

Nirupam Chakraborti

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

60
papers

1,156
citations

21
h-index

31
g-index

66
ext. papers

1,263
ext. citations

3
avg, IF

4.77
L-index

#	Paper	IF	Citations
60	Data-Driven Optimization of Blast Furnace Iron Making Process Using Evolutionary Deep Learning. <i>Management and Industrial Engineering</i> , 2022 , 47-81	0.2	1
59	Novel Strategies for Data-Driven Evolutionary Optimization. <i>Intelligent Systems, Control and Automation: Science and Engineering</i> , 2022 , 11-25	0.6	1
58	Consequence of natural gas injection in blast furnace: a critical appraisal using a thermodynamic and evolutionary computation approach. <i>Canadian Metallurgical Quarterly</i> , 2022 , 61, 1-13	0.9	2
57	A novel method of determining interatomic potential for Al and Al-Li alloys and studying strength of Al-Al ₃ Li interphase using evolutionary algorithms. <i>Computational Materials Science</i> , 2021 , 190, 110258 ^{3,2}	3.2	8
56	Energy Optimization Studies for Integrated Steel Plant Employing Diverse Steel-Making Route: Models and Evolutionary Algorithms-Based Approach. <i>Mineral Processing and Extractive Metallurgy Review</i> , 2021 , 42, 355-366	3.1	3
55	Atomistic simulation and evolutionary optimization of Fe-Cr nanoparticles. <i>Materials and Manufacturing Processes</i> , 2020 , 35, 652-657	4.1	1
54	Mechanical properties of micro-alloyed steels studied using a evolutionary deep neural network. <i>Materials and Manufacturing Processes</i> , 2020 , 35, 611-624	4.1	12
53	Development of an Evolutionary Deep Neural Net for Materials Research. <i>Minerals, Metals and Materials Series</i> , 2020 , 817-828	0.3	6
52	Tri-objective optimization of noisy dataset in blast furnace iron-making process using evolutionary algorithms. <i>Materials and Manufacturing Processes</i> , 2020 , 35, 677-686	4.1	7
51	Interfacial energy of copper clusters in Fe-Si-B-Nb-Cu alloys. <i>Scripta Materialia</i> , 2019 , 162, 331-334	5.6	13
50	Combined machine learning and CALPHAD approach for discovering processing-structure relationships in soft magnetic alloys. <i>Computational Materials Science</i> , 2018 , 150, 202-211	3.2	18
49	Evolutionary Data Driven Modeling and Multi Objective Optimization of Noisy Data Set in Blast Furnace Iron Making Process. <i>Steel Research International</i> , 2018 , 89, 1800121	1.6	13
48	Self-organizing maps for pattern recognition in design of alloys. <i>Materials and Manufacturing Processes</i> , 2017 , 32, 1067-1074	4.1	7
47	Optimization of annealing cycle parameters of dual phase and interstitial free steels by multiobjective genetic algorithms. <i>Materials and Manufacturing Processes</i> , 2017 , 32, 1201-1208	4.1	4
46	A data-driven surrogate-assisted evolutionary algorithm applied to a many-objective blast furnace optimization problem. <i>Materials and Manufacturing Processes</i> , 2017 , 32, 1172-1178	4.1	62
45	Blast furnace charging optimization using multi-objective evolutionary and genetic algorithms. <i>Materials and Manufacturing Processes</i> , 2017 , 32, 1179-1188	4.1	15
44	Chapter 4 Evolutionary Algorithms In Ironmaking Applications 2016 , 81-112		1

