Niall McEvoy

List of Publications by Citations

133 papers	11,151 citations	48 h-index	105 g-index
143 ext. papers	13,021 ext. citations	8.7 avg, IF	6.2 L-index

#	Paper	IF	Citations
133	Scalable production of large quantities of defect-free few-layer graphene by shear exfoliation in liquids. *Nature Materials*, **2014**, 13, 624-30	27	1627
132	Liquid exfoliation of solvent-stabilized few-layer black phosphorus for applications beyond electronics. *Nature Communications*, **2015**, 6, 8563	17.4	764
131	Oxidation Stability of Colloidal Two-Dimensional Titanium Carbides (MXenes). *Chemistry of Materials*, **2017**, 29, 4848-4856	9.6	652
130	Transparent, Flexible, and Conductive 2D Titanium Carbide (MXene) Films with High Volumetric Capacitance. *Advanced Materials*, **2017**, 29, 1702678	24	538
129	Additive-free MXene inks and direct printing of micro-supercapacitors. *Nature Communications*, **2019**, 10, 1795	17.4	407
128	High-performance sensors based on molybdenum disulfide thin films. *Advanced Materials*, **2013**, 25, 6699-702	24	359
127	Edge and confinement effects allow in situ measurement of size and thickness of liquid-exfoliated nanosheets. *Nature Communications*, **2014**, 5, 4576	17.4	350
126	Stamping of Flexible, Coplanar Micro-Supercapacitors Using MXene Inks. *Advanced Functional Materials*, **2018**, 28, 1705506	15.6	322
125	A Commercial Conducting Polymer as Both Binder and Conductive Additive for Silicon Nanoparticle-Based Lithium-Ion Battery Negative Electrodes. *ACS Nano*, **2016**, 10, 3702-13	16.7	320
124	Direct Observation of Degenerate Two-Photon Absorption and Its Saturation in WS2 and MoS2 Monolayer and Few-Layer Films. *ACS Nano*, **2015**, 9, 7142-50	16.7	254
123	High-Performance Hybrid Electronic Devices from Layered PtSe Films Grown at Low Temperature. *ACS Nano*, **2016**, 10, 9550-9558	16.7	245
122	Basal-Plane Functionalization of Chemically Exfoliated Molybdenum Disulfide by Diazonium Salts. *ACS Nano*, **2015**, 9, 6018-30	16.7	232
121	Production of Molybdenum Trioxide Nanosheets by Liquid Exfoliation and Their Application in High-Performance Supercapacitors. *Chemistry of Materials*, **2014**, 26, 1751-1763	9.6	231
120	Investigation of the optical properties of MoS2 thin films using spectroscopic ellipsometry. *Applied Physics Letters*, **2014**, 104, 103114	3.4	215
119	Electrochemical ascorbic acid sensor based on DMF-exfoliated graphene. *Journal of Materials Chemistry*, **2010**, 20, 7864		202
118	High capacity silicon anodes enabled by MXene viscous aqueous ink. *Nature Communications*, **2019**, 10, 849	17.4	174
117	Plasma-assisted simultaneous reduction and nitrogen doping of graphene oxide nanosheets. *Journal of Materials Chemistry A*, **2013**, 1, 4431	13	168

