Helge S Stein

List of Publications by Year
in descending order

35 papers	1,453 citations	361413 20 h-index	361022 35 g-index
36 all docs	36 docs citations	36 times ranked	1843 citing authors

#	Article	IF	Citations
1	Inverse Design of Solid-State Materials via a Continuous Representation. Matter, 2019, 1, 1370-1384.	10.0	198
2	Rechargeable Batteries of the Futureâ€"The State of the Art from a BATTERY 2030+ Perspective. Advanced Energy Materials, 2022, 12, .	19.5	124
3	High-throughput, combinatorial synthesis of multimetallic nanoclusters. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6316-6322.	7.1	119
4	Progress and prospects for accelerating materials science with automated and autonomous workflows. Chemical Science, 2019, 10, 9640-9649.	7.4	114
5	Machine learning of optical properties of materials â€" predicting spectra from images and images from spectra. Chemical Science, 2019, 10, 47-55.	7.4	86
6	Benchmarking the acceleration of materials discovery by sequential learning. Chemical Science, 2020, 11, 2696-2706.	7.4	83
7	In Situ Electrochemical Electron Microscopy Study of Oxygen Evolution Activity of Doped Manganite Perovskites. Advanced Functional Materials, 2012, 22, 3378-3388.	14.9	79
8	Accelerated atomic-scale exploration of phase evolution in compositionally complex materials. Materials Horizons, 2018, 5, 86-92.	12.2	72
9	A Roadmap for Transforming Research to Invent the Batteries of the Future Designed within the European Large Scale Research Initiative BATTERY 2030+. Advanced Energy Materials, 2022, 12, .	19.5	70
10	Analyzing machine learning models to accelerate generation of fundamental materials insights. Npj Computational Materials, 2019, 5, .	8.7	60
11	Tracking materials science data lineage to manage millions of materials experiments and analyses. Npj Computational Materials, 2019, 5, .	8.7	40
12	Highâ€Throughput Experimentation and Computational Freeway Lanes for Accelerated Battery Electrolyte and Interface Development Research. Advanced Energy Materials, 2022, 12, 2102678.	19.5	40
13	Feâ€"Crâ€"Al Containing Oxide Semiconductors as Potential Solar Water-Splitting Materials. ACS Applied Materials & Interfaces, 2015, 7, 4883-4889.	8.0	39
14	Correlating Oxygen Evolution Catalysts Activity and Electronic Structure by a High-Throughput Investigation of Ni1-y-zFeyCrzOx. Scientific Reports, 2017, 7, 44192.	3.3	32
15	Combinatorial screening of Pd-based quaternary electrocatalysts for oxygen reduction reaction in alkaline media. Journal of Materials Chemistry A, 2017, 5, 67-72.	10.3	30
16	A structure zone diagram obtained by simultaneous deposition on a novel step heater: A case study for Cu₂O thin films. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2798-2804.	1.8	26
17	Enabling Modular Autonomous Feedbackâ€Loops in Materials Science through Hierarchical Experimental Laboratory Automation and Orchestration. Advanced Materials Interfaces, 2022, 9, 2101987.	3.7	23
18	Functional mapping reveals mechanistic clusters for OER catalysis across (Cuâ€"Mnâ€"Taâ€"Coâ€"Snâ€"Fe)O_x composition and pH space. Materials Horizons, 2019, 6, 1251-1258.	12.2	22

#	Article	IF	Citations
19	Multi-component background learning automates signal detection for spectroscopic data. Npj Computational Materials, 2019, 5, .	8.7	21
20	Bi-Containing n-FeWO4 Thin Films Provide the Largest Photovoltage and Highest Stability for a Sub-2 eV Band Gap Photoanode. ACS Energy Letters, 2018, 3, 2769-2774.	17.4	20
21	Implications of the BATTERY 2030+ Alâ€Assisted Toolkit on Future Lowâ€TRL Battery Discoveries and Chemistries. Advanced Energy Materials, 2022, 12, 2102698.	19.5	20
22	Expediting Combinatorial Data Set Analysis by Combining Human and Algorithmic Analysis. ACS Combinatorial Science, 2017, 19, 1-8.	3.8	19
23	Data Management Plans: the Importance of Data Management in the BIGâ€MAP Project**. Batteries and Supercaps, 2021, 4, 1803-1812.	4.7	19
24	From materials discovery to system optimization by integrating combinatorial electrochemistry and data science. Current Opinion in Electrochemistry, 2022, 35, 101053.	4.8	17
25	Synthesis, optical imaging, and absorption spectroscopy data for 179072 metal oxides. Scientific Data, 2019, 6, 9.	5.3	14
26	New materials for the light-induced hydrogen evolution reaction from the Cuâ€“Siâ€“Tiâ€“O system. Journal of Materials Chemistry A, 2016, 4, 3148-3152.	10.3	13
27	Combinatorial screening yields discovery of 29 metal oxide photoanodes for solar fuel generation. Journal of Materials Chemistry A, 2020, 8, 4239-4243.	10.3	13
28	The potential of scanning electrochemical probe microscopy and scanning droplet cells in battery research. Electrochemical Science Advances, 2022, 2, e2100122.	2.8	12
29	Combinatorial Study on Phase Formation and Oxidation in the Thin Film Superalloy Subsystems Coâ€“Alâ€“Cr and Coâ€“Alâ€“Crâ€“W. ACS Combinatorial Science, 2018, 20, 611-620.	3.8	7
30	Structural and multifunctional properties of magnetron-sputtered Feâ€“P(â€“Mn) thin films. Thin Solid Films, 2016, 603, 262-267.	1.8	5
31	Advancing data-driven chemistry by beating benchmarks. Trends in Chemistry, 2022, 4, 682-684.	8.5	5
32	Charge Carrier Lifetimes in Crâ€“Feâ€“Alâ€“O Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 35869-35875.	8.0	3
33	Photocurrent Recombination Through Surface Segregation in Alâ€“Crâ€“Feâ€“O Photocathodes. Zeitschrift Fur Physikalische Chemie, 2020, 234, 605-614.	2.8	3
34	Alkaline-stable nickel manganese oxides with ideal band gap for solar fuel photoanodes. Chemical Communications, 2018, 54, 4625-4628.	4.1	2
35	Die Materialsynthesemaschine. Nachrichten Aus Der Chemie, 2020, 68, 66-69.	0.0	1