Shuming Nie

List of Publications by Year in Descending Order

107 papers	35,305 citations	58 h-index	112 g-index
112 ext. papers	38,628 ext. citations	11.1 avg, IF	7.44 L-index

#	Paper	IF	Citations
107	Hexachromatic bioinspired camera for image-guided cancer surgery. *Science Translational Medicine*, **2021**, 13,	17.5	6
106	Function-adaptive clustered nanoparticles reverse Streptococcus mutans dental biofilm and maintain microbiota balance. *Communications Biology*, **2021**, 4, 846	6.7	4
105	Rational Design of Surface-State Controlled Multicolor Cross-Linked Carbon Dots with Distinct Photoluminescence and Cellular Uptake Properties. *ACS Applied Materials & Interfaces*, **2021**,	9.5	5
104	Efficient and Stable Thin-Film Luminescent Solar Concentrators Enabled by Near-Infrared Emission Perovskite Nanocrystals. *Angewandte Chemie - International Edition*, **2020**, 59, 7738-7742	16.4	35
103	Efficient and Stable Thin-Film Luminescent Solar Concentrators Enabled by Near-Infrared Emission Perovskite Nanocrystals. *Angewandte Chemie*, **2020**, 132, 7812-7816	3.6	4
102	Active transcytosis and new opportunities for cancer nanomedicine. *Nature Materials*, **2020**, 19, 478-480	27	61
101	Remembering Dr. Richard P. Van Duyne (1945-2019): Gentleman, Scholar, and Surface-Enhanced Raman Scattering Pioneer. *ACS Nano*, **2020**, 14, 26-27	16.7	0
100	Ultracompact Iron Oxide Nanoparticles with a Monolayer Coating of Succinylated Heparin: A New Class of Renal-Clearable and Nontoxic T Agents for High-Field MRI. *ACS Applied Materials & Interfaces*, **2020**,	9.5	6
99	Present and Future of Surface-Enhanced Raman Scattering. *ACS Nano*, **2020**, 14, 28-117	16.7	1000
98	Machine Learning-Assisted Array-Based Biomolecular Sensing Using Surface-Functionalized Carbon Dots. *ACS Sensors*, **2019**, 4, 2730-2737	9.2	44
97	Encapsulating maytansinoid in pH-sensitive nanocarriers: The importance of using extremely potent cytotoxic agents and fast release for nanomedicine to achieve tumor elimination. *Nano Research*, **2019**, 12, 1959-1966	10	4
96	Evaluation of Aminolevulinic Acid-Derived Tumor Fluorescence Yields Disparate Results in Murine and Spontaneous Large Animal Models of Lung Cancer. *Scientific Reports*, **2019**, 9, 7629	4.9	5
95	Aqueous acid-based synthesis of lead-free tin halide perovskites with near-unity photoluminescence quantum efficiency. *Chemical Science*, **2019**, 10, 4573-4579	9.4	77
94	Direct Hot-Injection Synthesis of Lead Halide Perovskite Nanocubes in Acrylic Monomers for Ultrastable and Bright Nanocrystal-Polymer Composite Films. *ACS Applied Materials & Interfaces*, **2019**, 11, 9317-9325	9.5	36
93	Succinylated heparin monolayer coating vastly increases superparamagnetic iron oxide nanoparticle T proton relaxivity. *Nanoscale*, **2019**, 11, 12905-12914	7.7	4
92	Influence of Electron Acceptor and Electron Donor on the Photophysical Properties of Carbon Dots: A Comparative Investigation at the Bulk-State and Single-Particle Level. *Advanced Functional Materials*, **2019**, 29, 1902466	15.6	30
91	Targeted Drug Delivery and Image-Guided Therapy of Heterogeneous Ovarian Cancer Using HER2-Targeted Theranostic Nanoparticles. *Theranostics*, **2019**, 9, 778-795	12.1	55

90	Optimization of Second Window Indocyanine Green for Intraoperative Near-Infrared Imaging of Thoracic Malignancy. *Journal of the American College of Surgeons*, **2019**, 228, 188-197	4.4	19
