Martin Middendorf

List of Publications by Year
in descending order

161 papers	8,535 citations	117625 34 h-index	53230 85 g-index
171 all docs	171 docs citations	171 times ranked	7406 citing authors

#	Article	IF	Citations
1	MITOS: Improved de novo metazoan mitochondrial genome annotation. Molecular Phylogenetics and Evolution, 2013, 69, 313-319.	2.7	3,919
2	Improved annotation of protein-coding genes boundaries in metazoan mitochondrial genomes. Nucleic Acids Research, 2019, 47, 10543-10552.	14.5	324
3	A hierarchical particle swarm optimizer and its adaptive variant. IEEE Transactions on Systems, Man, and Cybernetics, 2005, 35, 1272-1282.	5.0	293
4	CREx: inferring genomic rearrangements based on common intervals. Bioinformatics, 2007, 23, 2957-2958.	4.1	276
5	Improved systematic tRNA gene annotation allows new insights into the evolution of mitochondrial tRNA structures and into the mechanisms of mitochondrial genome rearrangements. Nucleic Acids Research, 2012, 40, 2833-2845.	14.5	218
6	A comprehensive analysis of bilaterian mitochondrial genomes and phylogeny. Molecular Phylogenetics and Evolution, 2013, 69, 352-364.	2.7	183
7	Bi-Criterion Optimization with Multi Colony Ant Algorithms. Lecture Notes in Computer Science, 2001, , 359-372.	1.3	144
8	Multi Colony Ant Algorithms. Journal of Heuristics, 2002, 8, 305-320.	1.4	138
9	A Population Based Approach for ACO. Lecture Notes in Computer Science, 2002, , 72-81.	1.3	121
10	Applying Population Based ACO to Dynamic Optimization Problems. Lecture Notes in Computer Science, 2002, , 111-122.	1.3	116
11	Molecular docking with multi-objective Particle Swarm Optimization. Applied Soft Computing Journal, 2008, 8, 666-675.	7.2	112
12	Pheromone Modification Strategies for Ant Algorithms Applied to Dynamic TSP. Lecture Notes in Computer Science, 2001, , 213-222.	1.3	109
13	Waiting Strategies for Dynamic Vehicle Routing. Transportation Science, 2005, 39, 298-312.	4.4	105
14	Automated monitoring of behavior reveals bursty interaction patterns and rapid spreading dynamics in honeybee social networks. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1433-1438.	7.1	103
15	Re-assessing the diversity of negative strand RNA viruses in insects. PLoS Pathogens, 2019, 15, e1008224.	4.7	101
16	Performance evaluation of artificial bee colony optimization and new selection schemes. Memetic Computing, 2011, 3, 149-162.	4.0	93
17	A parameter-adaptive dynamic programming approach for inferring cophylogenies. BMC Bioinformatics, 2010, 11, S60.	2.6	90
18	Modeling the Dynamics of Ant Colony Optimization. Evolutionary Computation, 2002, 10, 235-262.	3.0	87

