Kaisa Miettinen

List of Publications by Year
in descending order

158	7,876	71004	62345
papers	citations	43 h-index	84 g-index

162	162	162	5702
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Comparing interactive evolutionary multiobjective optimization methods with an artificial decision maker. Complex & Intelligent Systems, 2023, 9, 1165-1181.	4.0	5
2	Surrogate assisted interactive multiobjective optimization in energy system design of buildings. Optimization and Engineering, 2022, 23, 303-327.	1.3	11
3	A Visualizable Test Problem Generator for Many-Objective Optimization. IEEE Transactions on Evolutionary Computation, 2022, 26, 1-11.	7.5	11
4	Assessing the Performance of Interactive Multiobjective Optimization Methods. ACM Computing Surveys, 2022, 54, 1-27.	16.1	23
5	Optimistic NAUTILUS navigator for multiobjective optimization with costly function evaluations. Journal of Global Optimization, 2022, 83, 865-889.	1.1	1
6	Interactive multiobjective optimization for finding the most preferred exercise therapy modality in knee osteoarthritis. Annals of Medicine, 2022, 54, 181-194.	1.5	2
7	LR-NIMBUS: an interactive algorithm for uncertain multiobjective optimization with lightly robust efficient solutions. Journal of Global Optimization, 2022, 83, 843-863.	1.1	2
8	Interactivized: Visual Interaction for Better Decisions With Interactive Multiobjective Optimization. IEEE Access, 2022, 10, 33661-33678.	2.6	4
9	Multi-criteria optimization in industry. OR Spectrum, 2022, 44, 303-305.	2.1	1
10	Task-based visual analytics for interactive multiobjective optimization. Journal of the Operational Research Society, 2021, 72, 2073-2090.	2.1	10
11	On the Extension of the DIRECT Algorithm to Multiple Objectives. Journal of Global Optimization, 2021, 79, 387-412.	1.1	7
12	Interactive Multiobjective Optimization in Lot Sizing with Safety Stock and Safety Lead Time. Lecture Notes in Computer Science, 2021, , 208-221.	1.0	1
13	An Artificial Decision Maker for Comparing Reference Point Based Interactive Evolutionary Multiobjective Optimization Methods. Lecture Notes in Computer Science, 2021, , 619-631.	1.0	8
14	Preface of the special issue on global multiobjective optimization. Journal of Global Optimization, 2021, 80, 1-2.	1.1	0
15	Multi-scenario multi-objective robust optimization under deep uncertainty: A posteriori approach. Environmental Modelling and Software, 2021, 144, 105134.	1.9	8
16	Visualizations for decision support in scenario-based multiobjective optimization. Information Sciences, 2021, 578, 1-21.	4.0	15
17	An Approach to the Automatic Comparison of Reference Point-Based Interactive Methods for Multiobjective Optimization. IEEE Access, 2021, 9, 150037-150048.	2.6	2
18	DESDEO: The Modular and Open Source Framework for Interactive Multiobjective Optimization. IEEE Access, 2021, 9, 148277-148295.	2.6	15

