

CURRICULUM VITAE

January 2012

A. Biographical Information

1. Personal

Name : A. Ridha Mahjoub

Date of Birth : May 25, 1956

Marital Status : Married

University address : LAMSADE, Université Paris-Dauphine
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Present Position : Distinguished Professor (Professeur Classe Exceptionnelle),
Dept. of Mathematics and Computer Science, Université Paris-Dauphine, Paris, France.

2. Degrees Held

- 1) Bac, Bsc, Université de Tunis, Tunisia 1974-78.
- 2) D.E.A. (Master-degree), Operations Research, Université Scientifique et Médicale de Grenoble, 1978-79
- 3) Doctorat 3ème cycle (Ph.D. Thesis), Operations Research, Université Scientifique et Médicale de Grenoble, Institut IMAG, 1979-1981.

Thesis title:

- I - Amélioration de l'écoulement du trafic par restriction de capacités
[Improvement of traffic flow by restriction of capacities]
- II - Polytope des absorbants dans une classe de graphes à seuil
[The dominating set polytope in a class of threshold graphs].

Supervisor: Professor Michel Sakarovitch

- 4) Doctorat d'Etat (Habilitation thesis): Combinatorial Optimization and Operations Research, Université Scientifique et Médicale de Grenoble, Institut IMAG, 1981-1985

Thesis title:

Etude de structures combinatoires issues de la physique statistique et d'autres domaines

[Study of combinatorial structures related to statistical physics and other domains].

Supervisor : Professor Jean Fonlupt

B. Positions Held

- Doctoral Fellow, Université de Grenoble, Institut IMAG, 1979-84
 - Assistant Professor, Université de Grenoble, 1984-85
 - Postdoctoral Fellow:
 - * Department of Combinatorics and Optimization, University of Waterloo, Canada, October 1985 - February 1986
 - * Department of Computer Sciences, University of Toronto, March 1986 - July 1986
 - Professor, Department of Statistics and Operations Research, King Saud University, Riyadh, Saudi Arabia 1986-91
 - Professor, Department of Computer Sciences, Université de Bretagne Occidentale, Brest, France, 1991-98.
 - Professor, Laboratoire LIMOS, Université Blaise Pascal, Clermont-Ferrand, France, 1998-2007.
 - Professor, Laboratoire LAMSADE, Université Paris-Dauphine, Paris, France, since september 2007.
- Full Professor (Professeur 1ère Classe), October 2000
Distinguished Professor (Professeur Classe Exceptionnelle), September 2011.

C. Academic History

1. Administrative Experience

- Director of Statistics and Operations Research Department, King Saud University, Saudi Arabia, December 1988 - November 1990.
- Chair of the Operation Research Program, King Saud University, Saudi Arabia, 1986 - 1991.
- Director of Computer Science Department, Université de Brest, October 1996-June 1998.
- Chair of the Computer Science program in the Licence degree (3rd year level),

Université de Brest, October 1992-June 1998.

- Président of the computer science recruitment committee, Université de Brest September 1993 - January 1998.
- Funder and Chair of Laboratory "Systèmes de Production et Optimisation", Université de Brest, 1993-1998.
- Member of the Computer Science Department Council, Université de Brest 1993-1998.
- Chair of the Computer Science program of the Licence degree, Université de Clermont, October 1999-June 2007.
- Chair of the Master degree "Systèmes d'Information et Aide à la Décision", Université de Clermont, June 2000-September 2002.
- Member of the Math and Computer Science department council, Université de Clermont, december 2000- december 2002.
- Vice-President of the computer science recruitment committee, Université de Clermont, April 2001-May 2004.
- President of the computer science recruitment committee, Université de Clermont, September 2001-september 2002 and April 2004-April 2007.
- Chair of the project "Optimisation Combinatoire" of Laboratory LIMOS, Université de Clermont, 2004-2007.
- Chair of the groupe « Equipe Polyèdres et Optimisation Combinatoire (EPOC) of LIMOS, Université de Clermont, 2000-2007.
- Member of the laboratory council (LIMOS), Université de Clermont, 1998-2007.
- Co-Director (Vice-Dean) of the Math and Computer Science Department, (MIDO), Université Paris-Dauphine, since September 2008.
- President of the Information System Council (COSI) of Université Paris-Dauphine, Since April 2009.
- Chair of the groupe « Optimisation Combinatoire, Algorithmique et Données » of LAMSADE, University Paris-Dauphine, since October 2008.
- Chair of the MIAGE Program (Computer Science Methods for Management), Université Paris-Dauphine, since september 2008.
- Member of the EQUIS groupe, Université Paris-Dauphine, in charge of the programs.

