Nicholas I Smith

List of Publications by Year
in descending order

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85 papers	3,045 citations	201575 27 h-index	161767 54 g-index
88 all docs	88 docs citations	88 times ranked	3848 citing authors

#	Article	IF	Citations
1	Label-free Raman observation of cytochrome c dynamics during apoptosis. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 28-32.	3.3	399
2	Raman microscopy for dynamic molecular imaging of living cells. Journal of Biomedical Optics, 2008, 13, 1.	1.4	258
3	Linear phase imaging using differential interference contrast microscopy. Journal of Microscopy, 2004, 214, 7-12.	0.8	246
4	Dynamic SERS Imaging of Cellular Transport Pathways with Endocytosed Gold Nanoparticles. Nano Letters, 2011, 11, 5344-5348.	4.5	216
5	An evaluation of fixation methods: Spatial and compositional cellular changes observed by Raman imaging. Vibrational Spectroscopy, 2017, 91, 31-45.	1.2	142
6	Noninvasive detection of macrophage activation with single-cell resolution through machine learning. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2676-E2685.	3.3	117
7	Introduction to super-resolution microscopy. Microscopy (Oxford, England), 2014, 63, 177-192.	0.7	93
8	Structured line illumination Raman microscopy. Nature Communications, 2015, 6, 10095.	5.8	90
9	Generation of calcium waves in living cells by pulsed-laser-induced photodisruption. Applied Physics Letters, 2001, 79, 1208-1210.	1.5	88
10	Time-resolved observation of surface-enhanced Raman scattering from gold nanoparticles during transport through a living cell. Journal of Biomedical Optics, 2009, 14, 024038.	1.4	74
11	Nanoscale heating of laser irradiated single gold nanoparticles in liquid. Optics Express, 2011, 19, 12375.	1.7	72
12	Raman spectroscopic analysis of malaria disease progression via blood and plasma samples. Analyst, The, 2013, 138, 3927.	1.7	64
13	A femtosecond laser pacemaker for heart muscle cells. Optics Express, 2008, 16, 8604.	1.7	62
14	Raman spectroscopy as a tool for label-free lymphocyte cell line discrimination. Analyst, The, 2016, 141, 3756-3764.	1.7	62
15	Differential Expression of Pyloric Atresia in Junctional Epidermolysis Bullosa with ITGB4 Mutations Suggests that Pyloric Atresia is due to Factors Other than the Mutations and Not Predictive of a Poor Outcome: Three Novel Mutations and a Review of the Li. Acta Dermato-Venereologica, 2008, 88, 438-448.	0.6	61
16	<title>Quantitative DIC microscopy using a geometric phase shifter</title>. , 1997, , .		51
17	zâ€Polarization sensitive detection in microâ€Raman spectroscopy by radially polarized incident light. Journal of Raman Spectroscopy, 2008, 39, 1643-1648.	1.2	50
18	Deep ultraviolet resonant Raman imaging of a cell. Journal of Biomedical Optics, 2012, 17, 0760011.	1.4	49