#	ARTICLE	IF	CITATIONS
19	Phylogenomics with paralogs. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2058-2063.	7.1	83
20	Ant Colony Optimization with Global Pheromone Evaluation for Scheduling a Single Machine. Applied Intelligence, 2003, 18, 105-111.	5.3	80
21	Honeybee swarms: how do scouts guide a swarm of uninformed bees?. Animal Behaviour, 2005, 70, 349-358.	1.9	80
22	Folding Kinetics of Large RNAs. Journal of Molecular Biology, 2008, 379, 160-173.	4.2	77
23	Evolution of mitochondrial gene orders in echinoderms. Molecular Phylogenetics and Evolution, 2008, 47, 855-864.	2.7	73
24	A hierarchical particle swarm optimizer for noisy and dynamic environments. Genetic Programming and Evolvable Machines, 2006, 7, 329-354.	2.2	70
25	An island model based ant system with lookahead for the shortest supersequence problem. Lecture Notes in Computer Science, 1998, , 692-701.	1.3	67
26	Structure and formation of ant transportation networks. Journal of the Royal Society Interface, 2011, 8, 1298-1306.	3.4	64
27	Reconstruction of the cophylogenetic history of related phylogenetic trees with divergence timing information. Theory in Biosciences, 2005, 123, 277-299.	1.4	59
28	An Ant Algorithm with a New Pheromone Evaluation Rule for Total Tardiness Problems. Lecture Notes in Computer Science, 2000, , 290-299.	1.3	56
29	More on the complexity of common superstring and supersequence problems. Theoretical Computer Science, 1994, 125, 205-228.	0.9	50
30	Challenges in RNA virus bioinformatics. Bioinformatics, 2014, 30, 1793-1799.	4.1	47
31	Information Exchange in Multi Colony Ant Algorithms. Lecture Notes in Computer Science, 2000, , 645-652.	1.3	46
32	Genetic characterization of TribeÄ•virus and Kemerovo virus, two tick-transmitted human-pathogenic Orbiviruses. Virology, 2012, 423, 68-76.	2.4	44
33	Minimum broadcast time is NP-complete for 3-regular planar graphs and deadline 2. Information Processing Letters, 1993, 46, 281-287.	0.6	41
34	Dynamic Polyethism and Competition for Tasks in Threshold Reinforcement Models of Social Insects. Adaptive Behavior, 2004, 12, 251-262.	1.9	36
35	Solving Multi-criteria Optimization Problems with Population-Based ACO. Lecture Notes in Computer Science, 2003, , 464-478.	1.3	36
36	Improved heuristics and a genetic algorithm for finding short supersequences. OR Spectrum, 1998, 20, 39-45.	3.4	33

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37	Bioinformatics methods for the comparative analysis of metazoan mitochondrial genome sequences. Molecular Phylogenetics and Evolution, 2013, 69, 320-327.	2.7	31
38	Fast Ant Colony Optimization on Runtime Reconfigurable Processor Arrays. Genetic Programming and Evolvable Machines, 2002, 3, 345-361.	2.2	30
39	An Algorithm for Inferring Mitogenome Rearrangements in a Phylogenetic Tree. Lecture Notes in Computer Science, 2008, , 143-157.	1.3	29
40	Deciding on the wing: in-flight decision making and search space sampling in the red dwarf honeybee Apis florea. Swarm Intelligence, 2011, 5, 121-141.	2.2	28
41	A method for computing an inventory of metazoan mitochondrial gene order rearrangements. BMC Bioinformatics, 2011, 12, S6.	2.6	28
42	Individual differences in honey bee behavior enabled by plasticity in brain gene regulatory networks. ELife, 2020, 9, .	6.0	27
43	On scheduling cycle shops: classification, complexity and approximation. Journal of Scheduling, 2002, 5, 135-169.	1.9	23
44	On Trajectories of Particles in PSO. , 2007, , .		23
45	Towards a comprehensive picture of alloacceptor tRNA remolding in metazoan mitochondrial genomes. Nucleic Acids Research, 2015, 43, 8044-8056.	14.5	22
46	A decentralization approach for swarm intelligence algorithms in networks applied to multi swarm PSO. International Journal of Intelligent Computing and Cybernetics, 2008, 1, 25-45.	2.7	20
47	Artificial Bee Colony Optimization: A New Selection Scheme and Its Performance. Studies in Computational Intelligence, 2010, , 283-294.	0.9	20
48	Parallel Ant Colony Algorithms. , 2005, , 171-201.		19
49	Swarm intelligence and signal processing [DSP Exploratory]. IEEE Signal Processing Magazine, 2008, 25, 152-158.	5.6	19
50	A Particle Swarm Optimizer for Finding Minimum Free Energy RNA Secondary Structures. , 2007, , .		18
51	Evolutionary Dynamic Multiobjective Optimization via Learning From Historical Search Process. IEEE Transactions on Cybernetics, 2022, 52, 6119-6130.	9.5	18
52	On solving permutation scheduling problems with ant colony optimization. International Journal of Systems Science, 2005, 36, 255-266.	5.5	17
53	A New Approach to Solve Permutation Scheduling Problems with Ant Colony Optimization. Lecture Notes in Computer Science, 2001, , 484-494.	1.3	17
54	On Physical Mapping and the consecutive ones property for sparse matrices. Discrete Applied Mathematics, 1996, 71, 23-40.	0.9	16

