

Guillaume Fertin - List of Publications

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Bioinformatics

- [1] S. ANGIBAUD, G. FERTIN, AND I. RUSU, *On the approximability of comparing genomes with duplicates*, in Proc. 2nd Workshop on Algorithms and Computation (WALCOM 2008), vol. 4921 of Lecture Notes in Computer Science, Springer-Verlag, 2008. 34–45.
- [2] S. ANGIBAUD, G. FERTIN, I. RUSU, A. THÉVENIN, AND S. VIALETTE, *A pseudo-boolean programming approach for computing the breakpoint distance between two genomes with duplicate genes*, in Proc. 5th RECOMB Comparative Genomics Satellite Workshop (RECOMB-CG 2007), vol. 4751 of Lecture Notes in Bioinformatics, Springer-Verlag, 2007. 16–29.
- [3] S. ANGIBAUD, G. FERTIN, I. RUSU, AND S. VIALETTE, *How pseudo-boolean programming can help genome rearrangement distance computation*, in Proc. 4th RECOMB Comparative Genomics Satellite Workshop (RECOMB-CG 2006), vol. 4205 of Lecture Notes in Bioinformatics, Springer-Verlag, 2006, pp. 75–86.
- [4] ———, *A general framework for computing rearrangement distances between genomes with duplicates*, Journal of Computational Biology, 14(4) (2007), pp. 379–393.
- [5] G. BLIN, C. CHAUVE, AND G. FERTIN, *The breakpoint distance for signed sequences*, in Proc. 1st International Conference on Algorithms and Computational Methods for Biochemical and Evolutionary Networks(CompBioNets 2004), vol. Text in Algorithms, Volume 3, King's College London, 2004, pp. 1–15.
- [6] ———, *Genes order and phylogenetic reconstruction: Application to γ -proteobacteria*, in Proc. 3rd RECOMB Comparative Genomics Satellite Workshop (RECOMB-CG'05), vol. 3678 of Lecture Notes in Bioinformatics, Springer-Verlag, 2005, pp. 11–20.
- [7] ———, *Ordre des gènes et reconstruction phylogénétique : application aux γ -protéobactéries*, in Proc. 6èmes Journées Ouvertes Biologie Informatique Mathématiques(JOBIM 2005), 2005.

- [8] G. BLIN, C. CHAUVE, G. FERTIN, R. RIZZI, AND S. VIALETTE, *Comparing genomes with duplications: a computational complexity point of view*, ACM/IEEE Trans. Computational Biology and Bioinformatics, (2007). To appear.
- [9] G. BLIN, G. FERTIN, D. HERMELIN, AND S. VIALETTE, *Fixed-parameter algorithms for protein similarity search under mRNA structure constraints*, in Proc. 31st International Workshop on Graph-Theoretic Concepts in Computer Science (WG '05), vol. 3787 of Lecture Notes in Computer Science, Springer-Verlag, 2005, pp. 271–282.
- [10] G. BLIN, G. FERTIN, G. HERRY, AND S. VIALETTE, *Comparing rna structures: Towards an intermediate model between the edit and the lpcs problems*, in Proc. Brazilian Symposium on Bioinformatics (BSB 2007), vol. 4643 of Lecture Notes in Bioinformatics, Springer-Verlag, 2007, pp. 101–112.
- [11] G. BLIN, G. FERTIN, R. RIZZI, AND S. VIALETTE, *Pattern matching in arc-annotated sequences: New results for the aps problem*, in Proc. 5èmes Journées Ouvertes Biologie Informatique Mathématiques(JOBIM 2004), 2004, p. 46.
- [12] ———, *What makes the APS problem hard ?*, LNCS Transactions on Computational Systems Biology, 2 (2005), pp. 1–36.
- [13] ———, *What makes the arc-preserving subsequence problem hard ?*, in Proc. 2005 International Workshop on Bioinformatics Research and Applications (IWBRA '05), vol. 3515 of Lecture Notes in Computer Science, Springer-Verlag, 2005, pp. 860–868.
- [14] G. BLIN, G. FERTIN, I. RUSU, AND C. SINOQUET, *Extending the hardness of rna secondary structure comparison*, in Proc. 1st International Symposium on Combinatorics, Algorithms, Probabilistic and Experimental Methodologies (ESCAPE 2007), vol. 4614 of Lecture Notes in Computer Science, Springer-Verlag, 2007, pp. 140–151.
- [15] G. BLIN, G. FERTIN, AND S. VIALETTE, *A polynomial algorithm for the 2-interval pattern problem*, in Poster session of the 3rd Workshop on Algorithms in Bioinformatics (WABI 2003), 2003.
- [16] ———, *New results for the 2-interval problem*, in Proc. Fifteenth Annual Combinatorial Pattern Matching Symposium (CPM 2004), vol. 3109 of Lecture Notes in Computer Science, Springer-Verlag, 2004, pp. 311–322.
- [17] ———, *Extracting constrained 2-interval subsets in 2-interval sets*, Theoretical Computer Science, 385(1-3) (2007), pp. 241–263.
- [18] P. BONIZZONI, G. DELLA VEDOVA, R. DONDI, G. FERTIN, AND S. VIALETTE, *Exemplar longest common subsequence*, in Proc. 2006 International Workshop on Bioinformatics Research and Applications (IWBRA

