

Michael Ralph Fellows

My Publications by Year

Please also see DBLP AUTHOR Michael Fellows

Books

This is Mega-Mathematics!, 134 pp., available for free at the World Wide Web site: <http://www.c3.lan> 1992, with Nancy Casey.

Computer Science Unplugged ... offline activities and games for all ages, 231 pp., 1996, with Tim Bell and Ian Witten.

Parameterized Complexity, 530 pp., Springer-Verlag, 1999, with R. Downey.

2010

Chapters and Articles

Currently Being Refereed

- M. Fellows, P. Giannopoulos, C. Knauer, C. Paul, F. Rosamond, S. Whitesides and N. Yu. *On the Parameterized Complexity of the Discrete Milling Problem with Turn Costs*, submitted to LATIN 2010.
- M. Fellows and H. Fernau. *Facility Location Problems: A Parameterized View*, submitted to Discrete Applied Mathematics.

2009

- *W-Hierarchies Defined by Symmetric Gates*, Theory of Computing Systems, with J. Flum, D. Hermelin, M. Mueller and F. Rosamond.
- *Derivation of Algorithms for Cutwidth and Related Graph Layout Parameters*, Journal of Computer and System Sciences 75 (2009), 231244, with H.L. Bodlaender and D.M. Thilikos.
- *The Complexity Ecology of Parameters: An Illustration Using Bounded Max Leaf Number*, Theory of Computing Systems 45 (2009), 822848. with D. Lokshantov, N. Misra, M. Mnich, F. Rosamond and S. Saurabh.
- *On the Fixed-Parameter Intractability and Tractability of Multiple-Interval Graph Prob-*

- lems*, Theoretical Computer Science 410 (2009), 5361, with D. Hermelin and F. Rosamond.
- *On Problems Without Polynomial Kernels*, Journal of Computer and System Sciences, with H. Bodlaender, R. Downey and D. Hermelin.
 - *Quadratic Kernelization for Convex Recoloring of Trees*, Algorithmica, with H. Bodlaender, M. Langston, M. Ragan, F. Rosamond and M. Weyer.
 - M. Fellows, G. Fertin, D. Hermelin and S. Vialette. *Sharp Tractability Borderlines for Finding Connected Motifs in Vertex-Colored Graphs*, (conference version presented at ICALP 2007), to appear in: Journal of Computer and System Sciences.
 - M. Dom, M. Fellows and F. Rosamond. *Parameterized Complexity of Stabbing Rectangles and Squares in the Plane*, Third Workshop on Algorithms and Computation, WALCOM 2009, Lecture Notes in Computer Science 5431 (2009), 298309.
 - M. Fellows, J. Guo, H. Moser and R. Niedermeier. *A Generalization of Nemhauser and Trotters Local Optimization Algorithm*, Proceedings STACS 2009, 409420.
 - N. Betzler, M. Fellows, J. Guo, R. Niedermeier and F. Rosamond. *How Similarity Helps to Efficiently Compute Kemeny Rankings*, Proceedings 8th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009), 657664.
 - M. Fellows, T. Hartman, D. Hermelin, G. Landau, L. Leventhal and F. Rosamond. *Haplotype Inference Constrained by Plausible Haplotype Data*, Proceedings CPM 2009, Springer-Verlag, Lecture Notes in Computer Science 5577 (2009), 339352.
 - M. Fellows, F. Fomin, D. Lokshtanov, F. Rosamond, S. Saurabh and Y. Villanger. *Local Search: Is Brute Force Avoidable?* Proceedings International Joint Conference on Artificial Intelligence, IJCAI 2009, to appear.
 - M. Fellows, J. Guo, C. Komusiewicz, R. Niedermeier and J. Uhlmann. *Graph-Based Data Clustering with Overlaps*, COCOON 2009, to appear.
 - M. Fellows, F. Fomin, D. Lokshtanov, E. Losievskaja, F. Rosamond and S. Saurabh. *Distortion Is Fixed-Parameter Tractable*, ICALP 2009, to appear.
 - M. Fellows, J. Guo and I. Kanj. *The Parameterized Complexity of Some Minimum Label Problems*, Proceedings WG 2009, Springer-Verlag, Lecture Notes in Computer Science, to appear.
 - D. Hermelin, M. Fellows and F. Rosamond. *Well-Quasi-Ordering Bounded Treewidth Graphs*, Proceedings IWPEC 2009, Springer-Verlag, Lecture Notes in Computer Science, to appear.

- M. Fellows, J. Guo, H. Moser and R. Niedermeier. *A Complexity Dichotomy for Finding Disjoint Solutions of Vertex Deletion Problems*, Proceedings MFCS 2009, Springer-Verlag, Lecture Notes in Computer Science 5734 (2009), 319330.
- R. Enciso, M. Fellows, J. Guo, I. Kanj, F. Rosamond and A. Suchy. *What Makes Equitable Connected Partition Easy?* Proceedings IWPEC 2009, Springer-Verlag, Lecture Notes in Computer Science, to appear.
- M. Fellows. *The Complexity Ecology of Parameters: Some New Developments and Research Directions*, Proceedings IWOCA 2009, Springer-Verlag, Lecture Notes in Computer Science, to appear.
- M. Fellows, J. Hromkovic, F. Rosamond and M. Steinova. *Fixed-Parameter Tractability, Relative Kernelization and the Effectivization of Structural Connections*, CiE 2009.