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55	Using median sets for inferring phylogenetic trees. Bioinformatics, 2007, 23, e129-e135.	4.1	16
56	Swarm Intelligence. , 2005, , 401-435.		15
57	A mathematical model of foraging in a dynamic environment by trail-laying Argentine ants. Journal of Theoretical Biology, 2012, 306, 32-45.	1.7	15
58	Finding all sorting tandem duplication random loss operations. Journal of Discrete Algorithms, 2011, 9, 32-48.	0.7	14
59	Hardware-oriented ant colony optimization. Journal of Systems Architecture, 2007, 53, 386-402.	4.3	13
60	Cophylogenetic Reconciliation with ILP. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2015, 12, 1227-1235.	3.0	13
61	Maximal Common Subsequences and Minimal Common Supersequences. Information and Computation, 1996, 124, 145-153.	0.7	12
62	Genome Rearrangement Based on Reversals that Preserve Conserved Intervals. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2006, 3, 275-288.	3.0	12
63	An ant colony optimizer for melody creation with baroque harmony. , 2007, , .		12
64	Evaluation of Ordering Methods for DNA Sequence Design Based on Ant Colony System. , 2008, , .		12
65	Swarm controlled emergence for ant clustering. International Journal of Intelligent Computing and Cybernetics, 2013, 6, 62-82.	2.7	12
66	Simple Probabilistic Population-Based Optimization. IEEE Transactions on Evolutionary Computation, 2016, 20, 245-262.	10.0	11
67	Hyperreconfigurable architectures and the partition into hypercontexts problem. Journal of Parallel and Distributed Computing, 2005, 65, 743-754.	4.1	10
68	Self-synchronized duty-cycling for mobile sensor networks with energy harvesting capabilities: A swarm intelligence study. , 2009, , .		10
69	Modelling ACO: Composed Permutation Problems. Lecture Notes in Computer Science, 2002, , 149-162.	1.3	10
70	On finding minimal, maximal, and consistent sequences over a binary alphabet. Theoretical Computer Science, 1995, 145, 317-327.	0.9	9
71	Shortest common superstrings and scheduling with coordinated starting times. Theoretical Computer Science, 1998, 191, 205-214.	0.9	9
72	Width-restricted layering of acyclic digraphs with consideration of dummy nodes. Information Processing Letters, 2002, 81, 59-63.	0.6	9