- '06), vol. 3992 Lecture Notes in Computer Science, Springer-Verlag, 2006, pp. 622–629.
- [19] ———, *Exemplar longest common subsequence*, ACM/IEEE Trans. Computational Biology and Bioinformatics, (2007). To appear.
- [20] C. CHAUVE AND G. FERTIN, *On maximal instances for the original syntenic distance*, in Proc. 2nd European Conference on Computational Biology (ECCB 2003) - Short Papers and Posters, INRIA, 2003, pp. 285–286.
- [21] ———, *On maximal instances for the original syntenic distance*, Theoretical Computer Science, 326 (2004), pp. 29–43.
- [22] C. CHAUVE, G. FERTIN, R. RIZZI, AND S. VIALETTE, *Genomes containing duplicates are hard to compare*, in Proc. 2006 International Workshop on Bioinformatics Research and Applications (IWBRA '06), vol. 3992 of Lecture Notes in Computer Science, Springer-Verlag, 2006, pp. 783–790.
- [23] R. DONDI, G. FERTIN, AND S. VIALETTE, *Weak pattern matching in colored graphs: Minimizing the number of connected components*, in Proc. 10th Italian Conference on Theoretical Computer Science (ICTCS 2007), vol. Lecture Notes in Computer Science, Springer-Verlag, 2007. To appear.
- [24] M. FELLOWS, G. FERTIN, D. HERMELIN, AND S. VIALETTE, *Sharp tractability borderlines for finding connected motifs in vertex-colored graphs*, in Proc. 34th International Colloquium on Automata, Languages and Programming (ICALP 2007), vol. 4596 Lecture Notes in Computer Science, Springer-Verlag, 2007, pp. 340–351.
- [25] G. FERTIN, D. HERMELIN, R. RIZZI, AND S. VIALETTE, *Common structured patterns in linear graphs: Approximations and combinatorics*, in Proc. 18th Annual Symposium on Combinatorial Pattern Matching (CPM 2007), vol. 4580 of Lecture Notes in Computer Science, Springer-Verlag, 2007, pp. 241–252.
- [26] G. FERTIN, R. RIZZI, AND S. VIALETTE, *Finding exact and maximum occurrences of protein complexes in protein-protein interaction graphs*, in Proc. 30th International Symposium on Mathematical Foundations of Computer Science (MFCS'05), vol. 3618 of Lecture Notes in Computer Science, Springer-Verlag, 2005, pp. 328–339.

Graph Coloring

- [27] N. ALON, G. FERTIN, A. LIESTMAN, T. SHERMER, AND L. STACHO, *Factor d -domatic colorings of graphs*, Discrete Mathematics, 262(1-3) (2003), pp. 17–25.

