Paul W Wiseman

List of Publications by Year
in descending order

124 papers	5,974 citations	71097 41 h-index	79691 73 g-index
137 all docs	137 docs citations	137 times ranked	6607 citing authors

#	Article	IF	Citations
1	Measuring Fast Dynamics in Solutions and Cells with a Laser Scanning Microscope. Biophysical Journal, 2005, 89, 1317-1327.	0.5	428
2	Spatiotemporal Image Correlation Spectroscopy (STICS) Theory, Verification, and Application to Protein Velocity Mapping in Living CHO Cells. Biophysical Journal, 2005, 88, 3601-3614.	0.5	385
3	CaMKII Triggers the Diffusional Trapping of Surface AMPARs through Phosphorylation of Stargazin. Neuron, 2010, 67, 239-252.	8.1	351
4	Advances in Image Correlation Spectroscopy: Measuring Number Densities, Aggregation States, and Dynamics of Fluorescently labeled Macromolecules in Cells. Cell Biochemistry and Biophysics, 2007, 49, 141-164.	1.8	251
5	Actinâ€“myosin network reorganization breaks symmetry at the cell rear to spontaneously initiate polarized cell motility. Journal of Cell Biology, 2007, 178, 1207-1221.	5.2	248
6	Spatial mapping of integrin interactions and dynamics during cell migration by Image Correlation Microscopy. Journal of Cell Science, 2004, 117, 5521-5534.	2.0	211
7	Fluctuation Correlation Spectroscopy with a Laser-Scanning Microscope: Exploiting the Hidden Time Structure. Biophysical Journal, 2005, 88, L33-L36.	0.5	195
8	Live-cell visualization of dynamics of HIV budding site interactions with an ESCRT component. Nature Cell Biology, 2011, 13, 469-474.	10.3	173
9	Magnitude and Direction of Vesicle Dynamics in Growing Pollen Tubes Using Spatiotemporal Image Correlation Spectroscopy and Fluorescence Recovery after Photobleaching Â Â. Plant Physiology, 2008, 147, 1646-1658.	4.8	167
10	Probing the integrin-actin linkage using high-resolution protein velocity mapping. Journal of Cell Science, 2006, 119, 5204-5214.	2.0	165
11	Stoichiometry of molecular complexes at adhesions in living cells. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2170-2175.	7.1	158
12	Image Correlation Spectroscopy. II. Optimization for Ultrasensitive Detection of Preexisting Platelet-Derived Growth Factor-Î² Receptor Oligomers on Intact Cells. Biophysical Journal, 1999, 76, 963-977.	0.5	138
13	A Guide to Accurate Fluorescence Microscopy Colocalization Measurements. Biophysical Journal, 2006, 91, 4611-4622.	0.5	130
14	Detecting Protein Complexes in Living Cells from Laser Scanning Confocal Image Sequences by the Cross Correlation Raster Image Spectroscopy Method. Biophysical Journal, 2009, 96, 707-716.	0.5	130
15	Revealing protein oligomerization and densities in situ using spatial intensity distribution analysis. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7010-7015.	7.1	101
16	k-Space Image Correlation Spectroscopy: A Method for Accurate Transport Measurements Independent of Fluorophore Photophysics. Biophysical Journal, 2006, 91, 3061-3075.	0.5	99
17	Third-harmonic generation microscopy by use of a compact, femtosecond fiber laser source. Applied Optics, 1999, 38, 7393.	2.1	93
18	Membrane Lateral Diffusion and Capture of CFTR within Transient Confinement Zones. Biophysical Journal, 2006, 91, 1046-1058.	0.5	81

