

# Shuming Nie

## List of Publications by Citations

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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	Quantum dot bioconjugates for ultrasensitive nonisotopic detection. <i>Science</i> , <b>1998</b> , 281, 2016-8	33.3	5854
106	In vivo cancer targeting and imaging with semiconductor quantum dots. <i>Nature Biotechnology</i> , <b>2004</b> , 22, 969-76	44.5	4032
105	Quantum-dot-tagged microbeads for multiplexed optical coding of biomolecules. <i>Nature Biotechnology</i> , <b>2001</b> , 19, 631-5	44.5	2266
104	Therapeutic nanoparticles for drug delivery in cancer. <i>Clinical Cancer Research</i> , <b>2008</b> , 14, 1310-6	12.9	2208
103	In vivo tumor targeting and spectroscopic detection with surface-enhanced Raman nanoparticle tags. <i>Nature Biotechnology</i> , <b>2008</b> , 26, 83-90	44.5	1945
102	Bioimaging: second window for in vivo imaging. <i>Nature Nanotechnology</i> , <b>2009</b> , 4, 710-1	28.7	1776
101	Semiconductor nanocrystals: structure, properties, and band gap engineering. <i>Accounts of Chemical Research</i> , <b>2010</b> , 43, 190-200	24.3	1286
100	In vivo molecular and cellular imaging with quantum dots. <i>Current Opinion in Biotechnology</i> , <b>2005</b> , 16, 63-72	11.4	1004
99	Present and Future of Surface-Enhanced Raman Scattering. <i>ACS Nano</i> , <b>2020</b> , 14, 28-117	16.7	1000
98	Bioconjugated quantum dots for in vivo molecular and cellular imaging. <i>Advanced Drug Delivery Reviews</i> , <b>2008</b> , 60, 1226-1240	18.5	965
97	Nanotechnology applications in cancer. <i>Annual Review of Biomedical Engineering</i> , <b>2007</b> , 9, 257-88	12	844
96	Diverse Applications of Nanomedicine. <i>ACS Nano</i> , <b>2017</b> , 11, 2313-2381	16.7	714
95	Single-Molecule and Single-Nanoparticle SERS: Examining the Roles of Surface Active Sites and Chemical Enhancement. <i>Journal of Physical Chemistry B</i> , <b>2002</b> , 106, 311-317	3.4	588
94	SERS Nanoparticles in Medicine: From Label-Free Detection to Spectroscopic Tagging. <i>Chemical Reviews</i> , <b>2015</b> , 115, 10489-529	68.1	576
93	Stimuli-responsive clustered nanoparticles for improved tumor penetration and therapeutic efficacy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 4164-4169	11.5	512
92	Semiconductor quantum dots for bioimaging and biodiagnostic applications. <i>Annual Review of Analytical Chemistry</i> , <b>2013</b> , 6, 143-62	12.5	464
91	Spectroscopic tags using dye-embedded nanoparticles and surface-enhanced Raman scattering. <i>Analytical Chemistry</i> , <b>2003</b> , 75, 6171-6	7.8	458

90	Bioconjugated quantum dots for multiplexed and quantitative immunohistochemistry. <i>Nature Protocols</i> , <b>2007</b> , 2, 1152-65	18.8	431
89	Imaging and tracking of tat peptide-conjugated quantum dots in living cells: new insights into nanoparticle uptake, intracellular transport, and vesicle shedding. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 14759-66	16.4	417
88	Cell-penetrating quantum dots based on multivalent and endosome-disrupting surface coatings. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 3333-8	16.4	408
87	Surface-Enhanced Raman Scattering Active Gold Nanoparticles with Enzyme-Mimicking Activities for Measuring Glucose and Lactate in Living Tissues. <i>ACS Nano</i> , <b>2017</b> , 11, 5558-5566	16.7	383
86	A systematic examination of surface coatings on the optical and chemical properties of semiconductor quantum dots. <i>Physical Chemistry Chemical Physics</i> , <b>2006</b> , 8, 3895-903	3.6	383
