Robert S Weatherup

List of Publications by Citations

77 papers	4,214 citations	39 h-index	64 g-index
81 ext. papers	4,885 ext. citations	7.9 avg, IF	5.37 L-index

#	Paper	IF	Citations
77	Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. *ACS Nano*, **2018**, 12, 11756-11784	16.7	239
76	In situ characterization of alloy catalysts for low-temperature graphene growth. *Nano Letters*, **2011**, 11, 4154-60	11.5	237
75	Observing graphene grow: catalyst-graphene interactions during scalable graphene growth on polycrystalline copper. *Nano Letters*, **2013**, 13, 4769-78	11.5	198
74	The Phase of Iron Catalyst Nanoparticles during Carbon Nanotube Growth. *Chemistry of Materials*, **2012**, 24, 4633-4640	9.6	158
73	In Situ Observations during Chemical Vapor Deposition of Hexagonal Boron Nitride on Polycrystalline Copper. *Chemistry of Materials*, **2014**, 26, 6380-6392	9.6	147
72	Kinetic control of catalytic CVD for high-quality graphene at low temperatures. *ACS Nano*, **2012**, 6, 9996-10003	16.7	141
71	In situ observations of the atomistic mechanisms of Ni catalyzed low temperature graphene growth. *ACS Nano*, **2013**, 7, 7901-12	16.7	139
70	Understanding Fluoroethylene Carbonate and Vinylene Carbonate Based Electrolytes for Si Anodes in Lithium Ion Batteries with NMR Spectroscopy. *Journal of the American Chemical Society*, **2018**, 140, 9854-9867	16.4	137
69	The Parameter Space of Graphene Chemical Vapor Deposition on Polycrystalline Cu. *Journal of Physical Chemistry C*, **2012**, 116, 22492-22501	3.8	137
68	Nucleation control for large, single crystalline domains of monolayer hexagonal boron nitride via Si-doped Fe catalysts. *Nano Letters*, **2015**, 15, 1867-75	11.5	121
67	Graphene-passivated nickel as an oxidation-resistant electrode for spintronics. *ACS Nano*, **2012**, 6, 10930-4	16.7	120
66	Long-Term Passivation of Strongly Interacting Metals with Single-Layer Graphene. *Journal of the American Chemical Society*, **2015**, 137, 14358-66	16.4	114
65	Photoelectron Spectroscopy at the Graphene-Liquid Interface Reveals the Electronic Structure of an Electrodeposited Cobalt/Graphene Electrocatalyst. *Angewandte Chemie - International Edition*, **2015**, 54, 14554-8	16.4	105
64	Controlling Catalyst Bulk Reservoir Effects for Monolayer Hexagonal Boron Nitride CVD. *Nano Letters*, **2016**, 16, 1250-61	11.5	97
63	Sub-nanometer atomic layer deposition for spintronics in magnetic tunnel junctions based on graphene spin-filtering membranes. *ACS Nano*, **2014**, 8, 7890-5	16.7	96
62	Magnetic tunnel junctions with monolayer hexagonal boron nitride tunnel barriers. *Applied Physics Letters*, **2016**, 108, 102404	3.4	95
61	Introducing carbon diffusion barriers for uniform, high-quality graphene growth from solid sources. *Nano Letters*, **2013**, 13, 4624-31	11.5	93

