

# Sumeet Walia

## List of Publications by Year in descending order

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112  
papers

6,549  
citations

70961

41  
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66788

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115  
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115  
docs citations

115  
times ranked

8990  
citing authors

#	ARTICLE	IF	CITATIONS
1	Sulfurization Engineering of One-Step Low-Temperature MoS <sub>2</sub> and WS <sub>2</sub> Thin Films for Memristor Device Applications. <i>Advanced Electronic Materials</i> , 2022, 8, 2100515.	2.6	14
2	Device Geometry Insights for Efficient Electrically Driven Insulator-to-Metal Transition in Vanadium Dioxide Thin Films. <i>Advanced Electronic Materials</i> , 2022, 8, 2100428.	2.6	5
3	Soft X-ray Detectors Based on SnS Nanosheets for the Water Window Region. <i>Advanced Functional Materials</i> , 2022, 32, 2105038.	7.8	11
4	Mixed Ionic-Electronic Charge Transport in Layered Black Phosphorus for Low-Power Memory. <i>Advanced Functional Materials</i> , 2022, 32, 2107068.	7.8	16
5	Illuminating the biochemical interaction of antimicrobial few-layer black phosphorus with microbial cells using synchrotron macro-ATR-FTIR. <i>Journal of Materials Chemistry B</i> , 2022, 10, 7527-7539.	2.9	8
6	Light-Operated On-chip Autonomous Vision Using Low-dimensional Material Systems. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	5
7	Nicotine Sensors for Wearable Battery-Free Monitoring of Vaping. <i>ACS Sensors</i> , 2022, 7, 82-88.	4.0	9
8	Surface Functionalization of WS <sub>2</sub> Nanosheets with Alkyl Chains for Enhancement of Dispersion Stability and Tribological Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 1334-1346.	4.0	10
9	Nonvolatile Resistive Switching in Layered InSe via Electrochemical Cation Diffusion. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	8
10	Doped 2D SnS materials derived from liquid metal-solution for tunable optoelectronic devices. <i>Nanoscale</i> , 2022, 14, 6802-6810.	2.8	17
11	Atomically Thin Antimony-Doped Indium Oxide Nanosheets for Optoelectronics. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	12
12	Wearable Label-Free Optical Biodetectors: Progress and Perspectives. <i>Advanced Photonics Research</i> , 2021, 2, 2000076.	1.7	18
13	Fully Light-Controlled Memory and Neuromorphic Computation in Layered Black Phosphorus. <i>Advanced Materials</i> , 2021, 33, e2004207.	11.1	147
14	Ultrathin oxysulfide semiconductors from liquid metal: a wet chemical approach. <i>Journal of Materials Chemistry C</i> , 2021, 9, 11815-11826.	2.7	19
15	Rapid and Selective Biomarker Detection with Conductometric Sensors. <i>Small</i> , 2021, 17, e2005582.	5.2	20
16	Neuromorphic Imaging: Fully Light-Controlled Memory and Neuromorphic Computation in Layered Black Phosphorus ( <i>Adv. Mater.</i> 10/2021). <i>Advanced Materials</i> , 2021, 33, 2170074.	11.1	0
17	Amorphous Metal Oxide Bilayers to Avoid Sneak-Path Currents for High-Density Resistive Memory Arrays. <i>Advanced Intelligent Systems</i> , 2021, 3, 2000222.	3.3	4
18	Broad-Spectrum Solvent-free Layered Black Phosphorus as a Rapid Action Antimicrobial. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 17340-17352.	4.0	24

