Hugh Geaney

List of Publications by Year
in descending order

83 papers	3,299 citations	172207 29 h-index	155451 55 g-index
84 all docs	84 docs citations	84 times ranked	4570 citing authors

#	Article	IF	Citations
1	Colloidal Synthesis of Wurtzite Cu₂ZnSnS₄ Nanorods and Their Perpendicular Assembly. Journal of the American Chemical Society, 2012, 134, 2910-2913.	6.6	381
2	High-Performance Germanium Nanowire-Based Lithium-Ion Battery Anodes Extending over 1000 Cycles Through in Situ Formation of a Continuous Porous Network. Nano Letters, 2014, 14, 716-723.	4.5	317
3	Structuring materials for lithium-ion batteries: advancements in nanomaterial structure, composition, and defined assembly on cell performance. Journal of Materials Chemistry A, 2014, 2, 9433.	5.2	144
4	Bioâ€derived Carbon Nanofibres from Lignin as Highâ€Performance Liâ€Ion Anode Materials. ChemSusChem, 2019, 12, 4516-4521.	3.6	130
5	Key scientific challenges in current rechargeable non-aqueous Liâ€“O2 batteries: experiment and theory. Physical Chemistry Chemical Physics, 2014, 16, 12093.	1.3	120
6	Metal-assisted chemical etching of silicon and the behavior of nanoscale silicon materials as Li-ion battery anodes. Nano Research, 2015, 8, 1395-1442.	5.8	106
7	Spontaneous Room Temperature Elongation of CdS and Ag2S Nanorods via Oriented Attachment. Journal of the American Chemical Society, 2009, 131, 12250-12257.	6.6	90
8	Synthesis of Tin Catalyzed Silicon and Germanium Nanowires in a Solventâ€“Vapor System and Optimization of the Seed/Nanowire Interface for Dual Lithium Cycling. Chemistry of Materials, 2013, 25, 1816-1822.	3.2	88
9	Electrodeposited Structurally Stable V₂O₅ Inverse Opal Networks as High Performance Thin Film Lithium Batteries. ACS Applied Materials & Interfaces, 2015, 7, 27006-27015.	4.0	81
10	High capacity binder-free nanocrystalline GeO2 inverse opal anodes for Li-ion batteries with long cycle life and stable cell voltage. Nano Energy, 2018, 43, 11-21.	8.2	78
11	2D and 3D photonic crystal materials for photocatalysis and electrochemical energy storage and conversion. Science and Technology of Advanced Materials, 2016, 17, 563-582.	2.8	77
12	Copper Sulfide (Cu<i>_x</i>S) Nanowireâ€inâ€Carbon Composites Formed from Direct Sulfurization of the Metalâ€Organic Framework HKUSTâ€1 and Their Use as Liâ€Ion Battery Cathodes. Advanced Functional Materials, 2018, 28, 1800587.	7.8	77
13	Axial Siâ€“Ge Heterostructure Nanowires as Lithium-Ion Battery Anodes. Nano Letters, 2018, 18, 5569-5575.	4.5	77
14	Behavior of Germanium and Silicon Nanowire Anodes with Ionic Liquid Electrolytes. ACS Nano, 2017, 11, 5933-5943.	7.3	69
15	Direct Synthesis of Alloyed Si_{1â€“<i>x</i>}Ge_{<i>x</i>} Nanowires for Performance-Tunable Lithium Ion Battery Anodes. ACS Nano, 2017, 11, 10088-10096.	7.3	64
16	Atomically Abrupt Siliconâ€“Germanium Axial Heterostructure Nanowires Synthesized in a Solvent Vapor Growth System. Nano Letters, 2013, 13, 1675-1680.	4.5	61
17	A Copper Silicide Nanofoam Current Collector for Directly Grown Si Nanowire Networks and their Application as Lithiumâ€Ion Anodes. Advanced Functional Materials, 2020, 30, 2003278.	7.8	57
18	Alternative anodes for low temperature lithium-ion batteries. Journal of Materials Chemistry A, 2021, 9, 14172-14213.	5.2	55