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19	Quantification of receptor tyrosine kinase transactivation through direct dimerization and surface density measurements in single cells. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7016-7021.	7.1	79
20	Widefield multiphoton and temporally decorrelated multifocal multiphoton microscopy. Optics Express, 2000, 7, 273.	3.4	76
21	Sampling Effects, Noise, and Photobleaching in Temporal Image Correlation Spectroscopy. Biophysical Journal, 2006, 90, 628-639.	0.5	73
22	Sequence-responsive unzipping DNA cubes with tunable cellular uptake profiles. Chemical Science, 2014, 5, 2449-2455.	7.4	67
23	Collapsin Response Mediator Protein 4 Regulates Growth Cone Dynamics through the Actin and Microtubule Cytoskeleton. Journal of Biological Chemistry, 2014, 289, 30133-30143.	3.4	65
24	Accuracy and Dynamic Range of Spatial Image Correlation and Cross-Correlation Spectroscopy. Biophysical Journal, 2005, 89, 1251-1260.	0.5	63
25	Probing the â€œDarkâ€•Fraction of Coreâ€“Shell Quantum Dots by Ensemble and Single Particle pH-Dependent Spectroscopy. ACS Nano, 2011, 5, 9062-9073.	14.6	62
26	Improved genetically encoded near-infrared fluorescent calcium ion indicators for in vivo imaging. PLoS Biology, 2020, 18, e3000965.	5.6	62
27	Activity-Dependent Netrin-1 Secretion Drives Synaptic Insertion of GluA1-Containing AMPA Receptors in the Hippocampus. Cell Reports, 2018, 25, 168-182.e6.	6.4	59
28	Cholesterol Modulates CFTR Confinement in the Plasma Membrane of Primary Epithelial Cells. Biophysical Journal, 2015, 109, 85-94.	0.5	58
29	Actomyosin-dependent dynamic spatial patterns of cytoskeletal components drive mesoscale podosome organization. Nature Communications, 2016, 7, 13127.	12.8	57
30	Modular actin nano-architecture enables podosome protrusion and mechanosensing. Nature Communications, 2019, 10, 5171.	12.8	56
31	Patterning protein concentration using laser-assisted adsorption by photobleaching, LAPAP. Lab on A Chip, 2008, 8, 2164.	6.0	54
32	Live-Cell Super-resolution Reveals F-Actin and Plasma Membrane Dynamics at the T Cell Synapse. Biophysical Journal, 2017, 112, 1703-1713.	0.5	54
33	Accurate measurements of protein interactions in cells via improved spatial image cross-correlation spectroscopy. Molecular BioSystems, 2008, 4, 672.	2.9	52
34	Enhanced Ca²⁺entry due to Orai1 plasma membrane insertion increases ILâ€8 secretion by cystic fibrosis airways. FASEB Journal, 2011, 25, 4274-4291.	0.5	51
35	Morphological and functional characterization of cholinergic interneurons in the dorsal horn of the mouse spinal cord. Journal of Comparative Neurology, 2011, 519, 3139-3158.	1.6	50
36	Gephyrin Clusters Are Absent from Small Diameter Primary Afferent Terminals Despite the Presence of GABAA Receptors. Journal of Neuroscience, 2014, 34, 8300-8317.	3.6	49

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37	Aggregation of PDGF-Î² receptors in human skin fibroblasts: characterization by image correlation spectroscopy (ICS). FEBS Letters, 1997, 401, 43-48.	2.8	47
38	Sensitive Detection of Malaria Infection by Third Harmonic Generation Imaging. Biophysical Journal, 2008, 94, L26-L28.	0.5	47
39	The Integrin-Ligand Interaction Regulates Adhesion and Migration through a Molecular Clutch. PLoS ONE, 2012, 7, e40202.	2.5	47
40	A Common Mechanism Underlies the Dark Fraction Formation and Fluorescence Blinking of Quantum Dots. ACS Nano, 2009, 3, 1167-1175.	14.6	45
41	STICCS Reveals Matrix-Dependent Adhesion Slipping and Gripping inÂMigrating Cells. Biophysical Journal, 2012, 103, 1672-1682.	0.5	44
42	Src-dependent phosphorylation of Î²2-adaptin dissociates the Î²-arrestinâ€“AP-2 complex. Journal of Cell Science, 2007, 120, 1723-1732.	2.0	42
43	Bone Ablation without Thermal or Acoustic Mechanical Injury via a Novel Picosecond Infrared Laser (PIRL). Otolaryngology - Head and Neck Surgery, 2014, 150, 385-393.	1.9	40
44	Vesicle Dynamics during Plant Cell Cytokinesis Reveals Distinct Developmental Phases. Plant Physiology, 2017, 174, 1544-1558.	4.8	40
45	Investigating membrane protein dynamics in living cellsThis paper is one of a selection of papers published in this Special Issue, entitled CSBMCB â€" Membrane Proteins in Health and Disease.. Biochemistry and Cell Biology, 2006, 84, 825-831.	2.0	37
46	Microstructural characterization of vocal folds toward a strain-energy model of collagen remodeling. Acta Biomaterialia, 2013, 9, 7957-7967.	8.3	35
47	Detection and Correction of Blinking Bias in Image Correlation Transport Measurements of Quantum Dot Tagged Macromolecules. Biophysical Journal, 2007, 93, 1338-1346.	0.5	32
48	Nonlinear laser scanning microscopy of human vocal folds. Laryngoscope, 2012, 122, 356-363.	2.0	32
49	Segregation of dopamine and glutamate release sites in dopamine neuron axons: regulation by striatal target cells. FASEB Journal, 2019, 33, 400-417.	0.5	32
50	Measurement of Monomer-Oligomer Distributions via Fluorescence Moment Image Analysis. Biophysical Journal, 2006, 91, 3884-3896.	0.5	31
51	Molecular Flow Quantified beyond the Diffraction Limit by Spatiotemporal Image Correlation of Structured Illumination Microscopy Data. Biophysical Journal, 2014, 107, L21-L23.	0.5	30
52	Spatial Intensity Distribution Analysis Reveals Abnormal Oligomerization of Proteins in Single Cells. Biophysical Journal, 2015, 109, 710-721.	0.5	29
53	Heat Generation During Ablation of Porcine Skin With Erbium:YAG Laser vs a Novel Picosecond Infrared Laser. JAMA Otolaryngology - Head and Neck Surgery, 2013, 139, 828.	2.2	28
54	Isolation of Bright Aggregate Fluctuations in a Multipopulation Image Correlation Spectroscopy System Using Intensity Subtraction. Biophysical Journal, 2003, 84, 4011-4022.	0.5	27

