

# Tao Liu

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

75  
papers

4,109  
citations

30  
h-index

63  
g-index

79  
ext. papers

4,445  
ext. citations

6.4  
avg, IF

5.51  
L-index

#	Paper	IF	Citations
75	Direct laser writing carbonization based on internal-reflection setup for fabricating shape-tailorable and sealed in-situ carbon features. <i>Materials and Design</i> , <b>2021</b> , 211, 110162	8.1	2
74	The combined use of wrinkling and cracking for the characterization of the mechanical properties of the laser-fabricated nanometer-thick amorphous carbon films. <i>Carbon</i> , <b>2021</b> , 184, 864-874	10.4	1
73	Processing-structure-property relationship in direct laser writing carbonization of polyimide. <i>Journal of Applied Polymer Science</i> , <b>2020</b> , 137, 48978	2.9	5
72	Self-Sealing Carbon Patterns by One-Step Direct Laser Writing and Their Use in Multifunctional Wearable Sensors. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 50600-50609	9.5	2
71	A Quantitative Optical Microscopy Method for Investigating the Laser-Induced Transient Melting Behavior of a Nanoparticle-Laden Polymer System in a Microenvironment. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 18784-18796	3.8	1
70	Microcontact Printing with Laser Direct Writing Carbonization for Facile Fabrication of Carbon-Based Ultrathin Disk Arrays and Ordered Holey Films. <i>Small</i> , <b>2019</b> , 15, e1902819	11	4
69	A laser-fabricated nanometer-thick carbon film and its strain-engineering for achieving ultrahigh piezoresistive sensitivity. <i>Journal of Materials Chemistry C</i> , <b>2019</b> , 7, 11276-11284	7.1	7
68	Direct Laser Writing of Functional Strain Sensors in Polyimide Tubes. <i>ACS Applied Polymer Materials</i> , <b>2019</b> , 1, 2914-2923	4.3	9
67	Multifunctional Green Sensor Prepared by Direct Laser Writing of Modified Wood Component. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2019</b> , 58, 10364-10372	3.9	8
66	Direct Laser Writing-Assisted Method for Template-Free Fabrication of Biomass-Based Porous Carbon Platelets with Uniform Size and Arbitrarily Designed Shapes. <i>ACS Omega</i> , <b>2019</b> , 4, 5870-5878	3.9	5
65	One-step process for direct laser writing carbonization of NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> treated cellulose paper and its use for facile fabrication of multifunctional force sensors with corrugated structures. <i>Cellulose</i> , <b>2019</b> , 26, 7423-7435	5.5	14
64	Enhancing proliferation and migration of fibroblast cells by electric stimulation based on triboelectric nanogenerator. <i>Nano Energy</i> , <b>2019</b> , 57, 600-607	17.1	56
63	On the piezoresistive behavior of carbon fibers - Cantilever-based testing method and Maxwell-Garnett effective medium theory modeling. <i>Carbon</i> , <b>2019</b> , 141, 283-290	10.4	8
62	Force and humidity dual sensors fabricated by laser writing on polyimide/paper bilayer structure for pulse and respiration monitoring. <i>Journal of Materials Chemistry C</i> , <b>2018</b> , 6, 4727-4736	7.1	43
61	Experimental and modeling study of CO <sub>2</sub> laser writing induced polyimide carbonization process. <i>Materials and Design</i> , <b>2018</b> , 160, 1168-1177	8.1	41
60	Simulation-guided regression approach for estimating the size distribution of nanoparticles with dynamic light scattering data. <i>IIEE Transactions</i> , <b>2017</b> , 49, 70-83	3.3	6
59	Effect of high-shear mixing by twin-screw extruder on the dispersion and homogeneity of polyacrylonitrile/carbon nanotube composite solution. <i>Polymer Composites</i> , <b>2017</b> , 38, 719-726	3	6

