

Shubhabrata Datta

List of Publications by Year in descending order

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113
papers

1,847
citations

257450

24
h-index

345221

36
g-index

116
all docs

116
docs citations

116
times ranked

1076
citing authors

#	ARTICLE	IF	CITATIONS
1	Analyses of anti-wear and extreme pressure properties of castor oil with zinc oxide nano friction modifiers. <i>Applied Surface Science</i> , 2018, 449, 277-286.	6.1	91
2	Soft computing techniques in advancement of structural metals. <i>International Materials Reviews</i> , 2013, 58, 475-504.	19.3	83
3	Design of patient specific dental implant using FE analysis and computational intelligence techniques. <i>Applied Soft Computing Journal</i> , 2018, 65, 272-279.	7.2	58
4	Effect of graphene on the properties of flax fabric reinforced epoxy composites. <i>Advanced Composite Materials</i> , 2020, 29, 443-458.	1.9	57
5	Designing cold rolled IF steel sheets with optimized tensile properties using ANN and GA. <i>Computational Materials Science</i> , 2011, 50, 2331-2337.	3.0	53
6	Genetic Algorithms in Optimization of Strength and Ductility of Low-Carbon Steels. <i>Materials and Manufacturing Processes</i> , 2007, 22, 650-658.	4.7	51
7	Designing High Strength Multi-phase Steel for Improved Strengthâ€“Ductility Balance Using Neural Networks and Multi-objective Genetic Algorithms. <i>ISIJ International</i> , 2007, 47, 1195-1203.	1.4	49
8	Effect of scandium on the microstructure and ageing behaviour of cast Alâ€“6Mg alloy. <i>Materials Characterization</i> , 2008, 59, 1661-1666.	4.4	45
9	Designing dual-phase steels with improved performance using ANN and GA in tandem. <i>Computational Materials Science</i> , 2019, 157, 6-16.	3.0	45
10	Exploring the effects of chemical composition in hot rolled steel product using Mahalanobis distance scale under Mahalanobisâ€“Taguchi system. <i>Computational Materials Science</i> , 2007, 38, 671-677.	3.0	40
11	Genetic algorithm based optimization for multi-physical properties of HSLA steel through hybridization of neural network and desirability function. <i>Computational Materials Science</i> , 2009, 45, 104-110.	3.0	38
12	Computational intelligence-based design of lubricant with vegetable oil blend and various nano friction modifiers. <i>Fuel</i> , 2019, 241, 733-743.	6.4	37
13	Optimizing parameters of supervised learning techniques (ANN) for precise mapping of the input-output relationship in TMCP steels. <i>Scandinavian Journal of Metallurgy</i> , 2004, 33, 310-315.	0.3	36
14	Artificial intelligence based design of multiple friction modifiers dispersed castor oil and evaluating its tribological properties. <i>Tribology International</i> , 2019, 140, 105813.	5.9	36
15	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.	4.7	35
16	Optimization of mechanical property and shape recovery behavior of Ti-(âˆ¼49 at.%) Ni alloy using artificial neural network and genetic algorithm. <i>Materials & Design</i> , 2013, 46, 227-234.	5.1	35
17	Computational intelligence based design of age-hardenable aluminium alloys for different temperature regimes. <i>Materials and Design</i> , 2016, 92, 522-534.	7.0	35
18	Incorporation of prior knowledge in neural network model for continuous cooling of steel using genetic algorithm. <i>Applied Soft Computing Journal</i> , 2017, 58, 297-306.	7.2	35

