

# Nongjian Tao

## List of Publications by Year in descending order

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120  
papers

9,467  
citations

41323

49  
h-index

38368

95  
g-index

127  
all docs

127  
docs citations

127  
times ranked

11175  
citing authors

#	ARTICLE	IF	CITATIONS
1	Colorimetric Sensor for Online Accurate Detection of Breath Acetone. ACS Sensors, 2021, 6, 450-453.	4.0	43
2	Probing Single-Molecule Binding Event by the Dynamic Counting and Mapping of Individual Nanoparticles. ACS Sensors, 2021, 6, 523-529.	4.0	13
3	Optical Imaging of Electrical and Mechanical Couplings between Cells. ACS Sensors, 2021, 6, 508-512.	4.0	3
4	Single-molecule calorimeter and free energy landscape. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	18
5	Integrating Electrochemical and Colorimetric Sensors with a Webcam Readout for Multiple Gas Detection. Analytical Chemistry, 2020, 92, 799-805.	3.2	4
6	Simultaneous Quantification of Protein Binding Kinetics in Whole Cells with Surface Plasmon Resonance Imaging and Edge Deformation Tracking. Membranes, 2020, 10, 247.	1.4	8
7	Optical imaging of single-protein size, charge, mobility, and binding. Nature Communications, 2020, 11, 4768.	5.8	30
8	Phase imaging of transition from classical to quantum plasmonic couplings between a metal nanoparticle and a metal surface. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17564-17570.	3.3	16
9	An Unobstructive Sensing Method for Indoor Air Quality Optimization and Metabolic Assessment within Vehicles. Sensors, 2020, 20, 7202.	2.1	3
10	A Microdroplet-Based Colorimetric Sensing Platform on a CMOS Imager Chip. Analytical Chemistry, 2020, 92, 9362-9369.	3.2	7
11	One-Step Digital Immunoassay for Rapid and Sensitive Detection of Cardiac Troponin I. ACS Sensors, 2020, 5, 1126-1131.	4.0	35
12	Total Iron Measurement in Human Serum With a Novel Smartphone-Based Assay. IEEE Journal of Translational Engineering in Health and Medicine, 2020, 8, 1-9.	2.2	79
13	Rapid Antibiotic Susceptibility Testing Based on Bacterial Motion Patterns With Long Short-Term Memory Neural Networks. IEEE Sensors Journal, 2020, 20, 4940-4950.	2.4	14
14	A Paper Based Milli-Cantilever Sensor for Detecting Hydrocarbon Gases via Smartphone Camera. Analytical Chemistry, 2020, 92, 8480-8486.	3.2	12
15	Personal mobile tracking of resting and excess post-exercise oxygen consumption with a mobile indirect calorimeter. Gazzetta Medica Italiana Archivio Per Le Scienze Mediche, 2020, 178, .	0.0	1
16	Plasmonic Measurement of Electron Transfer between a Single Metal Nanoparticle and an Electrode through a Molecular Layer. Journal of the American Chemical Society, 2019, 141, 11694-11699.	6.6	21
17	Single-molecule level control of host-guest interactions in metallocycle-C60 complexes. Nature Communications, 2019, 10, 4599.	5.8	44
18	Quantifying Ligand-Protein Binding Kinetics with Self-Assembled Nano-oscillators. Analytical Chemistry, 2019, 91, 14149-14156.	3.2	11