60	The influence of intercalated oxygen on the properties of graphene on polycrystalline Cu under various environmental conditions. *Physical Chemistry Chemical Physics*, **2014**, 16, 25989-6003	3.6	91
59	CVD-Enabled Graphene Manufacture and Technology. *Journal of Physical Chemistry Letters*, **2015**, 6, 2714-21	6.4	89
58	Towards a general growth model for graphene CVD on transition metal catalysts. *Nanoscale*, **2016**, 8, 2149-58	7.7	87
57	Interdependency of subsurface carbon distribution and graphene-catalyst interaction. *Journal of the American Chemical Society*, **2014**, 136, 13698-708	16.4	84
56	Time Evolution of the Wettability of Supported Graphene under Ambient Air Exposure. *Journal of Physical Chemistry C*, **2016**, 120, 2215-2224	3.8	81
55	On the mechanisms of Ni-catalysed graphene chemical vapour deposition. *ChemPhysChem*, **2012**, 13, 2544-9	3.2	81
54	Dissociative Carbon Dioxide Adsorption and Morphological Changes on Cu(100) and Cu(111) at Ambient Pressures. *Journal of the American Chemical Society*, **2016**, 138, 8207-11	16.4	74
53	Extrinsic Cation Selectivity of 2D Membranes. *ACS Nano*, **2017**, 11, 1340-1346	16.7	71
52	Substrate-assisted nucleation of ultra-thin dielectric layers on graphene by atomic layer deposition. *Applied Physics Letters*, **2012**, 100, 173113	3.4	71
51	Graphene Membranes for Atmospheric Pressure Photoelectron Spectroscopy. *Journal of Physical Chemistry Letters*, **2016**, 7, 1622-7	6.4	71
50	Probing electrode/electrolyte interfaces in situ by X-ray spectroscopies: old methods, new tricks. *Physical Chemistry Chemical Physics*, **2015**, 17, 30229-39	3.6	68
49	Unraveling the Reaction Mechanisms of SiO Anodes for Li-Ion Batteries by Combining in Situ Li and ex Situ Li/Si Solid-State NMR Spectroscopy. *Journal of the American Chemical Society*, **2019**, 141, 7014-7027	16.4	63
48	Insulator-to-Metallic Spin-Filtering in 2D-Magnetic Tunnel Junctions Based on Hexagonal Boron Nitride. *ACS Nano*, **2018**, 12, 4712-4718	16.7	59
47	In Situ Observations of Phase Transitions in Metastable Nickel (Carbide)/Carbon Nanocomposites. *Journal of Physical Chemistry C*, **2016**, 120, 22571-22584	3.8	56
46	Protecting nickel with graphene spin-filtering membranes: A single layer is enough. *Applied Physics Letters*, **2015**, 107, 012408	3.4	54
45	Effects of polymethylmethacrylate-transfer residues on the growth of organic semiconductor molecules on chemical vapor deposited graphene. *Applied Physics Letters*, **2015**, 106, 103101	3.4	51
44	In Situ Graphene Growth Dynamics on Polycrystalline Catalyst Foils. *Nano Letters*, **2016**, 16, 6196-6206	11.5	51
43	Stable, efficient p-type doping of graphene by nitric acid. *RSC Advances*, **2016**, 6, 113185-113192	3.7	49

42	Graphene Liquid Enclosure for Single-Molecule Analysis of Membrane Proteins in Whole Cells Using Electron Microscopy. *ACS Nano*, **2017**, 11, 11108-11117	16.7	44
41	Measuring the proton selectivity of graphene membranes. *Applied Physics Letters*, **2015**, 107, 213104	3.4	42
40	Stability of graphene doping with MoO3 and I2. *Applied Physics Letters*, **2014**, 105, 103103	3.4	41
39	Free-standing graphene membranes on glass nanopores for ionic current measurements. *Applied Physics Letters*, **2015**, 106, 023119	3.4	40
38	In-situ study of growth of carbon nanotube forests on conductive CoSi2 support. *Journal of Applied Physics*, **2011**, 109, 114314	2.5	31
37	Low temperature growth of carbon nanotubes on tetrahedral amorphous carbon using Fe□u catalyst. *Carbon*, **2015**, 81, 639-649	10.4	29
36	A Peeling Approach for Integrated Manufacturing of Large Monolayer h-BN Crystals. *ACS Nano*, **2019**, 13, 2114-2126	16.7	27
35	Hafnia nanoparticles □a model system for graphene growth on a dielectric. *Physica Status Solidi - Rapid Research Letters*, **2011**, 5, 341-343	2.5	22
34	Co-Catalytic Solid-State Reduction Applied to Carbon Nanotube Growth. *Journal of Physical Chemistry C*, **2012**, 116, 1107-1113	3.8	21
33	Structure of the Clean and Oxygen-Covered Cu(100) Surface at Room Temperature in the Presence of Methanol Vapor in the 10-200 mTorr Pressure Range. *Journal of Physical Chemistry B*, **2018**, 122, 548-554	3.4	21
32	Nitrogen controlled iron catalyst phase during carbon nanotube growth. *Applied Physics Letters*, **2014**, 105, 143111	3.4	20
31	Carbon nanotube forest growth on NiTi shape memory alloy thin films for thermal actuation. *Thin Solid Films*, **2011**, 519, 6126-6129	2.2	19
30	Spin filtering by proximity effects at hybridized interfaces in spin-valves with 2D graphene barriers. *Nature Communications*, **2020**, 11, 5670	17.4	17
29	Environment-Dependent Radiation Damage in Atmospheric Pressure X-ray Spectroscopy. *Journal of Physical Chemistry B*, **2018**, 122, 737-744	3.4	17
28	The role of the sp2:sp3 substrate content in carbon supported nanotube growth. *Carbon*, **2014**, 75, 327-334	10.4	16
27	Chemical vapour deposition of freestanding sub-60 nm graphene gyroids. *Applied Physics Letters*, **2017**, 111, 253103	3.4	16
26	2D Material Membranes for Operando Atmospheric Pressure Photoelectron Spectroscopy. *Topics in Catalysis*, **2018**, 61, 2085-2102	2.3	16
25	Atomic layer deposited oxide films as protective interface layers for integrated graphene transfer. *Nanotechnology*, **2017**, 28, 485201	3.4	14

