14
34	High space-bandwidth in quantitative phase imaging using partially spatially coherent digital holographic microscopy and a deep neural network. Optics Express, 2020, 28, 36229.	1.7	14
35	Rib waveguides for trapping and transport of particles. Optics Express, 2016, 24, 4477.	1.7	13
36	A waveguide imaging platform for liveâ€cell TIRF imaging of neurons over large fields of view. Journal of Biophotonics, 2020, 13, e201960222.	1.1	13

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37	Sub-nanometer height sensitivity by phase shifting interference microscopy under environmental fluctuations. Optics Express, 2020, 28, 9340.	1.7	13
38	Soft thresholding schemes for multiple signal classification algorithm. Optics Express, 2020, 28, 34434.	1.7	13
39	Wavelength-scalable micro-fabricated wedge for generation of optical vortex beam in optical manipulation. Applied Physics B: Lasers and Optics, 2007, 86, 209-213.	1.1	12
40	Integrated platform based on high refractive index contrast waveguide for optical guiding and sorting. Proceedings of SPIE, 2010, , .	0.8	12
41	Chip-Based Resonance Raman Spectroscopy Using Tantalum Pentoxide Waveguides. IEEE Photonics Technology Letters, 2019, 31, 1127-1130.	1.3	12
42	Visualizing ultrastructural details of placental tissue with super-resolution structured illumination microscopy. Placenta, 2020, 97, 42-45.	0.7	12
43	Intracellular distribution and transcriptional regulation of Atlantic salmon (Salmo salar) Rab5c, 7a and 27a homologs by immune stimuli. Fish and Shellfish Immunology, 2020, 99, 119-129.	1.6	12
44	Automatic fringe pattern enhancement using truly adaptive period-guided bidimensional empirical mode decomposition. Optics Express, 2020, 28, 6277.	1.7	12
45	Selective generation of high-order optical vortices from a single phase wedge. Optics Letters, 2007, 32, 2927.	1.7	11
46	Super-condenser enables labelfree nanoscopy. Optics Express, 2019, 27, 25280.	1.7	11
47	Chip-based multimodal super-resolution microscopy for histological investigations of cryopreserved tissue sections. Light: Science and Applications, 2022, 11, 43.	7.7	11
48	Experimental transfer of torque induced by localized polarization of radially polarized vector beams to anisotropic microparticles. Applied Physics Letters, 2007, 91, 171102.	1.5	10
49	Single-Input and Multiple-Output Surface Acoustic Wave Sensing for Damage Quantification in Piezoelectric Sensors. Sensors, 2018, 18, 2017.	2.1	10
50	Improving the space-bandwidth product of structured illumination microscopy using a transillumination configuration. Journal Physics D: Applied Physics, 2020, 53, 044006.	1.3	10
51	High-frequency poly(vinylidene fluoride) copolymer transducers used for spectral characterization of settled microparticles. Japanese Journal of Applied Physics, 2016, 55, 07KB07.	0.8	9
52	Photonic-chip assisted correlative light and electron microscopy. Communications Biology, 2020, 3, 739.	2.0	9
53	Blind Super-Resolution Approach for Exploiting Illumination Variety in Optical-Lattice Illumination Microscopy. ACS Photonics, 2021, 8, 2626-2634.	3.2	9
54	Sampling moirÃ© method: a tool for sensing quadratic phase distortion and its correction for accurate quantitative phase microscopy. Optics Express, 2020, 28, 10062.	1.7	9

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55	Object detection neural network improves Fourier ptychography reconstruction. Optics Express, 2020, 28, 37199.	1.7	9
56	Characterization of Liposomes Using Quantitative Phase Microscopy (QPM). Pharmaceutics, 2021, 13, 590.	2.0	8
57	Fluorescence fluctuation-based super-resolution microscopy using multimodal waveguided illumination. Optics Express, 2021, 29, 23368.	1.7	8
58	Single-shot fringe pattern phase retrieval using improved period-guided bidimensional empirical mode decomposition and Hilbert transform. Optics Express, 2021, 29, 31632.	1.7	8
59	Three-dimensional structured illumination microscopy data of mitochondria and lysosomes in cardiomyoblasts under normal and galactose-adapted conditions. Scientific Data, 2022, 9, 98.	2.4	8
60	High-throughput spatial sensitive quantitative phase microscopy using low spatial and high temporal coherent illumination. Scientific Reports, 2021, 11, 15850.	1.6	7
61	Quantitative assessment of morphology and sub-cellular changes in macrophages and trophoblasts during inflammation. Biomedical Optics Express, 2020, 11, 3733.	1.5	7
62	Mitochondrial dynamics and quantification of mitochondriaâ€derived vesicles in cardiomyoblasts using structured illumination microscopy. Journal of Biophotonics, 2022, 15, e202100305.	1.1	7
63	Multimodal on-chip nanoscopy and quantitative phase imaging reveals the nanoscale morphology of liver sinusoidal endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	6
64	Demystifying speckle field interference microscopy. Scientific Reports, 2022, 12, .	1.6	6
65	Integration of laser trapping for continuous and selective monitoring of photothermal response of a single microparticle. Optics Letters, 2008, 33, 2779.	1.7	5
66	Evaluation of adhesive-free crossed-electrode poly(vinylidene fluoride) copolymer array transducers for high frequency imaging. Japanese Journal of Applied Physics, 2016, 55, 07KE11.	0.8	5
67	High-Throughput Total Internal Reflection Fluorescence and Direct Stochastic Optical Reconstruction Microscopy Using a Photonic Chip. Journal of Visualized Experiments, 2019, , .	0.2	5
68	Learning Nanoscale Motion Patterns of Vesicles in Living Cells. , 2020, , .		5
69	MusiJ: an ImageJ plugin for video nanoscopy. Biomedical Optics Express, 2020, 11, 2548.	1.5	5
70	Study of waveguide background at visible wavelengths for on-chip nanoscopy. Optics Express, 2021, 29, 20735.	1.7	4
71	Chip-based nanoscopy: towards integration and high-throughput imaging. , 2017, , .		4
72	Study of electric fields of diffraction from spatial light modulator: discussion. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 1778.	0.8	4

