

Matthew D Lew

List of Publications by Citations

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43
papers

1,287
citations

17
h-index

35
g-index

91
ext. papers

1,738
ext. citations

6
avg, IF

4.85
L-index

#	Paper	IF	Citations
43	Simultaneous, accurate measurement of the 3D position and orientation of single molecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 19087-92	11.5	128
42	Localizing and tracking single nanoscale emitters in three dimensions with high spatiotemporal resolution using a double-helix point spread function. <i>Nano Letters</i> , 2010 , 10, 211-8	11.5	127
41	Three-dimensional superresolution colocalization of intracellular protein superstructures and the cell surface in live <i>Caulobacter crescentus</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, E1102-10	11.5	106
40	Extending microscopic resolution with single-molecule imaging and active control. <i>Annual Review of Biophysics</i> , 2012 , 41, 321-42	21.1	90
39	Three-dimensional localization precision of the double-helix point spread function versus astigmatism and biplane. <i>Applied Physics Letters</i> , 2010 , 97, 161103	3.4	89
38	Rotational mobility of single molecules affects localization accuracy in super-resolution fluorescence microscopy. <i>Nano Letters</i> , 2013 , 13, 3967-72	11.5	82
37	Corkscrew point spread function for far-field three-dimensional nanoscale localization of pointlike objects. <i>Optics Letters</i> , 2011 , 36, 202-4	3	81
36	The role of molecular dipole orientation in single-molecule fluorescence microscopy and implications for super-resolution imaging. <i>ChemPhysChem</i> , 2014 , 15, 587-99	3.2	79
35	Correcting field-dependent aberrations with nanoscale accuracy in three-dimensional single-molecule localization microscopy. <i>Optica</i> , 2015 , 2, 985-993	8.6	59
34	Speckle-modulating optical coherence tomography in living mice and humans. <i>Nature Communications</i> , 2017 , 8, 15845	17.4	54
33	Azimuthal polarization filtering for accurate, precise, and robust single-molecule localization microscopy. <i>Nano Letters</i> , 2014 , 14, 6407-13	11.5	42
32	Single-molecule orientation measurements with a quadrated pupil. <i>Optics Letters</i> , 2013 , 38, 1521-3	3	39
31	The double-helix microscope super-resolves extended biological structures by localizing single blinking molecules in three dimensions with nanoscale precision. <i>Applied Physics Letters</i> , 2012 , 100, 153701-1537013	3.4	38
30	Imaging the three-dimensional orientation and rotational mobility of fluorescent emitters using the Tri-spot point spread function. <i>Applied Physics Letters</i> , 2018 , 113, 031103	3.4	32
29	Nanoscale Colocalization of Fluorogenic Probes Reveals the Role of Oxygen Vacancies in the Photocatalytic Activity of Tungsten Oxide Nanowires. <i>ACS Catalysis</i> , 2020 , 10, 2088-2099	13.1	27
28	Single-molecule orientation localization microscopy for resolving structural heterogeneities between amyloid fibrils. <i>Optica</i> , 2020 , 7, 602-607	8.6	24
27	Super-resolution Imaging of Amyloid Structures over Extended Times by Using Transient Binding of Single Thioflavin T Molecules. <i>ChemBioChem</i> , 2018 , 19, 1944-1948	3.8	21