- [28] T. CALAMONERI, S. CAMINITI, AND G. FERTIN, *New bounds for the $L(h, k)$ number of regular grids*, International Journal of Mobile Network Design and Innovation, 1(2) (2006), pp. 92–101.
- [29] G. FERTIN, E. GODARD, AND A. RASPAUD, *Minimum feedback vertex set and acyclic coloring*, Information Processing Letters, 84(3) (2002), pp. 131–139.
- [30] ———, *Acyclic and k -distance coloring of the grid*, Information Processing Letters, 87(1) (2003), pp. 51–58.
- [31] G. FERTIN AND A. RASPAUD, *$L(p, q)$ labeling of d -dimensional grids*, in Proc. 2nd Euroconference on Combinatorics, Graph Theory and Applications (EUROCOMB'03), 2003.
- [32] ———, *Acyclic coloring of graphs with maximum degree Δ* , in Proc. 3rd Euroconference on Combinatorics, Graph Theory and Applications (EUROCOMB'05), Discrete Mathematics and Theoretical Computer Science, DMTCS Conference Volume AE, 2005, pp. 389–396.
- [33] ———, *Acyclic coloring of graphs of maximum degree five: Nine colors are enough*, Information Processing Letters, 105 (2007), pp. 65–72.
- [34] ———, *$L(p, q)$ labeling of d -dimensional grids*, Discrete Mathematics, 307(16) (2007), pp. 2132–2140.
- [35] G. FERTIN, A. RASPAUD, AND B. REED, *On star coloring of graphs*, in 27th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2001), vol. 2204 of Lecture Notes in Computer Science, Springer-Verlag, 2001, pp. 140–153.
- [36] ———, *Star coloring of graphs*, Journal of Graph Theory, 47(3) (2004), pp. 163–182.
- [37] G. FERTIN, A. RASPAUD, AND A. ROYCHOWDHURY, *On the oriented chromatic number of grids*, Information Processing Letters, 85(5) (2003), pp. 261–266.
- [38] G. FERTIN, A. RASPAUD, AND O. SÝKORA, *No-hole $L(p, 0)$ labelings*, in 6èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel '04), INRIA, 2004, pp. 33–38.
- [39] ———, *No-hole $L(p, 0)$ labelling of grids, tori and hypercubes*, in Proc. 11th International Colloquium on Structural Information and Communication Complexity (SIROCCO '04), vol. 3104 of Lecture Notes in Computer Science, Springer-Verlag, 2004, pp. 138–148.

Interconnection Networks

- [40] G. FERTIN, *Compromis pour l'échange total impair*, in 1ères Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel '99), INRIA, 1999, pp. 47–52.
- [41] ———, *Trade-offs for odd gossiping*, in 6th International Colloquium on Structural Information and Communication Complexity (SIROCCO '99), vol. 6 of Proceedings in Informatics, Carleton Scientific, 1999, pp. 137–151.
- [42] ———, *Trade-offs for odd gossiping*, Research Report RR-1216-99, LaBRI, Université Bordeaux 1, 1999.
- [43] ———, *Hierarchical broadcast and gossip networks*, Information Processing Letters, 73(3-4) (2000), pp. 131–136.
- [44] ———, *On the structure of minimum broadcast digraphs*, Theoretical Computer Science, 245(2) (2000), pp. 203–216.
- [45] ———, *A study of minimum gossip graphs*, Discrete Mathematics, 215(1-3) (2000), pp. 33–57.
- [46] G. FERTIN, E. GODARD, AND A. RASPAUD, *Conversion de longueur d'onde dans les réseaux optiques - facteur d'optimalité $\frac{5}{3}$* , in 4èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications (AlgoTel '02), INRIA, 2002, pp. 33–39.
- [47] G. FERTIN AND R. LABAHN, *Compounding of gossip graphs*, Networks, 36(2) (2000), pp. 126–137.
- [48] G. FERTIN, A. LIESTMAN, T. SHERMER, AND L. STACHO, *Edge-disjoint spanners in cartesian products of graphs*, Discrete Mathematics, 167(2-3) (2005), pp. 167–186.
- [49] G. FERTIN AND J. PETERS, *Odd gossiping in the linear cost model*, in Workshop on Communication - 23rd Int. Symp. on Mathematical Foundations of Computer Science (MFCS '98), 1998.
- [50] ———, *Optimal odd gossiping*, Research Report CMPT TR 1998-24, Simon Fraser University, Burnaby, B.C., 1998.
- [51] G. FERTIN AND A. RASPAUD, *Families of graphs having broadcasting and gossiping properties*, in 24th International Workshop on Graph-Theoretic Concepts in Computer Science (WG '98), vol. 1517 of Lecture Notes in Computer Science, Springer-Verlag, 1998, pp. 63–77.
- [52] ———, *Minimum gossip digraphs*, Research Report RR-1223-99, LaBRI, Université Bordeaux 1, 1999.
- [53] ———, *Gossiping in directed graphs*, in 9th International Conference on Fibonacci Numbers and their Applications, 2000.