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73	Photonic-chip based free space beam shaping and steering for advanced optical microscopy application. OSA Continuum, 2020, 3, 359.	1.8	4
74	Micro-Optical Elements for Optical Manipulation. Optics and Photonics News, 2006, 17, 36.	0.4	3
75	Artefact removal in ground truth deficient fluctuations-based nanoscopy images using deep learning. Biomedical Optics Express, 2021, 12, 191.	1.5	3
76	Highly temporal stable, wavelength-independent, and scalable field-of-view common-path quantitative phase microscope. Journal of Biomedical Optics, 2020, 25, .	1.4	3
77	Finite element simulation of transmission and reflection of acoustic waves in the ultrasonic transducer. Japanese Journal of Applied Physics, 2022, 61, SG1029.	0.8	3
78	From fixed-dried to wet-fixed to liveÂâ€“ comparative super-resolution microscopy of liver sinusoidal endothelial cell fenestrations. Nanophotonics, 2022, .	2.9	3
79	Optical waveguide trapping forces on hollow glass spheres. Proceedings of SPIE, 2011, , .	0.8	2
80	Quantitative Analysis of Autophagy using Advanced 3D Fluorescence Microscopy. Journal of Visualized Experiments, 2013, , e50047.	0.2	2
81	Sensitivity of Mach-Zehnder interferometer for dissolved gas monitoring. , 2014, , .		2
82	Photonic integrated circuits for nanoscopy. , 2018, , .		2
83	Deriving high contrast fluorescence microscopy images through low contrast noisy image stacks. Biomedical Optics Express, 2021, 12, 5529.	1.5	2
84	Unbalanced low coherence interference microscopy. Optics and Lasers in Engineering, 2022, 151, 106932.	2.0	2
85	Quantification of the NA dependent change of shape in the image formation of a zâ€polarized fluorescent molecule using vectorial diffraction simulations. Microscopy Research and Technique, 2022, , .	1.2	2
86	3D optical vortices generated by micro-optical elements and its novel applications. Optoelectronics Letters, 2007, 3, 136-140.	0.4	1
87	Optical trapping forces on biological cells on a waveguide surface. , 2011, , .		1
88	Optical waveguide loop for planar trapping of blood cells and microspheres. , 2013, , .		1
89	Fabrication and optimization of Tantalum pentoxide waveguides for optical micro-propulsion. , 2010, , .		1
90	Digital holographic microscopy and machine learning approach for the classification of inflammation in macrophages. , 2019, , .		1

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91	Multi-moded high-index contrast optical waveguide for super-contrast high-resolution label-free microscopy. Nanophotonics, 2022, 11, 3421-3436.	2.9	1
92	Bottle beam based optical trapping system for three-dimensional trapping of high and low index microparticles. , 2005, , .		0
93	Self-imaged optical bottle beam based optical tweezers systems. , 2005, , .		0
94	Collinear non-diffracting beams: classification and properties. , 2010, , .		0
95	Near-field waveguide trapping and tracking of particles using fluorescence imaging. Proceedings of SPIE, 2014, , .	0.8	0
96	Optical deformation of red blood cells trapped on a narrow waveguide. , 2014, , .		0
97	Optical nanoscopy of a living cell. Proceedings of SPIE, 2014, , .	0.8	0
98	Chip-based optical microscopy for imaging membrane sieve plates of liver scavenger cells. , 2015, , .		0
99	Optical nanoscopy to reveal structural and functional properties of liver cells (Presentation) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	0.8	0
100	Quantitative phase measurement for the damage detection in piezoelectric crystal using angularly placed multiple inter digital transducers. , 2016, , .		0
101	High-resolution optical nanoscopy of placental cells. Placenta, 2017, 57, 238-239.	0.7	0
102	Photonic chip-based optical nanoscopy. , 2021, , .		0
103	On-Chip Nanoscopy. , 2018, , .		0
104	Chip-based Total Internal Reflection Fluorescence Microscopy. , 2018, , .		0
105	Live-cell imaging of human spermatozoa using structured illumination microscopy. Biomedical Optics Express, 2018, 9, 5939.	1.5	0
106	Novel highly stable wavelength independent quantitative phase microscope. , 2019, , .		0
107	Label-free nanoscopy enabled by coherent imaging with photonic waveguides. , 2019, , .		0
108	Photonic-chip: a multimodal imaging tool for histopathology. , 2021, , .		0