Lene Broeng Oddershede

List of Publications by Year
in descending order

109 papers	5,397 citations	71102 41 h-index	85541 71 g-index
116 all docs	116 docs citations	116 times ranked	6544 citing authors

#	Article	IF	Citations
1	Expanding the Optical Trapping Range of Gold Nanoparticles. Nano Letters, 2005, 5, 1937-1942.	9.1	424
2	Plasmonic Heating of Nanostructures. Chemical Reviews, 2019, 119, 8087-8130.	47.7	355
3	Quantifying how DNA stretches, melts and changes twist under tension. Nature Physics, 2011, 7, 731-736.	16.7	217
4	Efficient Optical Trapping and Visualization of Silver Nanoparticles. Nano Letters, 2008, 8, 1486-1491.	9.1	204
5	Manipulation and Motion of Organelles and Single Molecules in Living Cells. Chemical Reviews, 2017, 117, 4342-4375.	47.7	196
6	Quantitative Analysis of Single Particle Trajectories: Mean Maximal Excursion Method. Biophysical Journal, 2010, 98, 1364-1372.	0.5	188
7	Anomalous diffusion and power-law relaxation of the time averaged mean squared displacement in worm-like micellar solutions. New Journal of Physics, 2013, 15, 045011.	2.9	186
8	Cancer cellsâ€™ ability to mechanically adjust to extracellular matrix stiffness correlates with their invasive potential. Molecular Biology of the Cell, 2018, 29, 2378-2385.	2.1	182
9	Quantitative Optical Trapping of Single Gold Nanorods. Nano Letters, 2008, 8, 2998-3003.	9.1	171
10	Direct Measurements of Heating by Electromagnetically Trapped Gold Nanoparticles on Supported Lipid Bilayers. ACS Nano, 2010, 4, 2256-2262.	14.6	169
11	Optical Tweezers Cause Physiological Damage to Escherichia coli and Listeria Bacteria. Applied and Environmental Microbiology, 2008, 74, 2441-2446.	3.1	150
12	Heat Profiling of Three-Dimensionally Optically Trapped Gold Nanoparticles using Vesicle Cargo Release. Nano Letters, 2011, 11, 888-892.	9.1	143
13	Three-Dimensional Optical Control of Individual Quantum Dots. Nano Letters, 2008, 8, 3376-3380.	9.1	112
14	Quantifying Noise in Optical Tweezers by Allan Variance. Optics Express, 2009, 17, 13255.	3.4	105
15	Correlation between mechanical strength of messenger RNA pseudoknots and ribosomal frameshifting. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5830-5835.	7.1	104
16	Platinum nanoparticles: a non-toxic, effective and thermally stable alternative plasmonic material for cancer therapy and bioengineering. Nanoscale, 2018, 10, 9097-9107.	5.6	94
17	Basement membrane stiffness determines metastases formation. Nature Materials, 2021, 20, 892-903.	27.5	94
18	Optimizing immersion media refractive index improves optical trapping by compensating spherical aberrations. Optics Letters, 2007, 32, 1998.	3.3	91