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19	Optical trapping and surgery of living yeast cells using a single laser. Review of Scientific Instruments, 2008, 79, 103705.	0.6	47
20	3D SERS (surface enhanced Raman scattering) imaging of intracellular pathways. Methods, 2014, 68, 348-353.	1.9	39
21	Location-Dependent Photogeneration of Calcium Waves in HeLa Cells. Cell Biochemistry and Biophysics, 2006, 45, 167-176.	0.9	36
22	Cell Optical Density and Molecular Composition Revealed by Simultaneous Multimodal Label-Free Imaging. Biophysical Journal, 2013, 105, 1123-1132.	0.2	36
23	Three-dimensional subsurface microprocessing of collagen by ultrashort laser pulses. Applied Physics Letters, 2001, 78, 999-1001.	1.5	35
24	Polyamines reverse non-steroidal anti-inflammatory drug-induced toxicity in human colorectal cancer cells. Biochemical Journal, 2003, 374, 481-488.	1.7	34
25	Beyond the diffraction-limit biological imaging by saturated excitation microscopy. Journal of Biomedical Optics, 2008, 13, 050507.	1.4	34
26	Photogeneration of membrane potential hyperpolarization and depolarization in non-excitable cells. European Biophysics Journal, 2009, 38, 255-262.	1.2	33
27	Super-Spatial- and -Spectral-Resolution in Vibrational Imaging via Saturated Coherent Anti-Stokes Raman Scattering. Physical Review Applied, 2015, 4, .	1.5	33
28	SAX microscopy with fluorescent nanodiamond probes for high-resolution fluorescence imaging. Biomedical Optics Express, 2011, 2, 1946.	1.5	30
29	Heparin induces neutrophil elastase-dependent vital and lytic NET formation. International Immunology, 2020, 32, 359-368.	1.8	27
30	Slow Ca2+ wave stimulation using low repetition rate femtosecond pulsed irradiation. Optics Express, 2006, 14, 717.	1.7	26
31	Maximizing throughput in label-free microspectroscopy with hybrid Raman imaging. Journal of Biomedical Optics, 2015, 20, 016007.	1.4	26
32	Photostimulation of two types of Ca2+waves in rat pheochromocytoma PC12 cells by ultrashort pulsed near-infrared laser irradiation. Laser Physics Letters, 2006, 3, 154-161.	0.6	24
33	Comparison of Staining Selectivity for Subcellular Structures by Carbazoleâ€Based Cyanine Probes in Nonlinear Optical Microscopy. ChemBioChem, 2011, 12, 52-55.	1.3	24
34	Saturated excitation microscopy for sub-diffraction-limited imaging of cell clusters. Journal of Biomedical Optics, 2013, 18, 1.	1.4	22
35	Analysis of dynamic SERS spectra measured with a nanoparticle during intracellular transportation in 3D. Journal of Optics (United Kingdom), 2015, 17, 114023.	1.0	22
36	Saturated two-photon excitation fluorescence microscopy with core-ring illumination. Optics Letters, 2017, 42, 571.	1.7	22

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37	Visible-wavelength two-photon excitation microscopy for fluorescent protein imaging. Journal of Biomedical Optics, 2015, 20, 1.	1.4	21
38	Deconstructing RNA: optical measurement of composition and structure. Physical Chemistry Chemical Physics, 2013, 15, 13199.	1.3	20
39	Femtosecond laser nano-ablation in fixed and non-fixed cultured cells. Optics Express, 2008, 16, 14476.	1.7	19
40	Featureâ€based recognition of Surfaceâ€enhanced Raman spectra for biological targets. Journal of Biophotonics, 2013, 6, 587-597.	1.1	18
41	Effect of Surfaceâ€Modified Gold Nanorods on the Inflammatory Cytokine Response in Macrophage Cells. Particle and Particle Systems Characterization, 2013, 30, 427-433.	1.2	18
42	Laser-targeted photofabrication of gold nanoparticles inside cells. Nature Communications, 2014, 5, 5144.	5.8	17
43	Label-free Raman imaging of the macrophage response to the malaria pigment hemozoin. Analyst, The, 2015, 140, 2350-2359.	1.7	17
44	Saturated excitation microscopy using differential excitation for efficient detection of nonlinear fluorescence signals. APL Photonics, 2018, 3, .	3.0	17
45	Determination of the Expanded Optical Transfer Function in Saturated Excitation Imaging and High Harmonic Demodulation. Applied Physics Express, 2011, 4, 042401.	1.1	16
46	Dualâ€polarization Raman spectral imaging to extract overlapping molecular fingerprints of living cells. Journal of Biophotonics, 2015, 8, 546-554.	1.1	16
47	Immune cell type, cell activation, and single cell heterogeneity revealed by label-free optical methods. Scientific Reports, 2019, 9, 17054.	1.6	16
48	Unified theory of monochromatic and broadband modulational and decay instabilities of Langmuir waves. Physics of Plasmas, 2002, 9, 4149-4159.	0.7	12
49	Saturated Excitation Microscopy with Optimized Excitation Modulation. ChemPhysChem, 2014, 15, 743-749.	1.0	11
50	Saturated excitation of fluorescent proteins for subdiffraction-limited imaging of living cells in three dimensions. Interface Focus, 2013, 3, 20130007.	1.5	10
51	Spectral focusing in picosecond pulsed stimulated Raman scattering microscopy. Biomedical Optics Express, 2022, 13, 995.	1.5	9
52	Single-pulse cell stimulation with a near-infrared picosecond laser. Applied Physics Letters, 2005, 87, 243901.	1.5	6
53	Deriving accurate molecular indicators of protein synthesis through Raman-based sparse classification. Analyst, The, 2021, 146, 3633-3641.	1.7	6
54	Detecting nitrile-containing small molecules by infrared photothermal microscopy. Analyst, The, 2021, 146, 2307-2312.	1.7	6

