Marcus Andre Worsley

List of Publications by Year
in descending order

139 papers	9,939 citations	50170 46 h-index	34900 98 g-index
147 all docs	147 docs citations	147 times ranked	12938 citing authors

#	Article	IF	Citations
1	A new chemresistive NO2 sensing material: Hafnium diboride. Ceramics International, 2022, 48, 6835-6841.	2.3	1
2	Noninvasive Detection, Tracking, and Characterization of Aerogel Implants Using Diagnostic Ultrasound. Polymers, 2022, 14, 722.	2.0	4
3	Three-Dimensional Printed MoS₂/Graphene Aerogel Electrodes for Hydrogen Evolution Reactions. ACS Materials Au, 2022, 2, 596-601.	2.6	16
4	3D Printed Carbon Aerogels for Polymer-Electrolyte Fuel Cells. ECS Transactions, 2022, 108, 153-163.	0.3	3
5	Topology optimization for the design of porous electrodes. Structural and Multidisciplinary Optimization, 2022, 65, .	1.7	14
6	(Invited) 3D Printing of 2D Materials for Optimized Electrochemical Performance. ECS Meeting Abstracts, 2022, MA2022-01, 2460-2460.	0.0	0
7	3D Printed Carbon Aerogels for Polymer-Electrolyte Fuel Cells. ECS Meeting Abstracts, 2022, MA2022-01, 1535-1535.	0.0	0
8	Maximizing Energy Efficiency of Porous Electrodes Via Topology Optimization. ECS Meeting Abstracts, 2022, MA2022-01, 1969-1969.	0.0	0
9	Enhanced neurite outgrowth on electrically conductive carbon aerogel substrates in the presence of an external electric field. Soft Matter, 2021, 17, 4489-4495.	1.2	8
10	Printing Porous Carbon Aerogels for Low Temperature Supercapacitors. Nano Letters, 2021, 21, 3731-3737.	4.5	98
11	One-Step Conversion of Graphite to Crinkled Boron Nitride Nanofoams for Hydrophobic Liquid Absorption. ACS Applied Nano Materials, 2021, 4, 3500-3507.	2.4	3
12	Carbon aerogels with integrated engineered macroporous architectures for improved mass transport. Carbon, 2021, 179, 125-132.	5.4	10
13	Inertially enhanced mass transport using 3D-printed porous flow-through electrodes with periodic lattice structures. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	35
14	Modeling flow-based electrophoretic deposition for functionally graded materials. Materials and Design, 2021, 209, 110000.	3.3	3
15	Computational design of microarchitected porous electrodes for redox flow batteries. Journal of Power Sources, 2021, 512, 230453.	4.0	23
16	Periodic Porous 3D Electrodes Mitigate Gas Bubble Traffic during Alkaline Water Electrolysis at High Current Densities. Advanced Energy Materials, 2020, 10, 2002955.	10.2	97
17	Water Splitting: Periodic Porous 3D Electrodes Mitigate Gas Bubble Traffic during Alkaline Water Electrolysis at High Current Densities (Adv. Energy Mater. 46/2020). Advanced Energy Materials, 2020, 10, 2070189.	10.2	2
18	A 3D nm-thin biomimetic membrane for ultimate molecular separation. Materials Horizons, 2020, 7, 2422-2430.	6.4	1

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19	3Dâ€Printed Structure Boosts the Kinetics and Intrinsic Capacitance of Pseudocapacitive Graphene Aerogels. Advanced Materials, 2020, 32, e1906652.	11.1	191
20	Correlating dynamic microstructure to observed color in electrophoretic displays via in situ small-angle x-ray scattering. Physical Review Materials, 2020, 4, .	0.9	6
21	(Invited) Optimizing 2D Material-Based Electrodes for Electrochemical Energy and Conversion Devices. ECS Meeting Abstracts, 2020, MA2020-01, 827-827.	0.0	0
22	Elucidating the Mass Transport Properties of Additively Manufactured Electrodes Using Spatially Resolved Simulation. ECS Meeting Abstracts, 2020, MA2020-02, 2141-2141.	0.0	0
