

# Deep Jariwala

## 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.

101  
papers

12,114  
citations

41  
h-index

110  
g-index

116  
ext. papers

14,125  
ext. citations

12.2  
avg, IF

6.66  
L-index

#	Paper	IF	Citations
101	Nanomaterials for Quantum Information Science and Engineering.. <i>Advanced Materials</i> , <b>2022</b> , e2109621	24	6
100	Multiscale Photonic Emissivity Engineering for Relativistic Lightsail Thermal Regulation.. <i>Nano Letters</i> , <b>2022</b> ,	11.5	1
99	Cavity-enhanced linear dichroism in a van der Waals antiferromagnet. <i>Nature Photonics</i> , <b>2022</b> , 16, 311-317	33.9	2
98	Selective vapor sensors with thin-film MoS <sub>2</sub> -coated optical fibers. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2022</b> , 40, 032202	2.9	0
97	Relativistic Light Sails Need to Billow.. <i>Nano Letters</i> , <b>2021</b> ,	11.5	1
96	Light-matter coupling in large-area van der Waals superlattices. <i>Nature Nanotechnology</i> , <b>2021</b> ,	28.7	11
95	Opportunities in electrically tunable 2D materials beyond graphene: Recent progress and future outlook. <i>Applied Physics Reviews</i> , <b>2021</b> , 8, 041320	17.3	4
94	Electrical breakdown strength enhancement in aluminum scandium nitride through a compositionally modulated periodic multilayer structure. <i>Journal of Applied Physics</i> , <b>2021</b> , 130, 144101	2.5	1
93	Direct Imaging of Antiferromagnetic Domains and Anomalous Layer-Dependent Mirror Symmetry Breaking in Atomically Thin MnPS <sub>3</sub> . <i>Physical Review Letters</i> , <b>2021</b> , 127, 187201	7.4	1
92	Direct growth of hexagonal boron nitride on non-metallic substrates and its heterostructures with graphene. <i>IScience</i> , <b>2021</b> , 24, 103374	6.1	5
91	An outlook into the flat land of 2D materials beyond graphene: synthesis, properties and device applications. <i>2D Materials</i> , <b>2021</b> , 8, 013001	5.9	12
90	Direct Optoelectronic Imaging of 2D Semiconductor-3D Metal Buried Interfaces. <i>ACS Nano</i> , <b>2021</b> , 15, 5618-5630	16.7	10
89	Gate-Tunable Plasmon-Enhanced Photodetection in a Monolayer MoS Phototransistor with Ultrahigh Photoresponsivity. <i>Nano Letters</i> , <b>2021</b> , 21, 3083-3091	11.5	13
88	Sub-Microsecond Polarization Switching in (Al,Sc)N Ferroelectric Capacitors Grown on Complementary MetalOxideSemiconductor-Compatible Aluminum Electrodes. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2021</b> , 15, 2000575	2.5	14
87	Post-CMOS Compatible Aluminum Scandium Nitride/2D Channel Ferroelectric Field-Effect-Transistor Memory. <i>Nano Letters</i> , <b>2021</b> , 21, 3753-3761	11.5	28
86	Efficacy of boron nitride encapsulation against plasma-processing of 2D semiconductor layers. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2021</b> , 39, 032201	2.9	
85	Nanoscale Chemical and Structural Analysis during Scanning/Transmission Electron Microscopy in Liquids. <i>ACS Nano</i> , <b>2021</b> , 15, 10228-10240	16.7	6