43	Data-Driven Bi-Objective Genetic Algorithms EvoNN and BioGP and Their Applications in Metallurgical and Materials Domain. <i>Advances in Chemical and Materials Engineering Book Series</i> , 2016 , 346-368	0.2	7
42	Multiple Criteria in a Top Gas Recycling Blast Furnace Optimized through a k-Optimality-Based Genetic Algorithm. <i>Steel Research International</i> , 2016 , 87, 1284-1294	1.6	11
41	Effect of Carbon Distribution During the Microstructure Evolution of Dual-Phase Steels Studied Using Cellular Automata, Genetic Algorithms, and Experimental Strategies. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016 , 47, 5890-5906	2.3	4
40	Algorithms for design optimization of chemistry of hard magnetic alloys using experimental data. <i>Journal of Alloys and Compounds</i> , 2016 , 682, 454-467	5.7	27
39	Optimization of Cellular Automata Model for the Heating of Dual-Phase Steel by Genetic Algorithm and Genetic Programming. <i>Materials and Manufacturing Processes</i> , 2015 , 30, 552-562	4.1	25
38	Determination of Anisotropic Yield Coefficients by a Data-Driven Multiobjective Evolutionary and Genetic Algorithm. <i>Materials and Manufacturing Processes</i> , 2015 , 30, 403-413	4.1	12
37	Springback Reduction in Tailor Welded Blank with High Strength Differential by Using Multi-Objective Evolutionary and Genetic Algorithms. <i>Steel Research International</i> , 2015 , 86, 1391-1402	1.6	10
36	Sensitivity Analysis of the Finite Difference 2-D Cellular Automata Model for Phase Transformation during Heating. <i>ISIJ International</i> , 2015 , 55, 285-292	1.7	10
35	A Novel Multi-objective Genetic Algorithms-Based Calculation of Hill's Coefficients. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 2704-2707	2.3	14
34	Critical Assessment 3: The unique contributions of multi-objective evolutionary and genetic algorithms in materials research. <i>Materials Science and Technology</i> , 2014 , 30, 1259-1262	1.5	35
33	Multi-Objective Genetic Algorithms and Genetic Programming Models for Minimizing Input Carbon Rates in a Blast Furnace Compared with a Conventional Analytic Approach. <i>Steel Research International</i> , 2014 , 85, 219-232	1.6	35
32	Multi-Objective Genetic Algorithm to Optimize Variable Drawbead Geometry for Tailor Welded Blanks Made of Dissimilar Steels. <i>Steel Research International</i> , 2014 , 85, 1597-1607	1.6	15
31	A Combined Experimental-Computational Approach to Design Optimization of High Temperature Alloys 2014 ,		2
30	Strategies for Evolutionary Data Driven Modeling in Chemical and Metallurgical Systems 2014 , 89-122		7
29	Genetic programming through bi-objective genetic algorithms with a study of a simulated moving bed process involving multiple objectives. <i>Applied Soft Computing Journal</i> , 2013 , 13, 2613-2623	7.5	72
28	Genetic Programming Evolved through Bi-Objective Genetic Algorithms Applied to a Blast Furnace. <i>Materials and Manufacturing Processes</i> , 2013 , 28, 776-782	4.1	61
27	Designing Cu-Zr Glass Using Multiobjective Genetic Algorithm and Evolutionary Neural Network Metamodels-Based Classical Molecular Dynamics Simulation. <i>Materials and Manufacturing Processes</i> , 2013 , 28, 733-740	4.1	13
26	Evolutionary Data-Driven Modeling 2013 , 71-95		22

