Alexander Rohrbach

List of Publications by Year
in descending order

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61 papers	3,736 citations	218677 26 h-index	128289 60 g-index
62 all docs	62 docs citations	62 times ranked	3723 citing authors

#	Article	IF	Citations
1	Microscopy with self-reconstructing beams. Nature Photonics, 2010, 4, 780-785.	31.4	598
2	Propagation stability of self-reconstructing Bessel beams enables contrast-enhanced imaging in thick media. Nature Communications, 2012, 3, 632.	12.8	256
3	Stiffness of Optical Traps: Quantitative Agreement between Experiment and Electromagnetic Theory. Physical Review Letters, 2005, 95, 168102.	7.8	244
4	Filopodia act as phagocytic tentacles and pull with discrete steps and a load-dependent velocity. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11633-11638.	7.1	215
5	Evolution and predictive value of IgE responses toward a comprehensive panel of house dust mite allergens during the first 2Âdecades of life. Journal of Allergy and Clinical Immunology, 2017, 139, 541-549.e8.	2.9	213
6	Light-sheet microscopy in thick media using scanned Bessel beams and two-photon fluorescence excitation. Optics Express, 2013, 21, 13824.	3.4	185
7	Trapping forces, force constants, and potential depths for dielectric spheres in the presence of spherical aberrations. Applied Optics, 2002, 41, 2494.	2.1	171
8	Three-dimensional position detection of optically trapped dielectric particles. Journal of Applied Physics, 2002, 91, 5474-5488.	2.5	162
9	Trapping and tracking a local probe with a photonic force microscope. Review of Scientific Instruments, 2004, 75, 2197-2210.	1.3	148
10	A line scanned light-sheet microscope with phase shaped self-reconstructing beams. Optics Express, 2010, 18, 24229.	3.4	128
11	Microfluidic sorting of arbitrary cells with dynamic optical tweezers. Lab on A Chip, 2012, 12, 3177.	6.0	101
12	Observing Secretory Granules with a Multiangle Evanescent Wave Microscope. Biophysical Journal, 2000, 78, 2641-2654.	0.5	98
13	Self-reconstructing sectioned Bessel beams offer submicron optical sectioning for large fields of view in light-sheet microscopy. Optics Express, 2013, 21, 11425.	3.4	95
14	Three-dimensional tracking of small spheres in focused laser beams: influence of the detection angular aperture. Optics Letters, 2003, 28, 411.	3.3	71
15	Artifacts resulting from imaging in scattering media: a theoretical prediction. Optics Letters, 2009, 34, 3041.	3.3	58
16	Fast, label-free super-resolution live-cell imaging using rotating coherent scattering (ROCS) microscopy. Scientific Reports, 2016, 6, 30393.	3.3	55
17	Switching and measuring a force of 25 femtoNewtons with an optical trap. Optics Express, 2005, 13, 9695.	3.4	54
18	Object-adapted optical trapping and shape-tracking of energy-switching helical bacteria. Nature Photonics, 2012, 6, 680-686.	31.4	50

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19	IgG and IgG 4 to 91 allergenic molecules in early childhood by route of exposure and current and future IgE sensitization: Results from the Multicentre Allergy Study birth cohort. Journal of Allergy and Clinical Immunology, 2016, 138, 1426-1433.e12.	2.9	50
20	Control of relative radiation pressure in optical traps: Application to phagocytic membrane binding studies. Physical Review E, 2005, 71, 061927.	2.1	46
21	Coherent total internal reflection dark-field microscopy: label-free imaging beyond the diffraction limit. Optics Letters, 2013, 38, 4066.	3.3	45
22	â€œDefaultâ€•versus â€œpre-atopicâ€•IgG responses to foodborne and airborne pathogenesis-related group 10 protein molecules in birch-sensitized and nonatopic children. Journal of Allergy and Clinical Immunology, 2015, 135, 1367-1374.e8.	2.9	39
23	Interferometric 3D tracking of several particles in a scanning laser focus. Optics Express, 2009, 17, 1003.	3.4	38
24	Fast parallel interferometric 3D tracking of numerous optically trapped particles and their hydrodynamic interaction. Optics Express, 2011, 19, 21627.	3.4	34
25	Surface imaging beyond the diffraction limit with optically trapped spheres. Nature Nanotechnology, 2015, 10, 1064-1069.	31.5	32
26	Improved interferometric tracking of trapped particles using two frequency-detuned beams. Optics Letters, 2010, 35, 1920.	3.3	31
27	Measuring Local Viscosities near Plasma Membranes of Living Cells with Photonic Force Microscopy. Biophysical Journal, 2015, 109, 869-882.	0.5	29
28	Interferometric tracking of optically trapped probes behind structured surfaces: a phase correction method. Applied Optics, 2006, 45, 7309.	2.1	28
29	Light needles in scattering media using self-reconstructing beams and the STED principle. Optica, 2017, 4, 1134.	9.3	26
30	Miniature scanning light-sheet illumination implemented in a conventional microscope. Biomedical Optics Express, 2018, 9, 4263.	2.9	26
31	Fast TIRF-SIM imaging of dynamic, low-fluorescent biological samples. Biomedical Optics Express, 2020, 11, 4008.	2.9	26
32	Superior contrast and resolution by image formation in rotating coherent scattering (ROCS) microscopy. Optica, 2018, 5, 1371.	9.3	25
33	Induced phagocytic particle uptake into a giant unilamellar vesicle. Soft Matter, 2014, 10, 3667-3678.	2.7	23
34	Light-sheet generation in inhomogeneous media using self-reconstructing beams and the STED-principle. Optics Express, 2016, 24, 5855.	3.4	22
35	Light-sheet microscopy with length-adaptive Bessel beams. Biomedical Optics Express, 2019, 10, 670.	2.9	21
36	5D-Tracking of a nanorod in a focused laser beam - a theoretical concept. Optics Express, 2014, 22, 6114.	3.4	20