23	Improving Flow-through Electrode Performance Using Computational Design of Architected Porosity. ECS Meeting Abstracts, 2020, MA2020-02, 1541-1541.	0.0	0
24	Self-assembly and metal-directed assembly of organic semiconductor aerogels and conductive carbon nanofiber aerogels with controllable nanoscale morphologies. Carbon, 2019, 153, 648-656.	5.4	8
25	Towards thermally stable aerogel photocatalysts: TiCl4-based sol-gel routes for the design of nanostructured silica-titania aerogel with high photocatalytic activity and outstanding thermal stability. Journal of Environmental Chemical Engineering, 2019, 7, 103425.	3.3	31
26	Ultrahigh-Temperature Ceramic Aerogels. Chemistry of Materials, 2019, 31, 3700-3704.	3.2	41
27	Colloidal Materials for 3D Printing. Annual Review of Chemical and Biomolecular Engineering, 2019, 10, 17-42.	3.3	47
28	Chlorine-free, monolithic lanthanide series rare earth oxide aerogels via epoxide-assisted sol-gel method. Journal of Sol-Gel Science and Technology, 2019, 89, 176-188.	1.1	13
29	Efficient 3D Printed Pseudocapacitive Electrodes with Ultrahigh MnO2 Loading. Joule, 2019, 3, 459-470.	11.7	352
30	Optimally Engineered Flow-through Electrodes Using Automatic Design Algorithms and Additive Manufacturing. ECS Meeting Abstracts, 2019, , .	0.0	0
31	Efficient 3D Printed Pseudocapacitive Electrodes with Ultrahigh MnO2 Loading. ECS Meeting Abstracts, 2019, , .	0.0	0
32	Quantitative Analysis of Color Differences within High Contrast, Low Power Reversible Electrophoretic Displays. ECS Transactions, 2018, 82, 59-66.	0.3	2
33	3D printing of high performance cyanate ester thermoset polymers. Journal of Materials Chemistry A, 2018, 6, 853-858.	5.2	65
34	Effects of ambient humidity and temperature on the NO2 sensing characteristics of WS2/graphene aerogel. Applied Surface Science, 2018, 450, 372-379.	3.1	96
35	Complex shaped boron carbides from negative additive manufacturing. Materials and Design, 2018, 148, 8-16.	3.3	31
36	Three-dimensional carbon architectures for electrochemical capacitors. Journal of Colloid and Interface Science, 2018, 509, 529-545.	5.0	67

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37	Compressible Electrodes: 3Dâ€Printed, Superelastic Polypyrroleâ€“Graphene Electrodes with Ultrahigh Areal Capacitance for Electrochemical Energy Storage (Adv. Mater. Technol. 7/2018). Advanced Materials Technologies, 2018, 3, 1870026.	3.0	4
38	PC-12 cells adhesion and differentiation on carbon aerogel scaffolds. MRS Communications, 2018, 8, 1426-1432.	0.8	15
39	Negative Additive Manufacturing of Complex Shaped Boron Carbides. Journal of Visualized Experiments, 2018, , .	0.2	3
40	Direct ink writing of organic and carbon aerogels. Materials Horizons, 2018, 5, 1166-1175.	6.4	78
41	Surpassing the conventional limitations of CO2 separation membranes with hydroxide/ceramic dual-phase membranes. Journal of Membrane Science, 2018, 567, 191-198.	4.1	22
42	Toward digitally controlled catalyst architectures: Hierarchical nanoporous gold via 3D printing. Science Advances, 2018, 4, eaas9459.	4.7	140
43	Additive manufacturing of complex micro-architected graphene aerogels. Materials Horizons, 2018, 5, 1035-1041.	6.4	147
44	Boron Doping and Defect Engineering of Graphene Aerogels for Ultrasensitive NO₂ Detection. Journal of Physical Chemistry C, 2018, 122, 20358-20365.	1.5	41
45	3Dâ€Printed, Superelastic Polypyrroleâ€“Graphene Electrodes with Ultrahigh Areal Capacitance for Electrochemical Energy Storage. Advanced Materials Technologies, 2018, 3, 1800053.	3.0	51