#	Article	IF	Citations
19	Potential of interactive multiobjective optimization in supporting the design of a groundwater biodenitrification process. Journal of Environmental Management, 2020, 254, 109770.	3.8	4
20	Data-driven Interactive Multiobjective Optimization: Challenges and a Generic Multi-agent Architecture. Procedia Computer Science, 2020, 176, 281-290.	1.2	6
21	An Interactive Framework for Offline Data-Driven Multiobjective Optimization. Lecture Notes in Computer Science, 2020, , 97-109.	1.0	4
22	A New Paradigm in Interactive Evolutionary Multiobjective Optimization. Lecture Notes in Computer Science, 2020, , 243-256.	1.0	5
23	An interactive surrogate-based method for computationally expensive multiobjective optimisation. Journal of the Operational Research Society, 2019, 70, 898-914.	2.1	6
24	Multiobjective shape design in a ventilation system with a preference-driven surrogate-assisted evolutionary algorithm. , 2019, , .		7
25	Automatic surrogate modelling technique selection based on features of optimization problems. , 2019, , .		9
26	A feature rich distance-based many-objective visualisable test problem generator. , 2019, , .		17
27	Preface on the Special Issue Global Optimization with Multiple Criteria: Theory, Methods and Applications. Journal of Global Optimization, 2019, 75, 1-2.	1.1	1
28	Interactive Nonconvex Pareto Navigator for multiobjective optimization. European Journal of Operational Research, 2019, 275, 238-251.	3.5	12
29	Exact extension of the DIRECT algorithm to multiple objectives. AIP Conference Proceedings, 2019, , .	0.3	3
30	IRA-EMO: Interactive Method Using Reservation and Aspiration Levels for Evolutionary Multiobjective Optimization. Lecture Notes in Computer Science, 2019, , 618-630.	1.0	3
31	On Dealing with Uncertainties from Kriging Models in Offline Data-Driven Evolutionary Multiobjective Optimization. Lecture Notes in Computer Science, 2019, , 463-474.	1.0	12
32	NAUTILUS Navigator: free search interactive multiobjective optimization without trading-off. Journal of Global Optimization, 2019, 74, 213-231.	1.1	13
33	A Multiple Surrogate Assisted Decomposition-Based Evolutionary Algorithm for Expensive Multi/Many-Objective Optimization. IEEE Transactions on Evolutionary Computation, 2019, 23, 1000-1014.	7.5	97
34	Data-Driven Evolutionary Optimization: An Overview and Case Studies. IEEE Transactions on Evolutionary Computation, 2019, 23, 442-458.	7.5	348
35	Decision making in multiobjective optimization problems under uncertainty: balancing between robustness and quality. OR Spectrum, 2019, 41, 391-413.	2.1	19
36	A survey on handling computationally expensive multiobjective optimization problems with evolutionary algorithms. Soft Computing, 2019, 23, 3137-3166.	2.1	186

#	Article	IF	Citations
37	Solving multiobjective optimization problems with decision uncertainty: an interactive approach. Journal of Business Economics, 2019, 89, 25-51.	1.3	4
38	DESDEO: An Open Framework for Interactive Multiobjective Optimization. Profiles in Operations Research, 2019, , 67-94.	0.3	5
39	Integrating risk management tools for regional forest planning: an interactive multiobjective value-at-risk approach. Canadian Journal of Forest Research, 2018, 48, 766-773.	0.8	13
40	Guest Editorial Evolutionary Many-Objective Optimization. IEEE Transactions on Evolutionary Computation, 2018, 22, 1-2.	7.5	10
41	A Surrogate-Assisted Reference Vector Guided Evolutionary Algorithm for Computationally Expensive Many-Objective Optimization. IEEE Transactions on Evolutionary Computation, 2018, 22, 129-142.	7.5	368
42	ANOVA-MOP: ANOVA Decomposition for Multiobjective Optimization. SIAM Journal on Optimization, 2018, 28, 3260-3289.	1.2	5
43	Artificial Decision Maker Driven by PSO: An Approach for Testing Reference Point Based Interactive Methods. Lecture Notes in Computer Science, 2018, , 274-285.	1.0	8
44	Surrogate-assisted evolutionary biobjective optimization for objectives with non-uniform latencies. , 2018, , .		15
45	Interactive Multiobjective Robust Optimization with NIMBUS. Communications in Computer and Information Science, 2018, , 60-76.	0.4	4
46	A Simple Indicator Based Evolutionary Algorithm for Set-Based Minmax Robustness. Lecture Notes in Computer Science, 2018, , 286-297.	1.0	0
47	Design of a Permanent Magnet Synchronous Generator Using Interactive Multiobjective Optimization. IEEE Transactions on Industrial Electronics, 2017, 64, 9776-9783.	5.2	28
48	Why Use Interactive Multi-Objective Optimization in Chemical Process Design?. Advances in Process Systems Engineering, 2017, , 157-197.	0.3	2
49	Connections of reference vectors and different types of preference information in interactive multiobjective evolutionary algorithms. , 2016, , .		23
50	NAUTILUS framework: towards trade-off-free interaction in multiobjective optimization. Journal of Business Economics, 2016, 86, 5-21.	1.3	13
51	On Constraint Handling in Surrogate-Assisted Evolutionary Many-Objective Optimization. Lecture Notes in Computer Science, 2016, , 214-224.	1.0	24
52	Towards Automatic Testing of Reference Point Based Interactive Methods. Lecture Notes in Computer Science, 2016, , 483-492.	1.0	10
53	Special issue on global optimization with multiple objectives. Journal of Global Optimization, 2016, 64, 1-2.	1.1	1
54	Interactive Nonlinear Multiobjective Optimization Methods. Profiles in Operations Research, 2016, , 927-976.	0.3	45