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19	High Density Germanium Nanowire Growth Directly from Copper Foil by Self-Induced Solid Seeding. Chemistry of Materials, 2011, 23, 4838-4843.	3.2	54
20	A Rapid, Solvent-Free Protocol for the Synthesis of Germanium Nanowire Lithium-Ion Anodes with a Long Cycle Life and High Rate Capability. ACS Applied Materials & Interfaces, 2014, 6, 18800-18807.	4.0	50
21	Carbon-Coated Honeycomb Ni-Mn-Co-O Inverse Opal: A High Capacity Ternary Transition Metal Oxide Anode for Li-ion Batteries. Scientific Reports, 2017, 7, 42263.	1.6	49
22	Dense Silicon Nanowire Networks Grown on a Stainlessâ€Steel Fiber Cloth: A Flexible and Robust Anode for Lithiumâ€Ion Batteries. Advanced Materials, 2021, 33, e2105917.	11.1	46
23	High Density Growth of Indium seeded Silicon Nanowires in the Vapor phase of a High Boiling Point Solvent. Chemistry of Materials, 2012, 24, 2204-2210.	3.2	45
24	Long Cycle Life, Highly Ordered SnO₂/GeO₂ Nanocomposite Inverse Opal Anode Materials for Liâ€Ion Batteries. Advanced Functional Materials, 2020, 30, 2005073.	7.8	39
25	2D and 3D vanadium oxide inverse opals and hollow sphere arrays. CrystEngComm, 2014, 16, 10804-10815.	1.3	37
26	Solution phase synthesis of silicon and germanium nanowires. Journal of Materials Chemistry C, 2013, 1, 4996.	2.7	34
27	High performance inverse opal Li-ion battery with paired intercalation and conversion mode electrodes. Journal of Materials Chemistry A, 2016, 4, 4448-4456.	5.2	34
28	Perpendicular growth of catalyst-free germanium nanowire arrays. Chemical Communications, 2011, 47, 3843.	2.2	33
29	Copper Silicide Nanowires as Hosts for Amorphous Si Deposition as a Route to Produce High Capacity Lithium-Ion Battery Anodes. Nano Letters, 2019, 19, 8829-8835.	4.5	32
30	Growth of Crystalline Copper Silicide Nanowires in High Yield within a High Boiling Point Solvent System. Chemistry of Materials, 2012, 24, 4319-4325.	3.2	31
31	Role of Defects and Growth Directions in the Formation of Periodically Twinned and Kinked Unseeded Germanium Nanowires. Crystal Growth and Design, 2011, 11, 3266-3272.	1.4	30
32	Electrochemical investigation of the role of MnO₂nanorod catalysts in water containing and anhydrous electrolytes for Liâ€“O₂battery applications. Physical Chemistry Chemical Physics, 2015, 17, 6748-6759.	1.3	28
33	Examining the Role of Electrolyte and Binders in Determining Discharge Product Morphology and Cycling Performance of Carbon Cathodes in Li-O2Batteries. Journal of the Electrochemical Society, 2016, 163, A43-A49.	1.3	28
34	The influence of carrier density and doping type on lithium insertion and extraction processes at silicon surfaces. Electrochimica Acta, 2014, 135, 356-367.	2.6	26
35	Colloidal WSe₂ nanocrystals as anodes for lithium-ion batteries. Nanoscale, 2020, 12, 22307-22316.	2.8	26
36	Direct Growth of Si, Ge, and Siâ€“Ge Heterostructure Nanowires Using Electroplated Zn: An Inexpensive Seeding Technique for Liâ€Ion Alloying Anodes. Small, 2021, 17, e2005443.	5.2	26