46	Carbon Aerogels. , 2018, , 3339-3374.		3
47	Hierarchical Nanoporous Gold with Engineered Architectures Via Dealloying of 3D Printed Alloys. ECS Meeting Abstracts, 2018, , .	0.0	0
48	Optimally Engineered Flow-Through Electrodes Using Automatic Design Algorithms and Additive Manufacturing. ECS Meeting Abstracts, 2018, , .	0.0	0
49	Tunable Amorphous Photonic Materials with Pigmentary Colloidal Nanostructures. Advanced Optical Materials, 2017, 5, 1600838.	3.6	21
50	3D-Printing of Meso-structurally Ordered Carbon Fiber/Polymer Composites with Unprecedented Orthotropic Physical Properties. Scientific Reports, 2017, 7, 43401.	1.6	238
51	Conductometric gas sensing behavior of WS2 aerogel. FlatChem, 2017, 5, 1-8.	2.8	36
52	Ultralight Conductive Silver Nanowire Aerogels. Nano Letters, 2017, 17, 7171-7176.	4.5	163
53	3D MoS₂ Aerogel for Ultrasensitive NO₂ Detection and Its Tunable Sensing Behavior. Advanced Materials Interfaces, 2017, 4, 1700217.	1.9	60
54	Density Tunable Graphene Aerogels Using a Sacrificial Polycyclic Aromatic Hydrocarbon. Physica Status Solidi (B): Basic Research, 2017, 254, 1700203.	0.7	2

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55	Carbon aerogel evolution: Allotrope, graphene-inspired, and 3D-printed aerogels. Journal of Materials Research, 2017, 32, 4166-4185.	1.2	71
56	3D printed functional nanomaterials for electrochemical energy storage. Nano Today, 2017, 15, 107-120.	6.2	302
57	Graded bandgap perovskite solar cells. Nature Materials, 2017, 16, 522-525.	13.3	135
58	Carbon Nanotube-Based Aerogels as Preformed Porous Fibrous Network for Reinforcing Lightweight Composites. , 2017, , 245-266.		0
59	Ion Intercalation Induced Capacitance Improvement for Grapheneâ€Based Supercapacitor Electrodes. ChemNanoMat, 2016, 2, 635-641.	1.5	41
60	Platinum Nanoparticle Loading of Boron Nitride Aerogel and Its Use as a Novel Material for Lowâ€Power Catalytic Gas Sensing. Advanced Functional Materials, 2016, 26, 433-439.	7.8	82
61	High Surface Area MoS₂/Graphene Hybrid Aerogel for Ultrasensitive NO₂ Detection. Advanced Functional Materials, 2016, 26, 5158-5165.	7.8	357
62	Synthesis of Nanostructured/Macroscopic Low-Density Copper Foams Based on Metal-Coated Polymer Coreâ€“Shell Particles. ACS Applied Materials & Interfaces, 2016, 8, 34706-34714.	4.0	9
63	Gas Sensors: Platinum Nanoparticle Loading of Boron Nitride Aerogel and Its Use as a Novel Material for Lowâ€Power Catalytic Gas Sensing (Adv. Funct. Mater. 3/2016). Advanced Functional Materials, 2016, 26, 314-314.	7.8	3
64	Ignition and Combustion Characteristics of Nanoaluminum with Copper Oxide Nanoparticles of Differing Oxidation State. Journal of Physical Chemistry C, 2016, 120, 29023-29029.	1.5	29
65	Supercapacitors Based on Three-Dimensional Hierarchical Graphene Aerogels with Periodic Macropores. Nano Letters, 2016, 16, 3448-3456.	4.5	608
66	Structureâ€“property relationship of new polyimideâ€“organically modified silicateâ€“phosphotungstic acid hybrid material system. Journal of Materials Science, 2016, 51, 4815-4824.	1.7	7
67	Solvent-directed sol-gel assembly of 3-dimensional graphene-tented metal oxides and strong synergistic disparities in lithium storage. Journal of Materials Chemistry A, 2016, 4, 4032-4043.	5.2	19
68	Carbon Aerogels. , 2016, , 1-36.		2
69	Universal roles of hydrogen in electrochemical performance of graphene: high rate capacity and atomistic origins. Scientific Reports, 2015, 5, 16190.	1.6	15
