

Michael R Fellows

List of Publications by Year in descending order

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156
papers

5,977
citations

81743

39
h-index

85405

71
g-index

161
all docs

161
docs citations

161
times ranked

1297
citing authors

#	ARTICLE	IF	CITATIONS
1	On problems without polynomial kernels. <i>Journal of Computer and System Sciences</i> , 2009, 75, 423-434.	0.9	401
2	Fixed-parameter tractability and completeness II: On completeness for $W[1]$. <i>Theoretical Computer Science</i> , 1995, 141, 109-131.	0.5	351
3	Parameterized Complexity. <i>Electronic Notes in Theoretical Computer Science</i> , 2002, 61, 1-19.	0.9	343
4	Fixed-Parameter Tractability and Completeness I: Basic Results. <i>SIAM Journal on Computing</i> , 1995, 24, 873-921.	0.8	301
5	Polynomial-time data reduction for dominating set. <i>Journal of the ACM</i> , 2004, 51, 363-384.	1.8	217
6	On the parameterized complexity of multiple-interval graph problems. <i>Theoretical Computer Science</i> , 2009, 410, 53-61.	0.5	216
7	Nonconstructive tools for proving polynomial-time decidability. <i>Journal of the ACM</i> , 1988, 35, 727-739.	1.8	185
8	An improved fixed-parameter algorithm for vertex cover. <i>Information Processing Letters</i> , 1998, 65, 163-168.	0.4	177
9	Advice classes of parameterized tractability. <i>Annals of Pure and Applied Logic</i> , 1997, 84, 119-138.	0.3	151
10	Fixed-parameter tractability and completeness IV: On completeness for $W[P]$ and PSPACE analogues. <i>Annals of Pure and Applied Logic</i> , 1995, 73, 235-276.	0.3	113
11	Crown Structures for Vertex Cover Kernelization. <i>Theory of Computing Systems</i> , 2007, 41, 411-430.	0.7	97
12	Clique-Width is NP-Complete. <i>SIAM Journal on Discrete Mathematics</i> , 2009, 23, 909-939.	0.4	92
13	Parameterized Computational Feasibility. , 1995, , 219-244.		90
14	Parameterized complexity: A framework for systematically confronting computational intractability. <i>DIMACS Series in Discrete Mathematics and Theoretical Computer Science</i> , 1999, , 49-99.	0.0	84
15	On the complexity of some colorful problems parameterized by treewidth. <i>Information and Computation</i> , 2011, 209, 143-153.	0.5	83
16	Towards fully multivariate algorithmics: Parameter ecology and the deconstruction of computational complexity. <i>European Journal of Combinatorics</i> , 2013, 34, 541-566.	0.5	82
17	The parameterized complexity of sequence alignment and consensus. <i>Theoretical Computer Science</i> , 1995, 147, 31-54.	0.5	77
18	Cutting Up Is Hard To Do. <i>Electronic Notes in Theoretical Computer Science</i> , 2003, 78, 209-222.	0.9	76

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19	The Complexity Ecology of Parameters: An Illustration Using Bounded Max Leaf Number. Theory of Computing Systems, 2009, 45, 822-848.	0.7	75
20	Graph Layout Problems Parameterized by Vertex Cover. Lecture Notes in Computer Science, 2008, , 294-305.	1.0	74
21	Nonconstructive advances in polynomial-time complexity. Information Processing Letters, 1987, 26, 157-162.	0.4	72
22	A generalization of Nemhauser and Trotter's local optimization theorem. Journal of Computer and System Sciences, 2011, 77, 1141-1158.	0.9	70
23	On Well-Partial-Order Theory and Its Application to Combinatorial Problems of VLSI Design. SIAM Journal on Discrete Mathematics, 1992, 5, 117-126.	0.4	69
24	On search, decision, and the efficiency of polynomial-time algorithms. Journal of Computer and System Sciences, 1994, 49, 769-779.	0.9	67
25	On the parameterized complexity of short computation and factorization. Archive for Mathematical Logic, 1997, 36, 321-337.	0.2	60
26	Upper and lower bounds for finding connected motifs in vertex-colored graphs. Journal of Computer and System Sciences, 2011, 77, 799-811.	0.9	60
27	Graph-based data clustering with overlaps. Discrete Optimization, 2011, 8, 2-17.	0.6	58
28	An $O(2O(k)n^3)$ FPT Algorithm for the Undirected Feedback Vertex Set Problem. Theory of Computing Systems, 2007, 41, 479-492.	0.7	56
29	Fixed-parameter algorithms for Kemeny rankings. Theoretical Computer Science, 2009, 410, 4554-4570.	0.5	55
30	The Parametrized Complexity of Some Fundamental Problems in Coding Theory. SIAM Journal on Computing, 1999, 29, 545-570.	0.8	54
31	A refined search tree technique for Dominating Set on planar graphs. Journal of Computer and System Sciences, 2005, 71, 385-405.	0.9	54
32	On The Parameterized Intractability Of Motif Search Problems*. Combinatorica, 2006, 26, 141-167.	0.6	49
33	Faster Fixed-Parameter Tractable Algorithms for Matching and Packing Problems. Algorithmica, 2008, 52, 167-176.	1.0	46
34	Satisfying more than half of a system of linear equations over $GF(2)$: A multivariate approach. Journal of Computer and System Sciences, 2014, 80, 687-696.	0.9	45
35	Beyond NP-completeness for problems of bounded width (extended abstract). , 1994, , .		44
36	Analogues & duals of the MAST problem for sequences & trees. Journal of Algorithms, 2003, 49, 192-216.	0.9	44

