Laurent Cognet

List of Publications by Year
in descending order

126 papers	10,522 citations	29994 54 h-index	32761 100 g-index
130 all docs	130 docs citations	130 times ranked	11683 citing authors

#	Article	IF	Citations
1	Stepwise Quenching of Exciton Fluorescence in Carbon Nanotubes by Single-Molecule Reactions. Science, 2007, 316, 1465-1468.	6.0	441
2	Surface Mobility of Postsynaptic AMPARs Tunes Synaptic Transmission. Science, 2008, 320, 201-205.	6.0	433
3	Carbon nanotubeâ€enhanced thermal destruction of cancer cells in a noninvasive radiofrequency field. Cancer, 2007, 110, 2654-2665.	2.0	381
4	Observation of Intrinsic Size Effects in the Optical Response of Individual Gold Nanoparticles. Nano Letters, 2005, 5, 515-518.	4.5	380
5	Differential activity-dependent regulation of the lateral mobilities of AMPA and NMDA receptors. Nature Neuroscience, 2004, 7, 695-696.	7.1	366
6	Dynamic Superresolution Imaging of Endogenous Proteins on Living Cells at Ultra-High Density. Biophysical Journal, 2010, 99, 1303-1310.	0.2	364
7	Integrins Î²1 and Î²3 exhibit distinct dynamic nanoscale organizations inside focal adhesions. Nature Cell Biology, 2012, 14, 1057-1067.	4.6	339
8	Single metallic nanoparticle imaging for protein detection in cells. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 11350-11355.	3.3	338
9	Direct imaging of lateral movements of AMPA receptors inside synapses. EMBO Journal, 2003, 22, 4656-4665.	3.5	330
10	Absorption and scattering microscopy of single metal nanoparticles. Physical Chemistry Chemical Physics, 2006, 8, 3486.	1.3	308
11	NMDA receptor surface mobility depends on NR2A-2B subunits. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18769-18774.	3.3	306
12	Photothermal Heterodyne Imaging of Individual Nonfluorescent Nanoclusters and Nanocrystals. Physical Review Letters, 2004, 93, 257402.	2.9	302
13	The 2015 super-resolution microscopy roadmap. Journal Physics D: Applied Physics, 2015, 48, 443001.	1.3	291
14	Endocytic Trafficking and Recycling Maintain a Pool of Mobile Surface AMPA Receptors Required for Synaptic Potentiation. Neuron, 2009, 63, 92-105.	3.8	262
15	Single Nanoparticle Photothermal Tracking (SNaPT) of 5-nm Gold Beads in Live Cells. Biophysical Journal, 2006, 91, 4598-4604.	0.2	223
16	Autofluorescent Proteins in Single-Molecule Research: Applications to Live Cell Imaging Microscopy. Biophysical Journal, 2001, 80, 2396-2408.	0.2	219
17	Photothermal heterodyne imaging of individual metallic nanoparticles: Theory versus experiment. Physical Review B, 2006, 73, .	1.1	207
18	Super-resolution Microscopy Approaches for Live Cell Imaging. Biophysical Journal, 2014, 107, 1777-1784.	0.2	205