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19	A Visible-Blind Photodetector and Artificial Optoelectronic Synapse Using Liquid-Metal Exfoliated ZnO Nanosheets. <i>Advanced Optical Materials</i> , 2021, 9, 2100449.	3.6	41
20	2D/3D Hybrid of MoS <sub>2</sub> /GaN for a High-Performance Broadband Photodetector. <i>ACS Applied Electronic Materials</i> , 2021, 3, 2407-2414.	2.0	70
21	Antipathogenic properties and applications of low-dimensional materials. <i>Nature Communications</i> , 2021, 12, 3897.	5.8	63
22	Influence of Temperature on Photodetection Properties of Honeycomb-Like GaN Nanostructures. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100593.	1.9	12
23	UV Photochromism in Transition Metal Oxides and Hybrid Materials. <i>Small</i> , 2021, 17, e2100621.	5.2	51
24	Black Phosphorus Nanoflakes Vertically Stacked on MoS <sub>2</sub> Nanoflakes as Heterostructures for Photodetection. <i>ACS Applied Nano Materials</i> , 2021, 4, 6928-6935.	2.4	14
25	Ultrasensitive WSe <sub>2</sub> field-effect transistor-based biosensor for label-free detection of cancer in point-of-care applications. <i>2D Materials</i> , 2021, 8, 045005.	2.0	23
26	Black Phosphorus-Diketopyrrolopyrrole Polymer Semiconductor Hybrid for Enhanced Charge Transfer and Photodetection. <i>Advanced Photonics Research</i> , 2021, 2, 2100150.	1.7	3
27	High Gain Solution-Processed Carbon-Free BiSI Chalcogenide Thin Film Photodetectors. <i>Advanced Functional Materials</i> , 2021, 31, 2104788.	7.8	30
28	3D Visible-Light-Driven Plasmonic Oxide Frameworks Deviated from Liquid Metal Nanodroplets. <i>Advanced Functional Materials</i> , 2021, 31, 2106397.	7.8	23
29	Alkali-Assisted Hydrothermal Exfoliation and Surfactant-Driven Functionalization of h-BN Nanosheets for Lubrication Enhancement. <i>ACS Applied Nano Materials</i> , 2021, 4, 9143-9154.	2.4	14
30	High-k 2D Sb <sub>2</sub> O <sub>3</sub> Made Using a Substrate-Independent and Low-Temperature Liquid-Metal-Based Process. <i>ACS Nano</i> , 2021, 15, 16067-16075.	7.3	24
31	Particle tracking simulation of an air channel transistor. <i>AIP Advances</i> , 2021, 11, .	0.6	2
32	Helicity-selective Raman scattering from in-plane anisotropic $\hat{\pm}$ -MoO <sub>3</sub> . <i>Applied Physics Letters</i> , 2021, 119, .	1.5	6
33	Charge injection in vertically stacked multi-layer black phosphorus. <i>Applied Materials Today</i> , 2020, 18, 100481.	2.3	1
34	Ordered-vacancy-enabled indium sulphide printed in wafer-scale with enhanced electron mobility. <i>Materials Horizons</i> , 2020, 7, 827-834.	6.4	27
35	Two-Step Synthesis of Large-Area 2D Bi <sub>2</sub> S <sub>3</sub> Nanosheets Featuring High In-Plane Anisotropy. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001131.	1.9	27
36	Phase change vanadium dioxide light sensors. <i>Applied Materials Today</i> , 2020, 21, 100833.	2.3	16