89	Emergence of two near-infrared windows for in vivo and intraoperative SERS. *Current Opinion in Chemical Biology*, **2018**, 45, 95-103	9.7	31
88	Near-infrared fluorescent image-guided surgery for intracranial meningioma. *Journal of Neurosurgery*, **2018**, 128, 380-390	3.2	45
87	Intraoperative fluorescence imaging in thoracic surgery. *Journal of Surgical Oncology*, **2018**, 118, 344-355	2.8	32
86	An open label trial of folate receptor-targeted intraoperative molecular imaging to localize pulmonary squamous cell carcinomas. *Oncotarget*, **2018**, 9, 13517-13529	3.3	21
85	Functionalized, Long-Circulating, and Ultrasmall Gold Nanocarriers for Overcoming the Barriers of Low Nanoparticle Delivery Efficiency and Poor Tumor Penetration. *Bioconjugate Chemistry*, **2017**, 28, 244-252	6.3	19
84	Near-infrared Intraoperative Molecular Imaging Can Identify Metastatic Lymph Nodes in Prostate Cancer. *Urology*, **2017**, 106, 133-138	1.6	7
83	Quantitative Examination of the Active Targeting Effect: The Key Factor for Maximal Tumor Accumulation and Retention of Short-Circulated Biopolymeric Nanocarriers. *Bioconjugate Chemistry* , **2017**, 28, 1351-1355	6.3	6
82	Surface-Enhanced Raman Scattering Active Gold Nanoparticles with Enzyme-Mimicking Activities for Measuring Glucose and Lactate in Living Tissues. *ACS Nano*, **2017**, 11, 5558-5566	16.7	383
81	Diverse Applications of Nanomedicine. *ACS Nano*, **2017**, 11, 2313-2381	16.7	714
80	Near-Infrared Intraoperative Molecular Imaging Can Locate Metastases to the Lung. *Annals of Thoracic Surgery*, **2017**, 103, 390-398	2.7	44
79	Bioconjugated Nanoparticles for Biosensing, in Vivo Imaging, and Medical Diagnostics. *Analytical Chemistry*, **2017**, 89, 1015-1031	7.8	102
78	Intraoperative near-infrared fluorescence imaging targeting folate receptors identifies lung cancer in a large-animal model. *Cancer*, **2017**, 123, 1051-1060	6.4	31
77	Smart Superstructures with Ultrahigh pH-Sensitivity for Targeting Acidic Tumor Microenvironment: Instantaneous Size Switching and Improved Tumor Penetration. *ACS Nano*, **2016**, 10, 6753-61	16.7	377
76	Intraoperative Spectroscopy with Ultrahigh Sensitivity for Image-Guided Surgery of Malignant Brain Tumors. *Analytical Chemistry*, **2016**, 88, 858-67	7.8	26
75	Stimuli-responsive clustered nanoparticles for improved tumor penetration and therapeutic efficacy. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 4164-9	11.5	512
74	Intraoperative Molecular Diagnostic Imaging Can Identify Renal Cell Carcinoma. *Journal of Urology*, **2016**, 195, 748-55	2.5	27
73	Intraoperative Molecular Imaging of Lung Adenocarcinoma Can Identify Residual Tumor Cells at the Surgical Margins. *Molecular Imaging and Biology*, **2016**, 18, 209-18	3.8	29

72	Combination of an Integrin-Targeting NIR Tracer and an Ultrasensitive Spectroscopic Device for Intraoperative Detection of Head and Neck Tumor Margins and Metastatic Lymph Nodes. *Tomography*, **2016**, 2, 215-222	3.1	4
71	Identification of breast cancer margins using intraoperative near-infrared imaging. *Journal of Surgical Oncology*, **2016**, 113, 508-14	2.8	53
70	Integrated Nanozymes with Nanoscale Proximity for in Vivo Neurochemical Monitoring in Living Brains. *Analytical Chemistry*, **2016**, 88, 5489-97	7.8	241
69	Novel surface-enhanced Raman scattering-based assays for ultra-sensitive detection of human pluripotent stem cells. *Biomaterials*, **2016**, 105, 66-76	15.6	23