84	Aluminum scandium nitride-based metal ferroelectric metal diode memory devices with high on/off ratios. <i>Applied Physics Letters</i> , <b>2021</b> , 118, 202901	3.4	13
83	Emerging 2D metal oxides and their applications. <i>Materials Today</i> , <b>2021</b> , 45, 142-168	21.8	48
82	Diving below the Spin-down Limit: Constraints on Gravitational Waves from the Energetic Young Pulsar PSR J0537-6910. <i>Astrophysical Journal Letters</i> , <b>2021</b> , 913, L27	7.9	13
81	Spatiotemporal Imaging of Thickness-Induced Band-Bending Junctions. <i>Nano Letters</i> , <b>2021</b> , 21, 5745-5753	11.5	3
80	Anomalous Room-Temperature Photoluminescence from Nanostrained MoSe2 Monolayers. <i>ACS Photonics</i> , <b>2021</b> , 8, 2220-2226	6.3	1
79	Exciton-Photonics: From Fundamental Science to Applications. <i>ACS Nano</i> , <b>2021</b> ,	16.7	12
78	Self-Hybridized Polaritonic Emission from Layered Perovskites. <i>Nano Letters</i> , <b>2021</b> , 21, 6245-6252	11.5	5
77	Roadmap on emerging hardware and technology for machine learning. <i>Nanotechnology</i> , <b>2021</b> , 32, 0120034	3.4	45
76	Determination of Dielectric Functions and Exciton Oscillator Strength of Two-Dimensional Hybrid Perovskites <b>2021</b> , 3, 148-159		18
75	Open data from the first and second observing runs of Advanced LIGO and Advanced Virgo. <i>SoftwareX</i> , <b>2021</b> , 13, 100658	2.7	96
74	Electron energy loss spectroscopy of sub-10 nm 2D MoS2 crystals. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 1210-1211	0.5	
73	Non-equilibrium Structural Phase Transformations in Atomically Thin Transition Metal Dichalcogenides. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 632-633	0.5	
72	Direct visualization of out-of-equilibrium structural transformations in atomically thin chalcogenides. <i>Npj 2D Materials and Applications</i> , <b>2020</b> , 4,	8.8	17
71	Gate-Tunable Semiconductor Heterojunctions from 2D/3D van der Waals Interfaces. <i>Nano Letters</i> , <b>2020</b> , 20, 2907-2915	11.5	42
70	Facile and quantitative estimation of strain in nanobubbles with arbitrary symmetry in 2D semiconductors verified using hyperspectral nano-optical imaging. <i>Journal of Chemical Physics</i> , <b>2020</b> , 153, 024702	3.9	11
69	Substrate-directed synthesis of MoS nanocrystals with tunable dimensionality and optical properties. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 29-34	28.7	55
68	Machine Learning in Nanoscience: Big Data at Small Scales. <i>Nano Letters</i> , <b>2020</b> , 20, 2-10	11.5	68
67	Homochiral Skyrmionic Bubbles in Exfoliated 2D Van Der Waals Cr2Ge2Te6. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 2138-2140	0.5	

66	Band Edge Tailoring in Few-Layer Two-Dimensional Molybdenum Sulfide/Selenide Alloys. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 22893-22902	3.8	4
65	Hybrid exciton-plasmon-polaritons in van der Waals semiconductor gratings. <i>Nature Communications</i> , <b>2020</b> , 11, 3552	17.4	31
64	Radial Spin Texture of the Weyl Fermions in Chiral Tellurium. <i>Physical Review Letters</i> , <b>2020</b> , 125, 216402	7.4	8
63	In situ/operando Study of Photoelectrochemistry Using Optical Liquid Cell Microscopy. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 2446-2447	0.5	
62	Giant Gate-Tunability of Complex Refractive Index in Semiconducting Carbon Nanotubes. <i>ACS Photonics</i> , <b>2020</b> , 7, 2896-2905	6.3	6
61	Machine Learning-Enabled Design of Point Defects in 2D Materials for Quantum and Neuromorphic Information Processing. <i>ACS Nano</i> , <b>2020</b> , 14, 13406-13417	16.7	28
60	Uncovering topographically hidden features in 2D MoSe <sub>2</sub> with correlated potential and optical nanoprobes. <i>Npj 2D Materials and Applications</i> , <b>2020</b> , 4,	8.8	8
59	Ferroelectric C-Axis Textured Aluminum Scandium Nitride Thin Films of 100 nm Thickness <b>2020</b> ,		7
58	Dry Transfer of van der Waals Crystals to Noble Metal Surfaces To Enable Characterization of Buried Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 38218-38225	9.5	12
57	Engineering Zero-Dimensional Quantum Confinement in Transition-Metal Dichalcogenide Heterostructures. <i>ACS Nano</i> , <b>2019</b> , 13, 8303-8311	16.7	19
56	Giant Enhancement of Photoluminescence Emission in WS <sub>2</sub> -Two-Dimensional Perovskite Heterostructures. <i>Nano Letters</i> , <b>2019</b> , 19, 4852-4860	11.5	41
55	Negative refraction inspired polariton lens in van der Waals lateral heterojunctions. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 221101	3.4	3
54	Development of a Method to Characterize Active Sites in Photocatalysis using operando Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 1444-1445	0.5	1
53	Hybrid phonon-polaritons at atomically-thin van der Waals heterointerfaces for infrared optical modulation. <i>Optics Express</i> , <b>2019</b> , 27, 18585-18600	3.3	10
52	All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run. <i>Physical Review D</i> , <b>2019</b> , 100,	4.9	39
51	High efficiency and fast van der Waals hetero-photodiodes with a unilateral depletion region. <i>Nature Communications</i> , <b>2019</b> , 10, 4663	17.4	127
50	Engineering Magnetic Phases in Two-Dimensional Non-van der Waals Transition-Metal Oxides. <i>Nano Letters</i> , <b>2019</b> , 19, 7793-7800	11.5	26
49	Topological Magnetic-Spin Textures in Two-Dimensional van der Waals CrGeTe. <i>Nano Letters</i> , <b>2019</b> , 19, 7859-7865	11.5	56