2008

- “The Computer Journal Special Issue on Parameterized Complexity: Foreword by the Guest Editors,” *The Computer Journal* 51(1) (2008), 1–6, with R. Downey and M. Langston.
- M. Fellows, D. Lokshtanov, N. Misra, F. Rosamond and S. Saurabh. Graph Layout Problems Parameterized by Vertex Cover, International Symposium on Automata, Algorithms and Computation, ISAAC 2008, Lecture Notes in Computer Science 5369 (2008), 294305.
- M. Fellows, D. Meister, F. Rosamond, R. Sritharan and J.A. Telle. Leaf Powers and Their Properties: Using the Trees, ISAAC 2008, Lecture Notes in Computer Science 5369 (2008), 402413.
- “Fixed-Parameter Algorithms for Kemeny Scores,” *Proceedings of AAIM 2008*, Springer-Verlag, *Lecture Notes in Computer Science* 5034 (2008), 60–71, with N. Betzler, J. Guo, R. Niedermeier and F. Rosamond.
- “A Purely Democratic Characterization of $W[1]$,” *Proceedings of IWPEC 2008*, Springer, *Lecture Notes in Computer Science* 5018 (2008), 103–114, with D. Hermelin, M. Müller and F. Rosamond.
- “Facilities Location Problems: A Parameterized View,” *Proceedings of AAIM 2008*, Springer-Verlag, *Lecture Notes in Computer Science* 5034 (2008), 188–199, with H. Fernau.
- “Parameterized Algorithms and Hardness Results for Some Graph Motif Problems,” CPM 2008, *Lecture Notes in Computer Science* 5029 (2008), with N. Betzler, C. Komusiewicz and R. Niedermeier.

- “On Problems Without Polynomial Kernels,” ICALP 2008, *Lecture Notes in Computer Science* 5125 (2008), with H. Bodlaender, R. Downey and D. Hermelin.
- “Clustering with Partial Information,” MFCS 2008, *Lecture Notes in Computer Science* 5162 (2008), 144–155, with H.L. Bodlaender, P. Heggernes, F. Mancini, C. Papadopoulos and F. Rosamond, to appear.
- N. Betzler, M. Fellows, J. Guo, R. Niedermeier and F. Rosamond. “Computing Kemeny Rankings, Parameterized by the Average K-T Distance,” COMSOC 2008.
- M. Fellows, D. Lokshtanov, N. Misra, F. Rosamond and S. Saurabh. “Graph Layout Problems Parameterized by Vertex Cover,” *International Symposium on Automata, Algorithms and Computation*, ISAAC 2008.
- M. Fellows, D. Meister, F. Rosamond, R. Sritharan and J.A. Telle. “Leaf Powers and Their Properties: Using the Trees,” ISAAC 2008, *Lecture Notes in Computer Science* 5369 (2008), 402–413.

2007

- “An $O(2^{O(k)})$ FPT Algorithm for the Undirected Feedback Vertex Set Problem,” *Theory of Computing Systems* 41 (2007), 479–492, with F. Dehne, M. Langston, F. Rosamond and K. Stevens.
- “Crown Structures for Vertex Cover Kernelization,” *Theory of Computing Systems* 41 (2007), 411–431, with F. Abu-Khzam, M. Langston and W. Suters.
- “On the Efficiency of Polynomial Time Approximation,” *Theory of Computing Systems* 41 (2007), 459–477, with L. Cai, D. Juedes and F. Rosamond.
- “On the Complexity of Lobbying in Multiple Referenda,” *Review of Economic Design* 11 (2007), 217–224, with R. Christian, F. Rosamond and A. Slinko.
- “On the Parameterized Complexity of Layered Graph Drawing,” *Algorithmica*, with V. Dujmovic, M. Hallett, M. Kitching, G. Liotta, C. McCartin, N. Nishimura, P. Ragde, F. Rosamond, M. Suderman, S. Whitesides and D. R. Wood.
- “Cliquewidth is NP-hard to Approximate,” *SIAM Journal on Discrete Mathematics*, with F. Rosamond, U. Rotics and S. Szeider.
- “W-Hierarchies Defined by Symmetric Gates,” *Theory of Computing Systems*, with J. Flum, D. Hermelin, M. Mueller and F. Rosamond.
- “Sharp Tractability Borderlines for Finding Connected Motifs in Vertex-Colored Graphs,”

Proceedings of ICALP 2007, Springer-Verlag, *Lecture Notes in Computer Science*, to appear, with G. Fertin, D. Hermelin and S. Vialette.

- “Efficient Parameterized Preprocessing for Cluster Editing,” *Proceedings of FCT 2007*, Springer-Verlag, *Lecture Notes in Computer Science* 4639 (2007), 312–321, with M. Langston, F. Rosamond and P. Shaw.
- “On the Complexity of Some Colorful Problems Parameterized by Treewidth,” *Proceedings of COCOA 2007*, Springer-Verlag, *Lecture Notes in Computer Science* 4616 (2007), 366–377, with F. Fomin, D. Lokshtanov, F. Rosamond, S. Saurabh, S. Szeider and C. Thomassen.
- “Parameterized Complexity via Combinatorial Circuits,” *Proc. 3rd ACiD*, 2007, King’s College Publications, London, *Texts in Algorithmics* 9 (2007), 55–67.
- “Why Is P Not Equal to NP?” *Proceedings of CiE 2007*, Siena, June 2007, to appear, with F. Rosamond.
- “The Complexity Ecology of Parameters: An Illustration Using Bounded Max Leaf Number,” *Proceedings of CiE 2007*, Siena, June 2007, to appear, with F. Rosamond.
- “Quadratic Kernelization for Convex Recoloring of Trees,” *Proceedings of COCOON 2007*, Springer-Verlag, *Lecture Notes in Computer Science*, to appear, with H. Bodlaender, M. Langston, M. Ragan, F. Rosamond and M. Weyer.
- “Connected Coloring Completion for General Graphs: Algorithms and Complexity,” *Proceedings of COCOON 2007*, Springer-Verlag, *Lecture Notes in Computer Science*, to appear, with B. Chor, M. Ragan, I. Razgon, F. Rosamond and S. Snir.