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19	Large-Scale Orientation Dependent Heating from a Single Irradiated Gold Nanorod. Nano Letters, 2012, 12, 3954-3960.	9.1	87
20	Membrane curvature regulates ligand-specific membrane sorting of GPCRs in living cells. Nature Chemical Biology, 2017, 13, 724-729.	8.0	81
21	Real-time particle tracking at 10,000 fps using optical fiber illumination. Optics Express, 2010, 18, 22722.	3.4	78
22	Helical buckling of actin inside filopodia generates traction. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 136-141.	7.1	75
23	Optical Trapping of Gold Nanoparticles in Air. Nano Letters, 2015, 15, 4713-4719.	9.1	71
24	mRNA pseudoknot structures can act as ribosomal roadblocks. Nucleic Acids Research, 2012, 40, 303-313.	14.5	69
25	Two-Photon Quantum Dot Excitation during Optical Trapping. Nano Letters, 2010, 10, 1927-1930.	9.1	67
26	Force probing of individual molecules inside the living cell is now a reality. Nature Chemical Biology, 2012, 8, 879-886.	8.0	66
27	Vesicle Fusion Triggered by Optically Heated Gold Nanoparticles. Nano Letters, 2015, 15, 4183-4188.	9.1	63
28	Variety in intracellular diffusion during the cell cycle. Physical Biology, 2009, 6, 025015.	1.8	60
29	Uptake of gold nanoparticles in primary human endothelial cells. Toxicology Research, 2015, 4, 655-666.	2.1	58
30	The Motion of a Single Molecule, the Î»-Receptor, in the Bacterial Outer Membrane. Biophysical Journal, 2002, 83, 3152-3161.	0.5	57
31	Gold Nanostars Coated with Mesoporous Silica Are Effective and Nontoxic Photothermal Agents Capable of Gate Keeping and Laser-Induced Drug Release. ACS Applied Materials & Interfaces, 2018, 10, 27644-27656.	8.0	57
32	FBAR Syndapin 1 recognizes and stabilizes highly curved tubular membranes in a concentration dependent manner. Scientific Reports, 2013, 3, 1565.	3.3	55
33	Single Particle and PET-based Platform for Identifying Optimal Plasmonic Nano-Heaters for Photothermal Cancer Therapy. Scientific Reports, 2016, 6, 30076.	3.3	55
34	Expanding the Optical Trapping Range of Lipid Vesicles to the Nanoscale. Nano Letters, 2011, 11, 5431-5437.	9.1	54
35	Long-range ordered vorticity patterns in living tissue induced by cell division. Nature Communications, 2014, 5, 5720.	12.8	51
36	Stepwise Bending of DNA by a Single TATA-Box Binding Protein. Biophysical Journal, 2006, 90, 3694-3703.	0.5	50

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37	Wildtype and A30P Mutant Alpha-Synuclein Form Different Fibril Structures. PLoS ONE, 2013, 8, e67713.	2.5	48
38	Active-passive calibration of optical tweezers in viscoelastic media. Review of Scientific Instruments, 2010, 81, 015103.	1.3	47
39	Optical Trapping of Nanoparticles and Quantum Dots. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 15-26.	2.9	47
40	Heat Generation by Irradiated Complex Composite Nanostructures. Nano Letters, 2014, 14, 612-619.	9.1	47
41	Quantitative determination of optical trapping strength and viscoelastic moduli inside living cells. Physical Biology, 2013, 10, 046006.	1.8	46
42	An updated look at actin dynamics in filopodia. Cytoskeleton, 2015, 72, 71-79.	2.0	45
43	Non-harmonic potential of a single beam optical trap. Optics Express, 2008, 16, 15709.	3.4	40
44	The influence of flow, shear stress and adhesion molecule targeting on gold nanoparticle uptake in human endothelial cells. Nanoscale, 2015, 7, 11409-11419.	5.6	40
45	Hot-nanoparticle-mediated fusion of selected cells. Nano Research, 2017, 10, 2034-2045.	10.4	39
46	Optical manipulation of single molecules in the living cell. Physical Chemistry Chemical Physics, 2014, 16, 12614-12624.	2.8	37
47	DNA supercoiling enhances cooperativity and efficiency of an epigenetic switch. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17386-17391.	7.1	36
48	Mapping 3D Focal Intensity Exposes the Stable Trapping Positions of Single Nanoparticles. Nano Letters, 2013, 13, 31-35.	9.1	32
49	Novel optical and statistical methods reveal colloidâ€“wall interactions inconsistent with DLVO and Lifshitz theories. Journal of Colloid and Interface Science, 2005, 287, 561-571.	9.4	31
50	Cookeâ€“Triplet tweezers: more compact, robust, and efficient optical tweezers. Optics Letters, 2018, 43, 1990.	3.3	26
51	Chirality in microbial biofilms is mediated by close interactions between the cell surface and the substratum. ISME Journal, 2017, 11, 1688-1701.	9.8	25
52	Significant improvement of optical traps by tuning standard water immersion objectives. Journal of Optics (United Kingdom), 2011, 13, 105301.	2.2	23
53	18F-FDG PET/CT-based early treatment response evaluation of nanoparticle-assisted photothermal cancer therapy. PLoS ONE, 2017, 12, e0177997.	2.5	22
54	Combining confocal microscopy with precise force-scope optical tweezers. , 2006, 6326, 560.		21