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55	Hyperspectral two-photon excitation microscopy using visible wavelength. Optics Letters, 2021, 46, 37.	1.7	6
56	Cellular Adhesion Is a Controlling Factor in Neutrophil Extracellular Trap Formation Induced by Anti-Neutrophil Cytoplasmic Antibodies. ImmunoHorizons, 2022, 6, 170-183.	0.8	6
57	Automated processing of label-free Raman microscope images of macrophage cells with standardized regression for high-throughput analysis. Immunome Research, 2010, 6, 11.	0.1	5
58	Label-free Raman mapping of saturated and unsaturated fatty acid uptake, storage, and return toward baseline levels in macrophages. Analyst, The, 2021, 146, 1268-1280.	1.7	5
59	Visible-wavelength two-photon excitation microscopy with multifocus scanning for volumetric live-cell imaging. Journal of Biomedical Optics, 2019, 25, 1.	1.4	5
60	<title>Photofabrication of a photonic crystal using interference of a UV laser</title>. , 1999, , .		3
61	Stimulation of living cells by femtosecond near-infrared laser pulses. , 2003, , .		2
62	1N1312 Time-resolved Raman imaging of malarial hemozoin(Bioimaging 1,The 49th Annual Meeting of the) Tj ETQq0 0 0 rgBT /Overlock	0.0	2
63	Dynamic SERS imaging with gold nanoparticles transported in a living cell. Proceedings of SPIE, 2013, , .	0.8	2
64	Alkyne-tag SERS imaging for visualizing small molecule drugs in live cells. , 2020, , .		2
65	Femtosecond laser-induced calcium release in neural-type cells. , 2005, , .		1
66	Observation of living cells with gold nanoparticles by using surface-enhanced Raman scattering. , 2009, , .		1
67	Imaging properties of saturated excitation (SAX) microscopy. Proceedings of SPIE, 2009, , .	0.8	1
68	A light to move the heart. Nature Photonics, 2010, 4, 587-589.	15.6	1
69	Dynamic Ramanâˆ•SERS Imaging of Living Cells by Slit-Scanning Microscopy. AIP Conference Proceedings, 2010, , .	0.3	1
70	Vibrational spectroscopic imaging of pathogens, microorganisms, and their interactions with host systems. Optics Communications, 2018, 422, 75-84.	1.0	1
71	Nonlinear Fluorescence Imaging by Saturated Excitation. , 2010, , 2-1-2-16.		1
72	Hyperspectral fluorescence imaging by using visible-wavelength two-photon excitation. , 2020, , .		1

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73	1P-335 An optical pacemaker for heart muscle cells(The 46th Annual Meeting of the Biophysical Society) Tj ETQq1 1 0.784314 rgBT /Ov	0.0	0
74	1P-340 An optical pacemaker for heart muscle cells : the laser irradiation power, phase, frequency dependencies(The 46th Annual Meeting of the Biophysical Society of Japan). Seibutsu Butsuri, 2008, 48, S74-S75.	0.0	0
75	Dynamic molecular imaging of living cells by using Raman scattering. , 2009, , .		0
76	Biological imaging beyond the diffraction limit by saturated excitation (SAX) microscopy. Proceedings of SPIE, 2009, , .	0.8	0
77	Optical control of cell functions: Using laser light to remote control signalling, contraction and action potentials in living cells. , 2011, , .		0
78	Surface enhanced Raman scattering (SERS) imaging of intracellular transportation in 3D. , 2013, , .		0
79	Observation of the immune response of cells and tissue through multimodal label-free microscopy. , 2017, , .		0
80	Label-Free Raman Imaging. , 2018, , 277-331.		0
81	Nonlinear Deep-UV excitation microscopy for high-resolution multicolor imaging of fluorescent proteins. , 2013, , .		0
82	3D Dynamic SERS Imaging of Intracellular Transport Pathways. , 2013, , .		0
83	Simultaneous single and two-photon excitation of fluorescent proteins for multicolor imaging of cellular structures. , 2014, , .		0
84	Surface-Enhanced Raman Scattering for Imaging Biological Cells. , 2016, , 3990-3996.		0
85	High-throughput analysis at single-cell level through multimodal label-free microscopy. , 2019, , .		0