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19	Analyses of Tribological Properties of Castor Oil With Various Carbonaceous Micro- and Nano-Friction Modifiers. <i>Journal of Tribology</i> , 2017, 139, .	1.9	35
20	Genetic algorithm-based search on the role of variables in the work hardening process of multiphase steels. <i>Computational Materials Science</i> , 2009, 45, 158-166.	3.0	32
21	Investigating the role of metallic fillers in particulate reinforced flexible mould material composites using evolutionary algorithms. <i>Applied Soft Computing Journal</i> , 2012, 12, 28-39.	7.2	29
22	Imprecise knowledge based design and development of titanium alloys for prosthetic applications. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 53, 350-365.	3.1	29
23	Mapping the input-output relationship in HSLA steels through expert neural network. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2006, 420, 254-264.	5.6	27
24	Simulating Time Temperature Transformation Diagram of Steel Using Artificial Neural Network. <i>Materials and Manufacturing Processes</i> , 2009, 24, 169-173.	4.7	27
25	Computational intelligence based designing of microalloyed pipeline steel. <i>Computational Materials Science</i> , 2015, 104, 60-68.	3.0	26
26	Design of the ultrahigh molecular weight polyethylene composites with multiple nanoparticles: An artificial intelligence approach. <i>Journal of Composite Materials</i> , 2020, 54, 179-192.	2.4	26
27	Composition-Processing-Property Correlation of Cold-Rolled IF Steel Sheets Using Neural Network. <i>Materials and Manufacturing Processes</i> , 2008, 24, 100-105.	4.7	25
28	Optimal Design of Titanium Alloys for Prosthetic Applications Using a Multiobjective Evolutionary Algorithm. <i>Materials and Manufacturing Processes</i> , 2013, 28, 741-745.	4.7	24
29	Kohonen Network Modelling for the Strength of Thermomechanically Processed HSLA Steel. <i>ISIJ International</i> , 2004, 44, 846-851.	1.4	23
30	Beneficial effect of scandium addition on the corrosion behavior of Al-Si-Mg-SiCp metal matrix composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2004, 35, 1003-1008.	7.6	23
31	Modeling the properties of TRIP steel using AFIS: A distributed approach. <i>Computational Materials Science</i> , 2008, 43, 501-511.	3.0	23
32	Effect of Scandium Additions on the Tensile Properties of Cast Al-6Mg alloys. <i>Journal of Materials Engineering and Performance</i> , 2008, 17, 902-907.	2.5	21
33	Dynamic discredution using Rough Sets. <i>Applied Soft Computing Journal</i> , 2011, 11, 3887-3897.	7.2	21
34	Segmentation of dual phase steel micrograph: An automated approach. <i>Measurement: Journal of the International Measurement Confederation</i> , 2013, 46, 2435-2440.	5.0	21
35	Effect of Thermomechanical Processing on the Microstructure and Properties of a Low Carbon Copper Bearing Steel.. <i>ISIJ International</i> , 2001, 41, 257-261.	1.4	20
36	Design of Alumina Reinforced Aluminium Alloy Composites with Improved Tribo-Mechanical Properties: A Machine Learning Approach. <i>Transactions of the Indian Institute of Metals</i> , 2020, 73, 3059-3069.	1.5	20