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19	Single-nanotube tracking reveals the nanoscale organization of the extracellular space in the live brain. Nature Nanotechnology, 2017, 12, 238-243.	15.6	199
20	Single-Molecule Imaging of L-Type Ca2+ Channels in Live Cells. Biophysical Journal, 2001, 81, 2639-2646.	0.2	179
21	Surface Trafficking of Neurotransmitter Receptor: Comparison between Single-Molecule/Quantum Dot Strategies. Journal of Neuroscience, 2007, 27, 12433-12437.	1.7	179
22	Luminescence Decay and the Absorption Cross Section of Individual Single-Walled Carbon Nanotubes. Physical Review Letters, 2008, 101, 077402.	2.9	158
23	Structure-Dependent Fluorescence Efficiencies of Individual Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 3080-3085.	4.5	156
24	Absorption Spectroscopy of Individual Single-Walled Carbon Nanotubes. Nano Letters, 2007, 7, 1203-1207.	4.5	154
25	Single-Molecule Imaging of the H-Ras Membrane-Anchor Reveals Domains in the Cytoplasmic Leaflet of the Cell Membrane. Biophysical Journal, 2004, 86, 609-616.	0.2	140
26	Diameter-dependent bending dynamics of single-walled carbon nanotubes in liquids. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 14219-14223.	3.3	134
27	Brownian Motion of Stiff Filaments in a Crowded Environment. Science, 2010, 330, 1804-1807.	6.0	123
28	Two-photon excitation action cross-sections of the autofluorescent proteins. Chemical Physics Letters, 2001, 350, 71-77.	1.2	122
29	A Highly Specific Gold Nanoprobe for Live-Cell Single-Molecule Imaging. Nano Letters, 2013, 13, 1489-1494.	4.5	116
30	All-Optical Trion Generation in Single-Walled Carbon Nanotubes. Physical Review Letters, 2011, 107, 187401.	2.9	115
31	In vivo therapeutic silencing of hypoxia-inducible factor 1 alpha (HIF-1Î±) using single-walled carbon nanotubes noncovalently coated with siRNA. Nano Research, 2009, 2, 279-291.	5.8	102
32	Photothermal Methods for Single Nonluminescent Nano-Objects. Analytical Chemistry, 2008, 80, 2288-2294.	3.2	97
33	Photothermal Absorption Spectroscopy of Individual Semiconductor Nanocrystals. Nano Letters, 2005, 5, 2160-2163.	4.5	89
34	Self-interference 3D super-resolution microscopy for deep tissue investigations. Nature Methods, 2018, 15, 449-454.	9.0	86
35	Differential Nanoscale Topography and Functional Role of GluN2-NMDA Receptor Subtypes at Glutamatergic Synapses. Neuron, 2018, 100, 106-119.e7.	3.8	83
36	Advances in live-cell single-particle tracking and dynamic super-resolution imaging. Current Opinion in Chemical Biology, 2014, 20, 78-85.	2.8	81

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37	Unveiling the Extracellular Space of the Brain: From Super-resolved Microstructure to<i>In Vivo</i>Function. Journal of Neuroscience, 2018, 38, 9355-9363.	1.7	79
38	Simultaneous dual-color and dual-polarization imaging of single molecules. Applied Physics Letters, 2000, 77, 4052-4054.	1.5	76
39	Biexciton, single carrier, and trion generation dynamics in single-walled carbon nanotubes. Physical Review B, 2013, 87, .	1.1	76
40	Label-free optical imaging of mitochondria in live cells. Optics Express, 2007, 15, 14184.	1.7	69
41	Synucleinopathy alters nanoscale organization and diffusion in the brain extracellular space through hyaluronan remodeling. Nature Communications, 2020, 11, 3440.	5.8	69
42	Banning carbon nanotubes would be scientifically unjustified and damaging to innovation. Nature Nanotechnology, 2020, 15, 164-166.	15.6	69
43	Stable Luminescence from Individual Carbon Nanotubes in Acidic, Basic, and Biological Environments. Journal of the American Chemical Society, 2008, 130, 2626-2633.	6.6	68
44	Ultrashort Carbon Nanotubes That Fluoresce Brightly in the Near-Infrared. ACS Nano, 2018, 12, 6059-6065.	7.3	68
45	Laser cooling of cesium atoms in gray optical molasses down to 1.1 Î¼K. Physical Review A, 1996, 53, R3734-R3737.	1.0	66
46	Luminescence Properties of Individual Empty and Water-Filled Single-Walled Carbon Nanotubes. ACS Nano, 2012, 6, 2649-2655.	7.3	66
47	Diameter-Dependent Solubility of Single-Walled Carbon Nanotubes. ACS Nano, 2010, 4, 3063-3072.	7.3	65
48	The Effects of Electronic Impurities and Electronâ€"Hole Recombination Dynamics on Largeâ€Grain Organicâ€"Inorganic Perovskite Photovoltaic Efficiencies. Advanced Functional Materials, 2016, 26, 4283-4292.	7.8	65
49	Targeting neurotransmitter receptors with nanoparticles in vivo allows single-molecule tracking in acute brain slices. Nature Communications, 2016, 7, 10947.	5.8	62
50	Disorder Limited Exciton Transport in Colloidal Single-Wall Carbon Nanotubes. Nano Letters, 2012, 12, 5091-5096.	4.5	61
51	â€œHyperâ€brightâ€•Nearâ€Infrared Emitting Fluorescent Organic Nanoparticles for Single Particle Tracking. Advanced Materials, 2014, 26, 2258-2261.	11.1	61
52	A model of guided cell self-organization for rapid and spontaneous formation of functional vessels. Science Advances, 2019, 5, eaau6562.	4.7	61
53	Identification and super-resolution imaging of ligand-activated receptor dimers in live cells. Scientific Reports, 2013, 3, 2387.	1.6	60
54	Probing the Dynamics of Proteinâ€"Protein Interactions at Neuronal Contacts by Optical Imaging. Chemical Reviews, 2008, 108, 1565-1587.	23.0	56