70	Synthesis and Functionalization of 3D Nano-graphene Materials: Graphene Aerogels and Graphene Macro Assemblies. Journal of Visualized Experiments, 2015, , e53235.	0.2	3
71	Nanoscale structure and superhydrophobicity of sp²-bonded boron nitride aerogels. Nanoscale, 2015, 7, 10449-10458.	2.8	41
72	On the synthesis and structure of resorcinol-formaldehyde polymeric networks â€“ Precursors to 3D-carbon macroassemblies. Polymer, 2015, 69, 45-51.	1.8	35

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73	Hydrogen Crystallization in Low-Density Aerogels. Langmuir, 2015, 31, 3854-3860.	1.6	4
74	Enhanced electrochemical performance of ion-beam-treated 3D graphene aerogels for lithium ion batteries. Carbon, 2015, 85, 269-278.	5.4	46
75	Potentialâ€Induced Electronic Structure Changes in Supercapacitor Electrodes Observed by In Operando Soft Xâ€Ray Spectroscopy. Advanced Materials, 2015, 27, 1512-1518.	11.1	25
76	Highly compressible 3D periodic graphene aerogel microlattices. Nature Communications, 2015, 6, 6962.	5.8	928
77	Ultralow Density, Monolithic WS₂, MoS₂, and MoS₂/Graphene Aerogels. ACS Nano, 2015, 9, 4698-4705.	7.3	159
78	ROMP crosslinkers for the preparation of aliphatic aerogels. Journal of Non-Crystalline Solids, 2015, 408, 98-101.	1.5	12
79	Catalytic hydrogen sensing using microheated platinum nanoparticle-loaded graphene aerogel. Sensors and Actuators B: Chemical, 2015, 206, 399-406.	4.0	72
80	On-Demand and Location Selective Particle Assembly via Electrophoretic Deposition for Fabricating Structures with Particle-to-Particle Precision. Langmuir, 2015, 31, 3563-3568.	1.6	27
81	Liquidâ€“solid phase transition of hydrogen and deuterium in silica aerogel. Journal of Applied Physics, 2014, 116, 163517.	1.1	10
82	Robust nanoporous alumina monoliths by atomic layer deposition on low-density carbon-nanotube scaffolds. Carbon, 2014, 73, 443-447.	5.4	5
83	Determination of the â€œNiOOHâ€•charge and discharge mechanisms at ideal activity. Journal of Electroanalytical Chemistry, 2014, 717-718, 177-188.	1.9	64
84	The effects of highly structured low density carbon nanotube networks on the thermal degradation behaviour of polysiloxanes. Polymer Degradation and Stability, 2014, 102, 25-32.	2.7	7
85	Toward Macroscale, Isotropic Carbons with Grapheneâ€Sheetâ€Like Electrical and Mechanical Properties. Advanced Functional Materials, 2014, 24, 4259-4264.	7.8	95
86	Simultaneous Sheet Cross-Linking and Deoxygenation in the Graphene Oxide Solâ€“Gel Transition. Journal of Physical Chemistry C, 2014, 118, 28855-28860.	1.5	35
87	Nanoporous Cuâ€“C composites based on carbon-nanotube aerogels. Journal of Materials Chemistry A, 2014, 2, 962-967.	5.2	10
88	Optimizing supercapacitor electrode density: achieving the energy of organic electrolytes with the power of aqueous electrolytes. RSC Advances, 2014, 4, 42942-42946.	1.7	26
89	Synthesis and Characterization of Highly Crystalline Graphene Aerogels. ACS Nano, 2014, 8, 11013-11022.	7.3	162
90	Lightâ€Directed Electrophoretic Deposition: A New Additive Manufacturing Technique for Arbitrarily Patterned 3D Composites. Advanced Materials, 2014, 26, 2252-2256.	11.1	51

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91	Freezing and melting of hydrogen confined in nanoporous silica. Journal of Physics Condensed Matter, 2014, 26, 225004.	0.7	7
92	Ice templating synthesis of low-density porous Cuâ€“C nanocomposites. Journal of Materials Chemistry A, 2014, 2, 18600-18605.	5.2	11