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37	Age Hardening Behavior of Wrought Al–Mg–Sc Alloy. <i>Materials and Manufacturing Processes</i> , 2007, 23, 74-81.	4.7	18
38	Artificial Neural Network (ANN)-Based Model for In Situ Prediction of Porosity of Nanostructured Porous Silicon. <i>Materials and Manufacturing Processes</i> , 2008, 24, 83-87.	4.7	18
39	Design of novel age-hardenable aluminium alloy using evolutionary computation. <i>Journal of Alloys and Compounds</i> , 2017, 704, 373-381.	5.5	18
40	Effect of Manganese Partitioning on Transformation Induced Plasticity Characteristics in Microalloyed Dual Phase Steels. <i>ISIJ International</i> , 2004, 44, 927-934.	1.4	16
41	Petri Neural Network Model for the Effect of Controlled Thermomechanical Process Parameters on the Mechanical Properties of HSLA Steels.. <i>ISIJ International</i> , 1999, 39, 986-990.	1.4	15
42	Exploring the non-linearity in empirical modelling of a steel system using statistical and neural network models. <i>International Journal of Production Research</i> , 2007, 45, 699-717.	7.5	14
43	Genetic Algorithm–Based Design and Development of Particle-Reinforced Silicone Rubber for Soft Tooling Process. <i>Materials and Manufacturing Processes</i> , 2013, 28, 753-760.	4.7	14
44	A biomechanical study on the laminate stacking sequence in composite bone plates for vancouver femur B1 fracture fixation. <i>Computer Methods and Programs in Biomedicine</i> , 2020, 196, 105680.	4.7	14
45	On the degradation of shape memory effect in trace Ti-added Cu–Zn–Al alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 393, 125-132.	5.6	13
46	Rough Set Approach to Predict the Strength and Ductility of TRIP Steel. <i>Materials and Manufacturing Processes</i> , 2009, 24, 150-154.	4.7	13
47	New training strategies for neural networks with application to quaternary Al–Mg–Sc–Cr alloy design problems. <i>Applied Soft Computing Journal</i> , 2016, 46, 260-266.	7.2	13
48	Analysing the frictional properties of micro dimpled surface created by milling machine under lubricated condition. <i>Tribology International</i> , 2020, 146, 106260.	5.9	13
49	Effect of composition and thermomechanical processing on the ageing characteristic of copper-bearing HSLA steel. <i>Scandinavian Journal of Metallurgy</i> , 2000, 29, 213-223.	0.3	12
50	Design of the Directly Air-cooled Pearlite-free Multiphase Steel from CCT Diagrams Developed Using ANN and Dilatometric Methods. <i>ISIJ International</i> , 2008, 48, 649-657.	1.4	12
51	Effect of Cold Work and Trace Rare-Earth Additions on the Aging Behavior of Al–Cr Alloys Containing Zirconium. <i>Materials Characterization</i> , 2000, 44, 277-284.	4.4	11
52	Effect of thermomechanical processing and aging on microstructure and precipitation hardening in low carbon Cu–B steel. <i>Ironmaking and Steelmaking</i> , 2004, 31, 312-318.	2.1	11
53	Designing the Multiphase Microstructure of Steel for Optimal TRIP Effect: A Multiobjective Genetic Algorithm Based Approach. <i>Materials and Manufacturing Processes</i> , 2008, 24, 31-37.	4.7	11
54	Effect of copper and microalloying (Ti, B) addition on tensile properties of HSLA steels predicted by ANN technique. <i>Ironmaking and Steelmaking</i> , 2009, 36, 125-132.	2.1	11

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55	An automated morphological classification of ferrite-martensite dual-phase microstructures. Measurement: Journal of the International Measurement Confederation, 2019, 137, 595-603.	5.0	11
56	Designing UHMWPE hybrid composites using machine learning and metaheuristic algorithms. Composite Structures, 2021, 267, 113898.	5.8	11
57	Two way shape memory loss in Cu–Zn–Al alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 300, 291-298.	5.6	10
58	Fuzzy Modeling of Strength–Composition–Process Parameter Relationships of HSLA Steels. Materials and Manufacturing Processes, 2005, 20, 761-776.	4.7	10
59	Informatics based design of prosthetic Ti alloys. Materials Technology, 2014, 29, B69-B75.	3.0	10
60	A Comparative Study for Modeling of Hot-Rolled Steel Plate Classification Using a Statistical Approach and Neural-Net Systems. Materials and Manufacturing Processes, 2006, 21, 747-755.	4.7	10
61	Certainty Factor Estimation Using Petri Neural Net for HSLA Steel. ISIJ International, 2005, 45, 121-126.	1.4	10
62	Study on the effect of trace zirconium addition on the microstructural evolution in Cu–Zn–Al shape memory alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 391, 34-42.	5.6	9
63	Rough-Fuzzy-GA-based design of Al alloys having superior cryogenic performance. Materials and Manufacturing Processes, 2017, 32, 1075-1081.	4.7	9
64	Computational intelligence based design of implant for varying bone conditions. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3191.	2.1	9
65	A New Model for Multilayer Ceramic Composites. Materials and Manufacturing Processes, 2008, 23, 513-527.	4.7	8
66	Intelligent design optimization of age-hardenable Al alloys. Computational Materials Science, 2018, 153, 315-325.	3.0	8
67	MCDM towards knowledge incorporation in ANN models for phase transformation in continuous cooling of steel. Multidiscipline Modeling in Materials and Structures, 2019, 15, 170-186.	1.3	8
68	Design of Ti composite with bioactive surface for dental implant. Materials and Manufacturing Processes, 2020, 35, 643-651.	4.7	8
69	Thermal and viscoelastic behaviour of graphene nanoplatelets/flax fibre/epoxy composites. Plastics, Rubber and Composites, 2021, 50, 219-227.	2.0	8
70	Design of Patient Specific Spinal Implant (Pedicule Screw Fixation) using FE Analysis and Soft Computing Techniques. Current Medical Imaging, 2020, 16, 371-382.	0.8	8
71	The reinforcement of an age-hardenable Al–Cr matrix alloy in situ and by SiC/Al ₂ O ₃ particles: tailoring of the interface. Composites Science and Technology, 2000, 60, 451-456.	7.8	7
72	Modeling the Effect of Copper on Hardness of Microalloyed Dual Phase Steel through Neural Network and Neuro-fuzzy Systems. ISIJ International, 2005, 45, 1345-1351.	1.4	7