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37	Parameterized Algorithms for Finding Connected Motifs in Biological Networks. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2011, 8, 1296-1308.	1.9	43
38	Transversals of Vertex Partitions in Graphs. SIAM Journal on Discrete Mathematics, 1990, 3, 206-215.	0.4	42
39	On the Parameterized Complexity of Layered Graph Drawing. Algorithmica, 2008, 52, 267-292.	1.0	42
40	Parameterized approximation via fidelity preserving transformations. Journal of Computer and System Sciences, 2018, 93, 30-40.	0.9	41
41	Blow-Ups, Win/Win TM s, and Crown Rules: Some New Directions in FPT. Lecture Notes in Computer Science, 2003, , 1-12.	1.0	41
42	On Problems without Polynomial Kernels (Extended Abstract). Lecture Notes in Computer Science, 2008, , 563-574.	1.0	41
43	Sharp Tractability Borderlines for Finding Connected Motifs in Vertex-Colored Graphs. Lecture Notes in Computer Science, 2007, , 340-351.	1.0	41
44	The hardness of perfect phylogeny, feasible register assignment and other problems on thin colored graphs. Theoretical Computer Science, 2000, 244, 167-188.	0.5	39
45	The dominating set problem is fixed parameter tractable for graphs of bounded genus. Journal of Algorithms, 2004, 52, 152-168.	0.9	39
46	Parameterized approximation of dominating set problems. Information Processing Letters, 2008, 109, 68-70.	0.4	37
47	Tractable Parameterizations for the Minimum Linear Arrangement Problem. ACM Transactions on Computation Theory, 2016, 8, 1-12.	0.4	35
48	The Undirected Feedback Vertex Set Problem Has a Poly(k) Kernel. Lecture Notes in Computer Science, 2006, , 192-202.	1.0	35
49	An $O(2^{O(k)} n^3)$ FPT Algorithm for the Undirected Feedback Vertex Set Problem. Lecture Notes in Computer Science, 2005, , 859-869.	1.0	34
50	Parameterized circuit complexity and the W hierarchy. Theoretical Computer Science, 1998, 191, 97-115.	0.5	33
51	W[2]-hardness of precedence constrained K-processor scheduling. Operations Research Letters, 1995, 18, 93-97.	0.5	32
52	Local search: Is brute-force avoidable?. Journal of Computer and System Sciences, 2012, 78, 707-719.	0.9	32
53	Efficient Parameterized Preprocessing for Cluster Editing. Lecture Notes in Computer Science, 2007, , 312-321.	1.0	32
54	The Private Neighbor Cube. SIAM Journal on Discrete Mathematics, 1994, 7, 41-47.	0.4	31