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37	Broadband Photodetectors: Liquidâ€Metal Synthesized Ultrathin SnS Layers for Highâ€Performance Broadband Photodetectors (Adv. Mater. 45/2020). Advanced Materials, 2020, 32, 2070338.	11.1	2
38	Artificial Somatosensors: Feedback Receptors for Electronic Skins. Advanced Intelligent Systems, 2020, 2, 2000094.	3.3	42
39	Liquidâ€Metal Synthesized Ultrathin SnS Layers for Highâ€Performance Broadband Photodetectors. Advanced Materials, 2020, 32, e2004247.	11.1	66
40	Artificial Somatosensors: Feedback Receptors for Electronic Skins. Advanced Intelligent Systems, 2020, 2, 2070106.	3.3	1
41	Monocrystalline Antimonene Nanosheets via Physical Vapor Deposition. Advanced Materials Interfaces, 2020, 7, 2001678.	1.9	14
42	Structural-Defect-Mediated Grafting of Alkylamine on Few-Layer MoS <sub>2</sub> and Its Potential for Enhancement of Tribological Properties. ACS Applied Materials & Interfaces, 2020, 12, 30720-30730.	4.0	30
43	Electrically Activated UV-A Filters Based on Electrochromic MoO <sub>3</sub> . ACS Applied Materials & Interfaces, 2020, 12, 16997-17003.	4.0	45
44	Liquid metal-based synthesis of high performance monolayer SnS piezoelectric nanogenerators. Nature Communications, 2020, 11, 3449.	5.8	128
45	Current Transport and Band Alignment Study of MoS <sub>2</sub> /GaN and MoS <sub>2</sub> /AlGaN Heterointerfaces for Broadband Photodetection Application. ACS Applied Electronic Materials, 2020, 2, 710-718.	2.0	43
46	Differential Work-Function Enabled Bifunctional Switching in Strontium Titanate Flexible Resistive Memories. ACS Applied Materials & Interfaces, 2020, 12, 7326-7333.	4.0	9
47	Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus. Advanced Functional Materials, 2019, 29, 1901991.	7.8	97
48	Atomically Thin Ga <sub>2</sub> S <sub>3</sub> from Skin of Liquid Metals for Electrical, Optical, and Sensing Applications. ACS Applied Nano Materials, 2019, 2, 4665-4672.	2.4	72
49	Semiconductor-Free Field-Emission Nanoelectronics: Application in Air-Channel Transistors. , 2019, , .		1
50	Electron Emission Devices for Energyâ€Efficient Systems. Advanced Intelligent Systems, 2019, 1, 1900039.	3.3	16
51	Exciton-Driven Chemical Sensors Based on Excitation-Dependent Photoluminescent Two-Dimensional SnS. ACS Applied Materials & Interfaces, 2019, 11, 42462-42468.	4.0	42
52	Dual Selective Gas Sensing Characteristics of 2D Î±-MoO <sub>3</sub> via a Facile Transfer Process. ACS Applied Materials & Interfaces, 2019, 11, 40189-40195.	4.0	47
53	Time and rate dependent synaptic learning in neuro-mimicking resistive memories. Scientific Reports, 2019, 9, 15404.	1.6	13
54	Optoelectronics: Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus (Adv. Funct. Mater. 39/2019). Advanced Functional Materials, 2019, 29, 1970272.	7.8	2

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55	In Situ Nanostructural Analysis of Volatile Threshold Switching and Non-Volatile Bipolar Resistive Switching in Mixed-Phase VO <sub>x</sub> Asymmetric Crossbars. <i>Advanced Electronic Materials</i> , 2019, 5, 1900605.	2.6	17
56	An Ultrasensitive Silicon Photonic Ion Sensor Enabled by 2D Plasmonic Molybdenum Oxide. <i>Small</i> , 2019, 15, e1805251.	5.2	31
57	Augmented band gap tunability in indium-doped zinc sulfide nanocrystals. <i>Nanoscale</i> , 2019, 11, 3154-3163.	2.8	15
58	Optically Stimulated Artificial Synapse Based on Layered Black Phosphorus. <i>Small</i> , 2019, 15, e1900966.	5.2	201
59	Large-area synthesis of 2D MoO <sub>3</sub> for enhanced optoelectronic applications. <i>2D Materials</i> , 2019, 6, 035031.	2.0	48
60	2D SnO/In <sub>2</sub> O <sub>3</sub> van der Waals Heterostructure Photodetector Based on Printed Oxide Skin of Liquid Metals. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900007.	1.9	65
61	Generating strong room-temperature photoluminescence in black phosphorus using organic molecules. <i>2D Materials</i> , 2019, 6, 015009.	2.0	15
62	Visible-Light-Triggered Reactive-Oxygen-Species-Mediated Antibacterial Activity of Peroxidase-Mimic CuO Nanorods. <i>ACS Applied Nano Materials</i> , 2018, 1, 1694-1704.	2.4	144
63	Solution-processable do-it-yourself switching devices (DIY devices) based on CuTCNQ metal-organic semiconductors. <i>Applied Materials Today</i> , 2018, 10, 12-17.	2.3	13
64	Black phosphorus: ambient degradation and strategies for protection. <i>2D Materials</i> , 2018, 5, 032001.	2.0	119
65	Metal-Free Air Transistors: Semiconductor-Free Field-Emission Air-Channel Nanoelectronics. <i>Nano Letters</i> , 2018, 18, 7478-7484.	4.5	76
66	Data related to the nanoscale structural and compositional evolution in resistance change memories. <i>Data in Brief</i> , 2018, 21, 18-24.	0.5	4
67	Skin color-specific and spectrally-selective naked-eye dosimetry of UVA, B and C radiations. <i>Nature Communications</i> , 2018, 9, 3743.	5.8	89
68	Broadband light active MTCNQ-based metal-organic semiconducting hybrids for enhanced redox catalysis. <i>Applied Materials Today</i> , 2018, 13, 107-115.	2.3	16
69	Oxygen-deficient strontium titanate based stretchable resistive memories. <i>Applied Materials Today</i> , 2018, 13, 126-134.	2.3	17
70	Encapsulation-Free Stabilization of Few-Layer Black Phosphorus. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 24327-24331.	4.0	16
71	A Photonic Switch Based on a Hybrid Combination of Metallic Nanoholes and Phase-change Vanadium Dioxide. <i>Scientific Reports</i> , 2018, 8, 11106.	1.6	33
72	Inducing tunable switching behavior in a single memristor. <i>Applied Materials Today</i> , 2018, 11, 280-290.	2.3	21