24	From Growth Surface to Device Interface: Preserving Metallic Fe under Monolayer Hexagonal Boron Nitride. *ACS Applied Materials & Interfaces*, **2017**, 9, 29973-29981	9.5	13
23	X-ray-Induced Fragmentation of Imidazolium-Based Ionic Liquids Studied by Soft X-ray Absorption Spectroscopy. *Journal of Physical Chemistry Letters*, **2018**, 9, 785-790	6.4	12
22	Co-catalytic absorption layers for controlled laser-induced chemical vapor deposition of carbon nanotubes. *ACS Applied Materials & Interfaces*, **2014**, 6, 4025-32	9.5	12
21	Low temperature growth of fully covered single-layer graphene using a CoCu catalyst. *Nanoscale*, **2017**, 9, 14467-14475	7.7	11
20	The origin of chemical inhomogeneity in garnet electrolytes and its impact on the electrochemical performance. *Journal of Materials Chemistry A*, **2020**, 8, 14265-14276	13	10
19	Reactive intercalation and oxidation at the buried graphene-germanium interface. *APL Materials*, **2019**, 7, 071107	5.7	10
18	Understanding metal organic chemical vapour deposition of monolayer WS: the enhancing role of Au substrate for simple organosulfur precursors. *Nanoscale*, **2020**, 12, 22234-22244	7.7	8
17	Crystal Orientation Dependent Oxidation Modes at the Buried Graphene-Cu Interface. *Chemistry of Materials*, **2020**, 32, 7766-7776	9.6	8
16	Influence of Dissolved O2 in Organic Solvents on CuOEP Supramolecular Self-Assembly on Graphite. *Langmuir*, **2016**, 32, 5526-31	4	7
15	Oxidising and carburising catalyst conditioning for the controlled growth and transfer of large crystal monolayer hexagonal boron nitride. *2D Materials*, **2020**, 7, 024005	5.9	7
14	Formation of an Artificial Mg-Permeable Interphase on Mg Anodes Compatible with Ether and Carbonate Electrolytes. *ACS Applied Materials & Interfaces*, **2021**, 13, 24565-24574	9.5	7
13	Compressive behavior and failure mechanisms of freestanding and composite 3D graphitic foams. *Acta Materialia*, **2018**, 159, 187-196	8.4	6
12	Identifying the catalyst chemical state and adsorbed species during methanol conversion on copper using ambient pressure X-ray spectroscopies. *Physical Chemistry Chemical Physics*, **2020**, 22, 18806-18814	3.6	5
11	In situ and operando characterisation of Li metal □Solid electrolyte interfaces. *Current Opinion in Solid State and Materials Science*, **2022**, 26, 100978	12	4
10	Cycle-Induced Interfacial Degradation and Transition-Metal Cross-Over in LiNiMnCoO-Graphite Cells.. *Chemistry of Materials*, **2022**, 34, 2034-2048	9.6	3
9	Graphene-passivated nickel as an efficient hole-injecting electrode for large area organic semiconductor devices. *Applied Physics Letters*, **2020**, 116, 163301	3.4	2
8	Photoelektronenspektroskopie an der Graphen-Fl□sigelektrolyt-Grenzfl□che zur Bestimmung der elektronischen Struktur eines elektrochemisch abgeschiedenen Cobalt/Graphen-Elektrokatalysators. *Angewandte Chemie*, **2015**, 127, 14762-14766	3.6	2
7	Electron Microscopy of Single Cells in Liquid for Stoichiometric Analysis of Transmembrane Proteins. *Microscopy and Microanalysis*, **2016**, 22, 74-75	0.5	2

6	Spatial variability in large area single and few-layer CVD graphene **2015**,		1
5	Enclosed Cells for Extending Soft X-ray Spectroscopies to Atmospheric Pressures and Above. *ACS Symposium Series*,175-218	0.4	1
4	Observing Electrochemical Reactions on Suspended Graphene: An Operando Kelvin Probe Force Microscopy Approach. *Advanced Materials Interfaces*, **2021**, 8, 2100662	4.6	0
3	Studying biological samples in their native liquid environment using electron microscopy **2016**, 165-166		
2	Graphene Enclosure Facilitates Single-Molecule Analysis of ErbB2 Receptors in Intact, Hydrated Eukaryotic Cells by Electron Microscopy. *Microscopy and Microanalysis*, **2017**, 23, 1304-1305	0.5	
1	Correlative Fluorescence and Electron Microscopy of Graphene-Enclosed Whole Cells for High Resolution Analysis of Cellular Proteins. *Microscopy and Microanalysis*, **2019**, 25, 5-6	0.5	