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19	Probing Single Molecule Binding and Free Energy Profile with Plasmonic Imaging of Nanoparticles. <i>Journal of the American Chemical Society</i> , 2019, 141, 16071-16078.	6.6	39
20	Developing a Low-Cost Wearable Personal Exposure Monitor for Studying Respiratory Diseases Using Metal-oxide Sensors. <i>IEEE Sensors Journal</i> , 2019, 19, 8252-8261.	2.4	40
21	Light-Controlled Configurable Colorimetric Sensing Array. <i>Analytical Chemistry</i> , 2019, 91, 6632-6637.	3.2	10
22	Transition from stochastic events to deterministic ensemble average in electron transfer reactions revealed by single-molecule conductance measurement. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 3407-3412.	3.3	53
23	Gate controlling of quantum interference and direct observation of anti-resonances in single molecule charge transport. <i>Nature Materials</i> , 2019, 18, 357-363.	13.3	160
24	Optical Imaging of Charges with Atomically Thin Molybdenum Disulfide. <i>ACS Nano</i> , 2019, 13, 2298-2306.	7.3	9
25	Phenotypic Antimicrobial Susceptibility Testing with Deep Learning Video Microscopy. <i>Analytical Chemistry</i> , 2018, 90, 6314-6322.	3.2	61
26	Gradient-Based Colorimetric Sensors for Continuous Gas Monitoring. <i>Analytical Chemistry</i> , 2018, 90, 5375-5380.	3.2	24
27	Label-Free Quantification of Small-Molecule Binding to Membrane Proteins on Single Cells by Tracking Nanometer-Scale Cellular Membrane Deformation. <i>ACS Nano</i> , 2018, 12, 2056-2064.	7.3	16
28	Real-Time Simultaneous Separation and Detection of Chemicals Using Integrated Microcolumn and Surface Plasmon Resonance Imaging Micro-GC. <i>IEEE Sensors Journal</i> , 2018, 18, 1351-1357.	2.4	6
29	Oxygen Sensing Based on the Yellowing of Newspaper. <i>ACS Sensors</i> , 2018, 3, 160-166.	4.0	15
30	High Performance Colorimetric Carbon Monoxide Sensor for Continuous Personal Exposure Monitoring. <i>ACS Sensors</i> , 2018, 3, 327-333.	4.0	64
31	Evaluation of a Thermal-Based Flow Meter for Assessment of Mobile Resting Metabolic Rate Measures. <i>Journal of Sensors</i> , 2018, 2018, 1-8.	0.6	2
32	Potential Dependence of Mechanical Stability and Electronic Coupling of Single Au Bonds. <i>Journal of the American Chemical Society</i> , 2018, 140, 18074-18081.	6.6	18
33	Chemical Sensing in Real Time with Plants Using a Webcam. <i>Analytical Chemistry</i> , 2018, 90, 13030-13035.	3.2	5
34	Interferometric plasmonic imaging and detection of single exosomes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 10275-10280.	3.3	140
35	Tracking Personal Health-Environment Interaction with Novel Mobile Sensing Devices. <i>Sensors</i> , 2018, 18, 2670.	2.1	6
36	The Orbital Selection Rule for Molecular Conductance as Manifested in Tetraphenyl-Based Molecular Junctions. <i>Journal of the American Chemical Society</i> , 2017, 139, 2989-2993.	6.6	22

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37	Determining Electrochemical Surface Stress of Single Nanowires. <i>Angewandte Chemie</i> , 2017, 129, 2164-2167.	1.6	6
38	Determining Electrochemical Surface Stress of Single Nanowires. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 2132-2135.	7.2	11
39	Gate-controlled conductance switching in DNA. <i>Nature Communications</i> , 2017, 8, 14471.	5.8	103
40	Achieving High Spatial Resolution Surface Plasmon Resonance Microscopy with Image Reconstruction. <i>Analytical Chemistry</i> , 2017, 89, 2704-2707.	3.2	64
41	Noncontact spirometry with a webcam. <i>Journal of Biomedical Optics</i> , 2017, 22, 057002.	1.4	16
42	Plasmonic Imaging of Electrochemical Impedance. <i>Annual Review of Analytical Chemistry</i> , 2017, 10, 183-200.	2.8	30
43	Pauli Repulsion-Induced Expansion and Electromechanical Properties of Graphene. <i>Nano Letters</i> , 2017, 17, 236-241.	4.5	12
44	Optical Imaging of Phase Transition and Li-Ion Diffusion Kinetics of Single LiCoO <sub>2</sub> Nanoparticles During Electrochemical Cycling. <i>Journal of the American Chemical Society</i> , 2017, 139, 186-192.	6.6	117
45	Mechanical Stretching-Induced Electron-Transfer Reactions and Conductance Switching in Single Molecules. <i>Journal of the American Chemical Society</i> , 2017, 139, 14699-14706.	6.6	61
46	Intermittent photocatalytic activity of single CdS nanoparticles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10566-10571.	3.3	73
47	Rapid Antibiotic Susceptibility Testing of Uropathogenic <i>E. coli</i> by Tracking Submicron Scale Motion of Single Bacterial Cells. <i>ACS Sensors</i> , 2017, 2, 1231-1239.	4.0	33
48	Current and emerging techniques for antibiotic susceptibility tests. <i>Theranostics</i> , 2017, 7, 1795-1805.	4.6	143
49	A Novel Wireless Wearable Volatile Organic Compound (VOC) Monitoring Device with Disposable Sensors. <i>Sensors</i> , 2016, 16, 2060.	2.1	19
50	Particle Pollution Estimation Based on Image Analysis. <i>PLoS ONE</i> , 2016, 11, e0145955.	1.1	65
51	Emerging tools for studying single entity electrochemistry. <i>Faraday Discussions</i> , 2016, 193, 9-39.	1.6	86
52	Thermoelectric effect and its dependence on molecular length and sequence in single DNA molecules. <i>Nature Communications</i> , 2016, 7, 11294.	5.8	80
53	Motion robust remote photoplethysmography in CIE Lab color space. <i>Journal of Biomedical Optics</i> , 2016, 21, 117001.	1.4	33
54	Measuring the number concentration of arbitrarily-shaped gold nanoparticles with surface plasmon resonance microscopy. <i>Science China Chemistry</i> , 2016, 59, 843-847.	4.2	5

