

# Xiao-Mu Wang

## List of Publications by Citations

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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.

50  
papers

4,223  
citations

25  
h-index

56  
g-index

56  
ext. papers

5,173  
ext. citations

15.2  
avg, IF

5.41  
L-index

#	Paper	IF	Citations
50	Highly anisotropic and robust excitons in monolayer black phosphorus. <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 517-21	28.7	999
49	High-responsivity graphene/silicon-heterostructure waveguide photodetectors. <i>Nature Photonics</i> , <b>2013</b> , 7, 888-891	33.9	584
48	Black Arsenic-Phosphorus: Layered Anisotropic Infrared Semiconductors with Highly Tunable Compositions and Properties. <i>Advanced Materials</i> , <b>2015</b> , 27, 4423-4429	24	282
47	Room temperature high-detectivity mid-infrared photodetectors based on black arsenic phosphorus. <i>Science Advances</i> , <b>2017</b> , 3, e1700589	14.3	269
46	Planar carbon nanotube-graphene hybrid films for high-performance broadband photodetectors. <i>Nature Communications</i> , <b>2015</b> , 6, 8589	17.4	197
45	Efficient electrical control of thin-film black phosphorus bandgap. <i>Nature Communications</i> , <b>2017</b> , 8, 14474	17.4	183
44	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. <i>Npj 2D Materials and Applications</i> , <b>2017</b> , 1,	8.8	144
43	Interlayer interactions in anisotropic atomically thin rhenium diselenide. <i>Nano Research</i> , <b>2015</b> , 8, 3651-3661	11.1	133
42	Single-nanowire spectrometers. <i>Science</i> , <b>2019</b> , 365, 1017-1020	33.3	130
41	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 217-222	28.7	99
40	High-performance graphene devices on SiO <sub>2</sub> /Si substrate modified by highly ordered self-assembled monolayers. <i>Advanced Materials</i> , <b>2011</b> , 23, 2464-8	24	93
39	Graphene based non-volatile memory devices. <i>Advanced Materials</i> , <b>2014</b> , 26, 5496-503	24	77
38	Gate-tunable van der Waals heterostructure for reconfigurable neural network vision sensor. <i>Science Advances</i> , <b>2020</b> , 6, eaba6173	14.3	66
37	A flexible ultrasensitive optoelectronic sensor array for neuromorphic vision systems. <i>Nature Communications</i> , <b>2021</b> , 12, 1798	17.4	66
36	Improving the Performance of Graphene Phototransistors Using a Heterostructure as the Light-Absorbing Layer. <i>Nano Letters</i> , <b>2017</b> , 17, 6391-6396	11.5	61
35	A MoSe <sub>2</sub> /WSe <sub>2</sub> Heterojunction-Based Photodetector at Telecommunication Wavelengths. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1804388	15.6	60
34	Tunable Plasmon-Phonon Polaritons in Layered Graphene-Hexagonal Boron Nitride Heterostructures. <i>ACS Photonics</i> , <b>2015</b> , 2, 907-912	6.3	57