2. Research

2.1. Research interests:

Applications and Theory of Graphs, Combinatorial Optimization and Polyhedral Theory, Network Design, Mathematical Programming, Complexity Theory.

2.2. Refereed Publications:

(The alphabetical order is considered in all the publications)

Articles accepted or published in journals

1. A.R. Mahjoub, "Polytope des absorbants dans une classe de graphes à seuil", *Annals of Discrete Mathematics*, 17 (1983) pp. 443-452.
2. F. Barahona, M. Grötschel and A.R. Mahjoub, "Facets of the bipartite subgraph polytope", *Mathematics of Operations Research* 10 (1985) pp. 340-358.
3. M. Conforti, D.G. Corneil and A.R. Mahjoub, " K_i -covers I : complexity and polytopes", *Discrete Mathematics* 58, 2 (1986) pp. 121-142.
4. F. Barahona and A.R. Mahjoub, "On the cut polytope", *Mathematical Programming* 36 (1986) pp. 157-173.
5. M. Conforti, D.G. Corneil and A.R. Mahjoub, " K_i -covers II : K_i -perfect graphs", *Journal of Graph Theory* Vol 11, N° 4 (1987), pp. 569-584.
6. A.R. Mahjoub, "On the stable set polytope of a series-parallel graph" *Mathematical Programming* 40 (1988) pp. 53-57.
7. F. Barahona and A.R. Mahjoub, "Facets of the balanced (acyclic) induced subgraph polytope", *Mathematical Programming* 45 (1989) pp. 21-34.
8. J.I. Brown, D.G. Corneil and A.R. Mahjoub, "A note on K_i -perfect graphs", *Journal of graph theory* Vol 14, N° 3 (1988), pp. 333-340.
9. R. Euler and A.R. Mahjoub, "Balanced matrices and the set covering problem", *Arabian Journal for Science and Engineering*, Vol 16, N° 2B (1991), pp. 269-282.
10. R. Euler and A.R. Mahjoub, "On a composition of independence systems by circuits-identification", *Journal of Combinatorial Theory* Série B, Vol 53, N° 2 (1991), pp. 235-259.
11. J. Fonlupt, A.R. Mahjoub and J.P. Uhry, "Composition in the bipartite subgraph polytope" *Discrete Mathematics* 105 (1992), pp. 73-91.
12. A.R. Mahjoub, "Two edge connected spanning subgraphs and polyhedra", *Mathematical Programming* 64 (1994), pp. 199-208.

