Matthias Ehrgott

List of Publications by Year
in descending order

85	4,046	136885	123376
papers	citations	32 h-index	61 g-index

92	92	92	2842
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A survey and annotated bibliography of multiobjective combinatorial optimization. OR Spectrum, 2000, 22, 425-460.	2.1	540
2	An MCDM approach to portfolio optimization. European Journal of Operational Research, 2004, 155, 752-770.	3.5	264
3	Railway track allocation: models and methods. OR Spectrum, 2011, 33, 843-883.	2.1	224
4	Minmax robustness for multi-objective optimization problems. European Journal of Operational Research, 2014, 239, 17-31.	3.5	204
5	A comparison of solution strategies for biobjective shortest path problems. Computers and Operations Research, 2009, 36, 1299-1331.	2.4	157
6	Constructing robust crew schedules with bicriteria optimization. Journal of Multi-Criteria Decision Analysis, 2002, 11, 139-150.	1.0	148
7	A discussion of scalarization techniques for multiple objective integer programming. Annals of Operations Research, 2006, 147, 343-360.	2.6	142
8	Approximative solution methods for multiobjective combinatorial optimization. Top, 2004, 12, 1-63.	1.1	130
9	Mutiobjective Programming. , 2005, , 667-708.		103
10	Computation of ideal and Nadir values and implications for their use in MCDM methods. European Journal of Operational Research, 2003, 151, 119-139.	3.5	98
11	An iterative approach to robust and integrated aircraft routing and crew scheduling. Computers and Operations Research, 2010, 37, 833-844.	2.4	97
12	Bound sets for biobjective combinatorial optimization problems. Computers and Operations Research, 2007, 34, 2674-2694.	2.4	90
13	Two phase algorithms for the bi-objective assignment problem. European Journal of Operational Research, 2008, 185, 509-533.	3.5	87
14	A two phase method for multi-objective integer programming and its application to the assignment problem with three objectives. Discrete Optimization, 2010, 7, 149-165.	0.6	79
15	Mathematical optimization in intensity modulated radiation therapy. Annals of Operations Research, 2010, 175, 309-365.	2.6	75
16	Decomposition of integer matrices and multileaf collimator sequencing. Discrete Applied Mathematics, 2005, 152, 6-34.	0.5	74
17	A Recursive Algorithm for Finding All Nondominated Extreme Points in the Outcome Set of a Multiobjective Integer Programme. INFORMS Journal on Computing, 2010, 22, 371-386.	1.0	65
18	A bi-objective user equilibrium model of travel time reliability in a road network. Transportation Research Part B: Methodological, 2014, 66, 4-15.	2.8	64

#	Article	IF	Citations
19	An approximation algorithm for convex multi-objective programming problems. Journal of Global Optimization, 2011, 50, 397-416.	1.1	61
20	A bi-objective cyclist route choice model. Transportation Research, Part A: Policy and Practice, 2012, 46, 652-663.	2.0	58
21	Approximately solving multiobjective linear programmes in objective space and an application in radiotherapy treatment planning. Mathematical Methods of Operations Research, 2008, 68, 257-276.	0.4	56
22	Mathematical optimization in intensity modulated radiation therapy. 4or, 2008, 6, 199-262.	1.0	54
23	A dual variant of Bensonâ€™s â€œouter approximation algorithmâ€•for multiple objective linear programming. Journal of Global Optimization, 2012, 52, 757-778.	1.1	52
24	A set packing inspired method for real-time junction train routing. Computers and Operations Research, 2013, 40, 713-724.	2.4	52
25	A framework for and empirical study of algorithms for traffic assignment. Computers and Operations Research, 2015, 54, 90-107.	2.4	45
26	Routing Trains Through Railway Junctions: A New Set-Packing Approach. Transportation Science, 2011, 45, 228-245.	2.6	44
27	A Bilevel Multi-objective Road Pricing Model for Economic, Environmental and Health Sustainability. Transportation Research Procedia, 2014, 3, 393-402.	0.8	41
28	Integer programming methods for large-scale practical classroom assignment problems. Computers and Operations Research, 2015, 53, 42-53.	2.4	41
29	Optimisation of beam directions in intensity modulated radiation therapy planning. OR Spectrum, 2003, 25, 251-264.	2.1	40
30	A two-phase algorithm for the biobjective integer minimum cost flow problem. Computers and Operations Research, 2009, 36, 1945-1954.	2.4	38
31	Identification of mechanical properties of heterogeneous soft bodies using gravity loading. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 391-407.	1.0	36
32	Uncertain Data Envelopment Analysis. European Journal of Operational Research, 2018, 268, 231-242.	3.5	36
33	Hybrid Metaheuristics for Multi-objective Combinatorial Optimization. Studies in Computational Intelligence, 2008, , 221-259.	0.7	35
34	Multiobjective Optimization. AI Magazine, 2008, 29, 47-57.	1.4	32
35	Real-World Applications of Multiobjective Optimization. Lecture Notes in Computer Science, 2008, , 285-327.	1.0	31
36	A matheuristic approach to solve the multiobjective beam angle optimization problem in intensityâ€•modulated radiation therapy. International Transactions in Operational Research, 2018, 25, 243-268.	1.8	30

