

FRÉDÉRIC MAFFRAY

Curriculum vitae

Born on 19 August 1960 in Tours, France. High school in Tours.

Maitrise de Mathématiques Pures, University of Tours, 1981.

Doctorat de 3ème cycle, University of Paris 6, 1984. (Graduate work on kernels in directed graphs, supervised by Claude Berge and Pierre Duchet.)

PhD in Operations Research, Rutgers University, New Jersey, 1989. (Graduate work on perfect graphs, supervised by Peter Hammer.)

ACADEMIC POSITIONS

Post-Doctoral Fellow at the Department of Computer Science, University of Toronto, 1989-1990.

Junior Researcher at CNRS (National Center for Scientific Research), in:
— Laboratory of Discrete Structures and Didactics (1990-1995), Grenoble;
— Leibniz Laboratory, Institute for Computer Science and Applied Mathematics (1995-2006), Grenoble;

Now *Senior Researcher* at CNRS in:
— Laboratoire G-SCOP (since 2006), Grenoble, France.

Current research topics in graph theory: graph coloring problems, list-coloring, b-coloring, domination, perfect graphs, decompositions, structures, algorithms.

TEACHING EXPERIENCE

— Graduate course on Algorithms in Graph Theory, University of Toronto, 1989-90.

— Special Course on Perfect Graphs, Federal University of Rio de Janeiro, July 1991 (invited lecturer).

— 1st and 2nd Franco-Swiss Post-graduate course on Operations Research, Grenoble, France and Lausanne, Switzerland, Spring 1993 and 1995.

— Several graduate courses on “Graph Theory and Algorithms”, “Graph-Colouring and Perfect Graphs”, and “Applications of Graph Theory”, University of Grenoble, Operations Research program, yearly since 1991.

— Graduate course on “Elements of Graph Theory”, Dept. of Mathematics, University of Grenoble, 2000-2002.

— Graduate course on “Introduction to Graph Theory”, Telecommunications Dept., National Polytechnic Institute of Grenoble, yearly since 2000.

DOCTORAL STUDENTS

I have supervised the PhD thesis of:

— **Cláudia Linhares Sales** “Graphes Parfaits et Paires d’Amis” (defended in January 1996), now Professor in the Department of Computer Science, Federal University of Ceará, Fortaleza, Brazil.

— **Sylvain Gravier** “Colorations et Produits de Graphes” (defended in June 1996), now CNRS Researcher, Maths Institute, University of Grenoble, France.

— **Nicolas Trotignon** “Graphes Parfaits: Structures et Algorithmes” (defended in September 2004), now CNRS Researcher, Lyon.

— **Benjamin Lévêque** “Colorations de Graphes: Structures et Algorithmes” (defended in October 2007). now CNRS Researcher, Montpellier (France).

— **Ana Shirley Ferreira da Silva** “Le Nombre b -Chromatique de Quelques Classes de Graphes Généralisant les Arbres” (defended in November 2010), now Professor in the Department of Mathematics, Federal University of Ceará, Fortaleza, Brazil.

— **Grégory Morel** “Stabilité et Coloration des Graphes sans P_5 ” (defended in September 2011).

— **Laetitia Lemoine** (currently).

— **Lucas Pastor**, to be defended in November 2017.

— **Rémi de Joannis de Verclos**, to be defended in December 2017.

— **Luc Libralesso**, since October 2017.