13. F. Barahona and A.R. Mahjoub, "Composition of graphs and polyhedra I : Balanced induced subgraphs and acyclic subgraphs", *SIAM Journal on Discrete Mathematics* Vol 7, N° 3 (1994) pp. 344-358.
14. F. Barahona and A.R. Mahjoub, "Composition of graphs and polyhedra II : Stable Sets", *SIAM Journal on Discrete Mathematics* Vol 7, N° 3 (1994), pp. 359-371.
15. F. Barahona and A.R. Mahjoub , "Composition of graphs and polyhedra III : Graphs with no W_4 minor", *SIAM Journal on Discrete Mathematics* Vol 7, N°3 (1994), pp. 372-389.
16. F. Barahona, J. Fonlupt and A.R. Mahjoub, "Composition of graphs and polyhedra IV : Acyclic spanning subgraphs", *SIAM Journal on Discrete Mathematics* Vol 7, N° 3 (1994), pp. 390-402.
17. F. Barahona and A.R. Mahjoub, "On two connected subgraph polytopes", *Discrete Mathematics* 147 (1995), pp. 19-34.
18. A. R. Mahjoub, "A min-max relation for K_3 -covers in graphs non contractible to $K_5 \setminus e$ ", *Discrete Applied Mathematics* 62 (1995), pp. 209-219.
19. M. Didi Biha and A.R. Mahjoub, "k-Edge connected subgraph polyhedra on series-parallel graphs", *Operations Research Letters* 19 (1996), pp. 71-78.
20. A.R. Mahjoub, "On perfectly two-edge connected graphs", *Discrete Mathematics* 170 (1997), pp. 153-172.
21. M. Baïou and A.R. Mahjoub, "Steiner 2-edge connected subgraph polytopes on series-parallel graphs", *SIAM Journal on Discrete Mathematics* Vol 10, No. 3, (1997), pp. 505-514.
22. M. Bouchakour and A.R. Mahjoub, "One-node cutsets and the dominating set polytope", *Discrete Mathematics* 165/166 (1997), pp. 101-123.
23. A.R. Mahjoub and C. Nocq, "On the linear relaxation of the 2-node connected subgraph polytope", *Discrete Applied Mathematics* 95 (1999) pp. 389-416.
24. M. Didi Biha and A.R. Mahjoub, "Steiner k-edge connected subgraph polyhedra", *Journal of Combinatorial Optimization* Vol 4, N° 1 (2000) pp. 131-144.
25. M. Baïou, F. Barahona and A.R. Mahjoub, "Separating Partition Inequalities", *Mathematics of Operations Research*. Vol. 25, N° 2 (2000) pp. 243-254.
26. M. Didi Biha, H. Kerivin and A.R. Mahjoub, "Steiner Trees and Polyhedra" *Discrete Applied Mathematics* 112 (2001) pp. 101-120.
27. F. Bendali, J. Mailfert and A.R. Mahjoub, "Compositions of graphs and the

- triangle free subgraph polytope", *Journal of Combinatorial Optimization* 6 (2002) pp. 359-381.
28. M. Baïou and A.R. Mahjoub, "The Steiner Traveling Salesman Problem and Related Polyhedra", *SIAM Journal on Optimization* 13 (2002) pp. 498-507.
 29. H. Kerivin and A.R. Mahjoub, "Separation of partition inequalities for the (1,2)-survivable network design problem", *Operations Research Letters* 30 (2002) pp. 265-268.
 30. H. Kerivin, A.R. Mahjoub and C. Nocq "(1,2)-Survivable Networks: Facets and Branch&Cut", *The Sharpest-Cut*, M. Grötschel (Editor), *MPS/SIAM Optimization*, (2004) pp. 121-152.
(Les articles dans ce livre ont été évalués suivant les normes du journal *Mathematical Programming*.)
 31. M. Didi Biha and A. R. Mahjoub, "The k-edge subgraph problem I: Critical extreme points", *Linear Algebra and its Applications* 381 (2004) pp. 117-139.
 32. D. Huygens, A.R. Mahjoub and P. Pesneau, "Two edge hop-constrained paths and polyhedra", *SIAM journal on Discrete Mathematics* 18 (2) (2004) pp. 287-312.
 33. H. Kerivin and A.R. Mahjoub, "On Survivable Network Polyhedra", *Discrete Mathematics* 290 (2005) pp. 183-210.
 34. H. Kerivin and A. R. Mahjoub, "Design of Survivable Networks: A survey", *Networks*, 46 (2005) pp. 1-21.
 35. B. Fortz, T. McCormick, A. R. Mahjoub and P. Pesneau, "The 2-edge connected subgraph problem with bounded rings problem: Polyhedral results and Branch-and-Cut", *Mathematical Programming*, 105, 1 (2006), pp 85-111.
 36. J. Fonlupt and A.R. Mahjoub, "Critical extreme points of the 2-edge connected subgraph polytope", *Mathematical Programming*, 105 (2006) pp. 289-310.
 37. A. R. Mahjoub and J. Mailfert, "On the independent dominating set polytope", *European Journal of Combinatorics*, 27, 4 (2006), pp. 601-616.
 38. P. Fouilhoux and A. R. Mahjoub, "Polyhedral results for the bipartite induced subgraph problem", *Discrete Applied Mathematics* 154 (15) (2006) pp. 2128-2149.
 39. S. Borne, E. Gourdin, B. Liau and A. R. Mahjoub, "Design of Survivable IP-over-Optical Networks", *Annals of Operations Research* 146 (1) (2006), pp. 41-73.
 40. G. Dahl, D. Huygens, A. R. Mahjoub and P. Pesneau, "On the k edge-disjoint 2-hop-constrained paths polytope", *Operations Research Letters* 34 (2006), pp. 577-582.
 41. D. Huygens, M. Labbé, A. R. Mahjoub and P. Pesneau, "The Two-Edge Connected Hop-Constrained Network design Problem : Valid Inequalities and Branch-and-Cut", *Networks* 49 (1) (2007) pp. 116-133.

