Nirupam Chakraborti

List of Publications by Citations

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	Genetic programming through bi-objective genetic algorithms with a study of a simulated moving bed process involving multiple objectives. *Applied Soft Computing Journal*, **2013**, 13, 2613-2623	7.5	72
59	Analyzing Leaching Data for Low-Grade Manganese Ore Using Neural Nets and Multiobjective Genetic Algorithms. *Materials and Manufacturing Processes*, **2009**, 24, 320-330	4.1	69
58	Cu□n separation by supported liquid membrane analyzed through Multi-objective Genetic Algorithms. *Hydrometallurgy*, **2011**, 107, 112-123	4	68
57	A data-driven surrogate-assisted evolutionary algorithm applied to a many-objective blast furnace optimization problem. *Materials and Manufacturing Processes*, **2017**, 32, 1172-1178	4.1	62
56	Genetic Programming Evolved through Bi-Objective Genetic Algorithms Applied to a Blast Furnace. *Materials and Manufacturing Processes*, **2013**, 28, 776-782	4.1	61
55	Multiobjective Optimization of Top Gas Recycling Conditions in the Blast Furnace by Genetic Algorithms. *Materials and Manufacturing Processes*, **2011**, 26, 475-480	4.1	39
54	Dynamic process modelling of iron ore sintering. *Steel Research = Archiv F□ Das Eisenh□tenwesen*, **1997**, 68, 285-292		36
53	Critical Assessment 3: The unique contributions of multi-objective evolutionary and genetic algorithms in materials research. *Materials Science and Technology*, **2014**, 30, 1259-1262	1.5	35
52	Multi-Objective Genetic Algorithms and Genetic Programming Models for Minimizing Input Carbon Rates in a Blast Furnace Compared with a Conventional Analytic Approach. *Steel Research International*, **2014**, 85, 219-232	1.6	35
51	Modelling Noisy Blast Furnace Data using Genetic Algorithms and Neural Networks. *Steel Research International*, **2006**, 77, 75-81	1.6	35
50	Analyzing Fe□n system using molecular dynamics, evolutionary neural nets and multi-objective genetic algorithms. *Computational Materials Science*, **2009**, 46, 821-827	3.2	34
49	Identification of Factors Governing Mechanical Properties of TRIP-Aided Steel Using Genetic Algorithms and Neural Networks. *Materials and Manufacturing Processes*, **2008**, 23, 130-137	4.1	31
48	Analyzing Sparse Data for Nitride Spinels Using Data Mining, Neural Networks, and Multiobjective Genetic Algorithms. *Materials and Manufacturing Processes*, **2008**, 24, 2-9	4.1	30
47	Phases in Zn-coated Fe analyzed through an evolutionary meta-model and multi-objective Genetic Algorithms. *Computational Materials Science*, **2011**, 50, 2502-2516	3.2	27
46	Analyzing the Fluid Flow in Continuous Casting through Evolutionary Neural Nets and Multi-Objective Genetic Algorithms. *Steel Research International*, **2010**, 81, 197-203	1.6	27
45	Algorithms for design optimization of chemistry of hard magnetic alloys using experimental data. *Journal of Alloys and Compounds*, **2016**, 682, 454-467	5.7	27
44	Optimization of Cellular Automata Model for the Heating of Dual-Phase Steel by Genetic Algorithm and Genetic Programming. *Materials and Manufacturing Processes*, **2015**, 30, 552-562	4.1	25

43	Data-Driven Pareto Optimization for Microalloyed Steels Using Genetic Algorithms. *Steel Research International*, **2012**, 83, 169-174	1.6	25
42	Genetic algorithms based multi-objective optimization of an iron making rotary kiln. *Computational Materials Science*, **2009**, 45, 181-188	3.2	24
41	A genetic algorithm based heat transfer analysis of a bloom re-heating furnace. *Steel Research = Archiv Für Das Eisenhüttenwesen*, **2000**, 71, 396-402		23
40	Evolutionary Data-Driven Modeling **2013**, 71-95		22
39	Data-Driven Multiobjective Analysis of Manganese Leaching from Low Grade Sources Using Genetic Algorithms, Genetic Programming, and Other Allied Strategies. *Materials and Manufacturing Processes*, **2011**, 26, 415-430	4.1	20
38	Identification and Optimization of AB2 Phases Using Principal Component Analysis, Evolutionary Neural Nets, and Multiobjective Genetic Algorithms. *Materials and Manufacturing Processes*, **2009**, 24, 274-281	4.1	20
37	Modeling of recrystallization in cold rolled copper using inverse cellular automata and genetic algorithms. *Computational Materials Science*, **2009**, 45, 96-103	3.2	19
36	Combined machine learning and CALPHAD approach for discovering processing-structure relationships in soft magnetic alloys. *Computational Materials Science*, **2018**, 150, 202-211	3.2	18
35	Heat and mass transfer limitations in gasification of carbon by carbon dioxide. *Steel Research = Archiv Für Das Eisenhüttenwesen*, **1991**, 62, 143-151		16
34	Blast furnace charging optimization using multi-objective evolutionary and genetic algorithms. *Materials and Manufacturing Processes*, **2017**, 32, 1179-1188	4.1	15
33	Multi-Objective Genetic Algorithm to Optimize Variable Drawbead Geometry for Tailor Welded Blanks Made of Dissimilar Steels. *Steel Research International*, **2014**, 85, 1597-1607	1.6	15
32	A Novel Multi-objective Genetic Algorithms-Based Calculation of Hill Coefficients. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2014**, 45, 2704-2707	2.3	14
31	A study on the kinetics of iron oxide reduction by solid carbon. *Steel Research = Archiv Für Das Eisenhüttenwesen*, **1993**, 64, 340-345		14
30	Evolutionary Data Driven Modeling and Multi Objective Optimization of Noisy Data Set in Blast Furnace Iron Making Process. *Steel Research International*, **2018**, 89, 1800121	1.6	13
29	Designing Cu-Zr Glass Using Multiobjective Genetic Algorithm and Evolutionary Neural Network Metamodels Based Classical Molecular Dynamics Simulation. *Materials and Manufacturing Processes*, **2013**, 28, 733-740	4.1	13
28	Interfacial energy of copper clusters in Fe-Si-B-Nb-Cu alloys. *Scripta Materialia*, **2019**, 162, 331-334	5.6	13
27	Determination of Anisotropic Yield Coefficients by a Data-Driven Multiobjective Evolutionary and Genetic Algorithm. *Materials and Manufacturing Processes*, **2015**, 30, 403-413	4.1	12
26	Mechanical properties of micro-alloyed steels studied using a evolutionary deep neural network. *Materials and Manufacturing Processes*, **2020**, 35, 611-624	4.1	12

