Jason R Hattrick-Simpers

List of Publications by Year
in descending order

35 papers	1,560 citations	430874 18 h-index	377865 34 g-index
35 all docs	35 docs citations	35 times ranked	2141 citing authors

#	Article	IF	Citations
1	Discovering exceptionally hard and wear-resistant metallic glasses by combining machine-learning with high throughput experimentation. Applied Physics Reviews, 2022, 9, .	11.3	12
2	NGenE 2021: Electrochemistry Is Everywhere. ACS Energy Letters, 2022, 7, 368-374.	17.4	6
3	Integrated Highâ€Throughput and Machine Learning Methods to Accelerate Discovery of Molten Salt Corrosionâ€Resistant Alloys. Advanced Science, 2022, 9, e2200370.	11.2	15
4	Towards Automated Design of Corrosion Resistant Alloy Coatings with an Autonomous Scanning Droplet Cell. Jom, 2022, 74, 2941-2950.	1.9	7
5	An Open Combinatorial Diffraction Dataset Including Consensus Human and Machine Learning Labels with Quantified Uncertainty for Training New Machine Learning Models. Integrating Materials and Manufacturing Innovation, 2021, 10, 311-318.	2.6	5
6	Aggressively optimizing validation statistics can degrade interpretability of data-driven materials models. Journal of Chemical Physics, 2021, 155, 054105.	3.0	10
7	On-the-fly closed-loop materials discovery via Bayesian active learning. Nature Communications, 2020, 11, 5966.	12.8	167
8	A High-Throughput Structural and Electrochemical Study of Metallic Glass Formation in Niâ€"Tiâ€"Al. ACS Combinatorial Science, 2020, 22, 330-338.	3.8	31
9	Comment on â€œA simple constrained machine learning model for predicting high-pressure-hydrogen-compressor materialsâ€•by Hattrick-Simpers, <i>et al.</i>, <i>Molecular Systems Design & Engineering</i>, 2018, 3, 509. Molecular Systems Design and Engineering, 2020, 5, 589-591.	3.4	1
10	Materials science in the artificial intelligence age: high-throughput library generation, machine learning, and a pathway from correlations to the underpinning physics. MRS Communications, 2019, 9, 821-838.	1.8	109
11	An Inter-Laboratory Study of Znâ€"Snâ€"Tiâ€"O Thin Films using High-Throughput Experimental Methods. ACS Combinatorial Science, 2019, 21, 350-361.	3.8	11
12	Accelerated discovery of metallic glasses through iteration of machine learning and high-throughput experiments. Science Advances, 2018, 4, eaaq1566.	10.3	354
13	Experimental assessment of thin film high pressure metal hydride material properties. International Journal of Hydrogen Energy, 2018, 43, 18363-18371.	7.1	5
14	A simple constrained machine learning model for predicting high-pressure-hydrogen-compressor materials. Molecular Systems Design and Engineering, 2018, 3, 509-517.	3.4	37
15	Can machine learning identify the next high-temperature superconductor? Examining extrapolation performance for materials discovery. Molecular Systems Design and Engineering, 2018, 3, 819-825.	3.4	149
16	Automated Phase Segmentation for Large-Scale X-ray Diffraction Data Using a Graph-Based Phase Segmentation (GPhase) Algorithm. ACS Combinatorial Science, 2017, 19, 137-144.	3.8	16
17	The Different Roles of Entropy and Solubility in High Entropy Alloy Stability. ACS Combinatorial Science, 2016, 18, 596-603.	3.8	26
18	Semi-Supervised Approach to Phase Identification from Combinatorial Sample Diffraction Patterns. Jom, 2016, 68, 2116-2125.	1.9	27

#	Article	IF	Citations
19	Perspective: Compositionâ€“structureâ€“property mapping in high-throughput experiments: Turning data into knowledge. APL Materials, 2016, 4, .	5.1	87
20	Generalized machine learning technique for automatic phase attribution in time variant high-throughput experimental studies. Journal of Materials Research, 2015, 30, 879-889.	2.6	35
21	The Materials Super Highway: Integrating High-Throughput Experimentation into Mapping the Catalysis Materials Genome. Catalysis Letters, 2015, 145, 290-298.	2.6	31
22	A high-throughput investigation of Feâ€“Crâ€“Al as a novel high-temperature coating for nuclear cladding materials. Nanotechnology, 2015, 26, 274003.	2.6	28
23	Self-healing catalysts: Co₃O₄ nanorods for Fischerâ€“Tropsch synthesis. Chemical Communications, 2014, 50, 4575-4578.	4.1	16
24	Applications of high throughput (combinatorial) methodologies to electronic, magnetic, optical, and energy-related materials. Journal of Applied Physics, 2013, 113, .	2.5	202
25	Combinatorial Approach to Turbine Bond Coat Discovery. ACS Combinatorial Science, 2013, 15, 419-424.	3.8	22
26	Development of a High-Throughput Methodology for Screening Coking Resistance of Modified Thin-Film Catalysts. ACS Combinatorial Science, 2012, 14, 372-377.	3.8	7
27	A combinatorial characterization scheme for high-throughput investigations of hydrogen storage materials. Science and Technology of Advanced Materials, 2011, 12, 054207.	6.1	1
28	Optical cell for combinatorialin situRaman spectroscopic measurements of hydrogen storage materials at high pressures and temperatures. Review of Scientific Instruments, 2011, 82, 033103.	1.3	5
29	Raman spectroscopic observation of dehydrogenation in ball-milled LiNH2â€“LiBH4â€“MgH2 nanoparticles. International Journal of Hydrogen Energy, 2010, 35, 6323-6331.	7.1	21
30	Data Analysis in Combinatorial Experiments: Applying Supervised Principal Component Technique to Investigate the Relationship Between ToF-SIMS Spectra and the Composition Distribution of Ternary Metallic Alloy Thin Films. QSAR and Combinatorial Science, 2008, 27, 171-178.	1.4	7
31	Combinatorial investigation of magnetostriction in Feâ€“Ga and Feâ€“Gaâ€“Al. Applied Physics Letters, 2008, 93, .	3.3	38
32	High-throughput screening of shape memory alloy thin-film spreads using nanoindentation. Journal of Applied Physics, 2008, 104, .	2.5	19
33	Demonstration of magnetoelectric scanning probe microscopy. Review of Scientific Instruments, 2007, 78, 106103.	1.3	12
34	High-throughput screening of magnetic properties of quenched metallic-alloy thin-film composition spreads. Applied Surface Science, 2007, 254, 734-737.	6.1	15
35	Combinatorial Investigation of Ferromagnetic Shape-Memory Alloys in the Ni-Mn-Al Ternary System Using a Composition Spread Technique. Materials Transactions, 2004, 45, 173-177.	1.2	26