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55	Large planar graphs with given diameter and maximum degree. Discrete Applied Mathematics, 1995, 61, 133-153.	0.5	30
56	A Fixed-Parameter Approach to 2-Layer Planarization. Algorithmica, 2006, 45, 159-182.	1.0	30
57	Fixed-parameter complexity and cryptography. Lecture Notes in Computer Science, 1993, , 121-131.	1.0	29
58	On the Structure of Parameterized Problems in NP. Information and Computation, 1995, 123, 38-49.	0.5	29
59	Control complexity in Bucklin and fallback voting: A theoretical analysis. Journal of Computer and System Sciences, 2015, 81, 632-660.	0.9	29
60	DNA physical mapping: Three ways difficult. Lecture Notes in Computer Science, 1993, , 157-168.	1.0	28
61	Towards Fully Multivariate Algorithmics: Some New Results and Directions in Parameter Ecology. Lecture Notes in Computer Science, 2009, , 2-10.	1.0	27
62	Small diameter symmetric networks from linear groups. IEEE Transactions on Computers, 1992, 41, 218-220.	2.4	26
63	Parameterized Algorithms and Hardness Results for Some Graph Motif Problems. , 2008, , 31-43.		26
64	Threshold dominating sets and an improved characterization of $W[2]$. Theoretical Computer Science, 1998, 209, 123-140.	0.5	25
65	On computing graph minor obstruction sets. Theoretical Computer Science, 2000, 233, 107-127.	0.5	25
66	Parameterized Complexity: The Main Ideas and Connections to Practical Computing. Lecture Notes in Computer Science, 2002, , 51-77.	1.0	25
67	Parameterized Complexity: The Main Ideas and Some Research Frontiers. Lecture Notes in Computer Science, 2001, , 291-307.	1.0	25
68	The parameterized complexity of some minimum label problems. Journal of Computer and System Sciences, 2010, 76, 727-740.	0.9	24
69	nonblocker: Parameterized Algorithmics for minimum dominating set. Lecture Notes in Computer Science, 2006, , 237-245.	1.0	23
70	The complexity of irredundant sets parameterized by size. Discrete Applied Mathematics, 2000, 100, 155-167.	0.5	22
71	The parameterized complexity of some problems in logic and linguistics. Lecture Notes in Computer Science, 1994, , 89-100.	1.0	22
72	On the parametric complexity of schedules to minimize tardy tasks. Theoretical Computer Science, 2003, 298, 317-324.	0.5	21

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73	What Makes Equitable Connected Partition Easy. Lecture Notes in Computer Science, 2009, , 122-133.	1.0	20
74	Facility location problems: A parameterized view. Discrete Applied Mathematics, 2011, 159, 1118-1130.	0.5	20
75	New Directions and New Challenges in Algorithm Design and Complexity, Parameterized. Lecture Notes in Computer Science, 2003, , 505-519.	1.0	20
76	Parameterizing by the Number of Numbers. Theory of Computing Systems, 2012, 50, 675-693.	0.7	19
77	Parameterized complexity of firefighting. Journal of Computer and System Sciences, 2014, 80, 1285-1297.	0.9	19
78	Self-witnessing polynomial-time complexity and prime factorization. Designs, Codes, and Cryptography, 1992, 2, 231-235.	1.0	18
79	Control complexity in Bucklin and fallback voting: An experimental analysis. Journal of Computer and System Sciences, 2015, 81, 661-670.	0.9	18
80	The Complexity of Polynomial-Time Approximation. Theory of Computing Systems, 2007, 41, 459-477.	0.7	16
81	Connected Coloring Completion for General Graphs: Algorithms and Complexity. Lecture Notes in Computer Science, 2007, , 75-85.	1.0	16
82	Polynomial-time self-reducibility: theoretical motivations and practical results— . International Journal of Computer Mathematics, 1989, 31, 1-9.	1.0	15
83	On the Parameterized Intractability of Closest Substring and Related Problems. Lecture Notes in Computer Science, 2002, , 262-273.	1.0	15
84	Forbidden minors to graphs with small feedback sets. Discrete Mathematics, 2001, 230, 215-252.	0.4	14
85	On finding short resolution refutations and small unsatisfiable subsets. Theoretical Computer Science, 2006, 351, 351-359.	0.5	14
86	Derivation of algorithms for cutwidth and related graph layout parameters. Journal of Computer and System Sciences, 2009, 75, 231-244.	0.9	14
87	Efficient Data Reduction for Dominating Set: A Linear Problem Kernel for the Planar Case. Lecture Notes in Computer Science, 2002, , 150-159.	1.0	14
88	A Complexity Dichotomy for Finding Disjoint Solutions of Vertex Deletion Problems. ACM Transactions on Computation Theory, 2011, 2, 1-23.	0.4	13
89	Fixed-Parameter Algorithms for Kemeny Scores. Lecture Notes in Computer Science, 2008, , 60-71.	1.0	13
90	On finding optimal and near-optimal lineal spanning trees. Algorithmica, 1988, 3, 549-560.	1.0	12