85	Smart Superstructures with Ultrahigh pH-Sensitivity for Targeting Acidic Tumor Microenvironment: Instantaneous Size Switching and Improved Tumor Penetration. <i>ACS Nano</i> , <b>2016</b> , 10, 6753-61	16.7	377
84	Optical detection of single molecules. <i>Annual Review of Biophysics and Biomolecular Structure</i> , <b>1997</b> , 26, 567-96		372
83	Proton-sponge coated quantum dots for siRNA delivery and intracellular imaging. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 9006-12	16.4	360
82	Efficient Raman Enhancement and Intermittent Light Emission Observed in Single Gold Nanocrystals. <i>Journal of the American Chemical Society</i> , <b>1999</b> , 121, 9208-9214	16.4	335
81	Detection of circulating tumor cells in human peripheral blood using surface-enhanced Raman scattering nanoparticles. <i>Cancer Research</i> , <b>2011</b> , 71, 1526-32	10.1	292
80	Integrated Nanozymes with Nanoscale Proximity for in Vivo Neurochemical Monitoring in Living Brains. <i>Analytical Chemistry</i> , <b>2016</b> , 88, 5489-97	7.8	241
79	Probing specific sequences on single DNA molecules with bioconjugated fluorescent nanoparticles. <i>Analytical Chemistry</i> , <b>2000</b> , 72, 1979-86	7.8	225
78	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. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 8127-8131	3.8	223
77	Stimuli-responsive nanoparticles for targeting the tumor microenvironment. <i>Journal of Controlled Release</i> , <b>2015</b> , 219, 205-214	11.7	219
76	Hand-held spectroscopic device for in vivo and intraoperative tumor detection: contrast enhancement, detection sensitivity, and tissue penetration. <i>Analytical Chemistry</i> , <b>2010</b> , 82, 9058-65	7.8	195
75	Screening and Enrichment of Metal Nanoparticles with Novel Optical Properties. <i>Journal of Physical Chemistry B</i> , <b>1998</b> , 102, 493-497	3.4	193
74	Minimizing the hydrodynamic size of quantum dots with multifunctional multidentate polymer ligands. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 11278-9	16.4	183
73	Quantum dots and multifunctional nanoparticles: new contrast agents for tumor imaging. <i>Nanomedicine</i> , <b>2006</b> , 1, 209-17	5.6	178

72	Near-Field Surface-Enhanced Raman Spectroscopy on Single Silver Nanoparticles. <i>Analytical Chemistry</i> , <b>1997</b> , 69, 2631-2635	7.8	159
71	HFT-T, a targeting nanoparticle, enhances specific delivery of paclitaxel to folate receptor-positive tumors. <i>ACS Nano</i> , <b>2009</b> , 3, 3165-74	16.7	142
70	Molecular imaging of pancreatic cancer in an animal model using targeted multifunctional nanoparticles. <i>Gastroenterology</i> , <b>2009</b> , 136, 1514-25.e2	13.3	132
69	Molecular mapping of tumor heterogeneity on clinical tissue specimens with multiplexed quantum dots. <i>ACS Nano</i> , <b>2010</b> , 4, 2755-65	16.7	131
68	Counting single native biomolecules and intact viruses with color-coded nanoparticles. <i>Analytical Chemistry</i> , <b>2006</b> , 78, 1061-70	7.8	127
67	Physical chemistry of nanomedicine: understanding the complex behaviors of nanoparticles in vivo. <i>Annual Review of Physical Chemistry</i> , <b>2015</b> , 66, 521-47	15.7	124
66	Minimizing nonspecific cellular binding of quantum dots with hydroxyl-derivatized surface coatings. <i>Analytical Chemistry</i> , <b>2008</b> , 80, 3029-34	7.8	123
65	Targeted delivery of cisplatin to lung cancer using ScFvEGFR-heparin-cisplatin nanoparticles. <i>ACS Nano</i> , <b>2011</b> , 5, 9480-93	16.7	115
