

# Zachary D Hood

## List of Publications by Year in descending order

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Version: 2024-02-01

101  
papers

5,922  
citations

76031

42  
h-index

87275

74  
g-index

110  
all docs

110  
docs citations

110  
times ranked

8964  
citing authors



#	ARTICLE	IF	CITATIONS
19	Text mining for processing conditions of solid-state battery electrolytes. <i>Electrochemistry Communications</i> , 2020, 121, 106860.	2.3	43
20	Scalable neutral H <sub>2</sub> O <sub>2</sub> electrosynthesis by platinum diphosphide nanocrystals by regulating oxygen reduction reaction pathways. <i>Nature Communications</i> , 2020, 11, 3928.	5.8	101
21	Solvent-Mediated Synthesis of Amorphous Li <sub>3</sub> PS <sub>4</sub> /Polyethylene Oxide Composite Solid Electrolytes with High Li <sup>+</sup> Conductivity. <i>Chemistry of Materials</i> , 2020, 32, 8789-8797.	3.2	21
22	Toward Controlling Filament Size and Location for Resistive Switches via Nanoparticle Exsolution at Oxide Interfaces. <i>Small</i> , 2020, 16, e2003224.	5.2	27
23	Construction of 2D BiVO <sub>4</sub> ~CdS~Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> Heterostructures for Enhanced Photo~redox Activities. <i>ChemCatChem</i> , 2020, 12, 3496-3503.	1.8	25
24	Career progression through professional engagement: The impact of MRS student-led activities. <i>MRS Bulletin</i> , 2020, 45, 306-307.	1.7	0
25	PdPt-TiO <sub>2</sub> nanowires: correlating composition, electronic effects and O-vacancies with activities towards water splitting and oxygen reduction. <i>Applied Catalysis B: Environmental</i> , 2020, 277, 119177.	10.8	36
26	Oxygen Exchange in Dual-Phase La <sub>0.65</sub> Sr <sub>0.35</sub> MnO <sub>3</sub> ~CeO <sub>2</sub> Composites for Solar Thermochemical Fuel Production. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 32622-32632.	4.0	20
27	The interplay between surface facet and reconstruction on isopropanol conversion over SrTiO <sub>3</sub> nanocrystals. <i>Journal of Catalysis</i> , 2020, 384, 49-60.	3.1	19
28	Atomic defects in ultra-thin mesoporous TiO <sub>2</sub> enhance photocatalytic hydrogen evolution from water splitting. <i>Applied Surface Science</i> , 2020, 513, 145723.	3.1	37
29	Lithium~Battery Anode Gains Additional Functionality for Neuromorphic Computing through Metal~Insulator Phase Separation. <i>Advanced Materials</i> , 2020, 32, e1907465.	11.1	43
30	Pd~Ru Alloy Nanocages with a Face~Centered Cubic Structure and Their Enhanced Activity toward the Oxidation of Ethylene Glycol and Glycerol. <i>Small Methods</i> , 2020, 4, 1900843.	4.6	46
31	Abnormally Low Activation Energy in Cubic Na <sub>3</sub> SbS <sub>4</sub> Superionic Conductors. <i>Chemistry of Materials</i> , 2020, 32, 2264-2271.	3.2	35
32	La <sub>0.6</sub> Sr <sub>0.4</sub> Cr <sub>0.8</sub> Co <sub>0.2</sub> O <sub>3</sub> Perovskite Decorated with Exsolved Co Nanoparticles for Stable CO <sub>2</sub> Splitting and Syngas Production. <i>ACS Applied Energy Materials</i> , 2020, 3, 4569-4579.	2.5	41
33	Effects of Surface Terminations of 2D Bi <sub>2</sub> WO <sub>6</sub> on Photocatalytic Hydrogen Evolution from Water Splitting. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 20067-20074.	4.0	78
34	Biofuel Production With Sulfonated High Surface Area Carbons Derived From Glucose. <i>ChemistrySelect</i> , 2020, 5, 1534-1538.	0.7	5
35	Computational and experimental (re)investigation of the structural and electrolyte properties of $\text{Li}_4\text{P}_2\text{S}_6$ . <i>Physical Review Materials</i> , 2020, 4, .	0.9	4
36	Probing the Origin of Microcracks in Layered Oxide Cathodes via Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2019, 25, 2058-2059.	0.2	3