#	Article	IF	Citations
55	Projections onto the Pareto surface in multicriteria radiation therapy optimization. Medical Physics, 2015, 42, 5862-5870.	1.6	13
56	Managing a boreal forest landscape for providing timber, storing and sequestering carbon. Ecosystem Services, 2015, 14, 179-189.	2.3	81
57	Agent assisted interactive algorithm for computationally demanding multiobjective optimization problems. Computers and Chemical Engineering, 2015, 77, 105-115.	2.0	8
58	A survey on handling computationally expensive multiobjective optimization problems using surrogates: non-nature inspired methods. Structural and Multidisciplinary Optimization, 2015, 52, 1-25.	1.7	91
59	E-NAUTILUS: A decision support system for complex multiobjective optimization problems based on the NAUTILUS method. European Journal of Operational Research, 2015, 246, 218-231.	3.5	22
60	A new preference handling technique for interactive multiobjective optimization without trading-off. Journal of Global Optimization, 2015, 63, 633-652.	1.1	10
61	An Interactive Evolutionary Multiobjective Optimization Method: Interactive WASF-GA. Lecture Notes in Computer Science, 2015, , 249-263.	1.0	21
62	Simultaneous optimization of harvest schedule and data quality. Canadian Journal of Forest Research, 2015, 45, 1034-1044.	0.8	9
63	An Interactive Simple Indicator-Based Evolutionary Algorithm (I-SIBEA) for Multiobjective Optimization Problems. Lecture Notes in Computer Science, 2015, , 277-291.	1.0	18
64	Simultaneous optimization of harvest schedule and measurement strategy. Scandinavian Journal of Forest Research, 2014, 29, 224-233.	0.5	15
65	Survey of methods to visualize alternatives in multiple criteria decision making problems. OR Spectrum, 2014, 36, 3-37.	2.1	164
66	Interactive multiobjective optimization with NIMBUS for decision making under uncertainty. OR Spectrum, 2014, 36, 39-56.	2.1	18
67	Implementation aspects of interactive multiobjective optimization for modeling environments: the case of GAMS-NIMBUS. Computational Optimization and Applications, 2014, 58, 757-779.	0.9	17
68	Spatially dynamic forest management to sustain biodiversity and economic returns. Journal of Environmental Management, 2014, 134, 80-89.	3.8	140
69	A solution process for simulation-based multiobjective design optimization with an application in the paper industry. CAD Computer Aided Design, 2014, 47, 45-58.	1.4	19
70	Preface of the special issue OR: connecting sciences supported by global optimization related to the 25th European conference on operational research (EURO XXV 2012). Journal of Global Optimization, 2014, 60, 1-3.	1.1	0
71	Coupling dynamic simulation and interactive multiobjective optimization for complex problems: An APROS-NIMBUS case study. Expert Systems With Applications, 2014, 41, 2546-2558.	4.4	18
72	Incremental user-interface development for interactive multiobjective optimization. Expert Systems With Applications, 2013, 40, 3220-3232.	4.4	13

