

Mario Valencia-Pabon

Curriculum Vitae

Personal data

Date and place of birth: February 15th 1969, Cúcuta (Colombia)
Citizenships: Colombian and Italian
Professional address: Laboratoire d'informatique de l'université Paris-Nord
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93430, Villetaneuse, France.
Current position: Associate Professor (Maître de conférences) in Computer Science
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Degrees

- **Habilitation** in Computer Science, 2009, Paris-Nord University, France.
- **PhD** in Computer Science, 2000, Paris-Sud University, France.

Professional activity

- 2006 - *Associate Professor* at the Computer Science Department of Paris-Nord University, France.
- 2005/2006 *Teaching Assistant* at the Applied Mathematics Department of the University of Padova, Italy.
- 2001/2004 *Assistant Professor* at the Mathematics Department of the University of Los Andes, Colombia.

Participation in Research Projects

- “*On combinatorics and invariants of topological graphs and its generalizations*”. PEPS project funded by CNRS (France), 2011-2013.
- “*Study of some variations of the graph coloring problem: theoretical and practical issues*”. MATH-AmSud project funded by CNRS (France), MinCyT (Argentina) and CAPES (Brazil), 2010-2012.
- “*Coloring graphs with constraints*”. Argentinean ANPCyT grant, 2009-2011.
- “*Study of some variations of the graph coloring problem: the b-coloring problem*”. Paris-Nord University, BQR-grant, 2008-2009
- “*Algorithmic, algebraic and combinatorial problems in graph theory and set theory*”. French-Colombian ECOS-Nord project, 2004-2005.
- “*On some optimization problems in graphs*”. Colombian-French project funded by the Faculty of Sciences of the University of Los Andes, Colombia, 2003-2004.

- “Algorithmic aspects of the coloring graph problem and applications”. Colombian-French project funded by the Colombian OCyT and COLCIENCIAS under grant no. 0006-2001, 2001-2003.

Publications

In journals

- [J1] **Minimum sum set coloring of trees and line graphs of trees** (with F. Bonomo, G. Duran et J. Marengo). *Discrete Applied Mathematics*, Vol. 159, No. 5, pp. 288-294, 2011.
- [J2] **Some problems on idomatic partitions and b-colorings of direct products of complete graphs**. *Matemática Contemporânea*, special issue of the 4th Latin-American Workshop on Cliques in Graphs (invited talk), Vol. 39, pp. 93-100, 2010.
- [J3] **Idomatic partitions of direct products of complete graphs**. *Discrete Mathematics*, Vol. 310, No. 5, pp. 1118-1122, 2010.
- [J4] **Minimum Sum Edge Colorings of Multicycles** (with J. Cardinal et V. Ravelomanana). *Discrete Applied Mathematics*, Vol. 158, No. 12, pp. 1216-1223, 2010.
- [J5] **On the b-coloring of cographs and P_4 -sparse graphs** (with F. Bonomo, G. Duran, F. Maffray et J. Marengo). *Graphs and Combinatorics*, Vol. 25, No. 2, pp. 153-167, 2009.
- [J6] **A distributed approximation algorithm for the minimum degree minimum weight spanning trees** (with C. Lavault). *Journal of Parallel and Distributed Computing*, 68(2):200-208, 2008.
- [J7] **Independence and coloring properties of direct products of some vertex-transitive graphs** (with J. Vera). *Discrete Mathematics*, Vol. 306, No. 18, pp. 2275-2281, 2006.
- [J8] **On the diameter of Kneser graphs** (with J. Vera). *Discrete Mathematics*, Volume 305, Number 1-3, pp. 383-385, 2005.
- [J9] **On approximating the b-chromatic number** (with S. Corteel et J. Vera). *Discrete Applied Mathematics*, Volume 146, Number 1, pp. 618-622, 2005.
- [J10] **Revisiting Tucker’s Algorithm to Color Circular Arc Graphs**. *SIAM Journal on Computing*, Volume 32, Number 4, pp. 1067-1072, 2003.
- [J11] **The permutation-path coloring problem on trees** (with S. Corteel, D. Gardy, D. Barth et A. Denise). *Theoretical Computer Science* 297 (2003) 119-143.

Submitted to journals

- [S1] **Sum coloring of P_4 -sparse graphs** (with F. Bonomo). 2011.