116	High areal capacity battery electrodes enabled by segregated nanotube networks. *Nature Energy*, **2019**, 4, 560-567	62.3	153
115	In Situ Formed Protective Barrier Enabled by Sulfur@Titanium Carbide (MXene) Ink for Achieving High-Capacity, Long Lifetime Li-S Batteries. *Advanced Science*, **2018**, 5, 1800502	13.6	147
114	Preparation of Gallium Sulfide Nanosheets by Liquid Exfoliation and Their Application As Hydrogen Evolution Catalysts. *Chemistry of Materials*, **2015**, 27, 3483-3493	9.6	144
113	Raman characterization of platinum diselenide thin films. *2D Materials*, **2016**, 3, 021004	5.9	138
112	Chemically modulated graphene diodes. *Nano Letters*, **2013**, 13, 2182-8	11.5	132
111	A Robust, Freestanding MXene-Sulfur Conductive Paper for Long-Lifetime Li‐S Batteries. *Advanced Functional Materials*, **2019**, 29, 1901907	15.6	131
110	Plasma assisted synthesis of WS2 for gas sensing applications. *Chemical Physics Letters*, **2014**, 615, 6-10	2.5	123
109	Controlled synthesis of transition metal dichalcogenide thin films for electronic applications. *Applied Surface Science*, **2014**, 297, 139-146	6.7	122
108	Thickness Dependence and Percolation Scaling of Hydrogen Production Rate in MoS2 Nanosheet and Nanosheet-Carbon Nanotube Composite Catalytic Electrodes. *ACS Nano*, **2016**, 10, 672-83	16.7	101
107	Comparison of liquid exfoliated transition metal dichalcogenides reveals MoSe2 to be the most effective hydrogen evolution catalyst. *Nanoscale*, **2016**, 8, 5737-49	7.7	100
106	Wide Spectral Photoresponse of Layered Platinum Diselenide-Based Photodiodes. *Nano Letters*, **2018**, 18, 1794-1800	11.5	99
105	Synthesis and analysis of thin conducting pyrolytic carbon films. *Carbon*, **2012**, 50, 1216-1226	10.4	99
104	Liquid exfoliation of interlayer spacing-tunable 2D vanadium oxide nanosheets: High capacity and rate handling Li-ion battery cathodes. *Nano Energy*, **2017**, 39, 151-161	17.1	91
103	Mapping of Low-Frequency Raman Modes in CVD-Grown Transition Metal Dichalcogenides: Layer Number, Stacking Orientation and Resonant Effects. *Scientific Reports*, **2016**, 6, 19476	4.9	88
102	The effect of downstream plasma treatments on graphene surfaces. *Carbon*, **2012**, 50, 395-403	10.4	86
101	Effect of percolation on the capacitance of supercapacitor electrodes prepared from composites of manganese dioxide nanoplatelets and carbon nanotubes. *ACS Nano*, **2014**, 8, 9567-79	16.7	82
100	Highly Sensitive Electromechanical Piezoresistive Pressure Sensors Based on Large-Area Layered PtSe Films. *Nano Letters*, **2018**, 18, 3738-3745	11.5	82
99	Simultaneous electrochemical determination of dopamine and paracetamol based on thin pyrolytic carbon films. *Analytical Methods*, **2012**, 4, 2048	3.2	74

98	A WSe vertical field emission transistor. *Nanoscale*, **2019**, 11, 1538-1548	7.7	72
97	Percolation scaling in composites of exfoliated MoS2 filled with nanotubes and graphene. *Nanoscale*, **2012**, 4, 6260-4	7.7	71
96	Nitrogen-doped reduced graphene oxide electrodes for electrochemical supercapacitors. *Physical Chemistry Chemical Physics*, **2014**, 16, 2280-4	3.6	70
95	Characterization of graphene-silicon Schottky barrier diodes using impedance spectroscopy. *Applied Physics Letters*, **2013**, 103, 193106	3.4	69
94	Large variations in both dark- and photoconductivity in nanosheet networks as nanomaterial is varied from MoS2 to WTe2. *Nanoscale*, **2015**, 7, 198-208	7.7	68
93	Heterojunction hybrid devices from vapor phase grown MoS2. *Scientific Reports*, **2014**, 4, 5458	4.9	65
92	Functionalisation of graphene surfaces with downstream plasma treatments. *Carbon*, **2013**, 54, 283-290	10.4	65
91	Transition metal dichalcogenide growth via close proximity precursor supply. *Scientific Reports*, **2014**, 4, 7374	4.9	60
90	Production of Ni(OH)2 nanosheets by liquid phase exfoliation: from optical properties to electrochemical applications. *Journal of Materials Chemistry A*, **2016**, 4, 11046-11059	13	60
89	Enabling Flexible Heterostructures for Li-Ion Battery Anodes Based on Nanotube and Liquid-Phase Exfoliated 2D Gallium Chalcogenide Nanosheet Colloidal Solutions. *Small*, **2017**, 13, 1701677	11	57
88	Dispersion of nonlinear refractive index in layered WS2 and WSe2 semiconductor films induced by two-photon absorption. *Optics Letters*, **2016**, 41, 3936-9	3	56
87	MoS Memtransistors Fabricated by Localized Helium Ion Beam Irradiation. *ACS Nano*, **2019**, 13, 14262-14273	13.7	55
86	Electrical devices from top-down structured platinum diselenide films. *Npj 2D Materials and Applications*, **2018**, 2,	8.8	50
85	Saturation of Two-Photon Absorption in Layered Transition Metal Dichalcogenides: Experiment and Theory. *ACS Photonics*, **2018**, 5, 1558-1565	6.3	48
84	Quantum confinement-induced semimetal-to-semiconductor evolution in large-area ultra-thin PtSe2 films grown at 400 °C. *Npj 2D Materials and Applications*, **2019**, 3,	8.8	47
83	Nonlinear Optical Signatures of the Transition from Semiconductor to Semimetal in PtSe2. *Laser and Photonics Reviews*, **2019**, 13, 1900052	8.3	46
82	Molybdenum disulfide/pyrolytic carbon hybrid electrodes for scalable hydrogen evolution. *Nanoscale*, **2014**, 6, 8185-91	7.7	45
81	Exfoliation of 2D materials by high shear mixing. *2D Materials*, **2019**, 6, 015008	5.9	43