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91	A simple linear-time algorithm for finding path-decompositions of small width. Information Processing Letters, 1996, 57, 197-203.	0.4	12
92	Well Quasi Orders in Subclasses of Bounded Treewidth Graphs and Their Algorithmic Applications. Algorithmica, 2012, 64, 3-18.	1.0	12
93	Analogs and Duals of the MAST Problem for Sequences and Trees. Lecture Notes in Computer Science, 1998, , 103-114.	1.0	12
94	On the Complexity of Some Colorful Problems Parameterized by Treewidth. Lecture Notes in Computer Science, 2007, , 366-377.	1.0	11
95	Clustering with partial information. Theoretical Computer Science, 2010, 411, 1202-1211.	0.5	10
96	Quadratic Kernelization for Convex Recoloring of Trees. Algorithmica, 2011, 61, 362-388.	1.0	10
97	A Linear Kernel for Co-Path/Cycle Packing. Lecture Notes in Computer Science, 2010, , 90-102.	1.0	10
98	Dynamic dominating set and turbo-charging greedy heuristics. Tsinghua Science and Technology, 2014, 19, 329-337.	4.1	9
99	Quadratic Kernelization for Convex Recoloring of Trees. Lecture Notes in Computer Science, 2007, , 86-96.	1.0	9
100	Parameterized Approximation via Fidelity Preserving Transformations. Lecture Notes in Computer Science, 2012, , 351-362.	1.0	9
101	Distortion is Fixed Parameter Tractable. ACM Transactions on Computation Theory, 2013, 5, 1-20.	0.4	8
102	Myhill's Nerode Methods for Hypergraphs. Algorithmica, 2015, 73, 696-729.	1.0	8
103	What Is Known About Vertex Cover Kernelization?. Lecture Notes in Computer Science, 2018, , 330-356.	1.0	8
104	Parameterized Complexity of Stabbing Rectangles and Squares in the Plane. Lecture Notes in Computer Science, 2009, , 298-309.	1.0	8
105	Graph-Based Data Clustering with Overlaps. Lecture Notes in Computer Science, 2009, , 516-526.	1.0	8
106	Distortion Is Fixed Parameter Tractable. Lecture Notes in Computer Science, 2009, , 463-474.	1.0	8
107	Fast self-reduction algorithms for combinatorial problems of VLSI design. , 1988, , 278-287.		7
108	Searching for K_3 in linear time. Linear and Multilinear Algebra, 1991, 29, 279-290.	0.5	7

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109	Train Marshalling Is Fixed Parameter Tractable. Lecture Notes in Computer Science, 2012, , 51-56.	1.0	7
110	Well-Quasi-Orders in Subclasses of Bounded Treewidth Graphs. Lecture Notes in Computer Science, 2009, , 149-160.	1.0	7
111	Processor utilization in a linearly connected parallel processing system. IEEE Transactions on Computers, 1988, 37, 594-603.	2.4	6
112	Fast search algorithms for layout permutation problems. The Integration VLSI Journal, 1991, 12, 321-337.	1.3	6
113	The Complexity Ecology of Parameters: An Illustration Using Bounded Max Leaf Number. Lecture Notes in Computer Science, 2007, , 268-277.	1.0	6
114	Parameterized Complexity of the Firefighter Problem. Lecture Notes in Computer Science, 2011, , 643-652.	1.0	6
115	Radius and diameter in Manhattan lattices. Discrete Mathematics, 1988, 73, 119-125.	0.4	5
116	Vertex transversals that dominate. Journal of Graph Theory, 1996, 21, 21-31.	0.5	5
117	W-Hierarchies Defined by Symmetric Gates. Theory of Computing Systems, 2010, 46, 311-339.	0.7	5
118	Collaborating with Hans: Some Remaining Wonderments. Lecture Notes in Computer Science, 2020, , 7-17.	1.0	5
119	Leaf Powers and Their Properties: Using the Trees. Lecture Notes in Computer Science, 2008, , 402-413.	1.0	5
120	Myhill-Nerode Methods for Hypergraphs. Lecture Notes in Computer Science, 2013, , 372-382.	1.0	5
121	Counting spanning trees in directed regular multigraphs. Journal of the Franklin Institute, 1989, 326, 889-896.	1.9	4
122	The Parameterized Complexity of Stabbing Rectangles. Algorithmica, 2012, 62, 564-594.	1.0	4
123	Constraint satisfaction problems: Convexity makes AllDifferent constraints tractable. Theoretical Computer Science, 2013, 472, 81-89.	0.5	4
124	FPT is characterized by useful obstruction sets. ACM Transactions on Computation Theory, 2014, 6, 1-26.	0.4	4
125	Clustering with Partial Information. Lecture Notes in Computer Science, 2008, , 144-155.	1.0	4
126	Constructive complexity. Discrete Applied Mathematics, 1991, 34, 3-16.	0.5	3