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73	Particle swarm optimization for finding RNA secondary structures. International Journal of Intelligent Computing and Cybernetics, 2011, 4, 160-186.	2.7	9
74	Combinatorics of Tandem Duplication Random Loss Mutations on Circular Genomes. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 83-95.	3.0	9
75	Genome Rearrangement with ILP. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 1-1.	3.0	9
76	Transversal Graphs for Partially Ordered Sets: Sequencing, Merging and Scheduling Problems. Journal of Combinatorial Optimization, 1999, 3, 417-435.	1.3	8
77	DECENTRALIZED PACKET CLUSTERING IN ROUTER-BASED NETWORKS. International Journal of Foundations of Computer Science, 2005, 16, 321-341.	1.1	8
78	Creating melodies and baroque harmonies with ant colony optimization. International Journal of Intelligent Computing and Cybernetics, 2008, 1, 213-238.	2.7	8
79	Multiplication of Matrices With Different Sparseness Properties on Dynamically Reconfigurable Meshes. VLSI Design, 1999, 9, 69-81.	0.5	7
80	Stability and performance of ant queue inspired task partitioning methods. Theory in Biosciences, 2008, 127, 149-161.	1.4	7
81	Solving the Preserving Reversal Median Problem. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2008, 5, 332-347.	3.0	7
82	Editorial Special Issue: Swarm Intelligence. IEEE Transactions on Evolutionary Computation, 2009, 13, 677-680.	10.0	7
83	Sensor Placement in Water Networks Using a Population-Based Ant Colony Optimization Algorithm. Lecture Notes in Computer Science, 2010, , 426-437.	1.3	7
84	EqualTDRL: illustrating equivalent tandem duplication random loss rearrangements. BMC Bioinformatics, 2018, 19, 192.	2.6	7
85	An Exact Algorithm for Sorting by Weighted Preserving Genome Rearrangements. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2019, 16, 52-62.	3.0	7
86	Congestion Control in Ant Like Moving Agent Systems. International Federation for Information Processing, 2008, , 33-43.	0.4	7
87	Learning from House-Hunting Ants: Collective Decision-Making in Organic Computing Systems. Lecture Notes in Computer Science, 2008, , 96-107.	1.3	7
88	Unifying Parsimonious Tree Reconciliation. Lecture Notes in Computer Science, 2013, , 200-214.	1.3	7
89	A simulator for the reconfigurable mesh architecture. Lecture Notes in Computer Science, 1998, , 99-104.	1.3	7
90	Title is missing!. Journal of Supercomputing, 2003, 26, 221-238.	3.6	6

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91	Swarm Controlled Emergence - Designing an Anti-Clustering Ant System. , 2007, , .		6
92	Design Aspects of Multi-level Reconfigurable Architectures. Journal of Signal Processing Systems, 2008, 51, 23-37.	2.1	6
93	Refined ranking relations for selection of solutions in multi objective metaheuristics. European Journal of Operational Research, 2015, 243, 454-464.	5.7	6
94	A Visual Method for Analysis and Comparison of Search Landscapes. , 2015, , .		6
95	Combined super-/substring and super-/subsequence problems. Theoretical Computer Science, 2004, 320, 247-267.	0.9	5
96	Simple probabilistic population based optimization for combinatorial optimization. , 2013, , .		5
97	Genome Rearrangement Analysis: Cut and Join Genome Rearrangements and Gene Cluster Preserving Approaches. Methods in Molecular Biology, 2018, 1704, 261-289.	0.9	5
98	Competition Controlled Pheromone Update for Ant Colony Optimization. Lecture Notes in Computer Science, 2004, , 95-105.	1.3	5
99	Visual Analysis of Discrete Particle Swarm Optimization Using Fitness Landscapes. Emergence, Complexity and Computation, 2014, , 487-507.	0.3	5
100	Scheduling inverse trees under the communication model of the LogP-machine. Theoretical Computer Science, 1999, 215, 137-168.	0.9	4
101	Multi task hyperreconfigurable architectures: models and reconfiguration problems. International Journal of Embedded Systems, 2005, 1, 154.	0.3	4
102	Dynamic Decentralized Packet Clustering in Networks. Lecture Notes in Computer Science, 2005, , 574-583.	1.3	4
103	Granularity aspects for the design of multi-level reconfigurable architectures. , 2006, , .		4
104	22 Computational methods for the analysis of mitochondrial genome rearrangements. , 2014, , 515-530.		4
105	An empirically based simulation of group foraging in the harvesting ant, Messor pergandei. Journal of Theoretical Biology, 2014, 340, 186-198.	1.7	4
106	Population based ant colony optimization for reconstructing ECG signals. Evolutionary Intelligence, 2016, 9, 55-66.	3.6	4
107	An Iterated Local Search Algorithm for the Two-Machine Flow Shop Problem with Buffers and Constant Processing Times on One Machine. Lecture Notes in Computer Science, 2019, , 50-65.	1.3	4
108	Using Decentralized Clustering for Task Allocation in Networks with Reconfigurable Helper Units. Lecture Notes in Computer Science, 2006, , 137-147.	1.3	4