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55	Image Correlation Spectroscopy. Methods in Enzymology, 2013, 518, 245-267.	1.0	27
56	Image Correlation Spectroscopy: Principles and Applications. Cold Spring Harbor Protocols, 2015, 2015, pdb.top086124.	0.3	25
57	Cortical Polarity of the RING Protein PAR-2 Is Maintained by Exchange Rate Kinetics at the Cortical-Cytoplasmic Boundary. Cell Reports, 2016, 16, 2156-2168.	6.4	25
58	Determination of Membrane Protein Transporter Oligomerization in Native Tissue Using Spatial Fluorescence Intensity Fluctuation Analysis. PLoS ONE, 2012, 7, e36215.	2.5	25
59	Ultraviolet spectrum of domoic acid. Canadian Journal of Chemistry, 1989, 67, 1421-1425.	1.1	24
60	Innate Immune-Mediated Neuronal Injury Consequent to Loss of Astrocytes. Journal of Neuropathology and Experimental Neurology, 2008, 67, 590-599.	1.7	24
61	Quantum Dot Fluorescence Characterizes the Nanoscale Organization of T Cell Receptors for Antigen. Biophysical Journal, 2011, 101, L57-L59.	0.5	24
62	Characterization of blinking dynamics in quantum dot ensembles using image correlation spectroscopy. Journal of Applied Physics, 2006, 99, 064503.	2.5	23
63	Semi-automated quantification of filopodial dynamics. Journal of Neuroscience Methods, 2008, 171, 165-173.	2.5	23
64	Plant-derived virus-like particle vaccines drive cross-presentation of influenza A hemagglutinin peptides by human monocyte-derived macrophages. Npj Vaccines, 2019, 4, 17.	6.0	23
65	Agonists that stimulate secretion promote the recruitment of CFTR into membrane lipid microdomains. Journal of General Physiology, 2019, 151, 834-849.	1.9	21
66	Migration-induced cell shattering due to DOCK8 deficiency causes a type 2â€“biased helper T cell response. Nature Immunology, 2020, 21, 1528-1539.	14.5	21
67	Two-photon fluorescent microlithography for live-cell imaging. Microscopy Research and Technique, 2005, 68, 272-276.	2.2	20
68	Quantification of Receptor Tyrosine Kinase Activation and Transactivation by G-Protein-Coupled Receptors Using Spatial Intensity Distribution Analysis (SpIDA). Methods in Enzymology, 2013, 522, 109-131.	1.0	20
69	Beyond Photobleaching, Laser Illumination Unbinds Fluorescent Proteins. Journal of Physical Chemistry B, 2009, 113, 5225-5233.	2.6	19
70	Transmission of Mechanical Information by Purinergic Signaling. Biophysical Journal, 2019, 116, 2009-2022.	0.5	18
71	Microstructural and mechanical characterization of scarred vocal folds. Journal of Biomechanics, 2015, 48, 708-711.	2.1	17
72	Endocannabinoid signaling enhances visual responses through modulation of intracellular chloride levels in retinal ganglion cells. ELife, 2016, 5, .	6.0	17