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73	Extraction of knowledge from high strength steel data using soft computing techniquesâ€™an overview. Statistical Analysis and Data Mining, 2009, 1, 329-337.	2.8	7
74	Developing rules bases on the influence of welding parameters in FCAW process from ANN model. International Journal of Mechatronics and Manufacturing Systems, 2010, 3, 155.	0.1	7
75	Investigating the Role of Nonmetallic Fillers in Particulate-Reinforced Mold Composites using EAs. Materials and Manufacturing Processes, 2011, 26, 541-549.	4.7	7
76	Developing an unsupervised classification algorithm for characterization of steel properties. International Journal of Quality and Reliability Management, 2012, 29, 368-383.	2.0	7
77	Editorial: The Kolkata Conference. Materials and Manufacturing Processes, 2008, 24, 1-1.	4.7	6
78	Computational design and development of novel Al-Mg-Sc-Cr alloy. Multidiscipline Modeling in Materials and Structures, 2015, 11, 401-412.	1.3	6
79	Designing optimized ternary catalytic alloy electrode for efficiency improvement of semiconductor gas sensors using a machine learning approach. Decision Making: Applications in Management and Engineering, 2021, 4, 126-139.	5.5	6
80	Effective properties of particle reinforced polymeric mould material towards reducing cooling time in soft tooling process. Journal of Applied Polymer Science, 2012, 124, 2567-2581.	2.6	5
81	In silico Design of High Strength Aluminium Alloy Using Multi-objective GA. Lecture Notes in Computer Science, 2015, , 316-327.	1.3	5
82	Data-driven design of ternary alloy catalysts for enhanced oxide-based gas sensorsâ€™™ performance. Computational Materials Science, 2019, 161, 255-260.	3.0	5
83	On the formation of V-phase in mechanically alloyed AlSiMgâ€™SiCp metal matrix composites with trace scandium additions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 333, 67-71.	5.6	4
84	Effect of quaternary zirconium addition on mechanical properties of Al-6Mg-Sc (0.2-0.6%) alloy studied by ANN technique. International Journal of Mechatronics and Manufacturing Systems, 2010, 3, 144.	0.1	4
85	Experimental investigation on equivalent properties of particle reinforced silicone rubber: Improvement of soft tooling process. Journal of Reinforced Plastics and Composites, 2011, 30, 1429-1444.	3.1	4
86	Effect of prior cold work on tensile properties of Alâ€™6Mg alloy with minor scandium additions. Canadian Metallurgical Quarterly, 2014, 53, 486-493.	1.2	4
87	Improvement of Soft Tooling Process Through Particle Reinforcement with Polyurethane Mould. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2011, 33, 332-342.	1.6	3
88	Design of particle-reinforced polyurethane mould materials for soft tooling process using evolutionary multi-objective optimization algorithms. Soft Computing, 2012, 16, 989-1008.	3.6	3
89	Understanding the Shape-Memory Behavior in Ti-(~49 At. Pct) Ni Alloy by Nanoindentation Measurement. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 1722-1729.	2.2	3
90	A genetic fuzzy based modeling of effective thermal conductivity for polymer composites. Journal of Intelligent and Fuzzy Systems, 2013, 25, 259-270.	1.4	3