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73	Reversible resistive switching behaviour in CVD grown, large area MoO <sub>3</sub> . Nanoscale, 2018, 10, 19711-19719.	2.8	46
74	Effects of plasma-treatment on the electrical and optoelectronic properties of layered black phosphorus. Applied Materials Today, 2018, 12, 244-249.	2.3	38
75	Ambient Protection of Few-Layer Black Phosphorus via Sequestration of Reactive Oxygen Species. Advanced Materials, 2017, 29, 1700152.	11.1	141
76	Soft exfoliation of 2D SnO with size-dependent optical properties. 2D Materials, 2017, 4, 025110.	2.0	59
77	Defining the role of humidity in the ambient degradation of few-layer black phosphorus. 2D Materials, 2017, 4, 015025.	2.0	110
78	Two-dimensional MoO <sub>3</sub> via a top-down chemical thinning route. 2D Materials, 2017, 4, 035008.	2.0	14
79	Wafer-Scale Synthesis of Semiconducting SnO Monolayers from Interfacial Oxide Layers of Metallic Liquid Tin. ACS Nano, 2017, 11, 10974-10983.	7.3	122
80	Transparent amorphous strontium titanate resistive memories with transient photo-response. Nanoscale, 2017, 9, 14690-14702.	2.8	18
81	Role of Water in the Dynamic Crystallization of CuTCNQ for Enhanced Redox Catalysis (TCNQ =) Tj ETQq1 1 0.784314 rgBT /Overlock	1.9	12
82	Degradation of black phosphorus is contingent on UV-blue light exposure. Npj 2D Materials and Applications, 2017, 1, .	3.9	95
83	Galvanic Replacement of Semiconducting CuTCNQF <sub>4</sub> with Ag <sup>+</sup> Ions to Enhance Electron Transfer Reaction. ChemistrySelect, 2017, 2, 9962-9969.	0.7	9
84	Insulator-metal transition in substrate-independent VO <sub>2</sub> thin film for phase-change devices. Scientific Reports, 2017, 7, 17899.	1.6	63
85	Microstructure and dynamics of vacancy-induced nanofilamentary switching network in donor doped SrTiO <sub>3</sub> memristors. Nanotechnology, 2016, 27, 505210.	1.3	39
86	Exfoliation Solvent Dependent Plasmon Resonances in Two-Dimensional Sub-Stoichiometric Molybdenum Oxide Nanoflakes. ACS Applied Materials & Interfaces, 2016, 8, 3482-3493.	4.0	111
87	Mechanically Tunable High Refractive-Index Contrast TiO <sub>2</sub> -PDMS Gratings. Advanced Optical Materials, 2015, 3, 1565-1569.	3.6	18
88	Donor-Induced Performance Tuning of Amorphous SrTiO <sub>3</sub> Memristive Nanodevices: Multistate Resistive Switching and Mechanical Tunability. Advanced Functional Materials, 2015, 25, 3172-3182.	7.8	68
89	Stretchable and Tunable Microtectonic ZnO-Based Sensors and Photonics. Small, 2015, 11, 4532-4539.	5.2	54
90	Visible-Blind UV Imaging with Oxygen-Deficient Zinc Oxide Flexible Devices. Advanced Electronic Materials, 2015, 1, 1500264.	2.6	14