25	Pareto-optimal analysis of Zn-coated Fe in the presence of dislocations using genetic algorithms. <i>Computational Materials Science</i> , 2012 , 62, 266-271	3.2	11
24	Data-Driven Pareto Optimization for Microalloyed Steels Using Genetic Algorithms. <i>Steel Research International</i> , 2012 , 83, 169-174	1.6	25
23	Phases in Zn-coated Fe analyzed through an evolutionary meta-model and multi-objective Genetic Algorithms. <i>Computational Materials Science</i> , 2011 , 50, 2502-2516	3.2	27
22	Data-Driven Multiobjective Analysis of Manganese Leaching from Low Grade Sources Using Genetic Algorithms, Genetic Programming, and Other Allied Strategies. <i>Materials and Manufacturing Processes</i> , 2011 , 26, 415-430	4.1	20
21	Multiobjective Optimization of Top Gas Recycling Conditions in the Blast Furnace by Genetic Algorithms. <i>Materials and Manufacturing Processes</i> , 2011 , 26, 475-480	4.1	39
20	Cu/Zn separation by supported liquid membrane analyzed through Multi-objective Genetic Algorithms. <i>Hydrometallurgy</i> , 2011 , 107, 112-123	4	68
19	Analyzing the Fluid Flow in Continuous Casting through Evolutionary Neural Nets and Multi-Objective Genetic Algorithms. <i>Steel Research International</i> , 2010 , 81, 197-203	1.6	27
18	Identification and Optimization of AB ₂ Phases Using Principal Component Analysis, Evolutionary Neural Nets, and Multiobjective Genetic Algorithms. <i>Materials and Manufacturing Processes</i> , 2009 , 24, 274-281	4.1	20
17	Modeling of recrystallization in cold rolled copper using inverse cellular automata and genetic algorithms. <i>Computational Materials Science</i> , 2009 , 45, 96-103	3.2	19
16	Genetic algorithms based multi-objective optimization of an iron making rotary kiln. <i>Computational Materials Science</i> , 2009 , 45, 181-188	3.2	24
15	Analyzing Fe/Zn system using molecular dynamics, evolutionary neural nets and multi-objective genetic algorithms. <i>Computational Materials Science</i> , 2009 , 46, 821-827	3.2	34
14	Analyzing Leaching Data for Low-Grade Manganese Ore Using Neural Nets and Multiobjective Genetic Algorithms. <i>Materials and Manufacturing Processes</i> , 2009 , 24, 320-330	4.1	69
13	Identification of Factors Governing Mechanical Properties of TRIP-Aided Steel Using Genetic Algorithms and Neural Networks. <i>Materials and Manufacturing Processes</i> , 2008 , 23, 130-137	4.1	31
12	Analyzing Sparse Data for Nitride Spinelns Using Data Mining, Neural Networks, and Multiobjective Genetic Algorithms. <i>Materials and Manufacturing Processes</i> , 2008 , 24, 2-9	4.1	30
11	Solving the Molecular Sequence Alignment Problem with Generalized Differential Evolution 3 (GDE3) 2007 ,		10
10	Fluid Flow in a Tundish Optimized through Genetic Algorithms. <i>Steel Research International</i> , 2007 , 78, 517-521	1.6	3
9	Re-evaluation of the Optimal Operating Conditions for the Primary End of an Integrated Steel Plant using Multi-objective Genetic Algorithms and Nash Equilibrium. <i>Steel Research International</i> , 2006 , 77, 459-461	1.6	7
8	Modelling Noisy Blast Furnace Data using Genetic Algorithms and Neural Networks. <i>Steel Research International</i> , 2006 , 77, 75-81	1.6	35

7	A genetic algorithm based heat transfer analysis of a bloom re-heating furnace. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 2000 , 71, 396-402	23
6	Dynamic process modelling of iron ore sintering. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 1997 , 68, 285-292	36
5	Prediction of an iron oxide concentration in the induction smelting process. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 1993 , 64, 103-109	0
4	A study on the kinetics of iron oxide reduction by solid carbon. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 1993 , 64, 340-345	14
3	Heat and mass transfer limitations in gasification of carbon by carbon dioxide. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 1991 , 62, 143-151	16
2	Re-evaluation of heat transfer effects in carbon gasification reaction. <i>Steel Research = Archiv für Das Eisenhüttenwesen</i> , 1988 , 59, 537-541	5
1	Hybrid Multi-objective Optimization Approach in Water Flooding. <i>Journal of Energy Resources Technology, Transactions of the ASME</i> , 1-22	2.6 1