#	Article	IF	Citations
73	A Hybrid Framework for Evolutionary Multi-Objective Optimization. IEEE Transactions on Evolutionary Computation, 2013, 17, 495-511.	7.5	333
74	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.	4.1	80
75	Wastewater treatment plant design and operation under multiple conflicting objective functions. Environmental Modelling and Software, 2013, 46, 240-249.	1.9	52
76	APROS-NIMBUS: Dynamic Process Simulator and Interactive Multiobjective Optimization in Plant Automation. Computer Aided Chemical Engineering, 2013, , 871-876.	0.3	1
77	Trade-off analysis approach for interactive nonlinear multiobjective optimization. OR Spectrum, 2012, 34, 803-816.	2.1	25
78	Improving the computational efficiency in a global formulation (GLIDE) for interactive multiobjective optimization. Annals of Operations Research, 2012, 197, 47-70.	2.6	23
79	PAINT: Pareto front interpolation for nonlinear multiobjective optimization. Computational Optimization and Applications, 2012, 52, 845-867.	0.9	52
80	Constructing evolutionary algorithms for bilevel multiobjective optimization. , 2012, , .		12
81	Bilevel heat exchanger network synthesis with an interactive multi-objective optimization method. Applied Thermal Engineering, 2012, 48, 301-316.	3.0	24
82	A two-slope achievement scalarizing function for interactive multiobjective optimization. Computers and Operations Research, 2012, 39, 1673-1681.	2.4	21
83	A new achievement scalarizing function based on parameterization in multiobjective optimization. OR Spectrum, 2012, 34, 69-87.	2.1	27
84	Connections Between Single-Level and Bilevel Multiobjective Optimization. Journal of Optimization Theory and Applications, 2012, 153, 60-74.	0.8	30
85	New Perspective to Continuous Casting of Steel with a Hybrid Evolutionary Multiobjective Algorithm. Materials and Manufacturing Processes, 2011, 26, 481-492.	2.7	16
86	A Preference Based Interactive Evolutionary Algorithm for Multi-objective Optimization: PIE. Lecture Notes in Computer Science, 2011, , 212-225.	1.0	31
87	Wastewater treatment: New insight provided by interactive multiobjective optimization. Decision Support Systems, 2011, 51, 328-337.	3.5	61
88	Improving convergence of evolutionary multi-objective optimization with local search: a concurrent-hybrid algorithm. Natural Computing, 2011, 10, 1407-1430.	1.8	31
89	A new hybrid mutation operator for multiobjective optimization with differential evolution. Soft Computing, 2011, 15, 2041-2055.	2.1	49
90	Global formulation for interactive multiobjective optimization. OR Spectrum, 2011, 33, 27-48.	2.1	51

#	Article	IF	Citations
91	Constructing a Pareto front approximation for decision making. Mathematical Methods of Operations Research, 2011, 73, 209-234.	0.4	26
92	Handling Preferences in the â€Pre-conflictingâ€•Phase of Decision Making Processes under Multiple Criteria. Lecture Notes in Computer Science, 2011, , 234-246.	1.0	1
93	Pareto navigator for interactive nonlinear multiobjective optimization. OR Spectrum, 2010, 32, 211-227.	2.1	52
94	Toward an Estimation of Nadir Objective Vector Using a Hybrid of Evolutionary and Local Search Approaches. IEEE Transactions on Evolutionary Computation, 2010, 14, 821-841.	7.5	153
95	NAUTILUS method: An interactive technique in multiobjective optimization based on the nadir point. European Journal of Operational Research, 2010, 206, 426-434.	3.5	54
96	An interactive multi-objective approach to heat exchanger network synthesis. Computers and Chemical Engineering, 2010, 34, 943-952.	2.0	22
97	Efficient evolutionary approach to approximate the Pareto-optimal set in multiobjective optimization, UPS-EMOA. Optimization Methods and Software, 2010, 25, 841-858.	1.6	38
98	Interactive multiobjective optimization for anatomy-based three-dimensional HDR brachytherapy. Physics in Medicine and Biology, 2010, 55, 4703-4719.	1.6	26
99	Nadir Point Estimation Using Evolutionary Approaches: Better Accuracy and Computational Speed Through Focused Search. Lecture Notes in Economics and Mathematical Systems, 2010, , 339-354.	0.3	19
100	Interactive Multiobjective Optimization for 3D HDR Brachytherapy Applying IND-NIMBUS. Lecture Notes in Economics and Mathematical Systems, 2010, , 117-131.	0.3	5
101	Incorporating preference information in interactive reference point methods for multiobjective optimization. Omega, 2009, 37, 450-462.	3.6	106
102	Using box indices in supporting comparison in multiobjective optimization. European Journal of Operational Research, 2009, 197, 17-24.	3.5	12
103	A Preference-Based Evolutionary Algorithm for Multi-Objective Optimization. Evolutionary Computation, 2009, 17, 411-436.	2.3	385
104	Local search based evolutionary multi-objective optimization algorithm for constrained and unconstrained problems. , 2009, , .		50
105	Clustering aided approach for decision making in computationally expensive multiobjective optimization. Optimization Methods and Software, 2009, 24, 157-174.	1.6	11
106	Interactive poster: Interactive multiobjective optimization - a new application area for visual analytics. , 2009, , .		5
107	Interactive Multiobjective Optimization of Superstructure SMB Processes. Lecture Notes in Economics and Mathematical Systems, 2009, , 221-230.	0.3	2
108	A Hybrid Integrated Multi-Objective Optimization Procedure for Estimating Nadir Point. Lecture Notes in Computer Science, 2009, , 569-583.	1.0	10