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91	Flexible metasurfaces and metamaterials: A review of materials and fabrication processes at micro- and nano-scales. <i>Applied Physics Reviews</i> , 2015, 2, 011303.	5.5	303
92	Electric field induced surface-enhanced Raman spectroscopy for multianalyte detection. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 7095-7099.	1.3	11
93	Acoustic-Excitonic Coupling for Dynamic Photoluminescence Manipulation of Quasi-2D MoS <sub>2</sub> Nanoflakes. <i>Advanced Optical Materials</i> , 2015, 3, 888-894.	3.6	39
94	Low-Temperature Fabrication of Alkali Metal-Organic Charge Transfer Complexes on Cotton Textile for Optoelectronics and Gas Sensing. <i>Langmuir</i> , 2015, 31, 1581-1587.	1.6	51
95	Elemental Analogues of Graphene: Silicene, Germanene, Stanene, and Phosphorene. <i>Small</i> , 2015, 11, 640-652.	5.2	725
96	Nanoscale electro-mechanical dynamics of nano-crystalline platinum thin films: An <i>in situ</i> electrical nanoindentation study. <i>Journal of Applied Physics</i> , 2014, 116, .	1.1	13
97	Strain response of stretchable micro-electrodes: Controlling sensitivity with serpentine designs and encapsulation. <i>Applied Physics Letters</i> , 2014, 104, 021908.	1.5	47
98	Nanoscale Resistive Switching in Amorphous Perovskite Oxide ( <i>a</i> -SrTiO <sub>3</sub> ) Memristors. <i>Advanced Functional Materials</i> , 2014, 24, 6741-6750.	7.8	111
99	3-D nanorod arrays of metal-organic KTCNQ semiconductor on textiles for flexible organic electronics. <i>RSC Advances</i> , 2013, 3, 17654.	1.7	40
100	Semiconductors: Two-Dimensional Molybdenum Trioxide and Dichalcogenides ( <i>Adv. Funct. Mater.</i> ) Tj ETQq0 0 0 rrgBT /Overlock 10 Tf	7.8	6
101	Field Effect Biosensing Platform Based on 2D $\pm$ -MoO <sub>3</sub> . <i>ACS Nano</i> , 2013, 7, 9753-9760.	7.3	161
102	Enhanced Charge Carrier Mobility in Two-Dimensional High Dielectric Molybdenum Oxide. <i>Advanced Materials</i> , 2013, 25, 109-114.	11.1	355
103	Two-Dimensional Molybdenum Trioxide and Dichalcogenides. <i>Advanced Functional Materials</i> , 2013, 23, 3952-3970.	7.8	443
104	Enhanced Charge Carrier Mobility in Two-Dimensional High Dielectric Molybdenum Oxide ( <i>Adv. Mater.</i> ) Tj ETQq0 0 0 rrgBT /Overlock 10 Tf	11.1	9
105	Transition metal oxides - Thermoelectric properties. <i>Progress in Materials Science</i> , 2013, 58, 1443-1489.	16.0	302
106	MnO <sub>2</sub> -Based Thermopower Wave Sources with Exceptionally Large Output Voltages. <i>Journal of Physical Chemistry C</i> , 2013, 117, 9137-9142.	1.5	71
107	Characterization of metal contacts for two-dimensional MoS <sub>2</sub> nanoflakes. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	144
108	Transparent functional oxide stretchable electronics: micro-tectonics enabled high strain electrodes. <i>NPG Asia Materials</i> , 2013, 5, e62-e62.	3.8	67

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109	ZnO based thermopower wave sources. Chemical Communications, 2012, 48, 7462.	2.2	75
110	Sb <sub>2</sub> Te <sub>3</sub> and Bi <sub>2</sub> Te <sub>3</sub> based thermopower wave sources. Energy and Environmental Science, 2011, 4, 3558.	15.6	71
111	Oscillatory Thermopower Waves Based on Bi <sub>2</sub> Te <sub>3</sub> Films. Advanced Functional Materials, 2011, 21, 2072-2079.	7.8	58
112	Hexagonal Ge Grown by Molecular Beam Epitaxy on Self-Assisted GaAs Nanowires. Crystal Growth and Design, 0, , .	1.4	2