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37	Fully Porous GaN pâ€“n Junction Diodes Fabricated by Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2014, 6, 17954-17964.	4.0	25
38	Influence of Binders and Solvents on Stability of Ru/RuO_{<i>x</i>} Nanoparticles on ITO Nanocrystals as Liâ€“O₂ Battery Cathodes. ChemSusChem, 2017, 10, 575-586.	3.6	25
39	Aligned Copper Zinc Tin Sulfide Nanorods as Lithium-Ion Battery Anodes with High Specific Capacities. Journal of Physical Chemistry C, 2018, 122, 20090-20098.	1.5	25
40	Two-Dimensional SnSe Nanonetworks: Growth and Evaluation for Li-Ion Battery Applications. ACS Applied Energy Materials, 2020, 3, 6602-6610.	2.5	25
41	Tunable Coreâ€“Shell Nanowire Active Material for High Capacity Li-Ion Battery Anodes Comprised of PECVD Deposited aSi on Directly Grown Ge Nanowires. ACS Applied Materials & Interfaces, 2019, 11, 19372-19380.	4.0	24
42	Solvent-less method for efficient photocatalytic Î±-Fe2O3 nanoparticles using macromolecular polymeric precursors. New Journal of Chemistry, 2016, 40, 6768-6776.	1.4	23
43	Enhancing the performance of germanium nanowire anodes for Li-ion batteries by direct growth on textured copper. Chemical Communications, 2019, 55, 7780-7783.	2.2	23
44	The influence of 1D, meso- and crystal structures on charge transport and recombination in solid-state dye-sensitized solar cells. Journal of Materials Chemistry A, 2013, 1, 12088.	5.2	22
45	The effect of particle size, morphology and C-rates on 3D structured Co₃O₄ inverse opal conversion mode anode materials. Materials Research Express, 2017, 4, 025011.	0.8	22
46	A Nanowire Nest Structure Comprising Copper Silicide and Silicon Nanowires for Lithiumâ€Ion Battery Anodes with High Areal Loading. Small, 2021, 17, e2102333.	5.2	22
47	Optimizing Vanadium Pentoxide Thin Films and Multilayers from Dip-Coated Nanofluid Precursors. ACS Applied Materials & Interfaces, 2014, 6, 2031-2038.	4.0	21
48	Alloying Germanium Nanowire Anodes Dramatically Outperform Graphite Anodes in Full-Cell Chemistries over a Wide Temperature Range. ACS Applied Energy Materials, 2021, 4, 1793-1804.	2.5	21
49	Metal surface nucleated supercritical fluidâ€“solidâ€“solid growth of Si and Ge/SiOx coreâ€“shell nanowires. Journal of Materials Chemistry, 2010, 20, 135-144.	6.7	20
50	Size controlled growth of germanium nanorods and nanowires by solution pyrolysis directly on a substrate. Chemical Communications, 2012, 48, 5446.	2.2	19
51	On the Use of Gas Diffusion Layers as Current Collectors in Li-O₂Battery Cathodes. Journal of the Electrochemical Society, 2014, 161, A1964-A1968.	1.3	18
52	Electrophoretic Deposition of Tin Sulfide Nanocubes as Highâ€Performance Lithiumâ€Ion Battery Anodes. ChemElectroChem, 2019, 6, 3049-3056.	1.7	18
53	Influence of Carbonate-Based Additives on the Electrochemical Performance of Si NW Anodes Cycled in an Ionic Liquid Electrolyte. Nano Letters, 2020, 20, 7011-7019.	4.5	18
54	Doping controlled roughness and defined mesoporosity in chemically etched silicon nanowires with tunable conductivity. Journal of Applied Physics, 2013, 114, 034309.	1.1	17

