

# Wenshan Cai

## List of Publications by Citations

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73  
papers

13,375  
citations

36  
h-index

87  
g-index

87  
ext. papers

15,785  
ext. citations

13.1  
avg, IF

6.59  
L-index

#	Paper	IF	Citations
73	Plasmonics for extreme light concentration and manipulation. <i>Nature Materials</i> , <b>2010</b> , 9, 193-204	27	3116
72	Optical cloaking with metamaterials. <i>Nature Photonics</i> , <b>2007</b> , 1, 224-227	33.9	1515
71	Negative index of refraction in optical metamaterials. <i>Optics Letters</i> , <b>2005</b> , 30, 3356-8	3	1273
70	3D self-assembly of aluminium nanoparticles for plasmon-enhanced solar desalination. <i>Nature Photonics</i> , <b>2016</b> , 10, 393-398	33.9	1238
69	Self-limited plasmonic welding of silver nanowire junctions. <i>Nature Materials</i> , <b>2012</b> , 11, 241-9	27	891
68	Optical Metamaterials <b>2010</b> ,		484
67	Semiconductor nanowire optical antenna solar absorbers. <i>Nano Letters</i> , <b>2010</b> , 10, 439-45	11.5	438
66	Phase-coupled plasmon-induced transparency. <i>Physical Review Letters</i> , <b>2010</b> , 104, 243902	7.4	346
65	Generative Model for the Inverse Design of Metasurfaces. <i>Nano Letters</i> , <b>2018</b> , 18, 6570-6576	11.5	323
64	Compact, high-speed and power-efficient electrooptic plasmonic modulators. <i>Nano Letters</i> , <b>2009</b> , 9, 4403-4414	11.5	268
63	Nonmagnetic cloak with minimized scattering. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 111105	3.4	226
62	Metamagnetics with rainbow colors. <i>Optics Express</i> , <b>2007</b> , 15, 3333-41	3.3	226
61	Giant chiral optical response from a twisted-arc metamaterial. <i>Nano Letters</i> , <b>2014</b> , 14, 1021-5	11.5	216
60	The Ag dielectric function in plasmonic metamaterials. <i>Optics Express</i> , <b>2008</b> , 16, 1186-95	3.3	215
59	Plasmonic Dye-Sensitized Solar Cells. <i>Advanced Energy Materials</i> , <b>2011</b> , 1, 52-57	21.8	206
58	Electrically controlled nonlinear generation of light with plasmonics. <i>Science</i> , <b>2011</b> , 333, 1720-3	33.3	194
57	Deep learning for the design of photonic structures. <i>Nature Photonics</i> , <b>2021</b> , 15, 77-90	33.9	168