64	Nanostructured Thin-Film Materials with Surface-Enhanced Optical Properties. <i>Chemistry of Materials</i> , <b>2001</b> , 13, 1082-1088	9.6	103
63	Bioconjugated Nanoparticles for Biosensing, in Vivo Imaging, and Medical Diagnostics. <i>Analytical Chemistry</i> , <b>2017</b> , 89, 1015-1031	7.8	102
62	Intraoperative near-infrared imaging can identify pulmonary nodules. <i>Annals of Thoracic Surgery</i> , <b>2014</b> , 98, 1223-30	2.7	100
61	Multiplexed detection and characterization of rare tumor cells in Hodgkin's lymphoma with multicolor quantum dots. <i>Analytical Chemistry</i> , <b>2010</b> , 82, 6237-43	7.8	94
60	Intraoperative near-infrared imaging can distinguish cancer from normal tissue but not inflammation. <i>PLoS ONE</i> , <b>2014</b> , 9, e103342	3.7	82
59	Development of Receptor Targeted Magnetic Iron Oxide Nanoparticles for Efficient Drug Delivery and Tumor Imaging. <i>Journal of Biomedical Nanotechnology</i> , <b>2008</b> , 4, 439-449	4	82
58	Probing single molecules in single living cells. <i>Analytical Chemistry</i> , <b>2000</b> , 72, 5606-11	7.8	78
57	Aqueous acid-based synthesis of lead-free tin halide perovskites with near-unity photoluminescence quantum efficiency. <i>Chemical Science</i> , <b>2019</b> , 10, 4573-4579	9.4	77
56	Confinement and Detection of Single Molecules in Submicrometer Channels. <i>Analytical Chemistry</i> , <b>1997</b> , 69, 3400-3405	7.8	76
55	Real-time detection of virus particles and viral protein expression with two-color nanoparticle probes. <i>Journal of Virology</i> , <b>2005</b> , 79, 8625-8	6.6	76

54	One-pot synthesis, encapsulation, and solubilization of size-tuned quantum dots with amphiphilic multidentate ligands. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 12866-7	16.4	75
53	Intraoperative molecular imaging can identify lung adenocarcinomas during pulmonary resection. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2015</b> , 150, 28-35.e1	1.5	63
52	Active transcytosis and new opportunities for cancer nanomedicine. <i>Nature Materials</i> , <b>2020</b> , 19, 478-480	27	61
51	Single-bead immunoassays using magnetic microparticles and spectral-shifting quantum dots. <i>Journal of Agricultural and Food Chemistry</i> , <b>2007</b> , 55, 3778-82	5.7	59
50	Targeted Drug Delivery and Image-Guided Therapy of Heterogeneous Ovarian Cancer Using HER2-Targeted Theranostic Nanoparticles. <i>Theranostics</i> , <b>2019</b> , 9, 778-795	12.1	55
49	Identification of breast cancer margins using intraoperative near-infrared imaging. <i>Journal of Surgical Oncology</i> , <b>2016</b> , 113, 508-14	2.8	53
48	Mapping the spatial distribution of charge carriers in quantum-confined heterostructures. <i>Nature Communications</i> , <b>2014</b> , 5, 4506	17.4	52
47	Compact and blinking-suppressed quantum dots for single-particle tracking in live cells. <i>Journal of Physical Chemistry B</i> , <b>2014</b> , 118, 14140-7	3.4	51
46	Comparison of Folate Receptor Targeted Optical Contrast Agents for Intraoperative Molecular Imaging. <i>International Journal of Molecular Imaging</i> , <b>2015</b> , 2015, 469047		49
45	Near-infrared fluorescent image-guided surgery for intracranial meningioma. <i>Journal of Neurosurgery</i> , <b>2018</b> , 128, 380-390	3.2	45
44	Near-Infrared Intraoperative Molecular Imaging Can Locate Metastases to the Lung. <i>Annals of Thoracic Surgery</i> , <b>2017</b> , 103, 390-398	2.7	44
43	Machine Learning-Assisted Array-Based Biomolecular Sensing Using Surface-Functionalized Carbon Dots. <i>ACS Sensors</i> , <b>2019</b> , 4, 2730-2737	9.2	44