2006

- “On Finding Short Resolution Refutations and Small Unsatisfiable Subsets,” *Theoretical Computer Science* 351 (2006), 351–359, with S. Szeider and G. Wrightson.
- “On the Parameterized Intractability of Motif Search Problems,” *Combinatorica* 26 (2006), 141–167, with J. Gramm and R. Niedermeier.
- “A Fixed-Parameter Approach to Two-Layer Planarization,” *Algorithmica* 45 (2006), 159–182, with V. Dujmovic, M. Hallett, M. Kitching, G. Liotta, C. McCartin, N. Nishimura, P. Ragde, F. Rosamond, M. Suderman, S. Whitesides and D. R. Wood.
- “Nonblocker: Parameterized Algorithmics for Minimum Dominating Set,” *Proceedings SOFSEM 2006: 32nd Conference on Current Trends in Theory and Practice of Computer Science*, Springer-Verlag, *Lecture Notes in Computer Science* 3831 (2006), 237–245, with F.

Dehne, H. Fernau, E. Prieto and F. Rosamond.

- “Cliquewidth Minimization is NP-hard,” *Proceedings of the ACM Symposium on Theory of Computing* (2006), 354–362, with F. Rosamond, U. Rotics and S. Szeider.
- “The Undirected Feedback Vertex Set Problem has Polynomial Kernel Size,” *Proceedings IWPEC 2006*, Springer-Verlag, *Lecture Notes in Computer Science* 4169 (2006), 192–202, with K. Burrage, V. Estivill-Castro, M. Langston, S. Mac and F. Rosamond.
- “Parameterized Approximation Problems,” *Proceedings IWPEC 2006*, Springer-Verlag, *Lecture Notes in Computer Science* 4169 (2006), 121–129, with R. Downey and C. McCartin.
- “The Lost Continent of Polynomial Time,” *Proceedings IWPEC 2006*, Springer-Verlag, *Lecture Notes in Computer Science* 4169 (2006), 276–277.
- “Kernelization for Convex Recoloring of Trees,” *Proc. ACiD 2006*, King’s College Publications, *Texts in Algorithmics* 7 (2006), 23–36, with H. Bodlaender, M. Langston, M. Ragan and F. Rosamond.
- “On the Complexity of Lobbying in Multiple Referenda,” *Proc. First International Workshop on Computational Social Choice*, Amsterdam, Dec. 2006, with R. Christian, F. Rosamond and A. Slinko.

2005

- “Refined Search Tree Technique for Dominating Sets on Planar Graphs,” *Journal of Computer and Systems Science* 71 (2005), 385–405, with J. Alber, H. Fan, H. Fernau, R. Niedermeier, F. Rosamond and U. Stege.
- “Tight Lower Bounds for Certain Parameterized NP-Hard Problems,” *Information and Computation* 201 (2005), 216–231, with J. Chen, B. Chor, X. Huang, D. Juedes, I. Kanj and G. Xia.
- “An $O(2^{O(k)}n^3)$ FPT Algorithm for the Undirected Feedback Vertex Set Problem,” *Proceedings COCOON 2005*, Springer-Verlag, *Lecture Notes in Computer Science* 3595 (2005), 859–869, with F. Dehne, M. Langston, F. Rosamond and K. Stevens.
- “Fixed-Parameter Tractability is Polynomial-Time Extremal Structure Theory I: The Case of Max Leaf,” *Proceedings of ACiD 2005: Algorithms and Complexity in Durham*, Kings College London Publications, *Texts in Algorithmics* 4 (2005), 1–41, with V. Estivill-Castro, M. Langston and F. Rosamond.