80	Gas phase controlled deposition of high quality large-area graphene films. *Chemical Communications*, **2010**, 46, 1422-4	5.8	41
79	Electroanalytical Sensing Properties of Pristine and Functionalized Multilayer Graphene. *Chemistry of Materials*, **2014**, 26, 1807-1812	9.6	40
78	Pulsed laser deposition of nanoparticle films of Au. *Applied Surface Science*, **2007**, 254, 1303-1306	6.7	39
77	Environmental Effects on the Electrical Characteristics of Back-Gated WSe Field-Effect Transistors. *Nanomaterials*, **2018**, 8,	5.4	38
76	Defect sizing, separation, and substrate effects in ion-irradiated monolayer two-dimensional materials. *Physical Review B*, **2018**, 98,	3.3	37
75	Ultrafast Carrier Dynamics and Bandgap Renormalization in Layered PtSe. *Small*, **2019**, 15, e1902728	11	35
74	Investigations of vapour-phase deposited transition metal dichalcogenide films for future electronic applications. *Solid-State Electronics*, **2016**, 125, 39-51	1.7	30
73	Grain boundary-mediated nanopores in molybdenum disulfide grown by chemical vapor deposition. *Nanoscale*, **2017**, 9, 1591-1598	7.7	28
72	Perforating Freestanding Molybdenum Disulfide Monolayers with Highly Charged Ions. *Journal of Physical Chemistry Letters*, **2019**, 10, 904-910	6.4	28
71	Optical Imaging and Characterization of Graphene and Other 2D Materials Using Quantitative Phase Microscopy. *ACS Photonics*, **2017**, 4, 3130-3139	6.3	26
70	Two-Photon Absorption in Monolayer MXenes. *Advanced Optical Materials*, **2020**, 8, 1902021	8.1	26
69	A New 2H-2H⁄1T Cophase in Polycrystalline MoS and MoSe Thin Films. *ACS Applied Materials & Interfaces*, **2016**, 8, 31442-31448	9.5	26
68	Wafer-Scale Fabrication of Recessed-Channel PtSe2 MOSFETs With Low Contact Resistance and Improved Gate Control. *IEEE Transactions on Electron Devices*, **2018**, 65, 4102-4108	2.9	23
67	CVD growth and processing of graphene for electronic applications. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 2604-2608	1.3	23
66	Growth of 1T? MoTe2 by Thermally Assisted Conversion of Electrodeposited Tellurium Films. *ACS Applied Energy Materials*, **2019**, 2, 521-530	6.1	23
65	Surface-State Assisted Carrier Recombination and Optical Nonlinearities in Bulk to 2D Nonlayered PtS. *ACS Nano*, **2019**, 13, 13390-13402	16.7	22
64	Thin film pyrolytic carbon electrodes: A new class of carbon electrode for electroanalytical sensing applications. *Electrochemistry Communications*, **2010**, 12, 1034-1036	5.1	22
63	Insights into Multilevel Resistive Switching in Monolayer MoS. *ACS Applied Materials & Interfaces*, **2020**, 12, 6022-6029	9.5	22