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55	Photothermal Absorption Correlation Spectroscopy. ACS Nano, 2009, 3, 345-350.	7.3	55
56	Optical Readout of Gold Nanoparticle-Based DNA Microarrays without Silver Enhancement. Biophysical Journal, 2006, 90, L13-L15.	0.2	53
57	Photothermal microscopy: optical detection of small absorbers in scattering environments. Journal of Microscopy, 2014, 254, 115-121.	0.8	53
58	Environmental and Synthesis-Dependent Luminescence Properties of Individual Single-Walled Carbon Nanotubes. ACS Nano, 2009, 3, 2153-2156.	7.3	49
59	Metrological Investigation of the (6,5) Carbon Nanotube Absorption Cross Section. Journal of Physical Chemistry Letters, 2013, 4, 1460-1464.	2.1	49
60	Velocity Profiles of Water Flowing Past Solid Glass Surfaces Using Fluorescent Nanoparticles and Molecules as Velocity Probes. Physical Review Letters, 2008, 100, 214502.	2.9	48
61	Nonlinear Photoluminescence Spectroscopy of Carbon Nanotubes with Localized Exciton States. ACS Nano, 2014, 8, 11254-11260.	7.3	48
62	Mono- and Biexponential Luminescence Decays of Individual Single-Walled Carbon Nanotubes. Journal of Physical Chemistry C, 2010, 114, 14025-14028.	1.5	46
63	Fluorescent sp3 Defect-Tailored Carbon Nanotubes Enable NIR-II Single Particle Imaging in Live Brain Slices at Ultra-Low Excitation Doses. Scientific Reports, 2020, 10, 5286.	1.6	46
64	High-Content Super-Resolution Imaging of Live Cell by uPAINT. Methods in Molecular Biology, 2013, 950, 95-110.	0.4	43
65	Photoswitchable single-walled carbon nanotubes for super-resolution microscopy in the near-infrared. Science Advances, 2019, 5, eaax1166.	4.7	42
66	Multiple Routes for Glutamate Receptor Trafficking: Surface Diffusion and Membrane Traffic Cooperate to Bring Receptors to Synapses. Science Signaling, 2006, 2006, pe13-pe13.	1.6	41
67	Nanoscale exploration of the extracellular space in the live brain by combining single carbon nanotube tracking and super-resolution imaging analysis. Methods, 2020, 174, 91-99.	1.9	41
68	The excitatory postsynaptic density is a size exclusion diffusion environment. Neuropharmacology, 2009, 56, 30-36.	2.0	40
69	Toward the suppression of cellular toxicity from single-walled carbon nanotubes. Biomaterials Science, 2016, 4, 230-244.	2.6	40
70	Subdiffraction Far-Field Imaging of Luminescent Single-Walled Carbon Nanotubes. Nano Letters, 2008, 8, 749-753.	4.5	37
71	Mechanism of Electrolyte-Induced Brightening in Single-Wall Carbon Nanotubes. Journal of the American Chemical Society, 2013, 135, 3379-3382.	6.6	37
72	Quantum-Yield-Optimized Fluorophores for Site-Specific Labeling and Super-Resolution Imaging. Journal of the American Chemical Society, 2011, 133, 8090-8093.	6.6	35