#	Article	IF	Citations
37	An exact method for the double TSP with multiple stacks. International Transactions in Operational Research, 2010, 17, 637-652.	1.8	29
38	Modelling route choice behaviour in a tolled road network with a time surplus maximisation bi-objective user equilibrium model. Transportation Research Part B: Methodological, 2013, 57, 342-360.	2.8	25
39	Solving multi-objective traffic assignment. Annals of Operations Research, 2014, 222, 483-516.	2.6	25
40	Discrete representation of non-dominated sets in multi-objective linear programming. European Journal of Operational Research, 2016, 255, 687-698.	3.5	25
41	Approximating the nondominated set of an MOLP by approximately solving its dual problem. Mathematical Methods of Operations Research, 2008, 68, 469-492.	0.4	24
42	A comparison of stochastic programming and bi-objective optimisation approaches to robust airline crew scheduling. OR Spectrum, 2011, 33, 49-75.	2.1	24
43	On the number of criteria needed to decide Pareto optimality. Mathematical Methods of Operations Research, 2002, 55, 329-345.	0.4	23
44	Integer programming for minimal perturbation problems in university course timetabling. Annals of Operations Research, 2017, 252, 283-304.	2.6	23
45	Pareto local search algorithms for the multi-objective beam angle optimisation problem. Journal of Heuristics, 2018, 24, 205-238.	1.1	22
46	Continuous Multiobjective Programming. Profiles in Operations Research, 2016, , 739-815.	0.3	21
47	Exact Methods for Multi-Objective Combinatorial Optimisation. Profiles in Operations Research, 2016, , 817-850.	0.3	21
48	Multiobjective Programming and Multiattribute Utility Functions in Portfolio Optimization. Infor, 2009, 47, 31-42.	0.5	19
49	A bi-objective column generation algorithm for the multi-commodity minimum cost flow problem. European Journal of Operational Research, 2015, 244, 369-378.	3.5	18
50	Interactive decision support in radiation therapy treatment planning. OR Spectrum, 2008, 30, 311-329.	2.1	17
51	The biobjective integer minimum cost flow problemâ€"incorrectness of SedeÃ±o-Noda and GonzÃlez-Martin's algorithm. Computers and Operations Research, 2006, 33, 1459-1463.	2.4	16
52	An objective space cut and bound algorithm for convex multiplicative programmes. Journal of Global Optimization, 2014, 58, 711-728.	1.1	16
53	Multi-objective optimisation of positively homogeneous functions and an application in radiation therapy. Operations Research Letters, 2014, 42, 268-272.	0.5	16
54	Primal and dual multi-objective linear programming algorithms for linear multiplicative programmes. Optimization, 2016, 65, 415-431.	1.0	15