#	Article	IF	Citations
109	On the Use of Preferential Weights in Interactive Reference Point Based Methods. Lecture Notes in Economics and Mathematical Systems, 2009, , 211-220.	0.3	1
110	Verbal ordinal classification with multicriteria decision aiding. European Journal of Operational Research, 2008, 185, 964-983.	3.5	6
111	Introduction to Multiobjective Optimization: Noninteractive Approaches. Lecture Notes in Computer Science, 2008, , 1-26.	1.0	80
112	Introduction to Multiobjective Optimization: Interactive Approaches. Lecture Notes in Computer Science, 2008, , 27-57.	1.0	134
113	Visualizing the Pareto Frontier. Lecture Notes in Computer Science, 2008, , 213-243.	1.0	80
114	A Local Search Based Evolutionary Multi-objective Optimization Approach for Fast and Accurate Convergence. Lecture Notes in Computer Science, 2008, , 815-824.	1.0	44
115	Integrating Approximation and Interactive Decision Making in Multicriteria Optimization. Operations Research, 2008, 56, 222-234.	1.2	48
116	Cost effective simulation-based multiobjective optimization in the performance of an internal combustion engine. Engineering Optimization, 2008, 40, 593-612.	1.5	10
117	Future Challenges. Lecture Notes in Computer Science, 2008, , 435-461.	1.0	9
118	Why Use Interactive Multi-Objective Optimization in Chemical Process Design?. Advances in Process Systems Engineering, 2008, , 153-188.	0.3	6
119	Using Interactive Multiobjective Optimization in Continuous Casting of Steel. Materials and Manufacturing Processes, 2007, 22, 585-593.	2.7	43
120	On initial populations of a genetic algorithm for continuous optimization problems. Journal of Global Optimization, 2007, 37, 405-436.	1.1	134
121	Globally convergent limited memory bundle method for large-scale nonsmooth optimization. Mathematical Programming, 2007, 109, 181-205.	1.6	83
122	Heuristic for a new multiobjective scheduling problem. Optimization Letters, 2007, 1, 213-225.	0.9	9
123	Best compromise solution for a new multiobjective scheduling problem. Computers and Operations Research, 2006, 33, 2353-2368.	2.4	14
124	Synchronous approach in interactive multiobjective optimization. European Journal of Operational Research, 2006, 170, 909-922.	3.5	174
125	Multiobjective optimization of an ultrasonic transducer using NIMBUS. Ultrasonics, 2006, 44, 368-380.	2.1	38
126	Issues related to the computer realization of a multidisciplinary and multiobjective optimization system. Engineering With Computers, 2006, 22, 33-46.	3.5	10