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73	Comparative Analysis of Photoluminescence and Upconversion Emission from Individual Carbon Nanotubes for Bioimaging Applications. ACS Photonics, 2018, 5, 359-364.	3.2	33
74	Nanoscale Thermotropic Phase Transitions Enhancing Photothermal Microscopy Signals. Journal of Physical Chemistry Letters, 2012, 3, 1400-1403.	2.1	31
75	Injection locking of diode lasers to frequency modulated source. Optics Communications, 1997, 144, 50-54.	1.0	28
76	Small Gold Nanorods with Tunable Absorption for Photothermal Microscopy in Cells. Advanced Science, 2017, 4, 1600280.	5.6	26
77	Direct visualization of carbon nanotube degradation in primary cells by photothermal imaging. Nanoscale, 2017, 9, 4642-4645.	2.8	25
78	Near-infrared nanoscopy with carbon-based nanoparticles for the exploration of the brain extracellular space. Neurobiology of Disease, 2021, 153, 105328.	2.1	23
79	Atomic Interference in Grazing Incidence Diffraction from an Evanescent Wave Mirror. Physical Review Letters, 1998, 81, 5044-5047.	2.9	21
80	New Physics with Evanescent Wave Atomic Mirrors: The van der Waals Force and Atomic Diffraction. Physica Scripta, 1998, T78, 7.	1.2	21
81	Properties of microelectromagnet mirrors as reflectors of cold Rb atoms. Physical Review A, 1999, 60, 4012-4015.	1.0	21
82	Evaluation of Different Single-Walled Carbon Nanotube Surface Coatings for Single-Particle Tracking Applications in Biological Environments. Nanomaterials, 2017, 7, 393.	1.9	21
83	Co-designed annular binary phase masks for depth-of-field extension in single-molecule localization microscopy. Optics Express, 2020, 28, 32426.	1.7	21
84	A reflection grating for atoms at normal incidence. Europhysics Letters, 1997, 39, 485-490.	0.7	20
85	Optical detection of individual ultra-short carbon nanotubes enables their length characterization down to 10â€‰nm. Scientific Reports, 2015, 5, 17093.	1.6	19
86	Optical detection of cold atoms without spontaneous emission. Optics Letters, 1999, 24, 1552.	1.7	18
87	Plaque burden can be assessed using intravascular optical coherence tomography and a dedicated automated processing algorithm: a comparison study with intravascular ultrasound. European Heart Journal Cardiovascular Imaging, 2020, 21, 640-652.	0.5	18
88	New Route to Fluorescent Single-Walled Carbon Nanotube/Silica Nanocomposites: Balancing Fluorescence Intensity and Environmental Sensitivity. Journal of Physical Chemistry C, 2011, 115, 15147-15153.	1.5	17
89	Using atomic interference to probe atom-surface interactions. Physical Review A, 2000, 61, .	1.0	16
90	Innovative molecular-based fluorescent nanoparticles for multicolor single particle tracking in cells. Journal Physics D: Applied Physics, 2016, 49, 084002.	1.3	14

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91	Fluorescence microscopy of single autofluorescent proteins for cellular biology. Comptes Rendus Physique, 2002, 3, 645-656.	0.3	13
92	Ultra-sensitive detection of individual gold nanoparticles: spectroscopy and applications to biology. Gold Bulletin, 2008, 41, 139-146.	3.2	13
93	Noncovalent Stable Functionalization Makes Carbon Nanotubes Hydrophilic and Biocompatible. Journal of Physical Chemistry C, 2017, 121, 18887-18891.	1.5	12
94	Self-Interference (SELFI) Microscopy for Live Super-Resolution Imaging and Single Particle Tracking in 3D. Frontiers in Physics, 2019, 7, .	1.0	12
95	A Bottomâ€Up Approach to Redâ€Emitting Molecularâ€Based Nanoparticles with Natural Stealth Properties and their Use for Singleâ€Particle Tracking Deep in Brain Tissue. Advanced Materials, 2021, 33, e2006644.	11.1	10
96	Smoothing a current-carrying atomic mirror. Europhysics Letters, 1999, 47, 538-544.	0.7	9
97	Robust single-molecule approach for counting autofluorescent proteins. Journal of Biomedical Optics, 2008, 13, 031216.	1.4	9
98	When Super-Resolution Localization Microscopy Meets Carbon Nanotubes. Nanomaterials, 2022, 12, 1433.	1.9	7
99	Tracking Receptors Using Individual Fluorescent and Nonfluorescent Nanolabels. Cold Spring Harbor Protocols, 2014, 2014, pdb.prot080416.	0.2	6
100	Single-molecule imaging in live cell using gold nanoparticles. Methods in Cell Biology, 2015, 125, 13-27.	0.5	5
101	Length measurement of single-walled carbon nanotubes from translational diffusion and intensity fluctuations. Journal of Applied Physics, 2020, 128, .	1.1	5
102	Can phase masks extend depth-of-field in localization microscopy?. , 2020, , .		3
103	Tracking Receptors by Imaging Single Molecules: Figure 1.. Cold Spring Harbor Protocols, 2008, 2008, pdb.top25.	0.2	2
104	On the validity domain of maximum likelihood estimators for depth-of-field extension in single-molecule localization microscopy. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2022, 39, 37.	0.8	2
105	Single-walled carbon nanotube reptation dynamics in submicron sized pores from randomly packed mono-sized colloids. Soft Matter, 2022, 18, 5509-5517.	1.2	2
106	NIR-emitting molecular-based nanoparticles as new two-photon absorbing nanotools for single particle tracking. , 2015, , .		1
107	Biological applications of electromagnetically active nanoparticles. Journal Physics D: Applied Physics, 2017, 50, 200201.	1.3	1
108	Single molecule CdSe/ZnS quantum dot and gold nanoparticle detection in live neurons. , 2006, , .		0