2004

- “Polynomial-Time Data Reduction for Dominating Set,” *Journal of the ACM* 51 (2004), 363–384, with J. Alber and R. Niedermeier.
- “The Dominating Set Problem is Fixed Parameter Tractable on Graphs of Bounded Genus,” *Journal of Algorithms* 52 (2004), 152–168, with H. Fan and J. Ellis.
- “Kernelization Algorithms for the Vertex Cover Problem: Theory and Experiments,” *Proceedings ALENEX/ANALC 2004*, Springer-Verlag, *Lecture Notes in Computer Science* (2004), 62–69, with F. Abu-Khzam, R. Collins, M. Langston and W. H. Suters.
- “Tight Lower Bounds for Certain Parameterized NP-hard Problems,” *Proceedings of the IEEE Conference on Computational Complexity* (2004), 150–160, with J. Chen, B. Chor, X. Huang, D. Juedes, I. Kanj and G. Xia.
- “Greedy Localization, Iterative Compression and Modeled Crown Reductions: New FPT Techniques, an Improved FPT Algorithm for Set Splitting, and a Novel $2k$ Kernelization for Vertex Cover,” *Proceedings of the First International Workshop on Parameterized and Exact Computation (IWPEC 2004)*, Springer-Verlag, *Lecture Notes in Computer Science* 3162 (2004), 223–234, with F. Dehne, F. Rosamond and P. Shaw.
- “A Survey of FPT Algorithm Design Techniques with an Emphasis on Recent Advances and Connections to Practical Computing,” *Proceedings ESA 2004*, Springer-Verlag, *Lecture Notes in Computer Science* 3221 (2004), 1–2.
- “On Finding Short Resolution Refutations and Small Unsatisfiable Subsets,” *Proceedings of the First International Workshop on Parameterized and Exact Computation (IWPEC 2004)*, Springer-Verlag, *Lecture Notes in Computer Science* 3162 (2004), 223–234, with S. Szeider and G. Wrightson.
- “Faster Fixed-Parameter Tractable Algorithms for Matching and Packing Problems,” *Proceedings ESA 2004*, Springer-Verlag, *Lecture Notes in Computer Science* 3221 (2004), 311–322, with C. Knauer, N. Nishimura, P. Ragde, F. Rosamond, U. Stege, D. Thilikos and S. Whitesides.
- “Finding k Disjoint Triangles in an Arbitrary Graph,” *Proceedings WG 2004*, Springer-Verlag, *Lecture Notes in Computer Science* 3353 (2004), 235–244, with P. Heggenes, F. Rosamond, C. Sloper and J.-A. Telle.
- “Linear Kernels in Linear Time, or How to Save k Colors in $O(n^2)$ Steps,” *Proceedings WG 2004*, Springer-Verlag, *Lecture Notes in Computer Science* 3353 (2004), 257–269, with B. Chor and D. Juedes.

2003

- “On the Parameterized Complexity of Minimizing Tardy Tasks,” *Theoretical Computer Science A* 298 (2003), 317–324, with C. McCartin.
- “Analogues and Duals of the MAST Problem for Sequences and Trees,” *Journal of Algorithms* 49 (2003), 192–216, with M. Hallett and U. Stege.
- “Explaining Cryptographic Ideas to the General Public,” *Computers and Education* 40 (2003), 199–215, with T. Bell, I. Witten and N. Koblitz.
- “Foreward from the Guest Editors,” *Journal of Computer and Systems Science* 67 (2003), 653–654, with J. Chen.
- “Cutting Up is Hard to Do: the Parameterized Complexity of k -Cut and Related Problems,” *Electronic Notes in Theoretical Computer Science* 78 (2003), 205–218, with R. Downey, V. Estivill-Castro, E. Prieto-Rodriguez and F. Rosamond.
- “Blow-Ups, Win/Win’s and Crown Rules: Some New Directions in FPT ,” *Proceedings WG 2003*, Springer-Verlag, *Lecture Notes in Computer Science* 2880 (2003), 1–12.
- “An FPT Algorithm for Set Splitting,” *Proceedings WG 2003*, Springer-Verlag, *Lecture Notes in Computer Science* 2880 (2003), 180–191, with F. Dehne and F. Rosamond.
- “New Directions and New Challenges in Algorithm Design and Complexity, Parameterized,” *Proceedings WADS 2003*, Springer-Verlag, *Lecture Notes in Computer Science* 2748 (2003), 505–520.
- “Starting with Nondeterminism: the Systematic Derivation of Linear-Time Graph Layout Algorithms,” *Proceedings MFCS 2003*, Springer-Verlag, *Lecture Notes in Computer Science* 2747 (2003), 239–248, with H. Bodlaender and D. Thilikos.

2002

- “Parameterized Complexity: The Main Ideas and Connections to Practical Computing,” *Proc. CATS 2002, Computing: The Australasian Theory Symposium*, James Harland (ed.), Elsevier, *Electronic Notes in Computer Science* 61 (2002), 1–17.
- “Parameterized Intractability of CLOSEST SUBSTRING AND RELATED PROBLEMS,” *Proc. STACS 2002*, Springer-Verlag, *Lecture Notes in Computer Science* 2285 (2002), 262–273, with J. Gramm and R. Niedermeier.
- “Parameterized Complexity: The Main Ideas and Connections to Practical Computing.”

In *Experimental Algorithmics*, Springer-Verlag, *Lecture Notes in Computer Science* 2547 (2002), 51–77.

- “Efficient Data Reduction for DOMINATING SET: A Linear Problem Kernel for the Planar Case,” *Proc. SWAT 2002*, Springer-Verlag, *Lecture Notes in Computer Science* 2368 (2002), 150–159, with J. Alber and R. Niedermeier.
- “The Dominating Set Problem is Fixed Parameter Tractable on Graphs of Bounded Genus,” *Proc. SWAT 2002*, Springer-Verlag, *Lecture Notes in Computer Science* 2368 (2002), 180–189, with J. Ellis and H. Fan.