68	An integrated widefield imaging and spectroscopy system for contrast-enhanced, image-guided resection of tumors. *IEEE Transactions on Biomedical Engineering*, **2015**, 62, 1416-24	5	17
67	In vitro study of a pH-sensitive multifunctional doxorubicin–gold nanoparticle system: therapeutic effect and surface enhanced Raman scattering. *RSC Advances*, **2015**, 5, 65651-65659	3.7	37
66	Intraoperative molecular imaging can identify lung adenocarcinomas during pulmonary resection. *Journal of Thoracic and Cardiovascular Surgery*, **2015**, 150, 28-35.e1	1.5	63
65	Intraoperative near-infrared fluorescence imaging and spectroscopy identifies residual tumor cells in wounds. *Journal of Biomedical Optics*, **2015**, 20, 76002	3.5	31
64	An unusual role of folate in the self-assembly of heparin-folate conjugates into nanoparticles. *Nanoscale*, **2015**, 7, 15185-90	7.7	20
63	SERS Nanoparticles in Medicine: From Label-Free Detection to Spectroscopic Tagging. *Chemical Reviews*, **2015**, 115, 10489-529	68.1	576
62	Stimuli-responsive nanoparticles for targeting the tumor microenvironment. *Journal of Controlled Release*, **2015**, 219, 205-214	11.7	219
61	Quantification of tumor fluorescence during intraoperative optical cancer imaging. *Scientific Reports*, **2015**, 5, 16208	4.9	35
60	Comparison of Folate Receptor Targeted Optical Contrast Agents for Intraoperative Molecular Imaging. *International Journal of Molecular Imaging*, **2015**, 2015, 469047		49
59	Small portable interchangeable imager of fluorescence for fluorescence guided surgery and research. *Technology in Cancer Research and Treatment*, **2015**, 14, 213-20	2.7	35
58	Physical chemistry of nanomedicine: understanding the complex behaviors of nanoparticles in vivo. *Annual Review of Physical Chemistry*, **2015**, 66, 521-47	15.7	124
57	Compact and blinking-suppressed quantum dots for single-particle tracking in live cells. *Journal of Physical Chemistry B*, **2014**, 118, 14140-7	3.4	51
56	Mapping the spatial distribution of charge carriers in quantum-confined heterostructures. *Nature Communications*, **2014**, 5, 4506	17.4	52
55	Intraoperative near-infrared imaging can identify pulmonary nodules. *Annals of Thoracic Surgery*, **2014**, 98, 1223-30	2.7	100

54	Intraoperative near-infrared imaging can distinguish cancer from normal tissue but not inflammation. *PLoS ONE*, **2014**, 9, e103342	3.7	82
53	Biocompatible hyaluronic acid polymer-coated quantum dots for CD44+ cancer cell-targeted imaging. *Journal of Nanoparticle Research*, **2014**, 16, 1	2.3	12
52	The More Exotic Shapes of Semiconductor Nanocrystals: Emerging Applications in Bioimaging. *Current Opinion in Chemical Engineering*, **2014**, 4, 137-143	5.4	15
51	Semiconductor quantum dots for bioimaging and biodiagnostic applications. *Annual Review of Analytical Chemistry*, **2013**, 6, 143-62	12.5	464
50	Targeted delivery of cisplatin to lung cancer using ScFvEGFR-heparin-cisplatin nanoparticles. *ACS Nano*, **2011**, 5, 9480-93	16.7	115
49	Detection of circulating tumor cells in human peripheral blood using surface-enhanced Raman scattering nanoparticles. *Cancer Research*, **2011**, 71, 1526-32	10.1	292
48	Hand-held spectroscopic device for in vivo and intraoperative tumor detection: contrast enhancement, detection sensitivity, and tissue penetration. *Analytical Chemistry*, **2010**, 82, 9058-65	7.8	195