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55	Filopodia rotate and coil by actively generating twist in their actin shaft. Nature Communications, 2022, 13, 1636.	12.8	21
56	Visco-Elastic Membrane Tethers Extracted from Escherichia coli by Optical Tweezers. Biophysical Journal, 2007, 93, 4068-4075.	0.5	20
57	Arachidonic Acid Randomizes Endothelial Cell Motion and Regulates Adhesion and Migration. PLoS ONE, 2011, 6, e25196.	2.5	19
58	Effect of Energy Metabolism on Protein Motility in the Bacterial Outer Membrane. Biophysical Journal, 2009, 97, 1305-1312.	0.5	18
59	Optical manipulation of individual strongly absorbing platinum nanoparticles. Nanoscale, 2017, 9, 18449-18455.	5.6	18
60	Fractionated photothermal therapy in a murine tumor model: comparison with single dose . International Journal of Nanomedicine, 2019, Volume 14, 5369-5379.	6.7	18
61	Quantification of Visco-Elastic Properties of a Matrigel for Organoid Development as a Function of Polymer Concentration. Frontiers in Physics, 2020, 8, .	2.1	18
62	Simultaneous three-dimensional tracking of individual signals from multi-trap optical tweezers using fast and accurate photodiode detection. Optics Express, 2014, 22, 23661.	3.4	17
63	Remotely controlled fusion of selected vesicles and living cells: a key issue review. Reports on Progress in Physics, 2018, 81, 032602.	20.1	17
64	Optical trapping reveals differences in dielectric and optical properties of copper nanoparticles compared to their oxides and ferrites. Scientific Reports, 2020, 10, 1198.	3.3	16
65	Sub-diffraction positioning of a two-photon excited and optically trapped quantum dot. Nanoscale, 2014, 6, 6997-7003.	5.6	15
66	Dynamics of cancerous tissue correlates with invasiveness. Scientific Reports, 2017, 7, 43800.	3.3	15
67	Quantification of Loading and Laser-Assisted Release of RNA from Single Gold Nanoparticles. Langmuir, 2018, 34, 14891-14898.	3.5	15
68	Subnuclear relocalization and silencing of a chromosomal region by an ectopic ribosomal DNA repeat. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E4465-73.	7.1	14
69	Effects and side effects of plasmonic photothermal therapy in brain tissue. Cancer Nanotechnology, 2019, 10, .	3.7	13
70	Non-invasive Early Response Monitoring of Nanoparticle-assisted Photothermal Cancer Therapy Using ¹⁸F-FDG, ¹⁸F-FLT, and ¹⁸F-FET PET/CT Imaging. Nanotheranostics, 2018, 2, 201-210.	5.2	12
71	Single-molecule experiment with optical tweezers: improved analysis of the diffusion of the Â-receptor inE. coliÂs outer membrane. Journal of Physics Condensed Matter, 2003, 15, S1737-S1746.	1.8	11
72	Fluorescent quantification of size and lamellarity of membrane nanotubes. European Biophysics Journal, 2014, 43, 595-602.	2.2	11