25	Pareto-optimal analysis of Zn-coated Fe in the presence of dislocations using genetic algorithms. *Computational Materials Science*, **2012**, 62, 266-271	3.2	11
24	Multiple Criteria in a Top Gas Recycling Blast Furnace Optimized through a k-Optimality-Based Genetic Algorithm. *Steel Research International*, **2016**, 87, 1284-1294	1.6	11
23	Springback Reduction in Tailor Welded Blank with High Strength Differential by Using Multi-Objective Evolutionary and Genetic Algorithms. *Steel Research International*, **2015**, 86, 1391-1402	1.6	10
22	Sensitivity Analysis of the Finite Difference 2-D Cellular Automata Model for Phase Transformation during Heating. *ISIJ International*, **2015**, 55, 285-292	1.7	10
21	Solving the Molecular Sequence Alignment Problem with Generalized Differential Evolution 3 (GDE3) **2007**,		10
20	A novel method of determining interatomic potential for Al and Al-Li alloys and studying strength of Al-Al3Li interphase using evolutionary algorithms. *Computational Materials Science*, **2021**, 190, 110258	3.2	8
19	Self-organizing maps for pattern recognition in design of alloys. *Materials and Manufacturing Processes*, **2017**, 32, 1067-1074	4.1	7
18	Re-evaluation of the Optimal Operating Conditions for the Primary End of an Integrated Steel Plant using Multi-objective Genetic Algorithms and Nash Equilibrium. *Steel Research International*, **2006**, 77, 459-461	1.6	7
17	Data-Driven Bi-Objective Genetic Algorithms EvoNN and BioGP and Their Applications in Metallurgical and Materials Domain. *Advances in Chemical and Materials Engineering Book Series*, **2016**, 346-368	0.2	7
16	Strategies for Evolutionary Data Driven Modeling in Chemical and Metallurgical Systems **2014**, 89-122		7
15	Tri-objective optimization of noisy dataset in blast furnace iron-making process using evolutionary algorithms. *Materials and Manufacturing Processes*, **2020**, 35, 677-686	4.1	7
14	Development of an Evolutionary Deep Neural Net for Materials Research. *Minerals, Metals and Materials Series*, **2020**, 817-828	0.3	6
13	Re-evaluation of heat transfer effects in carbon gasification reaction. *Steel Research = Archiv F□r Das Eisenh□ttenwesen*, **1988**, 59, 537-541		5
12	Optimization of annealing cycle parameters of dual phase and interstitial free steels by multiobjective genetic algorithms. *Materials and Manufacturing Processes*, **2017**, 32, 1201-1208	4.1	4
11	Effect of Carbon Distribution During the Microstructure Evolution of Dual-Phase Steels Studied Using Cellular Automata, Genetic Algorithms, and Experimental Strategies. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2016**, 47, 5890-5906	2.3	4
10	Fluid Flow in a Tundish Optimized through Genetic Algorithms. *Steel Research International*, **2007**, 78, 517-521	1.6	3
9	Energy Optimization Studies for Integrated Steel Plant Employing Diverse Steel-Making Route: Models and Evolutionary Algorithms-Based Approach. *Mineral Processing and Extractive Metallurgy Review*, **2021**, 42, 355-366	3.1	3
8	A Combined Experimental-Computational Approach to Design Optimization of High Temperature Alloys **2014**,		2

7	Consequence of natural gas injection in blast furnace: a critical appraisal using a thermodynamic and evolutionary computation approach. *Canadian Metallurgical Quarterly*, **2022**, 61, 1-13	0.9	2
6	Atomistic simulation and evolutionary optimization of Fe-Cr nanoparticles. *Materials and Manufacturing Processes*, **2020**, 35, 652-657	4.1	1
5	Chapter 4 Evolutionary Algorithms In Ironmaking Applications **2016**, 81-112		1
4	Data-Driven Optimization of Blast Furnace Iron Making Process Using Evolutionary Deep Learning. *Management and Industrial Engineering*, **2022**, 47-81	0.2	1
3	Novel Strategies for Data-Driven Evolutionary Optimization. *Intelligent Systems, Control and Automation: Science and Engineering*, **2022**, 11-25	0.6	1
2	Hybrid Multi-objective Optimization Approach in Water Flooding. *Journal of Energy Resources Technology, Transactions of the ASME*,1-22	2.6	1
1	Prediction of an iron oxide concentration in the induction smelting process. *Steel Research = Archiv F□ Das Eisenh□□tenwesen*, **1993**, 64, 103-109		0