47	Multiplexed detection and characterization of rare tumor cells in Hodgkin's lymphoma with multicolor quantum dots. *Analytical Chemistry*, **2010**, 82, 6237-43	7.8	94
46	Semiconductor nanocrystals: structure, properties, and band gap engineering. *Accounts of Chemical Research*, **2010**, 43, 190-200	24.3	1286
45	Molecular mapping of tumor heterogeneity on clinical tissue specimens with multiplexed quantum dots. *ACS Nano*, **2010**, 4, 2755-65	16.7	131
44	The bright future: Imaging dynamic cellular events with quantum dots. *Biochemist*, **2010**, 32, 12-17	0.5	15
43	Biomedical nanotechnology for molecular imaging, diagnostics, and targeted therapy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 4578-9	0.9	4
42	HFT-T, a targeting nanoparticle, enhances specific delivery of paclitaxel to folate receptor-positive tumors. *ACS Nano*, **2009**, 3, 3165-74	16.7	142
41	Bioimaging: second window for in vivo imaging. *Nature Nanotechnology*, **2009**, 4, 710-1	28.7	1776
40	Molecular imaging of pancreatic cancer in an animal model using targeted multifunctional nanoparticles. *Gastroenterology*, **2009**, 136, 1514-25.e2	13.3	132
39	In vivo tumor targeting and spectroscopic detection with surface-enhanced Raman nanoparticle tags. *Nature Biotechnology*, **2008**, 26, 83-90	44.5	1945
38	One-pot synthesis, encapsulation, and solubilization of size-tuned quantum dots with amphiphilic multidentate ligands. *Journal of the American Chemical Society*, **2008**, 130, 12866-7	16.4	75
37	Minimizing nonspecific cellular binding of quantum dots with hydroxyl-derivatized surface coatings. *Analytical Chemistry*, **2008**, 80, 3029-34	7.8	123

36	Proton-sponge coated quantum dots for siRNA delivery and intracellular imaging. *Journal of the American Chemical Society*, **2008**, 130, 9006-12	16.4	360
35	Development of Receptor Targeted Magnetic Iron Oxide Nanoparticles for Efficient Drug Delivery and Tumor Imaging. *Journal of Biomedical Nanotechnology*, **2008**, 4, 439-449	4	82
34	Therapeutic nanoparticles for drug delivery in cancer. *Clinical Cancer Research*, **2008**, 14, 1310-6	12.9	2208
33	Minimizing the hydrodynamic size of quantum dots with multifunctional multidentate polymer ligands. *Journal of the American Chemical Society*, **2008**, 130, 11278-9	16.4	183
32	Reexamining the Effects of Particle Size and Surface Chemistry on the Magnetic Properties of Iron Oxide Nanocrystals: New Insights into Spin Disorder and Proton Relaxivity. *Journal of Physical Chemistry C*, **2008**, 112, 8127-8131	3.8	223
31	Bioconjugated quantum dots for in vivo molecular and cellular imaging. *Advanced Drug Delivery Reviews*, **2008**, 60, 1226-1240	18.5	965
30	Integrating Magnetic and Optical Nanotechnology for Selective Capture and Multiplexed Analysis of Rare Tumor Cells **2007**,		1
29	Single-bead immunoassays using magnetic microparticles and spectral-shifting quantum dots. *Journal of Agricultural and Food Chemistry*, **2007**, 55, 3778-82	5.7	59
28	Bioconjugated quantum dots for multiplexed and quantitative immunohistochemistry. *Nature Protocols*, **2007**, 2, 1152-65	18.8	431
27	Quantum Dot Nanocrystals for In Vivo Molecular and Cellular Imaging¶. *Photochemistry and Photobiology*, **2007**, 80, 377-385	3.6	6
26	Nanotechnology applications in cancer. *Annual Review of Biomedical Engineering*, **2007**, 9, 257-88	12	844