62	Layered PtSe for Sensing, Photonic, and (Opto-)Electronic Applications. *Advanced Materials*, **2021**, 33, e2004070	24	22
61	Effects of Excitonic Resonance on Second and Third Order Nonlinear Scattering from Few-Layer MoS2. *ACS Photonics*, **2018**, 5, 1235-1240	6.3	21
60	PtSe 2 grown directly on polymer foil for use as a robust piezoresistive sensor. *2D Materials*, **2019**, 6, 045029	5.9	21
59	Low wavenumber Raman spectroscopy of highly crystalline MoSe2 grown by chemical vapor deposition. *Physica Status Solidi (B): Basic Research*, **2015**, 252, 2385-2389	1.3	21
58	Extra lithium-ion storage capacity enabled by liquid-phase exfoliated indium selenide nanosheets conductive network. *Energy and Environmental Science*, **2020**, 13, 2124-2133	35.4	20
57	Investigation of the interfaces in Schottky diodes using equivalent circuit models. *ACS Applied Materials & Interfaces*, **2013**, 5, 6951-8	9.5	20
56	Helium ion microscope generated nitrogen-vacancy centres in type Ib diamond. *Applied Physics Letters*, **2014**, 104, 031109	3.4	19
55	Production of monolayer-rich gold-decorated 2H□WS2 nanosheets by defect engineering. *Npj 2D Materials and Applications*, **2017**, 1,	8.8	18
54	Optimized single-layer MoS field-effect transistors by non-covalent functionalisation. *Nanoscale*, **2018**, 10, 17557-17566	7.7	18
53	Inkjet-defined field-effect transistors from chemical vapour deposited graphene. *Carbon*, **2014**, 71, 332-337	10.4	17
52	Isotropic conduction and negative photoconduction in ultrathin PtSe2 films. *Applied Physics Letters*, **2020**, 117, 193102	3.4	15
51	Rapid high-resolution U-Pb LA-Q-ICPMS age mapping of zircon. *Journal of Analytical Atomic Spectrometry*, **2017**, 32, 262-276	3.7	14
50	Low-temperature synthesis and electrocatalytic application of large-area PtTe thin films. *Nanotechnology*, **2020**, 31, 375601	3.4	14
49	Dependence of Photocurrent Enhancements in Quantum Dot (QD)-Sensitized MoS2 Devices on MoS2 Film Properties. *Advanced Functional Materials*, **2018**, 28, 1706149	15.6	14
48	Coexistence of Negative and Positive Photoconductivity in Few-Layer PtSe2 Field-Effect Transistors. *Advanced Functional Materials*,2105722	15.6	14
47	Raman Spectroscopy of Suspended MoS2. *Physica Status Solidi (B): Basic Research*, **2017**, 254, 1700218	1.3	13
46	A comparison of catabolic pathways induced in primary macrophages by pristine single walled carbon nanotubes and pristine graphene. *RSC Advances*, **2016**, 6, 65299-65310	3.7	12
45	Lithium Titanate/Carbon Nanotubes Composites Processed by Ultrasound Irradiation as Anodes for Lithium Ion Batteries. *Scientific Reports*, **2017**, 7, 7614	4.9	12

44	Carbon-silicon Schottky barrier diodes. *Small*, **2012**, 8, 1360-4	11	12
43	Organic Electrochemical Transistors (OECTs) Toward Flexible and Wearable Bioelectronics. *Molecules*, **2020**, 25,	4.8	11
42	Atomic-Scale Carving of Nanopores into a van der Waals Heterostructure with Slow Highly Charged Ions. *ACS Nano*, **2020**, 14, 10536-10543	16.7	10
41	Imaging and identification of point defects in PtTe2. *Npj 2D Materials and Applications*, **2021**, 5,	8.8	10
40	Controlling Defect and Dopant Concentrations in Graphene by Remote Plasma Treatments. *Physica Status Solidi (B): Basic Research*, **2017**, 254, 1700214	1.3	9
39	Atmospheric pulsed laser deposition and thermal annealing of plasmonic silver nanoparticle films. *Nanotechnology*, **2017**, 28, 445601	3.4	9
38	Few-Layer MoS2/a-Si:H Heterojunction Pin-Photodiodes for Extended Infrared Detection. *ACS Photonics*, **2019**, 6, 1372-1378	6.3	9
37	Field-Dependent Electrical and Thermal Transport in Polycrystalline WSe2. *Advanced Materials Interfaces*, **2018**, 5, 1701161	4.6	9
36	Spectroscopic thickness and quality metrics for PtSe2 layers produced by top-down and bottom-up techniques. *2D Materials*, **2020**, 7, 045027	5.9	9
35	Long-chain amine-templated synthesis of gallium sulfide and gallium selenide nanotubes. *Nanoscale*, **2016**, 8, 11698-706	7.7	9
34	Vanishing influence of the band gap on the charge exchange of slow highly charged ions in freestanding single-layer MoS2. *Physical Review B*, **2020**, 102,	3.3	8
33	Calibration of Nonstationary Gas Sensors Based on Two-Dimensional Materials. *ACS Omega*, **2020**, 5, 5959-5963	3.9	7
32	Low Temperature Graphene Growth. *ECS Transactions*, **2009**, 19, 175-181	1	7
31	Synthesis of tungsten ditelluride thin films and highly crystalline nanobelts from pre-deposited reactants. *Tungsten*, **2020**, 2, 321-334	4.6	7
30	Dependence of Photocurrent Enhancements in Hybrid Quantum Dot-MoS2 Devices on Quantum Dot Emission Wavelength. *ACS Photonics*, **2019**, 6, 976-984	6.3	6
29	Directing the Morphology of Chemical Vapor Deposition-Grown MoS2 on Sapphire by Crystal Plane Selection. *Physica Status Solidi (A) Applications and Materials Science*, **2020**, 217, 2000073	1.6	6
28	Effects of Annealing Temperature and Ambient on Metal/PtSe Contact Alloy Formation. *ACS Omega*, **2019**, 4, 17487-17493	3.9	6
27	Electronic and structural characterisation of polycrystalline platinum disulfide thin films.. *RSC Advances*, **2020**, 10, 42001-42007	3.7	6