26	Easy-DHPSF open-source software for three-dimensional localization of single molecules with precision beyond the optical diffraction limit. <i>Protocol Exchange</i> , 2013 ,		16
25	Fundamental Limits on Measuring the Rotational Constraint of Single Molecules Using Fluorescence Microscopy. <i>Physical Review Letters</i> , 2019 , 122, 198301	7.4	15
24	Single-Molecule 3D Orientation Imaging Reveals Nanoscale Compositional Heterogeneity in Lipid Membranes. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 17572-17579	16.4	14
23	In vivo Three-Dimensional Superresolution Fluorescence Tracking using a Double-Helix Point Spread Function. <i>Proceedings of SPIE</i> , 2010 , 7571, 75710Z	1.7	14
22	Quantitative differential interference contrast microscopy based on structured-aperture interference. <i>Applied Physics Letters</i> , 2008 , 93, 091113	3.4	13
21	The double-helix point spread function enables precise and accurate measurement of 3D single-molecule localization and orientation. <i>Proceedings of SPIE</i> , 2013 , 8590, 85900	1.7	10
20	Interference of a four-hole aperture for on-chip quantitative two-dimensional differential phase imaging. <i>Optics Letters</i> , 2007 , 32, 2963-5	3	9
19	Single-molecule orientation localization microscopy II: a performance comparison. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2021 , 38, 288-297	1.8	9
18	Quantum limits for precisely estimating the orientation and wobble of dipole emitters. <i>Physical Review Research</i> , 2020 , 2,	3.9	8
17	Minimizing Structural Bias in Single-Molecule Super-Resolution Microscopy. <i>Scientific Reports</i> , 2018 , 8, 13133	4.9	8
16	Single-Molecule Colocalization of Redox Reactions on Semiconductor Photocatalysts Connects Surface Heterogeneity and Charge-Carrier Separation in Bismuth Oxybromide. <i>Journal of the American Chemical Society</i> , 2021 , 143, 11393-11403	16.4	7
15	Competing Activation and Deactivation Mechanisms in Photodoped Bismuth Oxybromide Nanoplates Probed by Single-Molecule Fluorescence Imaging. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 5219-5227	6.4	6
14	Dense Super-Resolution Imaging of Molecular Orientation Via Joint Sparse Basis Deconvolution and Spatial Pooling 2019 ,		6
13	Single-molecule orientation localization microscopy I: fundamental limits. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2021 , 38, 277-287	1.8	6
12	Cellular Trafficking of Sn-2 Phosphatidylcholine Prodrugs Studied with Fluorescence Lifetime Imaging and Super-resolution Microscopy. <i>Precision Nanomedicine</i> , 2018 , 1, 128-145	1.2	5
11	Quantifying accuracy and heterogeneity in single-molecule super-resolution microscopy. <i>Nature Communications</i> , 2020 , 11, 6353	17.4	4
10	Single-Molecule Localization Microscopy of 3D Orientation and Anisotropic Wobble Using a Polarized Vortex Point Spread Function. <i>Journal of Physical Chemistry B</i> , 2021 , 125, 12718-12729	3.4	3
9	Long-term, super-resolution imaging of amyloid structures using transient amyloid binding microscopy 2019 ,		2

8	Measuring localization confidence for quantifying accuracy and heterogeneity in single-molecule super-resolution microscopy 2020 ,		1
7	Single-Molecule Localization Microscopy of 3D Orientation and Anisotropic Wobble using a Polarized Vortex Point Spread Function		1
6	Single-Molecule 3D Orientation Imaging Reveals Nanoscale Compositional Heterogeneity in Lipid Membranes. <i>Angewandte Chemie</i> , 2020 , 132, 17725-17732	3.6	0
5	Single-Molecule Photocontrol and Nanoscopy. <i>Springer Series on Fluorescence</i> , 2012 , 87-110	0.5	
4	Rechtitelbild: Single-Molecule 3D Orientation Imaging Reveals Nanoscale Compositional Heterogeneity in Lipid Membranes (Angew. Chem. 40/2020). <i>Angewandte Chemie</i> , 2020 , 132, 17912-17912	3.6	
3	Elucidating the nanoscale architecture of amyloid aggregates using a polarized donut point spread function. <i>Microscopy and Microanalysis</i> , 2021 , 27, 1428-1430	0.5	
2	pixOL: pixel-wise point spread function engineering for measuring the 3D orientation and 3D location of dipole-like emitters. <i>Microscopy and Microanalysis</i> , 2021 , 27, 858-862	0.5	
1	Tribute to W. E. Moerner.. <i>Journal of Physical Chemistry B</i> , 2022 , 126, 1157-1158	3.4	