48	Gate-tunable polariton superlens in 2D/3D heterostructures. <i>Optics Express</i> , <b>2019</b> , 27, 18628-18641	3.3	8
47	Hyperbolic 3D architectures with 2D ceramics. <i>Science</i> , <b>2019</b> , 363, 694-695	33.3	8
46	Anisotropic Quantum Well Electro-Optics in Few-Layer Black Phosphorus. <i>Nano Letters</i> , <b>2019</b> , 19, 269-276	1.5	30
45	Tunable confinement of charges and excitations. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 99-100	28.7	2
44	Nanoscale doping heterogeneity in few-layer WSe <sub>2</sub> exfoliated onto noble metals revealed by correlated SPM and TERS imaging. <i>2D Materials</i> , <b>2018</b> , 5, 035003	5.9	14
43	Emerging nanofabrication and quantum confinement techniques for 2D materials beyond graphene. <i>Npj 2D Materials and Applications</i> , <b>2018</b> , 2,	8.8	82
42	Emerging photonic architectures in two-dimensional opto-electronics. <i>Chemical Society Reviews</i> , <b>2018</b> , 47, 6824-6844	58.5	51
41	Materials challenges for the Starshot lightsail. <i>Nature Materials</i> , <b>2018</b> , 17, 861-867	27	63
40	Vacuum ultraviolet radiation effects on two-dimensional MoS <sub>2</sub> field-effect transistors. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 073102	3.4	11
39	Low-Voltage 2D Material Field-Effect Transistors Enabled by Ion Gel Capacitive Coupling. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 4008-4013	9.6	12
38	High Photovoltaic Quantum Efficiency in Ultrathin van der Waals Heterostructures. <i>ACS Nano</i> , <b>2017</b> , 11, 7230-7240	16.7	140
37	Atomic-Scale Structural and Chemical Characterization of Hexagonal Boron Nitride Layers Synthesized at the Wafer-Scale with Monolayer Thickness Control. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 4700-4707	9.6	29
36	Field Effect Optoelectronic Modulation of Quantum-Confined Carriers in Black Phosphorus. <i>Nano Letters</i> , <b>2017</b> , 17, 78-84	11.5	72
35	Van der Waals Materials for Atomically-Thin Photovoltaics: Promise and Outlook. <i>ACS Photonics</i> , <b>2017</b> , 4, 2962-2970	6.3	175
34	Mixed-dimensional van der Waals heterostructures. <i>Nature Materials</i> , <b>2017</b> , 16, 170-181	27	897
33	Near-Unity Absorption in van der Waals Semiconductors for Ultrathin Optoelectronics. <i>Nano Letters</i> , <b>2016</b> , 16, 5482-7	11.5	116
32	Low-Voltage Complementary Electronics from Ion-Gel-Gated Vertical Van der Waals Heterostructures. <i>Advanced Materials</i> , <b>2016</b> , 28, 3742-8	24	70
31	Hybrid, Gate-Tunable, van der Waals p-n Heterojunctions from Pentacene and MoS <sub>2</sub> . <i>Nano Letters</i> , <b>2016</b> , 16, 497-503	11.5	240