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37	Synthesis of CaO <sub>2</sub> Nanocrystals and Their Spherical Aggregates with Uniform Sizes for Use as a Biodegradable Bacteriostatic Agent. <i>Small</i> , 2019, 15, e1902118.	5.2	77
38	Continuous Production of Water-Soluble Nanocrystals through Anti-Solvent Precipitation in a Fluidic Device. <i>ChemNanoMat</i> , 2019, 5, 1131-1136.	1.5	3
39	Photothermal transformation of Au-Ag nanocages under pulsed laser irradiation. <i>Nanoscale</i> , 2019, 11, 3013-3020.	2.8	29
40	Facile One-Pot Synthesis of Pd@Pt <sub>1L</sub> Octahedra with Enhanced Activity and Durability toward Oxygen Reduction. <i>Chemistry of Materials</i> , 2019, 31, 1370-1380.	3.2	41
41	Modifying La <sub>0.6</sub> Sr <sub>0.4</sub> MnO <sub>3</sub> Perovskites with Cr Incorporation for Fast Isothermal CO <sub>2</sub> -Splitting Kinetics in Solar-Driven Thermochemical Cycles. <i>Advanced Energy Materials</i> , 2019, 9, 1803886.	10.2	55
42	Ruthenium Nanoframes in the Face-Centered Cubic Phase: Facile Synthesis and Their Enhanced Catalytic Performance. <i>ACS Nano</i> , 2019, 13, 7241-7251.	7.3	47
43	Mechanochemically Assisted Synthesis of Ruthenium Clusters Embedded in Mesoporous Carbon for an Efficient Hydrogen Evolution Reaction. <i>ChemElectroChem</i> , 2019, 6, 2719-2725.	1.7	15
44	Monolayer Ti <sub>3</sub> C <sub>2</sub> Tx as an Effective Co-catalyst for Enhanced Photocatalytic Hydrogen Production over TiO <sub>2</sub> . <i>ACS Applied Energy Materials</i> , 2019, 2, 4640-4651.	2.5	177
45	Mechanistic understanding and strategies to design interfaces of solid electrolytes: insights gained from transmission electron microscopy. <i>Journal of Materials Science</i> , 2019, 54, 10571-10594.	1.7	14
46	Reversibly tuning the surface state of Ag via the assistance of photocatalysis in Ag/BiOCl. <i>Nanotechnology</i> , 2019, 30, 305601.	1.3	16
47	Carbon polyaniline capacitive deionization electrodes with stable cycle life. <i>Desalination</i> , 2019, 464, 25-32.	4.0	32
48	Ru Octahedral Nanocrystals with a Face-Centered Cubic Structure, {111} Facets, Thermal Stability up to 400 Å°C, and Enhanced Catalytic Activity. <i>Journal of the American Chemical Society</i> , 2019, 141, 7028-7036.	6.6	122
49	Elucidating the mobility of H <sup>+</sup> and Li <sup>+</sup> ions in (Li <sub>0.625</sub> xH <sub>x</sub> Al <sub>0.25</sub> )La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> via <i>in situ</i> correlative neutron and electron spectroscopy. <i>Energy and Environmental Science</i> , 2019, 12, 945-951.	15.6	48
50	2D/2D heterojunction of Ti <sub>3</sub> C <sub>2</sub> Ng-C <sub>3</sub> N <sub>4</sub> nanosheets for enhanced photocatalytic hydrogen evolution. <i>Nanoscale</i> , 2019, 11, 8138-8149.	2.8	289
51	Optimizing the structural configuration of FePt-FeOx nanoparticles at the atomic scale by tuning the post-synthetic conditions. <i>Nano Energy</i> , 2019, 55, 441-446.	8.2	10
52	A facile, robust and scalable method for the synthesis of Pd nanoplates with hydroxylamine as a reducing agent and mechanistic insights from kinetic analysis. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4677-4682.	2.7	22
53	One-Step Synthesis of Nb <sub>2</sub> O <sub>5</sub> /C/Nb <sub>2</sub> C (MXene) Composites and Their Use as Photocatalysts for Hydrogen Evolution. <i>ChemSusChem</i> , 2018, 11, 688-699.	3.6	315
54	Vacuum-Assisted Low-Temperature Synthesis of Reduced Graphene Oxide Thin-Film Electrodes for High-Performance Transparent and Flexible All-Solid-State Supercapacitors. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 11008-11017.	4.0	57