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127	Haplotype Inference Constrained by Plausible Haplotype Data. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2011, 8, 1692-1699.	1.9	3
128	Tractability and hardness of flood-filling games on trees. Theoretical Computer Science, 2015, 576, 102-116.	0.5	3
129	Multivariate Complexity Theory. , 2011, , 269-293.		3
130	Facility Location Problems: A Parameterized View. Lecture Notes in Computer Science, 2008, , 188-199.	1.0	3
131	Haplotype Inference Constrained by Plausible Haplotype Data. Lecture Notes in Computer Science, 2009, , 339-352.	1.0	3
132	On the galactic number of a hypercube. Mathematical and Computer Modelling, 1988, 11, 212-215.	2.0	2
133	Sparse parameterized problems. Annals of Pure and Applied Logic, 1996, 82, 1-15.	0.3	2
134	Finite-Basis Theorems and a Computation-Integrated Approach to Obstruction Set Isolation. , 1989, , 37-45.		2
135	Parameterizing by the Number of Numbers. Lecture Notes in Computer Science, 2010, , 123-134.	1.0	2
136	The Parameterized Complexity of Some Minimum Label Problems. Lecture Notes in Computer Science, 2010, , 88-99.	1.0	2
137	On the Parameterized Complexity of Dynamic Problems with Connectivity Constraints. Lecture Notes in Computer Science, 2014, , 625-636.	1.0	2
138	Constructivity issues in graph algorithms. Lecture Notes in Computer Science, 1992, , 150-158.	1.0	1
139	The Flood-It game parameterized by the vertex cover number. Electronic Notes in Discrete Mathematics, 2015, 50, 35-40.	0.4	1
140	FPT Is Characterized by Useful Obstruction Sets. Lecture Notes in Computer Science, 2013, , 261-273.	1.0	1
141	A Complexity Dichotomy for Finding Disjoint Solutions of Vertex Deletion Problems. Lecture Notes in Computer Science, 2009, , 319-330.	1.0	1
142	Tractable Parameterizations for the Minimum Linear Arrangement Problem. Lecture Notes in Computer Science, 2013, , 457-468.	1.0	1
143	Index sets and parametric reductions. Archive for Mathematical Logic, 2001, 40, 329-348.	0.2	0
144	Foreword from the guest editors. Journal of Computer and System Sciences, 2003, 67, 653.	0.9	0

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145	A brief history of Edward K. Blum and the Journal of Computer and System Sciences. Journal of Computer and System Sciences, 2018, 94, 2-10.	0.9	0
146	Algorithms, kernels and lower bounds for the Flood-It game parameterized by the vertex cover number. Discrete Applied Mathematics, 2018, 245, 94-100.	0.5	0
147	Kernelization Lower Bounds. Texts in Computer Science, 2013, , 571-619.	0.5	0
148	The W-Hierarchy. Texts in Computer Science, 2013, , 427-459.	0.5	0
149	Courcelle's Theorem. Texts in Computer Science, 2013, , 265-278.	0.5	0
150	The Basic Definitions. Texts in Computer Science, 2013, , 15-21.	0.5	0
151	Well-Quasi-Orderings and the Robertson-Seymour Theorems. Texts in Computer Science, 2013, , 319-338.	0.5	0
152	Beyond $W[t]$ -Hardness. Texts in Computer Science, 2013, , 473-489.	0.5	0
153	Other Width Metrics. Texts in Computer Science, 2013, , 301-316.	0.5	0
154	The M-Hierarchy, and XP-Optimality. Texts in Computer Science, 2013, , 535-570.	0.5	0
155	Surfing with Rod. Lecture Notes in Computer Science, 2017, , 9-18.	1.0	0
156	A Survey on the Complexity of Flood-Filling Games. Lecture Notes in Computer Science, 2018, , 357-376.	1.0	0