42	In vitro study of a pH-sensitive multifunctional doxorubicin-gold nanoparticle system: therapeutic effect and surface enhanced Raman scattering. <i>RSC Advances</i> , <b>2015</b> , 5, 65651-65659	3.7	37
41	Direct Hot-Injection Synthesis of Lead Halide Perovskite Nanocubes in Acrylic Monomers for Ultrastable and Bright Nanocrystal-Polymer Composite Films. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 9317-9325	9.5	36
40	Efficient and Stable Thin-Film Luminescent Solar Concentrators Enabled by Near-Infrared Emission Perovskite Nanocrystals. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 7738-7742	16.4	35
39	Quantification of tumor fluorescence during intraoperative optical cancer imaging. <i>Scientific Reports</i> , <b>2015</b> , 5, 16208	4.9	35
38	Small portable interchangeable imager of fluorescence for fluorescence guided surgery and research. <i>Technology in Cancer Research and Treatment</i> , <b>2015</b> , 14, 213-20	2.7	35
37	Intraoperative fluorescence imaging in thoracic surgery. <i>Journal of Surgical Oncology</i> , <b>2018</b> , 118, 344-355	5.8	32

36	Intraoperative near-infrared fluorescence imaging and spectroscopy identifies residual tumor cells in wounds. <i>Journal of Biomedical Optics</i> , <b>2015</b> , 20, 76002	3.5	31
35	Emergence of two near-infrared windows for in vivo and intraoperative SERS. <i>Current Opinion in Chemical Biology</i> , <b>2018</b> , 45, 95-103	9.7	31
34	Intraoperative near-infrared fluorescence imaging targeting folate receptors identifies lung cancer in a large-animal model. <i>Cancer</i> , <b>2017</b> , 123, 1051-1060	6.4	31
33	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. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1902466	15.6	30
32	Intraoperative Molecular Imaging of Lung Adenocarcinoma Can Identify Residual Tumor Cells at the Surgical Margins. <i>Molecular Imaging and Biology</i> , <b>2016</b> , 18, 209-18	3.8	29
31	Intraoperative Molecular Diagnostic Imaging Can Identify Renal Cell Carcinoma. <i>Journal of Urology</i> , <b>2016</b> , 195, 748-55	2.5	27
30	Intraoperative Spectroscopy with Ultrahigh Sensitivity for Image-Guided Surgery of Malignant Brain Tumors. <i>Analytical Chemistry</i> , <b>2016</b> , 88, 858-67	7.8	26
29	A dual-beam optical microscope for observation and cleavage of single DNA molecules. <i>Analytical Chemistry</i> , <b>1998</b> , 70, 1743-8	7.8	23
28	Novel surface-enhanced Raman scattering-based assays for ultra-sensitive detection of human pluripotent stem cells. <i>Biomaterials</i> , <b>2016</b> , 105, 66-76	15.6	23
27	An open label trial of folate receptor-targeted intraoperative molecular imaging to localize pulmonary squamous cell carcinomas. <i>Oncotarget</i> , <b>2018</b> , 9, 13517-13529	3.3	21
26	An unusual role of folate in the self-assembly of heparin-folate conjugates into nanoparticles. <i>Nanoscale</i> , <b>2015</b> , 7, 15185-90	7.7	20
25	Functionalized, Long-Circulating, and Ultrasmall Gold Nanocarriers for Overcoming the Barriers of Low Nanoparticle Delivery Efficiency and Poor Tumor Penetration. <i>Bioconjugate Chemistry</i> , <b>2017</b> , 28, 244-252	6.3	19
24	Optimization of Second Window Indocyanine Green for Intraoperative Near-Infrared Imaging of Thoracic Malignancy. <i>Journal of the American College of Surgeons</i> , <b>2019</b> , 228, 188-197	4.4	19
23	An integrated widefield imaging and spectroscopy system for contrast-enhanced, image-guided resection of tumors. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2015</b> , 62, 1416-24	5	17