26	Influence of Gold Nano-Bipyramid Dimensions on Strong Coupling with Excitons of Monolayer MoS. *ACS Applied Materials & Interfaces*, **2020**, 12, 46406-46415	9.5	6
25	Microelectronics: Stamping of Flexible, Coplanar Micro-Supercapacitors Using MXene Inks (Adv. Funct. Mater. 9/2018). *Advanced Functional Materials*, **2018**, 28, 1870059	15.6	5
24	Defect-moderated oxidative etching of MoS2. *Journal of Applied Physics*, **2019**, 126, 164301	2.5	5
23	Synthesis and characterisation of thin-film platinum disulfide and platinum sulfide. *Nanoscale*, **2021**, 13, 7403-7411	7.7	5
22	Suppression of the shear Raman mode in defective bilayer MoS 2. *Journal of Applied Physics*, **2019**, 125, 064305	2.5	4
21	Nitrogen-doped pyrolytic carbon films as highly electrochemically active electrodes. *Physical Chemistry Chemical Physics*, **2013**, 15, 18688-93	3.6	4
20	Investigation of carbon-silicon schottky diodes and their use as chemical sensors **2013**,		4
19	Large-area growth of MoS2 at temperatures compatible with integrating back-end-of-line functionality. *2D Materials*, **2021**, 8, 025008	5.9	4
18	Step-By-Step Atomic Insights into Structural Reordering from 2D to 3D MoS2. *Advanced Functional Materials*, **2021**, 31, 2008395	15.6	4
17	Investigation of 2D transition metal dichalcogenide films for electronic devices **2015**,		3
16	Distribution of shallow NV centers in diamond revealed by photoluminescence spectroscopy and nanomachining. *Carbon*, **2020**, 167, 114-121	10.4	3
15	Investigation of carbon–silicon Schottky barrier diodes. *Physica Status Solidi (B): Basic Research*, **2012**, 249, 2553-2557	1.3	3
14	Structural and electrical characterisation of PtS from H2S-converted Pt. *Applied Materials Today*, **2021**, 25, 101163	6.6	3
13	Monolayer-enriched production of Au-decorated WS2 Nanosheets via Defect Engineering. *MRS Advances*, **2018**, 3, 2435-2440	0.7	2
12	Nitrogen as a Suitable Replacement for Argon within Methane-Based Hot-Wall Graphene Chemical Vapor Deposition. *Physica Status Solidi (B): Basic Research*, **2019**, 256, 1900240	1.3	2
11	Remote Plasma-Assisted CVD Growth of Carbon Nanotubes in an Optimised Rapid Thermal Reactor. *Chemical Vapor Deposition*, **2012**, 18, 17-21		2
10	Electrical Conduction and Photoconduction in PtSe2 Ultrathin Films. *Materials Proceedings*, **2021**, 4, 28	0.3	2
9	PtSe2 phototransistors with negative photoconductivity. *Journal of Physics: Conference Series*, **2021**, 1866, 012001	0.3	2

8	Highly Selective Non-Covalent On-Chip Functionalization of Layered Materials. *Advanced Electronic Materials*, **2021**, 7, 2000564	6.4	2
7	Optimisation of copper catalyst by the addition of chromium for the chemical vapour deposition growth of monolayer graphene. *Carbon*, **2015**, 95, 789-793	10.4	1
6	Investigations of vapor phase deposited transition metal dichalcogenide films for future electronic applications **2015**,		1
5	Feasibility of graphene–polymer composite membranes for forward osmosis applications. *Materials Advances*,	3.3	1
4	Multiphoton Absorption and Graphitization in Poly(methyl methacrylate)-Coated Aluminum Nanoantenna Arrays. *Journal of Physical Chemistry C*, **2020**, 124, 8930-8937	3.8	0
3	Growth of carbon nanotubes on Si substrate using Fe catalyst produced by pulsed laser deposition. *Journal of Nanoscience and Nanotechnology*, **2008**, 8, 5748-52	1.3	
2	Patterning Functionalized Surfaces of 2D Materials by Nanoshaving. *Nanomanufacturing and Metrology*, **2022**, 5, 23	3.4	
1	Exciton-Like and Mid-Gap Absorption Dynamics of PtS in Resonant and Transparent Regions. *Laser and Photonics Reviews*,2100654	8.3	