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109	Ant Inspired Methods for Organic Computing. , 2011, , 95-109.		4
110	An Evolutionary Approach to Dynamic Task Scheduling on FPGAs with Restricted Buffer. Journal of Parallel and Distributed Computing, 2002, 62, 1407-1420.	4.1	3
111	Self-Organized Task Allocation for Service Tasks in Computing Systems with Reconfigurable Components. Mathematical Modelling and Algorithms, 2008, 7, 237-254.	0.5	3
112	ADAPTING TO DYNAMIC ENVIRONMENTS: POLYETHISM IN RESPONSE THRESHOLD MODELS FOR SOCIAL INSECTS. International Journal of Modeling, Simulation, and Scientific Computing, 2009, 12, 327-346.	1.4	3
113	Multi-level reconfigurable architectures in the switch model. Journal of Systems Architecture, 2010, 56, 103-115.	4.3	3
114	Learning classifier systems to evolve classification rules for systems of memory constrained components. Evolutionary Intelligence, 2011, 4, 127-143.	3.6	3
115	Self-organized cooperation between agents that have to solve resource collection tasks. , 2013, , .		3
116	Evolutionary Inheritance Mechanisms for Multi-criteriaDecision Making in Multi-agent Systems. , 2015, , .		3
117	Iterated Local Search and Other Algorithms for Buffered Two-Machine Permutation Flow Shops with Constant Processing Times on One Machine. Evolutionary Computation, 2021, 29, 415-439.	3.0	3
118	Ant Colony Optimization with the Relative Pheromone Evaluation Method. Lecture Notes in Computer Science, 2002, , 325-333.	1.3	3
119	Swarm Intelligence. , 2014, , 213-242.		3
120	Comparing the Optimization Behaviour of Heuristics with Topology Based Visualization. Lecture Notes in Computer Science, 2014, , 47-58.	1.3	3
121	Organic Computing and Swarm Intelligence. Natural Computing Series, 2008, , 253-281.	2.2	3
122	The Influence of Correlated Objectives on Different Types of P-ACO Algorithms. Lecture Notes in Computer Science, 2014, , 230-241.	1.3	3
123	The Partition into Hypercontexts Problem for Hyperreconfigurable Architectures. Lecture Notes in Computer Science, 2004, , 251-260.	1.3	3
124	A weighted population update rule for PACO applied to the single machine total weighted tardiness problem. , 2020, , .		3
125	Counter-Based Ant Colony Optimization as a Hardware-Oriented Meta-heuristic. Lecture Notes in Computer Science, 2005, , 235-244.	1.3	2
126	A Branchâ€ andâ€ Bound Approach for Tautomer Enumeration. Molecular Informatics, 2015, 34, 263-275.	2.5	2