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91	An Informatics Based Approach to Reduce the Grain Size of Cast Hadfield Steel. Journal of the Institution of Engineers (India): Series D, 2016, 97, 1-9.	1.0	3
92	A New Theoretical Model for Development of Damage Tolerant Composites. Transactions of the Indian Ceramic Society, 2008, 67, 63-74.	1.0	2
93	Editorial: The Remaining Articles of the Kolkata Conference. Materials and Manufacturing Processes, 2009, 24, 108-108.	4.7	2
94	Classifying tensile strength of HSLA steel: an investigation through neural networks using Mahalanobis Distance. International Journal of Mechatronics and Manufacturing Systems, 2010, 3, 97.	0.1	2
95	Fundamentals of Machine Learning. Management and Industrial Engineering, 2022, , 1-27.	0.4	2
96	Optimizing the Tribological Properties of UHMWPE Nanocompositesâ€”An Artificial Intelligence based approach. Lecture Notes in Mechanical Engineering, 2021, , 831-843.	0.4	2
97	Hydroxyapatite dispersed sulphonated PEEK composite membrane: Synthesis, structural and mechanical characterization. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 0, , 095440892210767.	2.5	2
98	In Search of the Attributes Responsible for Sliver Formation in Cold Rolled Steel Sheets. Journal of the Institution of Engineers (India): Series D, 2017, 98, 59-70.	1.0	1
99	Computational Materials Design. Advances in Chemical and Materials Engineering Book Series, 2016, , 1-12.	0.3	1
100	Salute to the genetic tambourine man. Materials and Manufacturing Processes, 2020, 35, 609-610.	4.7	1
101	AI-Based Design of Hybrid Ionic Polymerâ€”Metal Composite with CNT and Graphene. Journal of the Institution of Engineers (India): Series D, 0, , 1.	1.0	1
102	Metal and composite bone plates for B1 periprosthetic femoral fracture in healthy and osteoporotic condition: A comparative biomechanical study. International Journal of Artificial Organs, 2022, 45, 704-714.	1.4	1
103	Studies on effective thermal conductivity of particle-reinforced polymeric flexible mould material composites. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2011, 225, 149-159.	1.1	0
104	STUDY OF NANOMECHANICAL PROPERTIES OF Ni-Ti SHAPE MEMORY ALLOY BY INSTRUMENTED INDENTATION TECHNIQUE. International Journal of Nanoscience, 2011, 10, 955-959.	0.7	0
105	New Approach for Feature Selection of Thermomechanically Processed HSLA Steel using Pruned-Modular Neural Networks. Journal of the Institution of Engineers (India): Series D, 2012, 93, 73-86.	1.0	0
106	Informatics Based Design of Bio-Lubricant with Nano Friction Modifiers and Evaluation of Its Tribological Properties. , 2018, , .		0
107	Designing age-hardenable Al alloys using ANFIS and GA. IOP Conference Series: Materials Science and Engineering, 2020, 912, 052005.	0.6	0
108	Mining the Genesis of Sliver Defects Through Rough and Fuzzy Set Theories. Management and Industrial Engineering, 2022, , 97-120.	0.4	0

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109	Multi-Objective Optimization of Particle Reinforced Silicone Rubber Mould Material for Soft Tooling Process. Lecture Notes in Computer Science, 2010, , 414-423.	1.3	0
110	Imprecise Knowledge and Fuzzy Modeling in Materials Domain. Advances in Chemical and Materials Engineering Book Series, 2016, , 252-266.	0.3	0
111	Imprecise Knowledge and Fuzzy Modeling in Materials Domain. , 2017, , 170-183.		0
112	Biomechanical Analysis on Vancouver Periprosthetic Fracture in Femur Using the Finite Element Modeling. Advances in Mechatronics and Mechanical Engineering, 2022, , 88-93.	1.0	0
113	Design of hybrid PEEK composite with improved tribo-mechanical properties for biomedical applications – A machine learning approach. Materials Today: Proceedings, 2022, , .	1.8	0