Publications since 2009

- B. Lévêque, F. Maffray, B. Reed, N. Trotignon. Coloring Artemis graphs. *Theoretical Computer Science* 410 (2009) 2234–2240.
- M. Blidia, F. Maffray, Z. Zemir. On b-colorings in regular graphs. *Discrete Applied Mathematics* 157 (2009) 1787–1793.
- J. Lehel, F. Maffray, M. Preissmann. Maximum directed cuts in digraphs with degree restriction. *Journal of Graph Theory* 61 (2009) 140–156.
- F. Bonomo, G. Durán, F. Maffray, J. Marenco, M. Valencia-Pabon. On the b-coloring of cographs and P4-sparse graphs. *Graphs and Combinatorics* 25 (2009) 153–167.
- F. Maffray, M. Mechebbek. On b-perfect chordal graphs. *Graphs and Combinatorics* 25 (2009) 365–375.
- B. Lévêque, F. Maffray, M. Preissmann. Characterizing path graphs by forbidden induced subgraphs. *Journal of Graph Theory* 62 (2009) 369–384.
- C.T. Hoàng, C. Linhares Sales, F. Maffray. On minimally b-imperfect graphs. *Discrete Applied Mathematics* 157 (2009) 3519–3530.
- B. Lévêque, D. Lin, F. Maffray, N. Trotignon. Detecting induced subgraphs. *Discrete Applied Mathematics* 157 (2009) 3540–3551.
- F. Maffray. Stable sets in k-colorable P5-free graphs. *Information Processing Letters* 109 (2009) 1235–1237.
- S. Khelifi, M. Blidia, M. Chellali, F. Maffray. Double domination edge removal critical graphs. *Australasian Journal of Combinatorics* 48 (2010) 285–299.
- M. Chellali, F. Maffray, K. Tablennehas. Connected domination dot-critical graphs. *Contributions to Discrete Mathematics* 5 (2010) 11–25.
- M. Blidia, M. Chellali, R. Lounes, F. Maffray. Characterizations of trees with unique minimum locating-dominating sets. *Journal of Combinatorial Mathematics and Combinatorial Computing* 76 (2011) 225–232.

- C.M.H. de Figueiredo, F. Maffray, C.R. Vilela Maciel. Transitive orientations in bull-reducible graphs. *Discrete Applied Mathematics* 159 (2011) 561–573.
- M.C. Golubic, F. Maffray, G. Morel. A characterization of chain probe graphs. *Annals of Operations Research* 188 (2011) 175–183.
- S. Dantas, C.M.H. de Figueiredo, M.C. Golubic, S. Klein, F. Maffray. The chain graph sandwich problem. *Annals of Operations Research* 188 (2011) 133–139.
- T. Karthick, F. Maffray. A characterization of claw-free b -perfect graphs. *Discrete Mathematics* 312 (2012) 324–330.
- M. Chellali, F. Maffray. Dominator colorings in some classes of graphs. *Graphs and Combinatorics* 28 (2012) 97–107.
- M. Blidia, N. Ikhlef-Eschouf, F. Maffray. Characterization of $b\gamma$ -perfect graphs. *AKCE International Journal of Graphs and Combinatorics*, 9 (2012) 21–29.
- M. Blidia, N. Ikhlef-Eschouf, F. Maffray. b -coloring of some bipartite graphs. *Australasian Journal of Combinatorics* 53 (2012) 67–76.
- A. Brandstädt, V. Giakoumakis, F. Maffray. Clique separator decomposition of hole-free and diamond-free graphs and algorithmic consequences. *Discrete Applied Mathematics* 160 (2012) 471–478.
- K. Cameron, B. Lévêque, F. Maffray. Coloring vertices of a graph or finding a Meyniel obstruction. *Theoretical Computer Science* 428 (2012) 10–17.
- F. Maffray, A. Silva. b -colouring outerplanar graphs with large girth. *Discrete Mathematics* 312 (2012) 1796–1803.
- B. Lévêque, F. Maffray, N. Trotignon. On graphs with no induced subdivision of K_4 . *Journal of Combinatorial Theory, Series B* 102 (2012) 924–947.
- V. Campos, A. Gyárfás, F. Havet, C. Linhares Sales, F. Maffray. New bounds on the Grundy number of products of graphs. *Journal of Graph Theory* 71 (2012) 78–88.
- C.T. Hoàng, F. Maffray, M. Mechebbek. A characterization of b -perfect graphs. *Journal of Graph Theory* 71 (2012) 95–122.