56	Circular Dichroism Metamirrors with Near-Perfect Extinction. <i>ACS Photonics</i> , <b>2016</b> , 3, 2096-2101	6.3	162
55	A negative permeability material at red light. <i>Optics Express</i> , <b>2007</b> , 15, 1076-83	3.3	161
54	Dual-band negative index metamaterial: double negative at 813 nm and single negative at 772 nm. <i>Optics Letters</i> , <b>2007</b> , 32, 1671-3	3	160
53	Designs for optical cloaking with high-order transformations. <i>Optics Express</i> , <b>2008</b> , 16, 5444-52	3.3	120
52	Nonlinear imaging and spectroscopy of chiral metamaterials. <i>Advanced Materials</i> , <b>2014</b> , 26, 6157-62	24	109
51	Highly Reproducible Organometallic Halide Perovskite Microdevices based on Top-Down Lithography. <i>Advanced Materials</i> , <b>2017</b> , 29, 1606205	24	100
50	Elements for plasmonic nanocircuits with three-dimensional slot waveguides. <i>Advanced Materials</i> , <b>2010</b> , 22, 5120-4	24	91
49	Preserving Spin States upon Reflection: Linear and Nonlinear Responses of a Chiral Meta-Mirror. <i>Nano Letters</i> , <b>2017</b> , 17, 7102-7109	11.5	85
48	Measurement of the polarization state of light using an integrated plasmonic polarimeter. <i>Nanophotonics</i> , <b>2012</b> , 1, 125-129	6.3	85
47	Visualizing Optical Phase Anisotropy in Black Phosphorus. <i>ACS Photonics</i> , <b>2016</b> , 3, 1176-1181	6.3	68
46	Electrifying photonic metamaterials for tunable nonlinear optics. <i>Nature Communications</i> , <b>2014</b> , 5, 4680	17.4	67
45	Backward phase-matching for nonlinear optical generation in negative-index materials. <i>Nature Materials</i> , <b>2015</b> , 14, 807-11	27	55
44	An Active Metamaterial Platform for Chiral Responsive Optoelectronics. <i>Advanced Materials</i> , <b>2015</b> , 27, 4377-83	24	55
43	Compounding Meta-Atoms into Metamolecules with Hybrid Artificial Intelligence Techniques. <i>Advanced Materials</i> , <b>2020</b> , 32, e1904790	24	55
42	Stable, high-performance sodium-based plasmonic devices in the near-infrared. <i>Nature</i> , <b>2020</b> , 581, 401-405	19.4	53
41	Intensity-dependent modulation of optically active signals in a chiral metamaterial. <i>Nature Communications</i> , <b>2017</b> , 8,	17.4	52
40	Metamaterials enable chiral-selective enhancement of two-photon luminescence from quantum emitters. <i>Advanced Materials</i> , <b>2015</b> , 27, 1124-30	24	37
39	Hot-Electron-Assisted Femtosecond All-Optical Modulation in Plasmonics. <i>Advanced Materials</i> , <b>2018</b> , 30, 1704915	24	37

38	Ultrafast Control of Phase and Polarization of Light Expedited by Hot-Electron Transfer. <i>Nano Letters</i> , <b>2018</b> , 18, 5544-5551	11.5	37
37	All-Optical Control of Light in Micro- and Nanophotonics. <i>ACS Photonics</i> , <b>2019</b> , 6, 1082-1093	6.3	34
36	Dynamic Hybrid Metasurfaces. <i>Nano Letters</i> , <b>2021</b> , 21, 1238-1245	11.5	33
35	Optical Metamagnetism and Negative-Index Metamaterials. <i>MRS Bulletin</i> , <b>2008</b> , 33, 921-926	3.2	30
34	Broadband sharp 90-degree bends and T-splitters in plasmonic coaxial waveguides. <i>Nano Letters</i> , <b>2013</b> , 13, 4753-8	11.5	29
33	Tackling Photonic Inverse Design with Machine Learning. <i>Advanced Science</i> , <b>2021</b> , 8, 2002923	13.6	29
32	Metasurfaces for Near-Eye Augmented Reality. <i>ACS Photonics</i> , <b>2019</b> , 6, 864-870	6.3	23
31	A Hybrid Strategy for the Discovery and Design of Photonic Structures. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , <b>2020</b> , 10, 126-135	5.2	23
30	Electrically driven reprogrammable phase-change metasurface reaching 80% efficiency.. <i>Nature Communications</i> , <b>2022</b> , 13, 1696	17.4	21
29	Topological encoding method for data-driven photonics inverse design. <i>Optics Express</i> , <b>2020</b> , 28, 4825-4835	9.5	18
28	Photocurrent-Induced Active Control of Second-Order Optical Nonlinearity in Monolayer MoS <sub>2</sub> . <i>Small</i> , <b>2020</b> , 16, e1906347	11	16
27	In operando plasmonic monitoring of electrochemical evolution of lithium metal. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 11168-11173	11.5	16
26	Synthetic Engineering of Morphology and Electronic Band Gap in Lateral Heterostructures of Monolayer Transition Metal Dichalcogenides. <i>ACS Nano</i> , <b>2020</b> , 14, 6323-6330	16.7	14
25	Experimental demonstration of pattern effect compensation using an asymmetrical Mach-Zehnder interferometer with SOAs. <i>IEEE Photonics Technology Letters</i> , <b>2001</b> , 13, 1325-1327	2.2	14
24	3D Volumetric Energy Deposition of Focused Helium Ion Beam Lithography: Visualization, Modeling, and Applications in Nanofabrication. <i>Advanced Materials Interfaces</i> , <b>2018</b> , 5, 1800203	4.6	13
23	Electrically Biased Silicon Metasurfaces with Magnetic Mie Resonance for Tunable Harmonic Generation of Light. <i>ACS Photonics</i> , <b>2019</b> , 6, 2663-2670	6.3	13
22	Tunable Light Emission by Electrically Excited Plasmonic Antenna. <i>ACS Photonics</i> , <b>2019</b> , 6, 2392-2396	6.3	12
21	Electrically Tunable Harmonic Generation of Light from Plasmonic Structures in Electrolytes. <i>Nano Letters</i> , <b>2016</b> , 16, 5074-9	11.5	12