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109	Absorption spectroscopy of individual nano-objects and improved readout of DNA microarrays using photothermal detection. , 2006, 6092, 57.		0
110	Lateral Diffusion of Excitatory Neurotransmitter Receptors During Synaptogenesis. , 2006, , 221-232.		0
111	Photothermal absorption spectroscopy of individual gold nanoparticles and CdSe/ZnS semiconductor nanocrystals. , 2006, , .		0
112	Photothermal detection and tracking of individual non-fluorescent nano-objects in live cells. , 2008, , .		0
113	(Invited) Tailoring of Single-Walled Carbon Nanotube Luminescence as Photoswitchable Near-Infrared Emitters. ECS Meeting Abstracts, 2021, MA2021-01, 586-586.	0.0	0
114	What Can We Learn from Carbon Nanotube Diffusion Trajectories Recorded in the Live Brain?. ECS Meeting Abstracts, 2021, MA2021-01, 527-527.	0.0	0
115	Rebonds d'atomes froids sur un miroir magnÃ©tique. European Physical Journal Special Topics, 2000, 10, Pr8-139.	0.2	0
116	DÃ©tection optique d'atomes froids sans Ã©mission spontanÃ©e. European Physical Journal Special Topics, 2000, 10, Pr8-143.	0.2	0
117	Optical Tools. , 2009, , 253-373.		0
118	(Invited) Nanoscale Imaging of Brain Tissue Features with Carbon Nanotubes. ECS Meeting Abstracts, 2018, , .	0.0	0
119	(Invited) Nanoscale Imaging of Luminescent Excitons in sp3-Doped Ultra-Short Carbon Nanotubes. ECS Meeting Abstracts, 2018, , .	0.0	0
120	(Invited) Single Luminescent Carbon Nanotubes Interrogate the Live Brain Extracellular Space at the Nanoscale. ECS Meeting Abstracts, 2019, , .	0.0	0
121	Revealing the Nanoscale Dynamics of the Extracellular Space in the Living Brain. ECS Meeting Abstracts, 2020, MA2020-01, 759-759.	0.0	0
122	(Invited) Photoswitchable Near-Infrared Emitters Based on Single-Walled Carbon Nanotube Hybrids. ECS Meeting Abstracts, 2020, MA2020-01, 690-690.	0.0	0
123	What Can We Learn from Carbon Nanotube Diffusion Trajectories Recorded in the Live Brain?. ECS Meeting Abstracts, 2020, MA2020-01, 640-640.	0.0	0
124	How to assess depth-of-field extension strategies applied to single-molecule super-resolution microscopes?. , 2021, , .		0
125	(Invited) Carbon Nanotube Tracking Reveal the Landscapes of the Brain Extracellular Space Around Synapses and in Pathological Conditions. ECS Meeting Abstracts, 2022, MA2022-01, 701-701.	0.0	0
126	Measure and Analysis of Carbon Nanotube Diffusion in 3D. ECS Meeting Abstracts, 2022, MA2022-01, 716-716.	0.0	0