22	The More Exotic Shapes of Semiconductor Nanocrystals: Emerging Applications in Bioimaging. <i>Current Opinion in Chemical Engineering</i> , <b>2014</b> , 4, 137-143	5.4	15
21	The bright future: Imaging dynamic cellular events with quantum dots. <i>Biochemist</i> , <b>2010</b> , 32, 12-17	0.5	15
20	Biocompatible hyaluronic acid polymer-coated quantum dots for CD44+ cancer cell-targeted imaging. <i>Journal of Nanoparticle Research</i> , <b>2014</b> , 16, 1	2.3	12
19	Near-infrared Intraoperative Molecular Imaging Can Identify Metastatic Lymph Nodes in Prostate Cancer. <i>Urology</i> , <b>2017</b> , 106, 133-138	1.6	7

18	Quantitative Examination of the Active Targeting Effect: The Key Factor for Maximal Tumor Accumulation and Retention of Short-Circulated Biopolymeric Nanocarriers. <i>Bioconjugate Chemistry</i> , <b>2017</b> , 28, 1351-1355	6.3	6
17	Quantum Dot Nanocrystals for In Vivo Molecular and Cellular Imaging. <i>Photochemistry and Photobiology</i> , <b>2007</b> , 80, 377-385	3.6	6
16	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. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> ,	9.5	6
15	Hexachromatic bioinspired camera for image-guided cancer surgery. <i>Science Translational Medicine</i> , <b>2021</b> , 13,	17.5	6
14	Evaluation of Aminolevulinic Acid-Derived Tumor Fluorescence Yields Disparate Results in Murine and Spontaneous Large Animal Models of Lung Cancer. <i>Scientific Reports</i> , <b>2019</b> , 9, 7629	4.9	5
13	Rational Design of Surface-State Controlled Multicolor Cross-Linked Carbon Dots with Distinct Photoluminescence and Cellular Uptake Properties. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> ,	9.5	5
12	Encapsulating maytansinoid in pH-sensitive nanocarriers: The importance of using extremely potent cytotoxic agents and fast release for nanomedicine to achieve tumor elimination. <i>Nano Research</i> , <b>2019</b> , 12, 1959-1966	10	4
11	Efficient and Stable Thin-Film Luminescent Solar Concentrators Enabled by Near-Infrared Emission Perovskite Nanocrystals. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 7812-7816	3.6	4
10	Succinylated heparin monolayer coating vastly increases superparamagnetic iron oxide nanoparticle T proton relaxivity. <i>Nanoscale</i> , <b>2019</b> , 11, 12905-12914	7.7	4
9	Biomedical nanotechnology for molecular imaging, diagnostics, and targeted therapy. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2009</b> , 2009, 4578-9	0.9	4
8	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. <i>Tomography</i> , <b>2016</b> , 2, 215-222	3.1	4
7	Function-adaptive clustered nanoparticles reverse <i>Streptococcus mutans</i> dental biofilm and maintain microbiota balance. <i>Communications Biology</i> , <b>2021</b> , 4, 846	6.7	4
6	Nanoparticle Probes for Ultrasensitive Biological Detection and Imaging	71-89	2
5	Integrating Magnetic and Optical Nanotechnology for Selective Capture and Multiplexed Analysis of Rare Tumor Cells	2007,	1
4	Bioconjugated Nanoparticles for Ultrasensitive Detection of Molecular Biomarkers and Infectious Agents	207-222	
3	Remembering Dr. Richard P. Van Duyne (1945-2019): Gentleman, Scholar, and Surface-Enhanced Raman Scattering Pioneer. <i>ACS Nano</i> , <b>2020</b> , 14, 26-27	16.7	0
2	Luminescent Quantum Dots for Biological Labeling	2005,	343-352
1	Probing Single Molecules in Single Living Cells. <i>Microscopy and Microanalysis</i> , <b>2001</b> , 7, 28-29	0.5	