20	Bit-error-rate performance dependence on pump and signal powers of the wavelength converter based on FWM in semiconductor optical amplifiers. <i>IEEE Photonics Technology Letters</i> , <b>2000</b> , 12, 855-857 <sup>2.2</sup>	12
19	Building Multifunctional Metasystems Algorithmic Construction. <i>ACS Nano</i> , <b>2021</b> , 15, 2318-2326	16.7 11
18	Plasmonic Back Reflectors: Plasmonic Dye-Sensitized Solar Cells. <i>Advanced Energy Materials</i> , <b>2011</b> , 1, 51-51	21.8 10
17	Transient Second-Order Nonlinear Media: Breaking the Spatial Symmetry in the Time Domain via Hot-Electron Transfer. <i>Physical Review Letters</i> , <b>2020</b> , 124, 013901	7.4 10
16	Nonlinear optics: Tuning harmonics with excitons. <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 387-8	28.7 9
15	Dark plasmonic modes in diatomic gratings for plasmoelectronics. <i>Laser and Photonics Reviews</i> , <b>2017</b> , 11, 1600312	8.3 8
14	Reply to "The merits of plasmonic desalination" <i>Nature Photonics</i> , <b>2017</b> , 11, 70-71	33.9 4
13	Impact of front-end wearout mechanisms on FinFET SRAM soft error rate. <i>Microelectronics Reliability</i> , <b>2019</b> , 100-101, 113487	1.2 3
12	Reversible Photochemical Switching via Plasmonically Enhanced Upconversion Photoluminescence. <i>Advanced Optical Materials</i> , <b>2021</b> , 9, 2100776	8.1 3
11	Ultrasensitive Molecular Detection by Imaging of Centimeter-Scale Metasurfaces with a Deterministic Gradient Geometry. <i>Advanced Materials</i> , <b>2021</b> , 33, e2100270	24 3
10	Suppression of waveform distortion in semiconductor optical amplifier using internal birefringence and slope filtering. <i>Electronics Letters</i> , <b>2001</b> , 37, 704	1.1 2
9	A library based on deep neural networks for modeling the degradation of FinFET SRAM performance metrics due to aging. <i>Microelectronics Reliability</i> , <b>2019</b> , 100-101, 113486	1.2 1
8	Programmable optical add/drop multiplexer with enhanced temperature sensitivity. <i>Optics Communications</i> , <b>2001</b> , 200, 153-157	2 1
7	A Chiral Metamaterial for Chiral Responsive Optoelectronic Transduction <b>2016</b> ,	1
6	Inverse Design of FinFET SRAM Cells <b>2020</b> ,	1
5	Engineering Radiative Energy Transfer and Directional Excitonic Emission in van der Waals Heterostructures. <i>Laser and Photonics Reviews</i> , 2100737	8.3 1
4	Noninverted wavelength conversion with signal improvement and chirp compression utilizing birefringence in SOAs. <i>Optics Communications</i> , <b>2001</b> , 191, 229-234	2 0
3	A Comprehensive Framework for Analysis of Time-Dependent Performance-Reliability Degradation of SRAM Cache Memory. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , <b>2021</b> , 29, 857-870 <sup>2.6</sup>	0

- 2 Enhanced performance with optimized input power and increased dynamic range for wavelength conversion using four-wave mixing in SOAs. *Optics Communications*, **2001**, 193, 245-251 2
- 1 Artificial Intelligence Meets Engineered Photonic Materials: introduction to special issue. *Optical Materials Express*, **2021**, 11, 3431 2.6