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73	Crosstalk elimination in the detection of dual-beam optical tweezers by spatial filtering. Review of Scientific Instruments, 2014, 85, 053108.	1.3	11
74	Confocal microscopy of thick specimens. Journal of Biomedical Optics, 2009, 14, 030513.	2.6	10
75	Tethered particle analysis of supercoiled circular DNA using peptide nucleic acid handles. Nature Protocols, 2014, 9, 2206-2223.	12.0	8
76	Division Induced Dynamics in Non-Invasive and Invasive Breast Cancer. Biophysical Journal, 2017, 112, 123a.	0.5	8
77	TimeSeriesStreaming.vi: LabVIEW program for reliable data streaming of large analog time series. Computer Physics Communications, 2011, 182, 485-489.	7.5	7
78	Effect of supercoiling on the Î» switch. Bacteriophage, 2014, 4, e27517.	1.9	7
79	Friction-limited cell motility in confluent monolayer tissue. Physical Biology, 2018, 15, 066004.	1.8	7
80	Revealing Hidden Dynamics within Living Soft Matter. ACS Nano, 2013, 7, 8333-8339.	14.6	6
81	A monomer-trimer model supports intermittent glucagon fibril growth. Scientific Reports, 2015, 5, 9005.	3.3	6
82	A Novel Complex: A Quantum Dot Conjugated to an Active T7RNA Polymerase. Journal of Nanomaterials, 2013, 2013, 1-9.	2.7	5
83	Dynamic buckling of actin within filopodia. Communicative and Integrative Biology, 2015, 8, e1022010.	1.4	5
84	Thermoplasmonic nano-rupture of cells reveals annexin V function in plasma membrane repair. Nanoscale, 2022, 14, 7778-7787.	5.6	5
85	Optical trapping inside living organisms. , 2005, , .		4
86	Effect of Antibiotics and Antimicrobial Peptides on Single Protein Motility. Current Pharmaceutical Biotechnology, 2009, 10, 486-493.	1.6	4
87	Quantifying and pinpointing sources of noise in optical tweezers experiments. , 2009, , .		4
88	Fiber finding algorithm using stepwise tracing to identify biopolymer fibers in noisy 3D images. Biophysical Journal, 2021, 120, 3860-3868.	0.5	4
89	Foregut organ progenitors and their niche display distinct viscoelastic properties in vivo during early morphogenesis stages. Communications Biology, 2022, 5, 402.	4.4	3
90	Parasitic filtering in position detection systems for optical tweezers. , 2004, , .		2

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91	Plasmonic Material Engineering for Targeted Therapeutics. Advanced Optical Materials, 2020, 8, 2000616.	7.3	2
92	Changes in Cell Morphology and Actin Organization in Embryonic Stem Cells Cultured under Different Conditions. Cells, 2021, 10, 2859.	4.1	2
93	Improving optical trapping in the axial direction and a continuous change of the optimal trapping depth. , 2007, , .		1
94	Measurements of extreme orientation-dependent temperature increase around an irradiated gold nanorod. , 2012, , .		1
95	Enabling accurate photodiode detection of multiple optical traps by spatial filtering. Proceedings of SPIE, 2014, , .	0.8	1
96	Controlled cellular fusion using optically trapped plasmonic nano-heaters. Proceedings of SPIE, 2016, , .	0.8	1
97	Optical manipulation of hot nanoparticles can mediate selected cell fusion. Proceedings of SPIE, 2017, , .	0.8	1
98	Optical probing of specific and nonspecific interactions with nanometer resolution. , 2004, , .		0
99	Stretching short DNA tethers using optical tweezers. , 2006, 6326, 496.		0
100	Extending the lateral trapping force of optical tweezers. Proceedings of SPIE, 2007, , .	0.8	0
101	Optical trapping of gold aerosols. Proceedings of SPIE, 2015, , .	0.8	0
102	Optical quantification of forces at play during stem cell differentiation. , 2016, , .		0
103	Optically controlled fusion of selected cells and vesicles using plasmonic nanoheaters. , 2017, , 313-343.		0
104	Effect of Flow on Endothelial 3D Shear Stress Profile and Cooperative Behavior. , 2013, , .		0
105	Nanoparticle Mediated Photothermal Therapy and Integrated miRNA Delivery. , 2013, , .		0
106	Force Spectroscopy of DNA and RNA: Structure and Kinetics from Single-Molecule Experiments. Nucleic Acids and Molecular Biology, 2014, , 23-52.	0.2	0
107	Using Optically Manipulated Metallic Nanoparticles for Cancer Treatment. , 2017, , .		0
108	Abstract 2869: Comparison of18F-FDG and18F-FLT PET imaging for early response monitoring of nanoparticle-assisted photothermal cancer therapy. , 2017, , .		0

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109	Optical control of strongly absorbing nanoparticles and their potential for photothermal treatment. , 2019, , .		0