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55	Non-exponential Length Dependence of Conductance in Iodide-Terminated Oligothiophene Single-Molecule Tunneling Junctions. <i>Journal of the American Chemical Society</i> , 2016, 138, 679-687.	6.6	59
56	Determining the Absolute Concentration of Nanoparticles without Calibration Factor by Visualizing the Dynamic Processes of Interfacial Adsorption. <i>Analytical Chemistry</i> , 2016, 88, 2380-2385.	3.2	22
57	Single-Cell Tracking: Label-Free Tracking of Single Organelle Transportation in Cells with Nanometer Precision Using a Plasmonic Imaging Technique ( <i>Small</i> 24/2015). <i>Small</i> , 2015, 11, 2877-2877.	5.2	0
58	Piezoresistivity in single DNA molecules. <i>Nature Communications</i> , 2015, 6, 8032.	5.8	36
59	Acetone as biomarker for ketosis buildup capability - a study in healthy individuals under combined high fat and starvation diets. <i>Nutrition Journal</i> , 2015, 14, 41.	1.5	36
60	Real-Time Monitoring of Phosphorylation Kinetics with Self-Assembled Nano-Oscillators. <i>Angewandte Chemie</i> , 2015, 127, 2568-2572.	1.6	5
61	Intermediate tunnelling "hopping regime in DNA charge transport. <i>Nature Chemistry</i> , 2015, 7, 221-226.	6.6	204
62	Real-Time Monitoring of Phosphorylation Kinetics with Self-Assembled Nano-Oscillators. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 2538-2542.	7.2	43
63	Kinetics of small molecule interactions with membrane proteins in single cells measured with mechanical amplification. <i>Science Advances</i> , 2015, 1, e1500633.	4.7	39
64	Tuning the Electromechanical Properties of Single DNA Molecular Junctions. <i>Journal of the American Chemical Society</i> , 2015, 137, 13933-13937.	6.6	21
65	Imaging Local Heating and Thermal Diffusion of Nanomaterials with Plasmonic Thermal Microscopy. <i>ACS Nano</i> , 2015, 9, 11574-11581.	7.3	63
66	Quantification of Epidermal Growth Factor Receptor Expression Level and Binding Kinetics on Cell Surfaces by Surface Plasmon Resonance Imaging. <i>Analytical Chemistry</i> , 2015, 87, 9960-9965.	3.2	161
67	A Colorimetric Chemical Sensing Platform for Real-Time Monitoring of Indoor Formaldehyde. <i>IEEE Sensors Journal</i> , 2015, 15, 1545-1551.	2.4	24
68	How does fluorescent labeling affect the binding kinetics of proteins with intact cells?. <i>Biosensors and Bioelectronics</i> , 2015, 66, 412-416.	5.3	56
69	Plasmonic imaging of protein interactions with single bacterial cells. <i>Biosensors and Bioelectronics</i> , 2015, 63, 131-137.	5.3	52
70	Detection of Charges and Molecules with Self-Assembled Nano-Oscillators. <i>Nano Letters</i> , 2014, 14, 4151-4157.	4.5	51
71	Molecular Scale Origin of Surface Plasmon Resonance Biosensors. <i>Analytical Chemistry</i> , 2014, 86, 8992-8997.	3.2	75
72	A pocket-sized metabolic analyzer for assessment of resting energy expenditure. <i>Clinical Nutrition</i> , 2014, 33, 341-347.	2.3	21