58	Laser Stimulated Shape Memory Polymer with Inclusion of Gold Nanorods and Critical Role of On-resonance Irradiation. <i>Journal of Materials Science and Technology</i> , <b>2017</b> , 33, 869-873	8.1	10
57	CNT Enabled Co-braided Smart Fabrics: A New Route for Non-invasive, Highly Sensitive & Large-area Monitoring of Composites. <i>Scientific Reports</i> , <b>2017</b> , 7, 44056	4.9	23
56	Fabrication of carbon nanotube-laden microdevices for Raman labeling of macrophages. <i>Biomedical Physics and Engineering Express</i> , <b>2017</b> , 3, 025012	1.5	4
55	Effect of Growth Temperature on Tailoring the Size and Aspect Ratio of Gold Nanorods. <i>Langmuir</i> , <b>2017</b> , 33, 7479-7485	4	19
54	Two-probe versus van der Pauw method in studying the piezoresistivity of single-wall carbon nanotube thin films. <i>Nanotechnology</i> , <b>2017</b> , 28, 445501	3.4	10
53	A Route toward Ultrasensitive Layered Carbon Based Piezoresistive Sensors through Hierarchical Contact Design. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 43133-43142	9.5	23
52	Direct laser writing for creating porous graphitic structures and their use for flexible and highly sensitive sensor and sensor arrays. <i>Carbon</i> , <b>2016</b> , 96, 522-531	10.4	157
51	Combined microfluidization and ultrasonication: a synergistic protocol for high-efficient processing of SWCNT dispersions with high quality. <i>Journal of Nanoparticle Research</i> , <b>2016</b> , 18, 1	2.3	5
50	Diazonium salt treated single-walled carbon nanotube thin films with high piezoresistive sensitivity. <i>Sensors and Actuators A: Physical</i> , <b>2016</b> , 250, 106-113	3.9	3
49	Gold Nanoparticles Incorporated Nematic Gel Micropillars Capable of Laser Actuation at Room Temperature. <i>Macromolecules</i> , <b>2016</b> , 49, 8322-8331	5.5	9
48	Engineering Crack Formation in Carbon Nanotube-Silver Nanoparticle Composite Films for Sensitive and Durable Piezoresistive Sensors. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 422	5	26
47	Reversible and Rapid Laser Actuation of Liquid Crystalline Elastomer Micropillars with Inclusion of Gold Nanoparticles. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 3022-3032	15.6	83
46	Flexible, Highly Durable, and Thermally Stable SWCNT/Polyimide Transparent Electrodes. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 20865-74	9.5	20
45	Effect of processing conditions on the dispersion of carbon nanotubes in polyacrylonitrile solutions. <i>Journal of Applied Polymer Science</i> , <b>2015</b> , 132, n/a-n/a	2.9	3
44	Investigation of polyacrylonitrile solution inhomogeneity by dynamic light scattering. <i>Polymer Engineering and Science</i> , <b>2015</b> , 55, 1403-1407	2.3	4
43	Effect of orientation on the piezoresistivity of mechanically drawn single walled carbon nanotube (SWCNT) thin films. <i>Carbon</i> , <b>2015</b> , 85, 372-382	10.4	20
42	Determination of the Length, Diameter, Molecular Mass, Density and Surfactant Adsorption of SWCNTs in Dilute Dispersion by Intrinsic Viscosity, Sedimentation, and Diffusion Measurements. <i>Macromolecules</i> , <b>2014</b> , 47, 3093-3100	5.5	8
41	Versatile surface micropatterning and functionalization enabled by microcontact printing of poly(4-aminostyrene). <i>Langmuir</i> , <b>2014</b> , 30, 13483-90	4	9

40	Gel electrophoresis and Raman mapping for determining the length distribution of SWCNTs. <i>RSC Advances</i> , <b>2014</b> , 4, 37070-37078	3.7	3
39	Graphite nanoplatelet enabled embeddable fiber sensor for in situ curing monitoring and structural health monitoring of polymeric composites. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2014</b> , 6, 9314-20	9.5	51
38	SWCNT-thin-film-enabled fiber sensors for lifelong structural health monitoring of polymeric composites - From manufacturing to utilization to failure. <i>Carbon</i> , <b>2014</b> , 76, 321-329	10.4	68
37	SWCNT/graphite nanoplatelet hybrid thin films for self-temperature-compensated, highly sensitive, and extensible piezoresistive sensors. <i>Advanced Materials</i> , <b>2013</b> , 25, 5650-7	24	136
36	Shape Matters: A Gold Nanoparticle Enabled Shape Memory Polymer Triggered by Laser Irradiation. <i>Particle and Particle Systems Characterization</i> , <b>2013</b> , 30, 338-345	3.1	53
35	A paper indicator for triple-modality sensing of nitrite based on colorimetric assay, Raman spectroscopy, and electron paramagnetic resonance spectroscopy. <i>Analyst, The</i> , <b>2013</b> , 138, 7303-7	5	8
34	Variable range hopping in single-wall carbon nanotube thin films: a processing-structure-property relationship study. <i>Langmuir</i> , <b>2013</b> , 29, 8694-702	4	36
33	Structure-property-processing relationships of single-wall carbon nanotube thin film piezoresistive sensors. <i>Carbon</i> , <b>2013</b> , 59, 315-324	10.4	85
32	Conductivity enhancement of aerosol-jet printed electronics by using silver nanoparticles ink with carbon nanotubes. <i>Microelectronic Engineering</i> , <b>2012</b> , 96, 71-75	2.5	79
31	Fabrication and characterization of aerosol-jet printed strain sensors for multifunctional composite structures. <i>Smart Materials and Structures</i> , <b>2012</b> , 21, 115008	3.4	38
30	Probe diffusion of single-walled carbon nanotubes in semidilute solutions of polyacrylonitrile homo- and copolymers: Effects of topological constraints and polymer/Nanorod interactions. <i>Polymer</i> , <b>2012</b> , 53, 5069-5077	3.9	7
29	A Review: Carbon Nanotube-Based Piezoresistive Strain Sensors. <i>Journal of Sensors</i> , <b>2012</b> , 2012, 1-15	2	186
28	Influence of SWNTs on the Preferential Alignment of Molecular Moieties in PVA Fibers. <i>Macromolecular Chemistry and Physics</i> , <b>2012</b> , 213, 617-626	2.6	12
27	Dynamic Light Scattering of Rigid Rods – A Universal Relationship on the Apparent Diffusion Coefficient as Revealed by Numerical Studies and Its Use for Rod Length Determination. <i>Macromolecular Chemistry and Physics</i> , <b>2012</b> , 213, 1697-1705	2.6	19
26	In situ characterization of structural changes and the fraction of aligned carbon nanotube networks produced by stretching. <i>Carbon</i> , <b>2012</b> , 50, 3859-3867	10.4	49
25	Nanotube-Enhanced Aerosol-Jet Printed Electronics for Embedded Sensing of Composite Structural Health. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1407, 193		1
24	Exact and Closed Form Solutions for the Quantum Yield, Exciton Diffusion Length, and Lifetime To Reveal the Universal Behaviors of the Photoluminescence of Defective Single-Walled Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , <b>2011</b> , 115, 16920-16927	3.8	13
23	In-Situ Structural Characterization of Single-Walled Carbon Nanotubes in Dispersion <b>2011</b> ,		1