2001

- “Index Sets and Parametric Reductions,” *Archive for Mathematical Logic* 40 (2001), 329–348, with R.G. Downey.
- “Forbidden Minors to Graphs with Small Feedback Sets,” *Discrete Mathematics* 230 (2001), 215–252, with K. Cattell and M. Dinneen. • “Refined Search Tree Techniques for the Dominating Set Problem on Planar Graphs,” *Proc. 26th International Symposium on Mathematical Foundations of Computer Science (MFCS 2001)*, Springer-Verlag, *Lecture Notes in Computer Science* 2136 (2001), 111–122, with J. Alber, H. Fan, H. Fernau, R. Niedermeier, F. Rosamond and U. Stege.
- “A Fixed-Parameter Approach to Two-Layer Planarization,” *Proc. 9th International Symposium on Graph Drawing (GD 2001)*, Springer-Verlag, *Lecture Notes in Computer Science* 2265 (2001), 1–15, with V. Dujmovic, M. Hallett, M. Kitching, G. Liotta, C. McCartin, N. Nishimura, P. Ragde, F. Rosamond, M. Suderman, S. Whitesides and D. Wood.
- “On the Parameterized Complexity of Layered Graph Drawing,” *Proc. 9th Annual European Symposium on Algorithms (ESA 2001)*, Springer-Verlag, *Lecture Notes in Computer Science* 2161 (2001), 488–499, with V. Dujmovic, M. Hallett, M. Kitching, G. Liotta, C. McCartin, N. Nishimura, P. Ragde, F. Rosamond, M. Suderman, S. Whitesides and D. Wood.
- “Parameterized Complexity: New Developments and Research Frontiers,” *Proc. New Zealand Mathematical Sciences Research Institute Summer Workshop*, Kaikoura, 2000, *Aspects of Complexity*, R. Downey and D. Hirschfeldt (eds.), de Gruyter (2001), 51–72 (notes on featured short course).
- “Some New Developments in Parameterized Complexity,” *Proc. 12th Australasian Workshop on Combinatorial Algorithms*, ed. Edy Tri Baskoro (2001), 43–44.
- “Parameterized Complexity: Main Ideas, Connections to Heuristics and Research Fron-

tiers,” *Proc. ISAAC 2001*, Springer-Verlag, *Lecture Notes in Computer Science* 2223 (2001), 291–307.

2000

- “On Computing Graph Minor Obstruction Sets,” *Theoretical Computer Science A* 233 (2000), 107–127, with K. Cattell, M.J. Dinneen, R.G. Downey and M.A. Langston.
- “The Complexity of Irredundant Sets Parameterized by Size,” *Discrete Applied Math.* 100 (2000), 155–167, with R.G. Downey and V. Raman.
- “The Hardness of Perfect Phylogeny, Feasible Register Assignment and Other Problems on Thin Colored Graphs,” *Theoretical Computer Science A* 244 (2000), 167–188, with H. Bodlaender, M. Hallett, H. Wareham and T. Warnow.
- “Coordinatized Kernels and Catalytic Reductions: An Improved FPT Algorithm for Max Leaf Spanning Tree and Other Problems,” *Proc. FST-TCS 2000*, Springer-Verlag, *Lecture Notes in Computer Science* 1974 (2000), 240–251, with C. McCartin, F. Rosamond and U. Stege.

1999

- “The Parameterized Complexity of Some Fundamental Problems in Coding Theory,” *SIAM J. Computing* 29 (1999), 545–570, with R.G. Downey, A. Vardy and G. Whittle.
- “Parameterized Complexity: A Framework for Systematically Confronting Computational Intractability,” in: *Contemporary Trends in Discrete Mathematics*, (R. Graham, J. Kratochvíl, J. Nešetřil and F. Roberts, eds.), Proc. DIMACS-DIMATIA Workshop, Prague, 1997, *AMS-DIMACS Series in Discrete Mathematics and Theoretical Computer Science*, vol. 49 (1999), 49–99, with R. Downey and U. Stege.
- “Explaining Cryptographic Systems to the General Public,” *Proc. First IFIP World Conference on Information Security Education (WISE)*, L. Yngstgröm and S. Fischer-Hübner (eds.), Stockholm University Report Series 99-008 (1999), 221–233, with T. Bell, I. Witten and N. Koblitz.
- “Parameterized Complexity After (Almost) 10 Years: Review and Open Questions,” in: *Combinatorics, Computation and Logic, DMTCS’99 and CATS’99*, Australian Computer Science Communications 21, Springer-Verlag Singapore (1999), 1–33, with R.G. Downey.

1998

- “Analogues and Duals of the MAST Problem for Sequences and Trees” *Proceedings of the*

Sixth European Symposium on Algorithms – ESA '98, Springer-Verlag Lecture Notes in Computer Science, vol. 1461 (1998), 103–114, with M. Hallett, C. Korostensky and U. Stege.

- “On the Multiple Gene Duplication Problem,” *Proceedings Ninth International Symposium on Algorithms and Computation – ISAAC'98*, Springer-Verlag Lecture Notes in Computer Science, vol. 1533 (1998), 347–356, with M. Hallett and U. Stege.
- “Parameterized Circuit Complexity and the W Hierarchy,” *Theoretical Computer Science A* 191 (1998), 97–115, with R. G. Downey and K. W. Regan.
- “An Improved Fixed-Parameter Algorithm for Vertex Cover,” *Information Processing Letters* 65 (1998), 163–168, with R. Balasubramanian and V. Raman.
- “Constructions of Dense Planar Networks,” *Networks* 32 (1998), 275–281, with P. Hell and K. Seyffarth.
- “Threshold Dominating Sets and An Improved Characterization of $W[2]$,” *Theoretical Computer Science A* 209 (1998), 123–140, with R. G. Downey.

1997

- “Advice Classes of Parameterized Tractability,” *Annals of Pure and Applied Logic* 84 (1997), 119–138, with L. Cai, J. Chen and R.G. Downey.
- “The Parameterized Complexity of Short Computation and Factorization,” Proceedings of the *Sacks Symposium*, in *Archive for Mathematical Logic* 36 (1997), 321–338, with L. Cai, J. Chen and R. Downey.
- “Descriptive Complexity and the W Hierarchy,” in: *Proof Complexity and Feasible Arithmetics* (P. Beame and S. Buss, Eds.) AMS-DIMACS Series in Discrete Mathematics and Theoretical Computer Science, American Mathematical Society (1997), 119–134, with R. Downey and K. Regan.
- “A Note on the Computability of Obstruction Sets for Monadic Second Order Ideals,” *Journal of Universal Computer Science* 3 (1997), 1194–1198, with B. Courcelle and R. Downey.
- “Let’s Focus on the First Four,” with N. Casey. To appear in: *Discrete Mathematics in the Schools: How Can We Have an Impact?* (D. Franzblau, F. Roberts and J. Rosenstein, eds.) DIMACS/AMS proceedings series, 1997.