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37	Tuning the detection sensitivity: a model for axial backfocal plane interferometric tracking. Optics Letters, 2012, 37, 2109.	3.3	18
38	Separation of ballistic and diffusive fluorescence photons in confocal Light-Sheet Microscopy of Arabidopsis roots. Scientific Reports, 2016, 6, 30378.	3.3	18
39	Strong cytoskeleton activity on millisecond timescales upon particle binding revealed by ROCS microscopy. Cytoskeleton, 2018, 75, 410-424.	2.0	17
40	Interaction dynamics of two colloids in a single optical potential. Physical Review E, 2012, 86, 021401.	2.1	16
41	Surfing along Filopodia: A Particle Transport Revealed by Molecular-Scale Fluctuation Analyses. Biophysical Journal, 2015, 108, 2114-2125.	0.5	16
42	Single microtubules and small networks become significantly stiffer on short time-scales upon mechanical stimulation. Scientific Reports, 2017, 7, 4229.	3.3	16
43	100 Hz ROCS microscopy correlated with fluorescence reveals cellular dynamics on different spatiotemporal scales. Nature Communications, 2022, 13, 1758.	12.8	16
44	Label-free Imaging and Bending Analysis of Microtubules by ROCS Microscopy and Optical Trapping. Biophysical Journal, 2018, 114, 168-177.	0.5	15
45	Feedback phase correction of Bessel beams in confocal line light-sheet microscopy: a simulation study. Applied Optics, 2013, 52, 5835.	1.8	14
46	Plasmonic Coupling Dynamics of Silver Nanoparticles in an Optical Trap. Nano Letters, 2015, 15, 7816-7821.	9.1	14
47	Orientation-Control of Two Plasmonically Coupled Nanoparticles in an Optical Trap. ACS Photonics, 2018, 5, 4660-4667.	6.6	13
48	Wheat-induced food allergy in childhood: ancient grains seem no way out. European Journal of Nutrition, 2020, 59, 2693-2707.	3.9	13
49	IgE antibody repertoire in nasal secretions of children and adults with seasonal allergic rhinitis: A molecular analysis. Pediatric Allergy and Immunology, 2020, 31, 273-280.	2.6	12
50	Molecular sIgE profile in infants and young children with peanut sensitization and eczema. Allergo Journal International, 2014, 23, 152-157.	2.0	10
51	Super-Resolution Microscopy and Single-Molecule Tracking Reveal Distinct Adaptive Dynamics of MreB and of Cell Wall-Synthesis Enzymes. Frontiers in Microbiology, 2020, 11, 1946.	3.5	10
52	Quantification of nanoscale forces in lectin-mediated bacterial attachment and uptake into giant liposomes. Nanoscale, 2021, 13, 4016-4028.	5.6	10
53	How to calibrate an object-adapted optical trap for force sensing and interferometric shape tracking of asymmetric structures. Optics Express, 2014, 22, 25242.	3.4	9
54	Synchronization of elastically coupled processive molecular motors and regulation of cargo transport. Physical Review E, 2015, 91, 012701.	2.1	8

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55	Light-sheet microscopy in a glass capillary: feedback holographic control for illumination beam correction. Optics Letters, 2017, 42, 350.	3.3	8
56	Measuring Stepwise Binding of Thermally Fluctuating Particles to Cell Membranes without Fluorescence. Biophysical Journal, 2020, 118, 1850-1860.	0.5	7
57	Dynamics of a Protein Chain Motor Driving Helical Bacteria under Stress. Biophysical Journal, 2018, 114, 1955-1969.	0.5	6
58	Towards non-blind optical tweezing by finding 3D refractive index changes through off-focus interferometric tracking. Nature Communications, 2021, 12, 6922.	12.8	4
59	Deep-ROCS: from speckle patterns to superior-resolved images by deep learning in rotating coherent scattering microscopy. Optics Express, 2021, 29, 23877.	3.4	2
60	A shape-switch-block method for confocal light-sheet microscopy with sectioned Bessel beams and stimulated emission depletion. Communications Physics, 2020, 3, .	5.3	1
61	Object adapted optical trapping and super-resolution imaging of energy switching helical bacteria. , 2013, , .		0