#	Article	IF	Citations
127	Efficient hybrid methods for global continuous optimization based on simulated annealing. Computers and Operations Research, 2006, 33, 1102-1116.	2.4	19
128	Experiments with classification-based scalarizing functions in interactive multiobjective optimization. European Journal of Operational Research, 2006, 175, 931-947.	3.5	43
129	Optimal control of cooling process in continuous casting of steel using a visualization-based multi-criteria approach. Applied Mathematical Modelling, 2005, 29, 653-672.	2.2	47
130	Interactive reference direction approach using implicit parametrization for nonlinear multiobjective optimization. Journal of Multi-Criteria Decision Analysis, 2005, 13, 115-123.	1.0	7
131	On interactive multiobjective optimization with NIMBUSÂ® in chemical process design. Journal of Multi-Criteria Decision Analysis, 2005, 13, 125-134.	1.0	19
132	Reference point approach for multiple decision makers. European Journal of Operational Research, 2005, 164, 785-791.	3.5	48
133	New limited memory bundle method for large-scale nonsmooth optimization. Optimization Methods and Software, 2004, 19, 673-692.	1.6	86
134	Quasi-random initial population for genetic algorithms. Computers and Mathematics With Applications, 2004, 47, 1885-1895.	1.4	134
135	Numerical Comparison of Some Penalty-Based Constraint Handling Techniques in Genetic Algorithms. Journal of Global Optimization, 2003, 27, 427-446.	1.1	94
136	Interactive Solution Approach to a Multiobjective Optimization Problem in a Paper Machine Headbox Design. Journal of Optimization Theory and Applications, 2003, 116, 265-281.	0.8	28
137	Characterizing generalized trade-off directions. Mathematical Methods of Operations Research, 2003, 57, 89-100.	0.4	3
138	Comparing graphic and symbolic classification in interactive multiobjective optimization. Journal of Multi-Criteria Decision Analysis, 2003, 12, 321-335.	1.0	4
139	Ordinal criteria in stochastic multicriteria acceptability analysis (SMAA). European Journal of Operational Research, 2003, 147, 117-127.	3.5	169
140	Integration of Two Multiobjective Optimization Methods for Nonlinear Problems. Optimization Methods and Software, 2003, 18, 63-80.	1.6	27
141	Designing Paper Machine Headbox Using GA. Materials and Manufacturing Processes, 2003, 18, 533-541.	2.7	10
142	Interactive Nonlinear Multiobjective Procedures. , 2003, , 227-276.		7
143	Graphical Illustration of Pareto Optimal Solutions. , 2003, , 197-202.		16
144	On scalarizing functions in multiobjective optimization. OR Spectrum, 2002, 24, 193-213.	2.1	270

#	Article	IF	Citations
145	On generalized trade-off directions in nonconvex multiobjective optimization. Mathematical Programming, 2002, 92, 141-151.	1.6	5
146	Some Methods for Nonlinear Multi-objective Optimization. Lecture Notes in Computer Science, 2001, , 1-20.	1.0	54
147	On cone characterizations of weak, proper and Pareto optimality in multiobjective optimization. Mathematical Methods of Operations Research, 2001, 53, 233-245.	0.4	17
148	Treating Ordinal Criteria in Stochastic Weight Space Analysis. Lecture Notes in Economics and Mathematical Systems, 2001, , 285-293.	0.3	0
149	Interactive multiobjective optimization system WWW-NIMBUS on the Internet. Computers and Operations Research, 2000, 27, 709-723.	2.4	94
150	Decision-aid for discrete multiple criteria decision making problems with imprecise data. European Journal of Operational Research, 1999, 119, 50-60.	3.5	68
151	Comparative evaluation of some interactive reference point-based methods for multi-objective optimisation. Journal of the Operational Research Society, 1999, 50, 949-959.	2.1	52
152	Optimal Control of Continuous Casting by Nondifferentiable Multiobjective Optimization. Computational Optimization and Applications, 1998, 11, 177-194.	0.9	40
153	Determining the implementation order of a general plan by using a multicriteria method. Journal of Multi-Criteria Decision Analysis, 1998, 7, 273-284.	1.0	66
154	Nonlinear Multiobjective Optimization. Profiles in Operations Research, 1998, , .	0.3	1,332
155	Interactive MCDM Support System in the Internet. Lecture Notes in Economics and Mathematical Systems, 1998, , 424-433.	0.3	2
156	Interactive Method NIMBUS for Nondifferentiable Multiobjective Optimization Problems. , 1997, , 310-319.		15
157	Interactive bundle-based method for nondifferentiable multiobjeective optimization: nimbus^{Â§}. Optimization, 1995, 34, 231-246.	1.0	116
158	An interactive method for nonsmooth multiobjective optimization with an application to optimal control. Optimization Methods and Software, 1993, 2, 31-44.	1.6	20