93	Battery/supercapacitor hybrid via non-covalent functionalization of graphene macro-assemblies. Journal of Materials Chemistry A, 2014, 2, 17764-17770.	5.2	59
94	Coating functional solâ€“gel films inside horizontally-rotating cylinders by rimming flow/state. Journal of Sol-Gel Science and Technology, 2013, 65, 170-177.	1.1	5
95	Relaxation calorimeter for hydrogen thermoporometry. Review of Scientific Instruments, 2013, 84, 053901.	0.6	5
96	Impedance-based study of capacitive porous carbon electrodes with hierarchical and bimodal porosity. Journal of Power Sources, 2013, 241, 266-273.	4.0	82
97	Synthesis of Highly Crystalline sp²-Bonded Boron Nitride Aerogels. ACS Nano, 2013, 7, 8540-8546.	7.3	92
98	Heavy-ion-induced modification of structural and mechanical properties of carbon-nanotube aerogels. Carbon, 2013, 57, 310-316.	5.4	5
99	Thick, Binder-Free Carbon-Nanotube-Based Electrodes for High Power Applications. ECS Journal of Solid State Science and Technology, 2013, 2, M3140-M3144.	0.9	8
100	Tailoring properties of carbon-nanotube-based foams by ion bombardment. Applied Physics Letters, 2012, 101, .	1.5	7
101	Mechanically robust 3D graphene macroassembly with high surface area. Chemical Communications, 2012, 48, 8428.	2.2	227
102	Tuning the rheological properties of sols for low-density aerogel coating applications. Soft Matter, 2012, 8, 3518.	1.2	22
103	Shape control synthesis of fluorapatite structures based on supersaturation: prismatic nanowires, ellipsoids, star, and aggregate formation. CrystEngComm, 2012, 14, 6384.	1.3	14
104	Exploration of the versatility of ring opening metathesis polymerization: an approach for gaining access to low density polymeric aerogels. RSC Advances, 2012, 2, 8672.	1.7	32
105	Mechanical deformation of carbon-nanotube-based aerogels. Carbon, 2012, 50, 5340-5342.	5.4	26
106	A new approach to foam-lined indirect-drive NIF ignition targets. Nuclear Fusion, 2012, 52, 062001.	1.6	30
107	Macroscopic 3D Nanographene with Dynamically Tunable Bulk Properties. Advanced Materials, 2012, 24, 5083-5087.	11.1	111
108	Electrophoretic deposition of binary energetic composites. Combustion and Flame, 2012, 159, 2210-2218.	2.8	78

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109	Advanced carbon aerogels for energy applications. Energy and Environmental Science, 2011, 4, 656.	15.6	576
110	Synthesis of ZnO coated activated carbon aerogel by simple solâ€“gel route. Journal of Materials Chemistry, 2011, 21, 330-333.	6.7	37
111	Carbon Scaffolds for Stiff and Highly Conductive Monolithic Oxideâ€“Carbon Nanotube Composites. Chemistry of Materials, 2011, 23, 3054-3061.	3.2	44
112	High Surface Area, sp²-Cross-Linked Three-Dimensional Graphene Monoliths. Journal of Physical Chemistry Letters, 2011, 2, 921-925.	2.1	212
113	Light-ion-irradiation-induced thermal spikes in nanoporous silica. Journal Physics D: Applied Physics, 2011, 44, 085406.	1.3	18
114	Synthesis and characterization of a nanocrystalline diamond aerogel. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8550-8553.	3.3	52
115	Influence of sodium dodecylbenzene sulfonate on the structure and properties of carbon aerogels. Journal of Non-Crystalline Solids, 2010, 356, 172-174.	1.5	10
116	Synthesis of Graphene Aerogel with High Electrical Conductivity. Journal of the American Chemical Society, 2010, 132, 14067-14069.	6.6	1,101