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73	In situ drug-receptor binding kinetics in single cells: a quantitative label-free study of anti-tumor drug resistance. <i>Scientific Reports</i> , 2014, 4, 6609.	1.6	38
74	A Wireless Hybrid Chemical Sensor for Detection of Environmental Volatile Organic Compounds. <i>IEEE Sensors Journal</i> , 2013, 13, 1748-1755.	2.4	61
75	Force Sensors: Hybrid Mechanoresponsive Polymer Wires Under Force Activation ( <i>Adv. Mater.</i> 12/2013). <i>Advanced Materials</i> , 2013, 25, 1658-1658.	11.1	0
76	Hybrid Mechanoresponsive Polymer Wires Under Force Activation. <i>Advanced Materials</i> , 2013, 25, 1729-1733.	11.1	49
77	Biography of Stuart Lindsay. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 160401.	0.7	0
78	Single Molecular Switches: Electrochemical Gating of a Single Anthraquinone-Based Norbornylogous Bridge Molecule. <i>Journal of Physical Chemistry C</i> , 2012, 116, 21093-21097.	1.5	66
79	Label-free measuring and mapping of binding kinetics of membrane proteins in single living cells. <i>Nature Chemistry</i> , 2012, 4, 846-853.	6.6	193
80	Imaging the electrocatalytic activity of single nanoparticles. <i>Nature Nanotechnology</i> , 2012, 7, 668-672.	15.6	273
81	A Microfluidic-Colorimetric Sensor for Continuous Monitoring of Reactive Environmental Chemicals. <i>IEEE Sensors Journal</i> , 2012, 12, 1529-1535.	2.4	17
82	Observation of Electrochemically Controlled Quantum Interference in a Single Anthraquinone-Based Norbornylogous Bridge Molecule. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 3203-3206.	7.2	150
83	A new sensor for the assessment of personal exposure to volatile organic compounds. <i>Atmospheric Environment</i> , 2012, 54, 679-687.	1.9	47
84	Measurement and Statistical Analysis of Single-Molecule Current-Voltage Characteristics, Transition Voltage Spectroscopy, and Tunneling Barrier Height. <i>Journal of the American Chemical Society</i> , 2011, 133, 19189-19197.	6.6	181
85	Electron correlation enhancement of the diode property of asymmetric molecules. <i>Physical Review B</i> , 2011, 84, .	1.1	7
86	Single cells and intracellular processes studied by a plasmonic-based electrochemical impedance microscopy. <i>Nature Chemistry</i> , 2011, 3, 249-255.	6.6	179
87	Novel monitor paradigm for real-time exposure assessment. <i>Journal of Exposure Science and Environmental Epidemiology</i> , 2011, 21, 419-426.	1.8	31
88	Graphene Field-Effect Transistors: Electrochemical Gating, Interfacial Capacitance, and Biosensing Applications. <i>Chemistry - an Asian Journal</i> , 2010, 5, 2144-2153.	1.7	64
89	Gate-controlled electron transport in coronenes as a bottom-up approach towards graphene transistors. <i>Nature Communications</i> , 2010, 1, 31.	5.8	104
90	Ultrasensitive Detection of Nitrogen Oxides over a Nanoporous Membrane. <i>Analytical Chemistry</i> , 2010, 82, 9938-9940.	3.2	15