30	Probing Out-of-Plane Charge Transport in Black Phosphorus with Graphene-Contacted Vertical Field-Effect Transistors. <i>Nano Letters</i> , <b>2016</b> , 16, 2580-5	11.5	106
29	Transistors: Layer-by-Layer Assembled 2D Montmorillonite Dielectrics for Solution-Processed Electronics (Adv. Mater. 1/2016). <i>Advanced Materials</i> , <b>2016</b> , 28, 203-203	24	2
28	Layer-by-Layer Assembled 2D Montmorillonite Dielectrics for Solution-Processed Electronics. <i>Advanced Materials</i> , <b>2016</b> , 28, 63-8	24	52
27	Covalent functionalization and passivation of exfoliated black phosphorus via aryl diazonium chemistry. <i>Nature Chemistry</i> , <b>2016</b> , 8, 597-602	17.6	574
26	Investigation of band-offsets at monolayer-multilayer MoS <sub>2</sub> junctions by scanning photocurrent microscopy. <i>Nano Letters</i> , <b>2015</b> , 15, 2278-84	11.5	115
25	Gate-tunable memristive phenomena mediated by grain boundaries in single-layer MoS <sub>2</sub> . <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 403-6	28.7	426
24	Solution-Processed Dielectrics Based on Thickness-Sorted Two-Dimensional Hexagonal Boron Nitride Nanosheets. <i>Nano Letters</i> , <b>2015</b> , 15, 7029-36	11.5	78
23	Solution-Processed Self-Assembled Nanodielectrics on Template-Stripped Metal Substrates. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 26360-6	9.5	12
22	Large-area, low-voltage, antiambipolar heterojunctions from solution-processed semiconductors. <i>Nano Letters</i> , <b>2015</b> , 15, 416-21	11.5	68
21	Emerging device applications for semiconducting two-dimensional transition metal dichalcogenides. <i>ACS Nano</i> , <b>2014</b> , 8, 1102-20	16.7	1909
20	Effective passivation of exfoliated black phosphorus transistors against ambient degradation. <i>Nano Letters</i> , <b>2014</b> , 14, 6964-70	11.5	1117
19	Influence of stoichiometry on the optical and electrical properties of chemical vapor deposition derived MoS <sub>2</sub> . <i>ACS Nano</i> , <b>2014</b> , 8, 10551-8	16.7	209
18	Wafer-scale solution-derived molecular gate dielectrics for low-voltage graphene electronics. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 083503	3.4	22
17	Elucidating the Photoresponse of Ultrathin MoS <sub>2</sub> Field-Effect Transistors by Scanning Photocurrent Microscopy. <i>Journal of Physical Chemistry Letters</i> , <b>2013</b> , 4, 2508-2513	6.4	169
16	Band-like transport in high mobility unencapsulated single-layer MoS <sub>2</sub> transistors. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 173107	3.4	316
15	Carbon nanomaterials for electronics, optoelectronics, photovoltaics, and sensing. <i>Chemical Society Reviews</i> , <b>2013</b> , 42, 2824-60	58.5	941
14	Ambient-processable high capacitance hafnia-organic self-assembled nanodielectrics. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 8926-39	16.4	59
13	Optimization of graphene dry etching conditions via combined microscopic and spectroscopic analysis. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 193111	3.4	20

12	Quantitatively enhanced reliability and uniformity of high- $\kappa$ dielectrics on graphene enabled by self-assembled seeding layers. <i>Nano Letters</i> , <b>2013</b> , 13, 1162-7	11.5	57
11	High-field transport and thermal reliability of sorted carbon nanotube network devices. <i>ACS Nano</i> , <b>2013</b> , 7, 482-90	16.7	31
10	Printed indium gallium zinc oxide transistors. Self-assembled nanodielectric effects on low-temperature combustion growth and carrier mobility. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2013</b> , 5, 11884-93	9.5	63
9	Low-frequency electronic noise in single-layer MoS <sub>2</sub> transistors. <i>Nano Letters</i> , <b>2013</b> , 13, 4351-5	11.5	188
8	Near-field microwave microscopy of high- $\kappa$ oxides grown on graphene with an organic seeding layer. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 243105	3.4	11
7	Gate-tunable carbon nanotube-MoS <sub>2</sub> heterojunction p-n diode. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 18076-80	11.5	304
6	Anomalous insulator-metal transition in boron nitride-graphene hybrid atomic layers. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	41
5	Single step synthesis of graphene nanoribbons by catalyst particle size dependent cutting of multiwalled carbon nanotubes. <i>Nanoscale</i> , <b>2011</b> , 3, 3876-82	7.7	42
4	Graphene synthesis and band gap opening. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2011</b> , 11, 6621-413	4.3	54
3	Atomic layers of hybridized boron nitride and graphene domains. <i>Nature Materials</i> , <b>2010</b> , 9, 430-5	27	1764
2	Novel Liquid Precursor-Based Facile Synthesis of Large-Area Continuous, Single, and Few-Layer Graphene Films. <i>Chemistry of Materials</i> , <b>2010</b> , 22, 3457-3461	9.6	209
1	Graphene Shape Control by Multistage Cutting and Transfer. <i>Advanced Materials</i> , <b>2009</b> , 21, 4487-4491	24	133