33	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. <i>Advanced Materials</i> , <b>2020</b> , 32, e1902039	24	53
32	Single crystal n-channel field effect transistors from solution-processed silylethynylated tetraazapentacene. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 15201		46
31	Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors. <i>Advanced Materials Technologies</i> , <b>2017</b> , 2, 1600241	6.8	43
30	Nanoantenna-Sandwiched Graphene with Giant Spectral Tuning in the Visible-to-Near-Infrared Region. <i>Advanced Optical Materials</i> , <b>2014</b> , 2, 162-170	8.1	35
29	Room-temperature valleytronic transistor. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 743-749	28.7	33
28	Graphene/metal contacts: bistable states and novel memory devices. <i>Advanced Materials</i> , <b>2012</b> , 24, 2614-2619	2.9	30
27	Monolithic Full-Stokes Near-Infrared Polarimetry with Chiral Plasmonic Metasurface Integrated Graphene-Silicon Photodetector. <i>ACS Nano</i> , <b>2020</b> ,	16.7	30
26	van der Waals Transition-Metal Oxide for Vis-MIR Broadband Photodetection via Intercalation Strategy. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 15741-15747	9.5	24
25	Graphene-Based Infrared Position-Sensitive Detector for Precise Measurements and High-Speed Trajectory Tracking. <i>Nano Letters</i> , <b>2019</b> , 19, 8132-8137	11.5	23
24	Directly writing 2D organic semiconducting crystals for high-performance field-effect transistors. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 11246-11251	7.1	21
23	Homo- and hetero- p-n junctions formed on graphene steps. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2014</b> , 6, 3-8	9.5	20
22	Plasmon Excited Ultrahot Carriers and Negative Differential Photoresponse in a Vertical Graphene van der Waals Heterostructure. <i>Nano Letters</i> , <b>2019</b> , 19, 3295-3304	11.5	19
21	Low Voltage Operating 2D MoS Ferroelectric Memory Transistor with HfZrO Gate Structure. <i>Nanoscale Research Letters</i> , <b>2020</b> , 15, 157	5	17
20	Robust Impact-Ionization Field-Effect Transistor Based on Nanoscale Vertical Graphene/Black Phosphorus/Indium Selenide Heterostructures. <i>ACS Nano</i> , <b>2020</b> , 14, 434-441	16.7	15
19	Approaching the Collection Limit in Hot Electron Transistors with Ambipolar Hot Carrier Transport. <i>ACS Nano</i> , <b>2019</b> , 13, 14191-14197	16.7	15
18	Observation of excitonic series in monolayer and few-layer black phosphorus. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	14
17	Electrically tunable optical properties of few-layer black arsenic phosphorus. <i>Nanotechnology</i> , <b>2018</b> , 29, 484001	3.4	14
16	An ultrasensitive molybdenum-based double-heterojunction phototransistor. <i>Nature Communications</i> , <b>2021</b> , 12, 4094	17.4	13

15	Carrier sheet density constrained anomalous current saturation of graphene field effect transistors: kinks and negative differential resistances. <i>Nanoscale</i> , <b>2013</b> , 5, 2811-7	7.7	11
14	Photoresponsivity of an all-semimetal heterostructure based on graphene and WTe. <i>Scientific Reports</i> , <b>2018</b> , 8, 12840	4.9	10
13	High performance broadband photo and soft X-ray detectors based on two dimensional CrSiTe <sub>3</sub> . <i>Journal of Materials Chemistry C</i> , <b>2020</b> , 8, 6659-6666	7.1	9
12	On-Chip Measurement of Photoluminescence with High Sensitivity Monolithic Spectrometer. <i>Advanced Optical Materials</i> , <b>2020</b> , 8, 2000191	8.1	7
11	Influence of Annealing on Raman Spectrum of Graphene in Different Gaseous Environments. <i>Spectroscopy Letters</i> , <b>2014</b> , 47, 465-470	1.1	7
10	Engineering photonic environments for two-dimensional materials. <i>Nanophotonics</i> , <b>2021</b> , 10, 1031-1058	6.3	5
9	Patterning of Wafer-scale MXene Films for High-performance Image Sensor Arrays.. <i>Advanced Materials</i> , <b>2022</b> , e2201298	24	5
8	Observation of chiral and slow plasmons in twisted bilayer graphene.. <i>Nature</i> , <b>2022</b> , 605, 63-68	50.4	5
7	Growth dynamics and photoresponse of the Wadsley phase V <sub>6</sub> O <sub>13</sub> crystals. <i>Journal of Materials Chemistry C</i> , <b>2020</b> , 8, 6470-6477	7.1	4
6	Photoinduced Multi-bit Nonvolatile Memory Based on van der Waals Heterostructure with 2D-perovskite Floating Gate.. <i>Advanced Materials</i> , <b>2022</b> , e2110278	24	3
5	Highly Sensitive and Ultra-Broadband VO(B) Photodetector Dominated by Bolometric Effect.. <i>Nano Letters</i> , <b>2021</b> ,	11.5	3
4	Photodetectors: Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors (Adv. Mater. Technol. 2/2017). <i>Advanced Materials Technologies</i> , <b>2017</b> , 2,	6.8	2
3	Strategies for high performance and scalable on-chip spectrometers. <i>JPhys Photonics</i> , <b>2021</b> , 3, 012006	2.5	2
2	2-D Material-Based Photodetectors on Flexible Substrates <b>2019</b> , 117-142		1
1	P-N Junction Formation in Electron-beam Irradiated Graphene Step. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1407, 224		