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55	Linking Precursor Alterations to Nanoscale Structure and Optical Transparency in Polymer Assisted Fast-Rate Dip-Coating of Vanadium Oxide Thin Films. Scientific Reports, 2015, 5, 11574.	1.6	15
56	Assessing Charge Contribution from Thermally Treated Ni Foam as Current Collectors for Li-Ion Batteries. Journal of the Electrochemical Society, 2016, 163, A1805-A1811.	1.3	14
57	Mesoporosity in doped silicon nanowires from metal assisted chemical etching monitored by phonon scattering. Semiconductor Science and Technology, 2016, 31, 014003.	1.0	14
58	Synthesis of siliconâ€“germanium axial nanowire heterostructures in a solvent vapor growth system using indium and tin catalysts. Physical Chemistry Chemical Physics, 2015, 17, 6919-6924.	1.3	13
59	Investigation into the Selenization Mechanisms of Wurtzite CZTS Nanorods. ACS Applied Materials & Interfaces, 2018, 10, 7117-7125.	4.0	12
60	Amorphization driven Na-alloying in Si_{<i>x</i>}Ge_{1âˆ’<i>x</i>} alloy nanowires for Na-ion batteries. Journal of Materials Chemistry A, 2021, 9, 20626-20634.	5.2	12
61	Fabrication of p-type porous GaN on silicon and epitaxial GaN. Applied Physics Letters, 2013, 103, .	1.5	11
62	Silicon nanowire growth on carbon cloth for flexible Li-ion battery anodes. Materials Today Energy, 2022, 27, 101030.	2.5	11
63	Layered Bimetallic Metalâ€Organic Material Derived Cu₂SnS₃/SnS₂/C Composite for Anode Applications in Lithiumâ€ion Batteries. ChemElectroChem, 2018, 5, 3764-3770.	1.7	10
64	Synthesis and Characterization of CuZnSe₂ Nanocrystals in Wurtzite, Zinc Blende, and Coreâ€“Shell Polytypes. Chemistry of Materials, 2019, 31, 10085-10093.	3.2	10
65	Epitaxial growth of (0001) oriented porous GaN layers by chemical vapour deposition. CrystEngComm, 2014, 16, 10255-10261.	1.3	9
66	The selective synthesis of nickel germanide nanowires and nickel germanide seeded germanium nanowires within a solvent vapour growth system. CrystEngComm, 2017, 19, 2072-2078.	1.3	8
67	Palladium Nanoparticles as Catalysts for Li-O₂Battery Cathodes. ECS Transactions, 2014, 58, 21-29.	0.3	7
68	Tin-Based Oxide, Alloy, and Selenide Li-Ion Battery Anodes Derived from a Bimetallic Metalâ€“Organic Material. Journal of Physical Chemistry C, 2021, 125, 1180-1189.	1.5	6
69	Novel Solid-State Route to Nanostructured Tin, Zinc and Cerium Oxides as Potential Materials for Sensors. Journal of Nanoscience and Nanotechnology, 2014, 14, 6748-6753.	0.9	5
70	Electrophoretic Deposition of Spherical and Rod-Shaped Nanocrystals into Close Packed Superlattices. ECS Transactions, 2009, 19, 209-219.	0.3	4
71	Tailoring Asymmetric Dischargeâ€Charge Rates and Capacity Limits to Extend Liâ€O₂ Battery Cycle Life. ChemElectroChem, 2017, 4, 628-635.	1.7	4
72	Linear heterostructured Ni₂Si/Si nanowires with abrupt interfaces synthesised in solution. Nanoscale, 2018, 10, 19182-19187.	2.8	4

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73	Highlighting the Importance of Full-Cell Testing for High Performance Anode Materials Comprising Li Alloying Nanowires. Journal of the Electrochemical Society, 2019, 166, A2784-A2790.	1.3	4
74	Evolution of Hierarchically Layered Cu-Rich Silicide Nanoarchitectures. Crystal Growth and Design, 2020, 20, 6677-6682.	1.4	4
75	Temperature induced diameter variation of silicon nanowires <i>via</i> a liquidâ€“solid phase transition in the Zn seed. Chemical Communications, 2021, 57, 12504-12507.	2.2	4
76	Growing Oxide Nanowires and Nanowire Networks by Solid State Contact Diffusion into Solution-Processed Thin Films. Small, 2016, 12, 5954-5962.	5.2	3
77	Multimodal surface analyses of chemistry and structure of biominerals in rodent pineal gland concretions. Applied Surface Science, 2019, 469, 378-386.	3.1	3
78	Facet Specific Gold Tip Growth on Semiconductor Nanorods. ECS Transactions, 2009, 25, 17-29.	0.3	1
79	(Invited) Fully Porous GaN p-n Junctions Fabricated by Chemical Vapor Deposition: A Green Technology towards More Efficient LEDs. ECS Transactions, 2015, 66, 163-176.	0.3	1
80	Patterning optically clear films: Coplanar transparent and color-contrasted thin films from interdiffused electrodeposited and solution-processed metal oxides. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 020602.	0.9	1
81	Common Battery Anode Testing Protocols Are Not Suitable for New Combined Alloying and Conversion Materials. ChemElectroChem, 2018, 5, 3757-3763.	1.7	1
82	(Invited) Semiconductor Nanostructures for Antireflection Coatings, Transparent Contacts, Junctionless Thermoelectrics and Li-Ion Batteries. ECS Transactions, 2013, 53, 25-44.	0.3	0
83	Pseudocapacitive Charge Storage at Nanoscale Silicon Electrodes. ECS Transactions, 2015, 66, 39-48.	0.3	0