- S. Dantas, F. Maffray, A. Silva. 2K2-Partition of some classes of graphs. *Discrete Applied Mathematics* 160 (2012) 2662–2668.
- F. Maffray, G. Morel. On 3-colorable P_5 -free graphs. *SIAM Journal on Discrete Mathematics* 26 (2012) 1682–1708.
- M. Blidia, N. Ikhlef-Eschouf, F. Maffray. On vertex b -critical trees. *Opuscula Mathematica* 33 (2013) 19–28.
- L. Esperet, L. Lemoine, F. Maffray, G. Morel. The chromatic number of (P_5, K_4) -free graphs. *Discrete Mathematics* 313 (2013) 743–754.
- L. Esperet, J. van den Heuvel, F. Maffray, F. Sipma. Fire containment in planar graphs. *Journal of Graph Theory* 73 (2013) 267–279.
- F. Maffray, A. Silva. b -colouring the Cartesian product of trees and some other graphs. *Discrete Applied Mathematics* 161 (2013) 650–669.
- F. Maffray. Fast recognition of doubled graphs. *Theoretical Computer Science* 516 (2014) 96–100.
- L. Esperet, A. Gyárfás, F. Maffray. List-coloring claw-free graphs with small clique number. *Graphs and Combinatorics* 30 (2014) 365–375.
- N. Ikhlef Eschouf, M. Blidia, F. Maffray. On edge- b -critical graphs. *Discrete Applied Mathematics* 180 (2015) 176–180.
- S. Dantas, C.M.H. de Figueiredo, F. Maffray, R.B. Teixeira. The complexity of forbidden subgraph sandwich problems and the skew partition sandwich problem. *Discrete Applied Mathematics* 182 (2015) 15–24.
- A. Berry, A. Brandstädt, V. Giakoumakis, F. Maffray. Efficiently decomposing, recognizing and triangulating hole-free graphs without diamonds. *Discrete Applied Mathematics* 184 (2015) 50–61.
- J.-L. Fouquet, F. Maffray. Domination, coloring and stability in P_5 -reducible graphs. *Discrete Applied Mathematics* 184 (2015) 122–129.
- L. Esperet, L. Lemoine, F. Maffray. Equitable partition of graphs into induced forests. *Discrete Mathematics* 338 (2015) 1481–1483.
- F. Maffray. Graphs with no induced wheel and no induced antiwheel. *Applicable Analysis and Discrete Mathematics* 9 (2015) 357–366.

- F. Maffray. Even pairs in square-free Berge graphs. *Electronic Notes in Discrete Mathematics* 49 (2015) 173–180.
- T. Karthick, F. Maffray. Weighted independent sets in classes of P_6 -free graphs. *Discrete Applied Mathematics* 209 (2016) 217–226.
- T. Karthick, F. Maffray. Vizing bound for the chromatic number on some graph classes. *Graphs and Combinatorics* 32 (2016) 1447–1460.
- S. Gravier, F. Maffray, L. Pastor. On the choosability of claw-free perfect graphs. *Graphs and Combinatorics* 32 (2016) 2393–2413.
- T. Karthick, F. Maffray. Maximum weight independent sets in (S_{113}, bull) -free graphs. *Lecture Notes in Computer Science (COCOON 2016, T.N. Dinh and M.T. Thai Eds.)* 9797 (2016) 385–392.
- F. Maffray, L. Pastor. The maximum weight stable set problem in (P_6, bull) -free graphs. *Lecture Notes in Computer Science (WG 2016, P. Heggernes ed.)* 9941 (2016) 85–96.
- L. Esperet, L. Lemoine, F. Maffray. Long induced paths in graphs. *European Journal of Combinatorics* 62 (2017) 1–14.
- H.S. Dhaliwal, A.M. Hamel, C.T. Hong, F. Maffray, T.J.D. McConnell, S.A. Panait. On color-critical $(P_5, \text{co-}P_5)$ -free graphs. *Discrete Applied Mathematics* 216 (2017) 142–148.
- T. Karthick, F. Maffray. Maximum weight independent sets in classes related to claw-free graphs. *Discrete Applied Mathematics* 216 (2017) 233–239.
- M. Chudnovsky, L. Esperet, L. Lemoine, P. Maceli, F. Maffray, I. Penev. Graphs with no induced five-vertex path or antipath. *Journal of Graph Theory* 84 (2017) 221–232.
- L. Esperet, L. Lemoine, F. Maffray. Small feedback vertex sets in planar digraphs. *The Electronic Journal of Combinatorics* 24(2) (2017) P2.6.
- F. Maffray, L. Pastor. 4-coloring (P_6, bull) -free graphs. *Discrete Applied Mathematics* 231 (2017) 198–210.