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55	Shape Effect Undermined by Surface Reconstruction: Ethanol Dehydrogenation over Shape-Controlled SrTiO <sub>3</sub> Nanocrystals. ACS Catalysis, 2018, 8, 555-565.	5.5	59
56	Enhancing the photoresponse and photocatalytic properties of TiO <sub>2</sub> by controllably tuning defects across {101} facets. Applied Surface Science, 2018, 434, 711-716.	3.1	23
57	Rhodium Decahedral Nanocrystals: Facile Synthesis, Mechanistic Insights, and Experimental Controls. ChemNanoMat, 2018, 4, 66-70.	1.5	15
58	Conversion of Waste Tire Rubber into High-Value-Added Carbon Supports for Electrocatalysis. Journal of the Electrochemical Society, 2018, 165, H881-H888.	1.3	16
59	Semiconductor Heterojunctions for Enhanced Visible Light Photocatalytic H <sub>2</sub> Production. MRS Advances, 2018, 3, 3263-3270.	0.5	1
60	Understanding the Impact of Surface Reconstruction of Perovskite Catalysts on CH <sub>4</sub> Activation and Combustion. ACS Catalysis, 2018, 8, 10306-10315.	5.5	50
61	Direct in Situ Observation and Analysis of the Formation of Palladium Nanocrystals with High-Index Facets. Nano Letters, 2018, 18, 7004-7013.	4.5	42
62	Electrospun metal and metal alloy decorated TiO <sub>2</sub> nanofiber photocatalysts for hydrogen generation. RSC Advances, 2018, 8, 32865-32876.	1.7	15
63	Facile synthesis of Pt@Ag octahedral and tetrahedral nanocrystals with enhanced activity and durability toward methanol oxidation. Journal of Materials Research, 2018, 33, 3891-3897.	1.2	3
64	Revealing the Structural Stability and Na-Ion Mobility of 3D Superionic Conductor Na <sub>3</sub> SbS <sub>4</sub> at Extremely Low Temperatures. ACS Applied Energy Materials, 2018, 1, 7028-7034.	2.5	20
65	A Rationally Designed Route to the One-Pot Synthesis of Right Bipyramidal Nanocrystals of Copper. Chemistry of Materials, 2018, 30, 6469-6477.	3.2	28
66	Synthesis of Pt nanocrystals with different shapes using the same protocol to optimize their catalytic activity toward oxygen reduction. Materials Today, 2018, 21, 834-844.	8.3	58
67	Enabling Complete Ligand Exchange on the Surface of Gold Nanocrystals through the Deposition and Then Etching of Silver. Journal of the American Chemical Society, 2018, 140, 11898-11901.	6.6	53
68	Visible-light-active g-C <sub>3</sub> N <sub>4</sub> /N-doped Sr <sub>2</sub> Nb <sub>2</sub> O <sub>7</sub> heterojunctions as photocatalysts for the hydrogen evolution reaction. Sustainable Energy and Fuels, 2018, 2, 2507-2515.	2.5	46
69	Synthesis of Ru Icosahedral Nanocages with a Face-Centered-Cubic Structure and Evaluation of Their Catalytic Properties. ACS Catalysis, 2018, 8, 6948-6960.	5.5	66
70	Facile Synthesis of Silver Icosahedral Nanocrystals with Uniform and Controllable Sizes. ChemNanoMat, 2018, 4, 1071-1077.	1.5	9
71	Surface Reorganization Leads to Enhanced Photocatalytic Activity in Defective BiOCl. Chemistry of Materials, 2018, 30, 5128-5136.	3.2	55
72	Fabrication of Submicrometer-Thick Solid Electrolyte Membranes of Li <sub>3</sub> PS <sub>4</sub> via Tiled Assembly of Nanoscale, Plate-Like Building Blocks. Advanced Energy Materials, 2018, 8, 1800014.	10.2	47