- [54] ———, *k-neighborhood broadcasting*, in 8th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2001), vol. 11 of Proceedings in Informatics, Carleton Scientific, 2001, pp. 133–146.
- [55] ———, *Neighborhood communications in networks*, in Proc. Euroconference on Combinatorics, Graph Theory and Applications (COMB'01), Electronic Notes on Discrete Mathematics, 2001.
- [56] ———, *A survey on Knödel graphs*, Discrete Applied Mathematics, 137(2) (2003), pp. 173–195.
- [57] G. FERTIN, A. RASPAUD, O. SÝKORA, H. SCHRÖDER, AND I. VRŤO, *Diameter of Knödel graph*, in 26th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2000), vol. 1928 of Lecture Notes in Computer Science, Springer-Verlag, 2000, pp. 149–160.

Miscellaneous

- [58] O. BAUDON, G. FERTIN, AND I. HAVEL, *Routing permutations in the hypercube*, in 25th International Workshop on Graph-Theoretic Concepts in Computer Science (WG '99), vol. 1665 of Lecture Notes in Computer Science, Springer-Verlag, 1999, pp. 179–190.
- [59] ———, *Routing permutations and 2-1 routing requests in the hypercube*, Discrete Applied Mathematics, 113(1) (2001), pp. 43–58.
- [60] F. COMELLAS, G. FERTIN, AND A. RASPAUD, *Vertex labeling and routing in recursive clique-trees, a new family of small-world scale-free graphs*, in Proc. 10th International Colloquium on Structural Information and Communication Complexity (SIROCCO '03), vol. 17 of Proceedings in Informatics, Carleton Scientific, 2003, pp. 73–87.
- [61] ———, *Recursive graphs with small-world scale-free properties*, Physical Review E, Brief Notes, 69-037104 (2004).
- [62] G. FERTIN AND A. RASPAUD, *Recognizing recursive circulant graphs*, in 6th International Conference on Graph Theory (ICGT 2000), vol. 5 of Electronic Notes on Discrete Mathematics, 2000.
- [63] ———, *Recognizing recursive circulant graphs $G(cd^m, d)$* , Research Report RR-1235-00, LaBRI, Université Bordeaux 1, 2000.
- [64] Z. ZHANG, F. COMELLAS, G. FERTIN, A. RASPAUD, AND L. RONG, *Vertex labeling and routing in expanded apollonian networks*, Journal of Physics A: Mathematical and Theoretical, 41(3)-035004 (2008).
- [65] Z. ZHANG, F. COMELLAS, G. FERTIN, AND L. RONG, *High dimensional apollonian networks*, Journal of Physics A: Mathematical and General, 39 (2006), pp. 1811–1818.

Academic Works (in French)

- [66] G. FERTIN, *Etude des graphes minimaux pour l'échange total*, Master's thesis, DEA Informatique, Université Bordeaux 1, 1995.
- [67] ———, *Étude des Communications dans les Réseaux d'Interconnexion*, PhD thesis, LaBRI, Université Bordeaux 1, 1999.
- [68] ———, *Algorithmique et optimisation combinatoire: Applications aux réseaux d'interconnexion, à la coloration de graphes et à la bio-informatique*. Habilitation à Diriger des Recherches, 2004.