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73	Counting dendritic spines in brain tissue slices by image correlation spectroscopy analysis. Journal of Microscopy, 2002, 205, 177-186.	1.8	16
74	Optimization of malaria detection based on third harmonic generation imaging of hemozoin. Analytical and Bioanalytical Chemistry, 2013, 405, 5431-5440.	3.7	16
75	Netrin-1-Regulated Distribution of UNC5B and DCC in Live Cells Revealed by TICCS. Biophysical Journal, 2016, 110, 623-634.	0.5	16
76	A High-Throughput Image Correlation Method for Rapid Analysis of Fluorophore Photoblinking and Photobleaching Rates. ACS Nano, 2019, 13, 11955-11966.	14.6	15
77	Ligand-induced clustering of EGF receptors: A quantitative study by fluorescence image moment analysis. Biophysical Chemistry, 2012, 161, 50-53.	2.8	14
78	A guide to accurate measurement of diffusion using fluorescence correlation techniques with blinking quantum dot nanoparticle labels. Journal of Chemical Physics, 2008, 128, 225105.	3.0	13
79	Measuring ligandâ€“receptor binding kinetics and dynamics using k-space image correlation spectroscopy. Methods, 2014, 66, 273-282.	3.8	13
80	Revealing Plasma Membrane Nano-Domains with Diffusion Analysis Methods. Membranes, 2020, 10, 314.	3.0	13
81	Bridging the Gap between Single Molecule and Ensemble Methods for Measuring Lateral Dynamics in the Plasma Membrane. PLoS ONE, 2013, 8, e78096.	2.5	11
82	Malaria Detection by Third-Harmonic Generation Image Scanning Cytometry. Analytical Chemistry, 2019, 91, 2216-2223.	6.5	11
83	Investigating CFTR and KCa3.1 Protein/Protein Interactions. PLoS ONE, 2016, 11, e0153665.	2.5	11
84	Spatial Intensity Distribution Analysis (SpIDA). Methods in Cell Biology, 2013, 117, 1-19.	1.1	10
85	Multimodal virtual histology of rabbit vocal folds by nonlinear microscopy and nano computed tomography. Biomedical Optics Express, 2019, 10, 1151.	2.9	10
86	Spatially Selective Dissection of Signal Transduction in Neurons Grown on Netrin-1 Printed Nanoarrays via Segmented Fluorescence Fluctuation Analysis. ACS Nano, 2017, 11, 8131-8143.	14.6	9
87	Nonlinear microscopy of common histological stains reveals third harmonic generation harmonophores. Analyst, The, 2019, 144, 3239-3249.	3.5	9
88	Lipid-driven CFTR clustering is impaired in cystic fibrosis and restored by corrector drugs. Journal of Cell Science, 2022, 135, .	2.0	9
89	Viscosities and thermodynamics of viscous flow of binary liquid mixtures of 2-(2-butoxyethoxy)ethanol with aniline and N-alkyl anilines. Canadian Journal of Chemistry, 1992, 70, 2645-2649.	1.1	8
90	Second harmonic generation microscopy to investigate collagen configuration: a pericarditis case study. Cardiovascular Pathology, 2010, 19, e125-e128.	1.6	8