25	Imaging and tracking of tat peptide-conjugated quantum dots in living cells: new insights into nanoparticle uptake, intracellular transport, and vesicle shedding. *Journal of the American Chemical Society*, **2007**, 129, 14759-66	16.4	417
24	Cell-penetrating quantum dots based on multivalent and endosome-disrupting surface coatings. *Journal of the American Chemical Society*, **2007**, 129, 3333-8	16.4	408
23	Counting single native biomolecules and intact viruses with color-coded nanoparticles. *Analytical Chemistry*, **2006**, 78, 1061-70	7.8	127
22	Quantum dots and multifunctional nanoparticles: new contrast agents for tumor imaging. *Nanomedicine*, **2006**, 1, 209-17	5.6	178
21	A systematic examination of surface coatings on the optical and chemical properties of semiconductor quantum dots. *Physical Chemistry Chemical Physics*, **2006**, 8, 3895-903	3.6	383
20	Real-time detection of virus particles and viral protein expression with two-color nanoparticle probes. *Journal of Virology*, **2005**, 79, 8625-8	6.6	76
19	Luminescent Quantum Dots for Biological Labeling **2005**, 343-352		

18	In vivo molecular and cellular imaging with quantum dots. *Current Opinion in Biotechnology*, **2005**, 16, 63-72	11.4	1004
17	In vivo cancer targeting and imaging with semiconductor quantum dots. *Nature Biotechnology*, **2004**, 22, 969-76	44.5	4032
16	Spectroscopic tags using dye-embedded nanoparticles and surface-enhanced Raman scattering. *Analytical Chemistry*, **2003**, 75, 6171-6	7.8	458
15	Single-Molecule and Single-Nanoparticle SERS:Examining the Roles of Surface Active Sites and Chemical Enhancement. *Journal of Physical Chemistry B*, **2002**, 106, 311-317	3.4	588
14	Quantum-dot-tagged microbeads for multiplexed optical coding of biomolecules. *Nature Biotechnology*, **2001**, 19, 631-5	44.5	2266
13	Nanostructured Thin-Film Materials with Surface-Enhanced Optical Properties. *Chemistry of Materials*, **2001**, 13, 1082-1088	9.6	103
12	Probing Single Molecules in Single Living Cells. *Microscopy and Microanalysis*, **2001**, 7, 28-29	0.5	
11	Probing specific sequences on single DNA molecules with bioconjugated fluorescent nanoparticles. *Analytical Chemistry*, **2000**, 72, 1979-86	7.8	225
10	Probing single molecules in single living cells. *Analytical Chemistry*, **2000**, 72, 5606-11	7.8	78
9	Efficient Raman Enhancement and Intermittent Light Emission Observed in Single Gold Nanocrystals. *Journal of the American Chemical Society*, **1999**, 121, 9208-9214	16.4	335
8	Quantum dot bioconjugates for ultrasensitive nonisotopic detection. *Science*, **1998**, 281, 2016-8	33.3	5854
7	A dual-beam optical microscope for observation and cleavage of single DNA molecules. *Analytical Chemistry*, **1998**, 70, 1743-8	7.8	23
6	Screening and Enrichment of Metal Nanoparticles with Novel Optical Properties. *Journal of Physical Chemistry B*, **1998**, 102, 493-497	3.4	193
5	Confinement and Detection of Single Molecules in Submicrometer Channels. *Analytical Chemistry*, **1997**, 69, 3400-3405	7.8	76
4	Near-Field Surface-Enhanced Raman Spectroscopy on Single Silver Nanoparticles. *Analytical Chemistry*, **1997**, 69, 2631-2635	7.8	159
3	Optical detection of single molecules. *Annual Review of Biophysics and Biomolecular Structure*, **1997**, 26, 567-96		372
2	Bioconjugated Nanoparticles for Ultrasensitive Detection of Molecular Biomarkers and Infectious Agents	207-22	2
1	Nanoparticle Probes for Ultrasensitive Biological Detection and Imaging	71-89	2