1996 • “Vertex Transversals That Dominate,” *Journal of Graph Theory* 21 (1996), 21–32, with N. Alon and D.O. Hare.

- “A Simple Linear Time Algorithm for Finding Path Decompositions of Small Width,”

Information Processing Letters 57 (1996), 197–203, with K. Cattell and M. J. Dinneen.

- “Sparse Parameterized Problems,” *Annals of Pure and Applied Logic* 82 (1996), 1–15, with M. Cesati.
- “Approaches to Detection of Distantly Related Proteins by Database Searches,” *BioTechniques* 21 (1996), 1118–1125, with K. Cattell, R. Olafson, B. Koop, I. Bailey, R.W. Olafson and C. Upton.
- “Finite-State Computability of Annotations of Strings and Trees,” *Proceedings Seventh Symposium on Combinatorial Pattern Matching (CPM '96)*, Springer-Verlag, Lecture Notes in Computer Science vol. 1075 (1996), 384–391, with H. Bodlaender and P. Evans.
- “The Heart of Puzzling: Mathematics and Computer Games,” *Proceedings of the 1996 Computer Games Developers Conference*, Miller Freeman (1996), 109–120.
- “The Parameterized Complexity of Relational Database Queries and An Improved Characterization of $W[1]$,” in: *Combinatorics, Complexity and Logic*, Proceedings of DMTCS '96, (D. Bridges, C. Calude, J. Gibbons, S. Reeves, and I. Witten, Eds.) Springer-Verlag (1996), 194–213, with R. Downey and U. Taylor.

1995

- “Fixed-Parameter Tractability and Completeness II: Completeness for $W[1]$,” *Theoretical Computer Science A* 141 (1995), 109–131, with R. Downey.
- “Fixed Parameter Tractability and Completeness IV: On Completeness for $W[P]$ and PSPACE Analogs,” *Annals of Pure and Applied Logic* 73 (1995), 235–276, with K. Abrahamson and R. Downey.
- “The Parameterized Complexity of the Longest Common Subsequence Problem,” *Theoretical Computer Science A* 147 (1995), 31–54, with H. Bodlaender, R. Downey and H.T. Wareham.
- “Parameterized Complexity Analysis in Computational Biology,” *Computer Applications in the Biosciences* 11 (1995), 49–57, with H. Bodlaender, R. Downey, M. Hallett, and H.T. Wareham.
- “On the Parameterized Complexity of Problems in NP,” *Information and Computation* 123 (1995), 38–49. with L. Cai, J. Chen and R. Downey.
- “On the Complexity of k -Processor Scheduling,” *Operations Research Letters* 18 (1995), 93–98, with H. Bodlaender. • “The Complexity of Induced Minors and Related Problems,” *Algorithmica* 13 (1995), 266–282, with J. Kratochvíl, M. Middendorf and F. Pfeiffer.

- “Large Planar Graphs with Given Diameter and Maximum Degree,” *Discrete Applied Math.* 61 (1995), 133–153, with P. Hell and K. Seyffarth.
 - “Obstructions to Within a Few Vertices or Edges of Acyclic” , *Proceedings WADS’95*, Springer-Verlag, Lecture Notes in Computer Science vol. 955 (1995), 415–427, with K. Cattell and M.J. Dinneen.
 - “Fixed-Parameter Tractability and Completeness I: Basic Theory,” *SIAM J. Computing* 24 (1995), 873–921, with R. Downey.
 - “Parameterized Computational Feasibility,” *Proceedings of the Second Cornell Workshop on Feasible Mathematics, Feasible Mathematics II*, P. Clote and J. Remmel (eds.), Birkhauser Boston (1995), 219–244, with R.G. Downey.
- 1994 • “The Private Neighborhood Cube,” *SIAM J. Discrete Math.* 7 (1994), 41–47, with G. Fricke, S. Hedetniemi and D. Jacobs.
- “Cultural Aspects of Mathematics Education Reform,” *Notices of the American Mathematics Society* 41 (1994), 5–9, with A. Hibner and N. Koblitz.
 - “On Search, Decision and the Efficiency of Polynomial-Time Algorithms,” *Journal of Computer and Systems Science* 49 (1994), 769–779, with M. A. Langston.
 - “Combinatorial Cryptosystems Galore!” *Proceedings of the Second International Symposium on Finite Fields*, Las Vegas, Nevada, August, 1993, *Contemporary Mathematics* 168 (1994), 51–61, with N. Koblitz.
 - “On the Structure of Parameterized Problems in NP,” *Proceedings of the 11th Symposium on Theoretical Aspects of Computer Science (STACS’94)*, Springer-Verlag, Lecture Notes in Computer Science vol. 775 (1994), 509–520, with L. Cai, J. Chen, and R. Downey.
 - “The Parameterized Complexity of Sequence Alignment and Consensus,” *Proceedings of the Fifth Symposium on Combinatorial Pattern Matching (CPM)*, Springer-Verlag, Lecture Notes in Computer Science vol. 807 (1994), 15–30, with H. Bodlaender, R. Downey, and H. T. Wareham.
 - “Beyond NP-Completeness for Problems of Bounded Width: Hardness for the W Hierarchy,” *Proceedings of the ACM Symposium on the Theory of Computing (STOC)* (1994), 449–458, with H. Bodlaender and M. Hallett.
 - “The Parameterized Complexity of Some Problems in Logic and Linguistics,” *Proceedings Symposium on Logical Foundations of Computer Science (LFCS)*, Springer-Verlag, Lecture Notes in Computer Science vol. 813 (1994), 89–100, with R. Downey, B. Kapron, M. Hallett and H. T. Wareham.