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73	Tire-derived carbon for catalytic preparation of biofuels from feedstocks containing free fatty acids. Carbon Resources Conversion, 2018, 1, 165-173.	3.2	38
74	Facile synthesis of Ag@Au core-shell nanowires with greatly improved stability against oxidation. Chemical Communications, 2017, 53, 1965-1968.	2.2	50
75	Interfaces in Heterogeneous Catalysts: Advancing Mechanistic Understanding through Atomic-Scale Measurements. Accounts of Chemical Research, 2017, 50, 787-795.	7.6	128
76	Understanding the Thermal Stability of Palladium-Platinum Core-Shell Nanocrystals by <i>In Situ</i> Transmission Electron Microscopy and Density Functional Theory. ACS Nano, 2017, 11, 4571-4581.	7.3	53
77	Hydroxyl-Dependent Evolution of Oxygen Vacancies Enables the Regeneration of BiOCl Photocatalyst. ACS Applied Materials & Interfaces, 2017, 9, 16620-16626.	4.0	176
78	Enhanced visible light photocatalytic water reduction from a g-C <sub>3</sub> N <sub>4</sub> /SrTa <sub>2</sub> O <sub>6</sub> heterojunction. Applied Catalysis B: Environmental, 2017, 217, 448-458.	10.8	58
79	Facile Synthesis of Ru-Based Octahedral Nanocages with Ultrathin Walls in a Face-Centered Cubic Structure. Chemistry of Materials, 2017, 29, 9227-9237.	3.2	55
80	Effect of Surface Structure of TiO <sub>2</sub> Nanoparticles on CO <sub>2</sub> Adsorption and SO <sub>2</sub> Resistance. ACS Sustainable Chemistry and Engineering, 2017, 5, 9295-9306.	3.2	49
81	In situ TEM observation of the electrochemical lithiation of N-doped anatase TiO <sub>2</sub> nanotubes as anodes for lithium-ion batteries. Journal of Materials Chemistry A, 2017, 5, 20651-20657.	5.2	45
82	Novel Acid Catalysts from Waste-Tire-Derived Carbon: Application in Waste-to-Biofuel Conversion. ChemistrySelect, 2017, 2, 4975-4982.	0.7	17
83	Introducing Ti <sup>3+</sup> defects based on lattice distortion for enhanced visible light photoreactivity in TiO <sub>2</sub> microspheres. RSC Advances, 2017, 7, 32461-32467.	1.7	99
84	Kinetics and Mechanism of Methanol Conversion over Anatase Titania Nanoshapes. ACS Catalysis, 2017, 7, 5345-5356.	5.5	31
85	Self-Assembled Framework Formed During Lithiation of SnS <sub>2</sub> Nanoplates Revealed by in Situ Electron Microscopy. Accounts of Chemical Research, 2017, 50, 1513-1520.	7.6	29
86	Unraveling the electrolyte properties of $\text{Na}_x\text{Ti}_2\text{O}_7$ through computation and experiment. Physical Review Materials, 2017, 1, .	0.3	21
87	Fundamental aspects of the structural and electrolyte properties of Li <sub>2</sub> OHCl from simulations and experiment. Physical Review Materials, 2017, 1, .	0.9	36
88	A Visible-Light-Active Heterojunction with Enhanced Photocatalytic Hydrogen Generation. ChemSusChem, 2016, 9, 1869-1879.	3.6	42
89	An Air-Stable Na <sub>3</sub> Sb <sub>4</sub> Superionic Conductor Prepared by a Rapid and Economic Synthetic Procedure. Angewandte Chemie, 2016, 128, 8693-8697.	1.6	44
90	An Air-Stable Na <sub>3</sub> Sb <sub>4</sub> Superionic Conductor Prepared by a Rapid and Economic Synthetic Procedure. Angewandte Chemie - International Edition, 2016, 55, 8551-8555.	7.2	183

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91	Fabrication of ultrathin solid electrolyte membranes of $\text{Li}_3\text{PS}_4$ nanoflakes by evaporation-induced self-assembly for all-solid-state batteries. <i>Journal of Materials Chemistry A</i> , 2016, 4, 8091-8096.	5.2	128
92	In-Plane Heterojunctions Enable Multiphase Two-Dimensional (2D) $\text{MoS}_2$ Nanosheets As Efficient Photocatalysts for Hydrogen Evolution from Water Reduction. <i>ACS Catalysis</i> , 2016, 6, 6723-6729.	5.5	116
93	Quantitative Analysis of the Reduction Kinetics Responsible for the One-Pot Synthesis of Pd-Pt Bimetallic Nanocrystals with Different Structures. <i>Journal of the American Chemical Society</i> , 2016, 138, 12263-12270.	6.6	111
94	Synthesis and Characterization of Pt-Ag Alloy Nanocages with Enhanced Activity and Durability toward Oxygen Reduction. <i>Nano Letters</i> , 2016, 16, 6644-6649.	4.5	150
95	Titania Composites with 2D Transition Metal Carbides as Photocatalysts for Hydrogen Production under Visible-Light Irradiation. <i>ChemSusChem</i> , 2016, 9, 1490-1497.	3.6	253
96	$\text{Li}_2\text{OHCl}$ Crystalline Electrolyte for Stable Metallic Lithium Anodes. <i>Journal of the American Chemical Society</i> , 2016, 138, 1768-1771.	6.6	147
97	Structural and electrolyte properties of $\text{Li}_4\text{P}_2\text{S}_6$ . <i>Solid State Ionics</i> , 2016, 284, 61-70.	1.3	59
98	Reduction of charge-transfer resistance at the solid electrolyte-electrode interface by pulsed laser deposition of films from a crystalline $\text{Li}_2\text{PO}_2\text{N}$ source. <i>Journal of Power Sources</i> , 2016, 312, 116-122.	4.0	43
99	Visible light assisted photocatalytic hydrogen generation by $\text{Ta}_2\text{O}_5/\text{Bi}_2\text{O}_3$ , $\text{TaON}/\text{Bi}_2\text{O}_3$ , and $\text{Ta}_3\text{N}_5/\text{Bi}_2\text{O}_3$ composites. <i>RSC Advances</i> , 2015, 5, 54998-55005.	1.7	47
100	The "filler effect": A study of solid oxide fillers with $\text{Li}_3\text{PS}_4$ for lithium conducting electrolytes. <i>Solid State Ionics</i> , 2015, 283, 75-80.	1.3	41
101	Visible-light-driven $\text{Bi}_2\text{O}_3/\text{WO}_3$ composites with enhanced photocatalytic activity. <i>RSC Advances</i> , 2015, 5, 91094-91102.	1.7	54