117	High surface area carbon aerogels as porous substrates for direct growth of carbon nanotubes. Chemical Communications, 2010, 46, 9253.	2.2	33
118	Electrically conductive composites via infiltration of single-walled carbon nanotube-based aerogels. Materials Research Society Symposia Proceedings, 2010, 1258, 1.	0.1	0
119	Synthesis and characterization of monolithic, high surface area SiO2/C and SiC/C composites. Journal of Materials Chemistry, 2010, 20, 4840.	6.7	44
120	Synthesis and Characterization of Nanocarbon-Supported Titanium Dioxide. Materials Research Society Symposia Proceedings, 2009, 1174, 31.	0.1	0
121	Enhanced thermal transport in carbon aerogel nanocomposites containing double-walled carbon nanotubes. Journal of Applied Physics, 2009, 105, 084316.	1.1	17
122	Depth-sensing indentation of low-density brittle nanoporous solids. Acta Materialia, 2009, 57, 3472-3480.	3.8	55
123	Properties of single-walled carbon nanotube-based aerogels as a function of nanotube loading. Acta Materialia, 2009, 57, 5131-5136.	3.8	71
124	High surface area carbon nanotube-supported titanium carbonitride aerogels. Journal of Materials Chemistry, 2009, 19, 5503.	6.7	21
125	Nanoscale Zirconia as a Nonmetallic Catalyst for Graphitization of Carbon and Growth of Single- and Multiwall Carbon Nanotubes. Journal of the American Chemical Society, 2009, 131, 12144-12154.	6.6	219
126	Controlling Atomic Layer Deposition of TiO₂ in Aerogels through Surface Functionalization. Chemistry of Materials, 2009, 21, 1989-1992.	3.2	30

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127	Mechanically robust and electrically conductive carbon nanotube foams. Applied Physics Letters, 2009, 94, .	1.5	245
128	Stiff and electrically conductive composites of carbon nanotube aerogels and polymers. Journal of Materials Chemistry, 2009, 19, 3370.	6.7	60
129	Route to high surface area TiO2/C and TiCN/C composites. Journal of Materials Chemistry, 2009, 19, 7146.	6.7	13
130	Ion-beam-induced stiffening of nanoporous silica. Journal Physics D: Applied Physics, 2009, 42, 182003.	1.3	8
131	Plasma ash processing solutions for advanced interconnect technology. Thin Solid Films, 2008, 516, 3558-3563.	0.8	8
132	High surface area carbon aerogel monoliths with hierarchical porosity. Journal of Non-Crystalline Solids, 2008, 354, 3513-3515.	1.5	145
133	Synthesis and Characterization of Monolithic Carbon Aerogel Nanocomposites Containing Double-Walled Carbon Nanotubes. Langmuir, 2008, 24, 9763-9766.	1.6	110
134	Effect of radical species density and ion bombardment during ashing of extreme ultralow-Î¤ interlevel dielectric materials. Journal of Applied Physics, 2007, 101, 013305.	1.1	32
135	Characterization of neutral species densities in dual frequency capacitively coupled photoresist ash plasmas by optical emission actinometry. Journal of Applied Physics, 2006, 100, 083301.	1.1	46
136	Detection of open or closed porosity in low-Î¤ dielectrics by solvent diffusion. Microelectronic Engineering, 2005, 82, 113-118.	1.1	20
137	Effect of plasma interactions with low-Î¤ films as a function of porosity, plasma chemistry, and temperature. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 395.	1.6	80
138	The Study of Modified Layers in SiCOH Dielectrics using Spectroscopic Ellipsometry. Materials Research Society Symposia Proceedings, 2003, 766, 3291.	0.1	4
139	Prussian blue as a co-catalyst for enhanced Cr(vi) photocatalytic reduction promoted by titania-based nanoparticles and aerogels. New Journal of Chemistry, 0, , .	1.4	9