22	Carbon nanotube buckypaper to improve fire retardancy of high-temperature/high-performance polymer composites. <i>Nanotechnology</i> , <b>2010</b> , 21, 235701	3.4	42
21	Pore size control and electrochemical capacitor behavior of chemically activated polyacrylonitrile □ Carbon nanotube composite films. <i>Composites Science and Technology</i> , <b>2010</b> , 70, 593-598	8.6	23
20	Highly conductive PVA organogel electrolytes for applications of lithium batteries and electrochemical capacitors. <i>Solid State Ionics</i> , <b>2010</b> , 181, 531-535	3.3	21
19	Comparison of ultrasonication and microfluidization for high throughput and large-scale processing of SWCNT dispersions. <i>Carbon</i> , <b>2010</b> , 48, 2992-2994	10.4	22
18	The exfoliation of SWCNT bundles examined by simultaneous Raman scattering and photoluminescence spectroscopy. <i>Carbon</i> , <b>2009</b> , 47, 3529-3537	10.4	33
17	Preparative Ultracentrifuge Method for Characterization of Carbon Nanotube Dispersions. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 19193-19202	3.8	47
16	PAN/SAN/SWNT ternary composite: Pore size control and electrochemical supercapacitor behavior. <i>Polymer</i> , <b>2006</b> , 47, 5831-5837	3.9	31
15	Structure and properties of polyacrylonitrile/single wall carbon nanotube composite films. <i>Polymer</i> , <b>2005</b> , 46, 3001-3005	3.9	101
14	Effect of solvent solubility parameter on SWNT dispersion in PMMA. <i>Polymer</i> , <b>2005</b> , 46, 3419-3424	3.9	56
13	Polyacrylonitrile Single-Walled Carbon Nanotube Composite Fibers. <i>Advanced Materials</i> , <b>2004</b> , 16, 58-61	24	304
12	Gel spinning of PVA/SWNT composite fiber. <i>Polymer</i> , <b>2004</b> , 45, 8801-8807	3.9	135
11	Physically correct theoretical prism waveguide coupler model. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , <b>2004</b> , 21, 1322-33	1.8	4
10	Properties and Structure of Nitric Acid Oxidized Single Wall Carbon Nanotube Films. <i>Journal of Physical Chemistry B</i> , <b>2004</b> , 108, 16435-16440	3.4	224
9	SWNT/PAN composite film-based supercapacitors. <i>Carbon</i> , <b>2003</b> , 41, 2440-2442	10.4	70
8	Quantitative characterization of SWNT orientation by polarized Raman spectroscopy. <i>Chemical Physics Letters</i> , <b>2003</b> , 378, 257-262	2.5	92
7	Crystallization and orientation studies in polypropylene/single wall carbon nanotube composite. <i>Polymer</i> , <b>2003</b> , 44, 2373-2377	3.9	638
6	Quantitative characterization of the optical properties of absorbing polymer films: Comparative investigation of the internal reflection intensity analysis method. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2003</b> , 41, 842-855	2.6	6
5	Effect of Orientation on the Modulus of SWNT Films and Fibers. <i>Nano Letters</i> , <b>2003</b> , 3, 647-650	11.5	92

4	Single-Wall Carbon Nanotube Films. <i>Chemistry of Materials</i> , <b>2003</b> , 15, 175-178	9.6	235
3	Poly(vinyl alcohol)/SWNT Composite Film. <i>Nano Letters</i> , <b>2003</b> , 3, 1285-1288	11.5	421
2	The influence of hydrogen chloride doping level on the complex refractive indices of anisotropic polyaniline film: Application of a new internal reflection waveguide coupling technique. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2001</b> , 39, 2481-2490	2.6	13
1	Improved Refractive Index from a Planar Leaky Wave-Guide Coupler. <i>Materials Research Society Symposia Proceedings</i> , <b>1999</b> , 597, 57		