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91	Imaging Local Electrochemical Current via Surface Plasmon Resonance. <i>Science</i> , 2010, 327, 1363-1366.	6.0	309
92	Label-free imaging, detection, and mass measurement of single viruses by surface plasmon resonance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 16028-16032.	3.3	310
93	Nanotechnology enabled sensors and wireless sensing networks. , 2009, , .		0
94	Measurement of the quantum capacitance of graphene. <i>Nature Nanotechnology</i> , 2009, 4, 505-509.	15.6	1,459
95	Dielectric Screening Enhanced Performance in Graphene FET. <i>Nano Letters</i> , 2009, 9, 2571-2574.	4.5	253
96	Detecting molecules using a surface impedance imaging technique. , 2009, , .		1
97	Real-Time Ozone Detection Based on a Microfabricated Quartz Crystal Tuning Fork Sensor. <i>Sensors</i> , 2009, 9, 5655-5663.	2.1	23
98	Ionic Screening of Charged-Impurity Scattering in Graphene. <i>Nano Letters</i> , 2009, 9, 1621-1625.	4.5	144
99	Electrochemical Gate-Controlled Charge Transport in Graphene in Ionic Liquid and Aqueous Solution. <i>Journal of the American Chemical Society</i> , 2009, 131, 9908-9909.	6.6	238
100	Redox-Active Catechol-Functionalized Molecular Rods: Suitable Protection Groups and Single-Molecule Transport Investigations. <i>European Journal of Organic Chemistry</i> , 2008, 2008, 136-149.	1.2	21
101	Rapid measurement of single-molecule conductance. <i>Nanotechnology</i> , 2008, 19, 265204.	1.3	33
102	Nanosensors Based on Electrodeposited Conducting Polymers. <i>ECS Meeting Abstracts</i> , 2008, , .	0.0	0
103	Single Molecule Junctions Formed via Au-Thiol Contact: Stability and Breakdown Mechanism. <i>Journal of the American Chemical Society</i> , 2007, 129, 13225-13231.	6.6	156
104	Electrical detection of hepatitis C virus RNA on single wall carbon nanotube-field effect transistors. <i>Analyst</i> , 2007, 132, 738.	1.7	67
105	Hybrid Amperometric and Conductometric Chemical Sensor Based on Conducting Polymer Nanojunctions. <i>Analytical Chemistry</i> , 2007, 79, 5217-5224.	3.2	46
106	Conductance of Single Alkanedithiols: Conduction Mechanism and Effect of Molecule-Electrode Contacts. <i>Journal of the American Chemical Society</i> , 2006, 128, 2135-2141.	6.6	484
107	Tuning the Chemical Selectivity of SWNT-FETs for Detection of Heavy-Metal Ions. <i>Small</i> , 2006, 2, 1283-1291.	5.2	106
108	Redox-gated electron transport in electrically wired ferrocene molecules. <i>Chemical Physics</i> , 2006, 326, 138-143.	0.9	109

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109	Detection of Heavy Metal Ions in Drinking Water Using a High-Resolution Differential Surface Plasmon Resonance Sensor. <i>Environmental Science &amp; Technology</i> , 2005, 39, 1257-1262.	4.6	213
110	Measurement and control of single molecule conductance. <i>Journal of Materials Chemistry</i> , 2005, 15, 3260.	6.7	37
111	Chemical Sensor Based on Microfabricated Wristwatch Tuning Forks. <i>Analytical Chemistry</i> , 2005, 77, 2700-2707.	3.2	44
112	Electrochemical Fabrication of Metallic Quantum Wires. <i>Journal of Chemical Education</i> , 2005, 82, 720.	1.1	14
113	Electrochemical Gate-Controlled Conductance of Single Oligo(phenylene ethynylene)s. <i>Journal of the American Chemical Society</i> , 2005, 127, 9235-9240.	6.6	238
114	Large Gate Modulation in the Current of a Room Temperature Single Molecule Transistor. <i>Journal of the American Chemical Society</i> , 2005, 127, 2386-2387.	6.6	277
115	Changes in the Conductance of Single Peptide Molecules upon Metal-Ion Binding. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 6148-6152.	7.2	98
116	Conductance Titration of Single-Peptide Molecules. <i>Journal of the American Chemical Society</i> , 2004, 126, 5370-5371.	6.6	157
117	Quantification of Redox-Induced Thickness Changes of 11-Ferrocenylundecanethiol Self-Assembled Monolayers by Electrochemical Surface Plasmon Resonance. <i>Journal of Physical Chemistry B</i> , 2004, 108, 7206-7212.	1.2	86
118	Measuring the inverted region of an electron transfer reaction with a scanning tunneling microscope. <i>Electrochimica Acta</i> , 1997, 42, 2809-2815.	2.6	75
119	Measurement of electron transport and mechanical properties of single molecules. , 0, , .		0
120	Label-Free Quantification of Molecular Interaction in Live Red Blood Cells by Tracking Nanometer Scale Membrane Fluctuations. <i>Small</i> , 0, , 2201623.	5.2	5