- “Parameterized Complexity Analysis in Computational Biology,” *Proceedings of the IEEE Computer Society Workshop on Shape and Pattern Recognition in Computational Biology*, Seattle, June 1994, IBM TJ Watson Research Center Publication (1994), 99–116, with H. Bodlaender, R.G. Downey, M.T. Hallett and H.T. Wareham. To be published by Plenum Press.

1993

- “Fixed-Parameter Intractability II,” *Proceedings of the 10th Symposium on Theoretical Aspects of Computer Science (STACS’93)*, Springer-Verlag, Lecture Notes in Computer Science vol. 665 (1993), 374–385 with K. Abrahamson and R. Downey.
- “Fixed-Parameter Complexity and Cryptography,” *Proceedings of the Tenth International Symposium on Applied Algebra, Algebraic Algorithms and Error-Correcting Codes (AAECC’93)*, Springer-Verlag, Berlin, Lecture Notes in Computer Science vol. 673 (1993), 121–131, with N. Koblitz.
- “Parameterized Learning Complexity,” *Proceedings of the Sixth ACM Workshop on Computational Learning Theory (COLT’93)*, 51–57, with R.G. Downey and P.A. Evans.
- “Advice Classes of Parameterized Tractability,” *Proceedings of the Asian Logic Conference* (1993), with R. Downey, L. Cai and J. Chen.
- “Computer Science in the Elementary Schools,” Mathematicians and Education Reform Workshop, Seattle, 1991. Proceedings published as: Mathematicians and Education Reform 1990–1991, N. Fisher, H. Keynes and P. Wagreich, eds., Conference Board of the Mathematical Sciences, *Issues in Mathematics Education* 3 (1993), 143–163.
- “Fixed-Parameter Tractability and Completeness III: Some Structural Aspects of the W -Hierarchy,” *Proceedings of the 1992 Dagstuhl Workshop on Structural Complexity, Complexity Theory: Current Research*, ed. K. Ambos-Spies, S. Homer and U. Schöning, Cambridge University Press (1993), 191–226, with R.G. Downey.
- “DNA Physical Mapping: Three Ways Difficult,” in *Algorithms — ESA ’93*, (Proceedings of the First European Symposium on Algorithms), Springer-Verlag, Berlin, Lecture Notes in Computer Science vol. 726 (1993), 157–168, with M.T. Hallett and H.T. Wareham.

1992

- “Two Strikes Against Perfect Phylogeny,” in: W. Kuich (editor), *Proceedings of the 19th International Colloquium on Automata, Languages and Programming (ICALP’92)*, Springer-Verlag, Berlin, Lecture Notes in Computer Science, volume 623, pp. 273–283, with H. L. Bodlaender and T. J. Warnow.

- “Parallel Self-Reducibility,” *Proc. 4th International Conference on Computing and Information*, IEEE Computer Society Press (1992), 67–70, with K. Abrahamson and C. Wilson.
- “Self-Witnessing Polynomial-Time Complexity and Certificates for Primality,” *Proceedings of the Seventh Annual IEEE Conference on Structure in Complexity Theory* (1992), 107-110, with N. Koblitz.
- “Fixed-Parameter Intractability,” *Proceedings of the Seventh Annual IEEE Conference on Structure in Complexity Theory* (1992), 36-49, with R. Downey.
- “Kid Krypto,” *Proceedings of Crypto '92*, Springer-Verlag, Lecture Notes in Computer Science vol. 740 (1993), 371-389, with N. Koblitz.

1991

- “On the Complexity and Combinatorics of Covering Finite Complexes,” *Australasian J. Combinatorics* 4 (1991), 103-112, with J. Abello and J. Stillwell.
 - “Constructive Complexity,” *Discrete Applied Math.* 34 (1991), 3-16, with K. Abrahamson, M. A. Langston and B. Moret. (At the special invitation of the editor-in-chief, this was published also in the book series *Annals of Discrete Mathematics*, in: Combinatorics and Theoretical Computer Science, R. Simion, ed., North-Holland, 1992, pp. 3–16.)
 - “On Well-Partial-Order Theory and Its Application to Combinatorial Problems of VLSI Design,” *SIAM J. Discrete Math.* 5 (1992), 117-126, with M. A. Langston.
 - “Small Diameter Symmetric Networks From Linear Groups,” *IEEE Transactions on Computers* 40 (1992), 218-220, with L. Campbell, G. E. Carlsson, M. J. Dinneen, V. Faber, M. A. Langston, J. W. Moore, A. P. Mullhaupt and H. B. Sexton.
 - “Fixed-Parameter Tractability and Completeness,” *Congressus Numerantium* 87 (1992), 161-178, with R. G. Downey.
 - “Self-Witnessing Polynomial-Time Complexity and Certificates for Primality,” *Designs, Codes and Cryptography* 2 (1992), 231-235, with N. Koblitz.
- 1991 J14 • “Searching for $K_{3,3}$ in Linear Time,” *Linear and Multilinear Algebra* 29 (1991), 279-290, with P. A. Kaschube.
- “Perfect Domination,” *Australasian J. Combinatorics* 3 (1991), 141-150, with M. Hoover.
 - “Fast Search Algorithms for Graph Layout Permutation Problems,” *Integration, the VLSI Journal* 12 (1991), 321-337, with M. A. Langston.