In conferences

- [C1] **On lower bounds for the b-chromatic number of connected bipartite graphs** (with M. Kouider). In Proc. of *Lagos'11* symposium, *Electronic Notes in Discrete Mathematics (Elsevier)*, 37 :399-404, 2011.
- [C2] **Sum coloring of P_4 -sparse graphs** (with F. Bonomo). In Proc. of *LAGOS'09* symposium, *Electronic Notes in Discrete Mathematics (Elsevier)*, 35:293-298, 2009.
- [C3] **Sum set coloring of some block graphs** (with F. Bonomo, G. Duran et J. Marenco). In Proc. of *Cologne-Twente Workshop on Graphs and Combinatorial Optimization*, pp. 195-198, 2009. (Court résumé de [J1]).
- [C4] **Chromatic Edge Strength of Some Multigraphs** (with J. Cardinal et V. Ravelomanana). In Proc. of *LAGOS'07* symposium, *Electronic Notes in Discrete Mathematics (Elsevier)*, 30:39-44, 2008. (Court résumé de [J2]).
- [C5] **Revisiting Tucker's Algorithm to Color Circular Arc Graphs**. In proc. of *GRACO'01* symposium, *Electronic Notes in Discrete Mathematics (Elsevier)*, 7:198-201, 2001. (Court résumé de [J8]).
- [C6] **On the complexity of routing permutations on trees by arc-disjoint paths** (with S. Corteel, D. Gardy, D. Barth et A. Denise). In Proc. of *LATIN'00 Conference, LNCS (Springer-Verlag)*, 1776:198-201, 2000. (Court résumé de [J9]).
- [C7] **Message Scheduling on Trees under a Generalised Line-Communication Model** (with D. Barth). In Proc. of the 4th International Symposium on Parallel Architectures, Algorithms and Networks, I-SPAN'99, pp. 10-15, IEEE CS Press, 1999.
- [C8] **Some results on an extension of the line communication model** (with D. Barth). In Proc. of *ALGOTEL'99*, pp. 23-27, 1999.
- [C9] **Emulation dynamique de réseaux d'interconnexion**. In Proc. of *RENPAR'97*, pp. 135-138, 1997.

Advisees

- Ivo Koch. “*On some variants of the graph coloring problem*”. Ph.D. in Computer Science, University of Buenos Aires, Argentina, co-directed by F. Bonomo. In progress.
- Atefeh Mohajeri. “*Minimum Sum Edge Colorings of Multigraphs*”. MSc. in Computer Science, Ecole Polytechnique de Palaiseau, France, April-September 2008.
- Camilo Garcia. “*Chromatic polynomial of some subgraphs of Kneser graph*”. BSc. In Mathematics, University of Los Andes, Colombia, December 2004.
- Martin Jiménez. “*Hedetniemi Conjecture on direct product graph coloring*”. BSc. In Mathematics, University of Los Andes, Colombia, September 2003.

Invited talks

- 29 April 2011, Graphs and algorithms seminar, LRI, Université Paris-Sud, France. “*Recent results on sum-coloring and b-coloring of graphs*”.
- 16 November 2010, Latin American Workshop on Cliques in Graphs, LAWClques’10, Itaipava, Rio de Janeiro, Brazil. “*Partitions of direct products of complete graphs into independent dominating sets*”. (**Invited speaker**).
- 10 November 2010, Graphs and algorithms seminar, Universidade Federal do Rio de Janeiro (UFRJ), Brazil. “*On sum colorings of graphs and related topics*”.
- 18 June 2010, Computer Science seminar, Universidad de Buenos Aires (UBA), Argentina. “*Lokshtanov-Nederlof’s exact pseudo-polynomial time algorithm for the knapsack problem in polynomial space*”.
- 26 October 2009, Optimisation seminar, LAMSADE, Université Paris Dauphine, France. “*On minimum sum set coloring of some subclasses of block graphs*”.
- 26 June 2009, Graph theory day in honour to Charles Delorme, LRI, Université Paris-Sud, France. “*Independence, Chromatic and Idomatic numbers of direct products of some vertex-transitive graphs*”.
- 23 June 2009, Combinatorics seminar, LIPN, Université Paris-Nord, France. “*Graph Homomorphisms : applications and problems*”.
- 8 June 2009, b-coloring projet day, Université Paris-Nord, France. “*Idomatic partitions of graphs*”.
- 6 December 2007, Mathematics seminar, University of Buenos Aires, Argentina. “*Chromatic number of the direct product of graphs*”.
- 1 October 2007, Algorithms seminar, University of Brussels, Belgium. “*Colorful colorings of graphs*”.
- 8 November 2005, Discrete Mathematics seminar of Politecnico Di Milano, Italy. “*Independence and coloring properties of the direct product of powers of cycles*”.
- 8 September 2005, Discrete Mathematics seminar, University of Chile, Chile. “*Hardness of approximating the b-chromatic number of a graph*”.

Other professional activities

- Referee for international journals and conferences:
Discrete Mathematics, Discrete Applied Mathematics, Discrete Mathematics & Theoretical Computer Science, Journal of Computational and Applied Mathematics, Discussiones Mathematicae Graph Theory, Journal of Combinatorial Optimization, STACS’07, LAGOS’07, STACS’08, SODA’09, ANALCO’09, LAGOS’09, LAGOS’11.
- Member of the Program Committee of Latin-American Graphs and Optimization Symposium, LAGOS’07, Chile, November 2007. Member of the Program Committee and Organizing Committee of Latin-American Graphs and Optimization Symposium, LAGOS’11, Argentina, Mars 2011.

Languages

Spanish, French, Italian and English.