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127	Decentralized and dynamic group formation of reconfigurable agents. Memetic Computing, 2015, 7, 77-91.	4.0	2
128	On the Behavior of ACO Algorithms: Studies on Simple Problems. Applied Optimization, 2003, , 465-480.	0.4	2
129	Visualizing Topological Properties of the Search Landscape of Combinatorial Optimization Problems. Mathematics and Visualization, 2017, , 69-85.	0.6	2
130	A Fast and Exact Algorithm for the Perfect Reversal Median Problem. , 2007, , 305-316.		2
131	Preserving Inversion Phylogeny Reconstruction. Lecture Notes in Computer Science, 2012, , 1-13.	1.3	2
132	The Reversal Median Problem, Common Intervals, and Mitochondrial Gene Orders. Lecture Notes in Computer Science, 2006, , 52-63.	1.3	2
133	Quick-ACO: Accelerating Ant Decisions and Pheromone Updates in ACO. Lecture Notes in Computer Science, 2011, , 238-249.	1.3	2
134	A Hierarchical Simple Probabilistic Population-Based Algorithm Applied to the Dynamic TSP. , 2021, , .		2
135	Complete edge-colored permutation graphs. Advances in Applied Mathematics, 2022, 139, 102377.	0.7	2
136	Modelling Ant Brood Tending Behavior with Cellular Automata. Lecture Notes in Computer Science, 2005, , 412-419.	1.3	1
137	On the Reconfiguration Costs of Models for Partially Reconfigurable FPGAs. , 2008, , .		1
138	SPP1148 booth: Hyperreconfigurable architectures. , 2008, , .		1
139	On the Design of RNA Sequences for Realizing Extended Shapes. , 2009, , .		1
140	Bonding as a swarm. , 2011, , .		1
141	Trophallaxis-inspired self-organized task exchange in heterogeneous swarms. , 2011, , .		1
142	A common interval guided ACO algorithm for permutation problems. , 2013, , .		1
143	Local Similarity Search to Find Gene Indicators in Mitochondrial Genomes. Biology, 2014, 3, 220-242.	2.8	1
144	Task allocation in organic computing systems: networks with reconfigurable helper units. International Journal of Autonomous and Adaptive Communications Systems, 2015, 8, 60.	0.3	1

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145	Population Based Ant Colony Optimization for Reconstructing ECG Signals. Lecture Notes in Computer Science, 2016, , 770-785.	1.3	1
146	Self-adaptable Group Formation of Reconfigurable Agents in Dynamic Environments. Studies in Computational Intelligence, 2014, , 287-301.	0.9	1
147	A Population Based ACO Algorithm for the Combined Tours TSP Problem. , 2016, , .		1
148	Time-Scattered Heuristic for the Hardware Implementation of Population-Based ACO. Lecture Notes in Computer Science, 2004, , 250-261.	1.3	1
149	Models and Algorithms for Hyperreconfigurable Hardware. , 2010, , 75-94.		1
150	Two-Dimensional partitioning problems. Theoretical Computer Science, 1996, 164, 73-106.	0.9	0
151	Editorial. Theory in Biosciences, 2008, 127, 67-68.	1.4	0
152	Perspectives of extending runtime reconfigurable computing to the enterprise application domain. , 2010, , .		0
153	Annotation guided local similarity search in multiple sequences and its application to mitochondrial genomes. , 2012, , .		0
154	Tuning positive feedback for signal detection in noisy dynamic environments. Journal of Theoretical Biology, 2012, 309, 88-95.	1.7	0
155	A strict upper bound for the partition distance and the cluster distance of phylogenetic trees for each fixed pair of topological trees. PLoS ONE, 2018, 13, e0204907.	2.5	0
156	Sorting Signed Permutations by Inverse Tandem Duplication Random Losses. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021, 18, 2177-2188.	3.0	0
157	Self-adaptive Worker-Helper Systems with Self-Organized Task Allocation. Understanding Complex Systems, 2009, , 221-239.	0.6	0
158	Finding All Sorting Tandem Duplication Random Loss Operations. Lecture Notes in Computer Science, 2009, , 301-313.	1.3	0
159	Coarse-Graining Large Search Landscapes Using Massive Edge Collapse. Mathematics and Visualization, 2020, , 55-69.	0.6	0
160	On permutation schedules for two-machine flow shops with buffer constraints and constant processing times on one machine. European Journal of Operational Research, 2022, 303, 593-601.	5.7	0
161	An Improvement Heuristic Based on Variable Neighborhood Search for Dynamic Orienteering Problems with Changing Node Values and Changing Budgets. SN Computer Science, 2022, 3, .	3.6	0