- “Cycles of Length 0 Modulo 3 in Graphs,” *Annals of Discrete Math.* (1991), 87-101, with C. A. Barefoot, L. H. Clark, J. Douthett and R. C. Entringer.

- “Finite Automata, Bounded Treewidth and Well-Quasiordering,” in: N. Robertson and P. Seymour (editors), *Graph Structure Theory: Proceedings of the Joint Summer Research Conference on Graph Minors, Seattle, June, 1991*, American Mathematical Society, *Contemporary Mathematics* 147 (1993), 539–564, with Karl Abrahamson.

- “Algebraic Constructions of Efficient Broadcast Networks,” in: H.F. Mattson, T. Mora and T.R.N. Rao (editors), *Proceedings of the Ninth International Symposium on Applied Algebra, Algebraic Algorithms and Error-Correcting Codes (AAECC’91)*, Springer-Verlag, Berlin, Lecture Notes in Computer Science, volume 539, pp. 152-158, with M. Dinneen and V. Faber.

1990

- “Transversals of Vertex Partitions in Graphs,” *SIAM J. Discrete Math.* 3 (1990), 206-215.

1989

- “Polynomial-Time Self-Reducibility: Theoretical Motivations and Practical Results,” *International Journal of Computer Mathematics* 31 (1989), 1–9, with D. J. Brown and M. A. Langston.

- “The Robertson-Seymour Theorems: A Survey of Applications,” *Contemporary Mathematics* 89 (1989), 1–18.

- “Counting Spanning Trees in Directed Regular Multigraphs,” *Journal of the Franklin Institute* 326 (1989), 889-896, with J. M. Wojciechowski.

- “The Immersion Order, Forbidden Subgraphs and the Complexity of Network Integrity,” *Journal of Combinatorial Mathematics and Combinatorial Computing* 6 (1989), 23-32, with S. Stueckle.

- “Radius and Diameter in Manhattan Lattices,” *Discrete Mathematics* 73 (1989), 119–125, with D. J. Kleitman.

- “On Search, Decision and the Efficiency of Polynomial-Time Algorithms,” *Proceedings ACM Symposium on the Theory of Computing (STOC)* (1989), 501–512, with M. A. Langston.

- “An Analogue of the Myhill-Nerode Theorem and Its Use in Computing Finite-Basis Characterizations,” *Proceedings Thirtieth IEEE Symposium on the Foundations of Computer Science (FOCS)* (1989), 520–525, with M. A. Langston.

- “On the Complexity of Fixed-Parameter Problems,” *Proceedings Thirtieth IEEE Sympo-*

sium on the Foundations of Computer Science (FOCS) (1989), 210–215, with K. Abrahamson, J. Ellis and M. Mata.

- “Finite-Basis Theorems and a Computation-Integrated Approach to Obstruction Set Isolation,” *Proceedings of the First MIT Conference on Computers and Mathematics*, in Computers and Mathematics (E. Kaltofen and S.M. Watt, editors), Springer-Verlag (1989), 37–45, with N.G. Kinnersley and M.A. Langston.

1988

- “Nonconstructive Proofs of Polynomial-Time Complexity,” *Information Processing Letters* 26(1987/88), 157–162, with M. A. Langston.
- “Processor Utilization in a Linearly Connected Parallel Processing System,” *IEEE Transactions on Computers* 37 (1988), 594–603, with M. A. Langston.
- “On Finding Optimal and Near-Optimal Lineal Spanning Trees,” *Algorithmica* 3 (1988), 549–560, with D. K. Friesen and M. A. Langston.
- “Nonconstructive Tools for Proving Polynomial-Time Complexity,” *Journal of the Association for Computing Machinery* 35 (1988) 727–739, with M. A. Langston.
- “Layout Permutation Problems and Well-Partially-Ordered Sets,” *Proceedings Fifth M.I.T. Conference on Advanced Research in VLSI*, published as Advanced Research in VLSI (J. Allen and F. T. Leighton, editors), The MIT Press, 1988, 315–327, with M. A. Langston.
- “Fast Self-Reduction Algorithms for Combinatorial Problems of VLSI Design,” *Proceedings Third International Workshop on Parallel Computation and VLSI Theory*, Springer-Verlag, Lecture Notes in Computer Science vol. 319 (1988), 278–287, with M. A. Langston.
- “On the Galactic Number of a Hypercube,” *Mathematical and Computer Modelling* 11 (1988), 212–215, with M. Hoover and F. Harary.

1987

- “A Topological Parameterization and Hard Graph Problems,” *Congressus Numerantium* 59 (1987), 69–78, with F. Hickling and M. Syslo.
- “Computational Complexity of Integrity,” *Journal of Combinatorial Mathematics and Combinatorial Computing* 2 (1987), 179–191, with L. H. Clark and R. C. Entringer.
- “On Finding Obstruction Sets and Polynomial-Time Algorithms for Gate Matrix Layout,” *Proceedings of the 25th Allerton Conference on Communication, Control and Computing* (1987), 397–398, with R. L. Bryant, N. G. Kinnersley and M. A. Langston.