#	Article	IF	Citations
55	Navigation in multiobjective optimization methods. Journal of Multi-Criteria Decision Analysis, 2017, 24, 57-70.	1.0	15
56	On multi-objective stochastic user equilibrium. Transportation Research Part B: Methodological, 2015, 81, 704-717.	2.8	14
57	Output-sensitive complexity of multiobjective combinatorial optimization. Journal of Multi-Criteria Decision Analysis, 2017, 24, 25-36.	1.0	14
58	Bi-objective Branch-and-Cut Algorithms Based on LP Relaxation and Bound Sets. INFORMS Journal on Computing, 2019, 31, 790-804.	1.0	14
59	Quality assessment for VMAT prostate radiotherapy planning based on data envelopment analysis. Physics in Medicine and Biology, 2013, 58, 5753-5769.	1.6	13
60	Supporting healthy route choice for commuter cyclists: The trade-off between travel time and pollutant dose. Operations Research for Health Care, 2018, 19, 156-164.	0.8	13
61	Tolling Analysis with Bi-objective Traffic Assignment. Lecture Notes in Economics and Mathematical Systems, 2010, , 117-129.	0.3	13
62	Saddle Points and Pareto Points in Multiple Objective Programming. Journal of Global Optimization, 2005, 32, 11-33.	1.1	11
63	Primal and dual algorithms for optimization over the efficient set. Optimization, 2018, 67, 1661-1686.	1.0	11
64	The Method of Elastic Constraints for Multiobjective Combinatorial Optimization and its Application in Airline Crew Scheduling. , 2003, , 117-122.		11
65	Decomposition of matrices and static multileaf collimators: a survey. , 2008, , 25-46.		10
66	On Vector Equilibria, Vector Optimization and Vector Variational Inequalities. Journal of Multi-Criteria Decision Analysis, 2011, 18, 39-54.	1.0	9
67	Finding Representative Nondominated Points in Multiobjective Linear Programming. , 2007, , .		8
68	Time-adaptive and history-adaptive multicriterion routing in stochastic, time-dependent networks. Operations Research Letters, 2009, 37, 201-205.	0.5	7
69	Considerations for using data envelopment analysis for the assessment of radiotherapy treatment plan quality. International Journal of Health Care Quality Assurance, 2017, 30, 703-716.	0.2	7
70	A multiobjective optimization approach to compute the efficient frontier in data envelopment analysis. Journal of Multi-Criteria Decision Analysis, 2019, 26, 187-198.	1.0	7
71	A primalâ€“dual simplex algorithm for bi-objective network flow problems. 4or, 2009, 7, 255-273.	1.0	6
72	Multiâ€objective Approaches to the Unit Crewing Problem in Airline Crew Scheduling. Journal of Multi-Criteria Decision Analysis, 2014, 21, 257-277.	1.0	6

#	Article	IF	Citations
73	Bi-objective optimisation over a set of convex sub-problems. Annals of Operations Research, 2022, 319, 1507-1532.	2.6	6
74	Integrating Data Envelopment Analysis into radiotherapy treatment planning for head and neck cancer patients. European Journal of Operational Research, 2022, 296, 289-303.	3.5	6
75	Integrating column generation in a method to compute a discrete representation of the non-dominated set of multi-objective linear programmes. 4or, 2017, 15, 331-357.	1.0	5
76	A threeâ€objective user equilibrium model: Time surplus maximisation under uncertainty. Journal of Multi-Criteria Decision Analysis, 2018, 25, 3-15.	1.0	5
77	On the generality of the greedy algorithm for solving matroid base problems. Discrete Applied Mathematics, 2015, 195, 114-128.	0.5	4
78	Computational Results for Four Exact Methods to Solve the Three-Objective Assignment Problem. Lecture Notes in Economics and Mathematical Systems, 2009, , 79-88.	0.3	4
79	Numerical stability of path-based algorithms for traffic assignment. Optimization Methods and Software, 2016, 31, 53-67.	1.6	3
80	Multiobjective navigation of external radiotherapy plans based on clinical criteria. Journal of Multi-Criteria Decision Analysis, 2018, 25, 31-41.	1.0	3
81	The Lexicographic Tolerable Robustness Concept for Uncertain Multi-Objective Optimization Problems: A Study on Water Resources Management. Sustainability, 2020, 12, 7582.	1.6	3
82	On Multi-objective Stochastic User Equilibrium. Transportation Research Procedia, 2015, 7, 96-109.	0.8	2
83	Minimizing the number of apertures in multileaf collimator sequencing with field splitting. Discrete Applied Mathematics, 2018, 250, 87-103.	0.5	2
84	An approximation algorithm for convex multiplicative programming problems. , 2011, , .		1
85	Multiobjective (Combinatorial) Optimisationâ€"Some Thoughts on Applications. Lecture Notes in Economics and Mathematical Systems, 2009, , 267-282.	0.3	1