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91	A nu-space for image correlation spectroscopy: characterization and application to measure protein transport in live cells. New Journal of Physics, 2013, 15, 085006.	2.9	8
92	Image Correlation Spectroscopy for Measurements of Particle Densities and Colocalization. Current Protocols in Cell Biology, 2013, 59, Unit 4.27.1-15.	2.3	8
93	Cortical Actin Flow in T Cells Quantified by Spatio-temporal Image Correlation Spectroscopy of Structured Illumination Microscopy Data. Journal of Visualized Experiments, 2015, , e53749.	0.3	8
94	FLIM FRET Visualization of Cdc42 Activation by Netrin-1 in Embryonic Spinal Commissural Neuron Growth Cones. PLoS ONE, 2016, 11, e0159405.	2.5	8
95	Morphological and functional characterization of cholinergic interneurons in the dorsal horn of the mouse spinal cord. Journal of Comparative Neurology, 2011, 519, 3139-3158.	1.6	8
96	Easy Measurement of Diffusion Coefficients of EGFP-tagged Plasma Membrane Proteins Using k-Space Image Correlation Spectroscopy. Journal of Visualized Experiments, 2014, , .	0.3	7
97	Recent advances in nonlinear microscopy: Deep insights and polarized revelations. International Journal of Biochemistry and Cell Biology, 2021, 130, 105896.	2.8	7
98	Velocity landscape correlation resolves multiple flowing protein populations from fluorescence image time series. Methods, 2018, 140-141, 126-139.	3.8	6
99	Characterizing Vocal Fold Injury Recovery in a Rabbit Model With Threeâ€Dimensional Virtual Histology. Laryngoscope, 2021, 131, 1578-1587.	2.0	6
100	Stoichiometry and Dispersity of DNA Nanostructures Using Photobleaching Pair-Correlation Analysis. Bioconjugate Chemistry, 2017, 28, 2340-2349.	3.6	5
101	Two-Color Spatial Cumulant Analysis Detects Heteromeric Interactions between Membrane Proteins. Biophysical Journal, 2019, 117, 1764-1777.	0.5	5
102	Micellar Properties of N-Octylammonium Bromide in Binary Aqueous Mixtures of Butoxyethanol System. Physics and Chemistry of Liquids, 1999, 37, 107-123.	1.2	4
103	Wavelet Imaging on Multiple Scales (WIMS) reveals focal adhesion distributions, dynamics and coupling between actomyosin bundle stability. PLoS ONE, 2017, 12, e0186058.	2.5	4
104	Title is missing!. Journal of Solution Chemistry, 1998, 27, 217-233.	1.2	3
105	Fabrication of protein gradients for cell culture using a miniature squeegee. Journal of Proteomics, 2008, 70, 1192-1195.	2.4	3
106	Fluorescence microscopy investigations of ligand propagation and accessibility under adherent cells. Biointerphases, 2010, 5, 139-148.	1.6	3
107	<title>Dynamic image correlation spectroscopy (ICS) and two-color image cross-correlation spectroscopy (ICCS): concepts and application</title>. , 2000, 3919, 14.		2
108	Rapid ensemble measurement of protein diffusion and probe blinking dynamics in cells. Biophysical Reports, 2021, 1, 100015.	1.2	2

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109	Activityâ€dependent alteration of early myelin ensheathment in a developing sensory circuit. Journal of Comparative Neurology, 2022, 530, 871-885.	1.6	2
110	Fluctuation Imaging Spiced Up with a Piece of PIE. Biophysical Journal, 2013, 105, 831.	0.5	1
111	Low-cost multimodal light sheet microscopy for optically cleared tissues and living specimens. Journal of Biomedical Optics, 2016, 21, 1.	2.6	1
112	Probing Membrane Heterogeneity with k-space Image Correlation Spectroscopy. Springer Series in Biophysics, 2017, , 147-165.	0.4	1
113	Intracellular Tracking of Influenza Hemagglutinin in Human Monocyte-Derived Macrophages Measured by Image Cross Correlation Spectroscopy. Biophysical Journal, 2019, 116, 135a.	0.5	1
114	<title>Live cell studies of adhesion receptors by two-photon image correlation spectroscopy and image cross-correlation spectroscopy</title>. , 2002, , .		1
115	In Situ Measurement of Oligomerization State of NBCe1â€A in Kidney Tissues using Spatial Fluorescence Intensity Fluctuation Analysis. FASEB Journal, 2010, 24, 815.3.	0.5	1
116	Viscometric and Density Study of Binary Mixtures of 2,2,2-Trifluoroethanol with Anilines. Physics and Chemistry of Liquids, 1991, 23, 181-188.	1.2	0
117	Introduction to Fluorescence and Image Correlation Spectroscopy. Microscopy and Microanalysis, 2004, 10, 246-247.	0.4	0
118	Receptor Transactivation Measured in Live Cells Using Spatial Intensity Distribution Analysis (spida). Biophysical Journal, 2010, 98, 37a-38a.	0.5	0
119	Mapping Vesicle Trafficking during Plant Cell Cytokinesis using Spatio-Temporal Image Correlation Spectroscopy. Biophysical Journal, 2012, 102, 378a.	0.5	0
120	Mapping the Evolution of Molecular Flow Fields in Migrating Cells with Time-Resolved STICCS. Biophysical Journal, 2013, 104, 202a.	0.5	0
121	Mesoscale Coordinated Dynamics of Cytoskeletal Components at Mechanosensory Podosomes Shown by Time Resolved STICS. Biophysical Journal, 2013, 104, 143a.	0.5	0
122	The Role of ROS in Tethering CFTR within Ceramide Platforms at the Plasma Membrane. Biophysical Journal, 2015, 108, 126a-127a.	0.5	0
123	Resolving Dopamine Receptor Dynamics with Spatial, Temporal, and Spectral Sampling. Biophysical Journal, 2018, 114, 6a.	0.5	0
124	Cellular Cartographyâ€¦Mapping Protein Dynamics in Living Cells with novel Image Correlation Techniques. FASEB Journal, 2009, 23, 12.3.	0.5	0