42. D. Huygens and A. R. Mahjoub, "Integer programming formulations for two 4-hop-constrained paths problem", *Networks* 49 (2) (2007), pp. 135-144.
43. D. Cornaz and A. R. Mahjoub, "The maximum induced bipartite subgraph problem with edge weights", *SIAM Journal on Discrete Mathematics* 21 (3) (2007), pp. 662-675.
44. M. Bouchakour, T. Contenza, C.W. Lee and A.R. Mahjoub, "On the dominating set polytope", *European Journal of Combinatorics* 29 (2008), pp. 652-661.
45. H. Kerivin, M. Lacroix, A. R. Mahjoub, A. Quilliot, "The splittable pickup and delivery problem with reloads", *European Journal of Industrial Engineering*, Vol 2, N°2 (2008) pp.112-133.
46. A.R. Mahjoub and P. Pesneau "On the Steiner 2-edge connected subgraph polytope", *RAIRO-OR* 42 (2008) pp. 259-283.
47. M. Didi Biha, H. Kerivin and A. R. Mahjoub, "On the (1,2)-Survivable Network Design Polytope", *SIAM Journal on Discrete Mathematics*. Vol 22 (4) (2008) pp. 1640- 1666.
48. Imed Kacem and A. R. Mahjoub, "Fully polynomial time approximation scheme for the weighted flow time minimization on a single machine with a fixed non-availability interval", *Computers and Industrial Engineering*. Vol 56 (4) (2009), 1708-1712.
49. P. Fouilhoux, M. Labbé, A. R. Mahjoub, H. Yaman, "Generating procedures and non-rank facets for the independence system polytope", *SIAM Journal on Discrete Mathematics* Vol 23 (3) (2009) pp. 1484-1506
50. F. Bendali, I. Diarrassouba, M. Didi Biha, A. R. Mahjoub, J. Mailfert, "A Branch-and-Cut algorithm for the k-edge connected subgraph problem ", *Networks* Vol 55 (1) (2010) pp. 13-32.
51. P. Fouilhoux and A. R. Mahjoub, "Bipartization of graphs, VLSI design and DNA sequencing", to appear in *Computational Optimization and Applications*.
52. A. R. Mahjoub and S. T. McCormick, "Max Flow and Min Cut with Bounded-Length Paths: Complexity, Algorithms and Approximation", *Mathematical Programming* Vol 124, N°1-2 (2010) pp. 271-284.
53. F. Bendali, I. Diarrassouba, A. R. Mahjoub, J. Mailfert, "On the k-edge hop-constrained paths polytope", *Discrete Optimization*, Vol 7, N° 4 (2010) pp. 222-233.
54. M. Lacroix, A. R. Mahjoub and S. Martin, "Structural Analysis in Differential-Algebraic Systems and Combinatorial Optimization", to appear in *Computers and Industrial Engineering*, Vol 61, N° 2 (2011) pp. 422-429.
55. P. Fouilhoux, O. Ekin Karasan, R. Mahjoub, O. Özkök, H. Yaman, "Survivability in Hierarchical Telecommunication Networks", *Networks*.Vol 59, N°1 (2012) pp. 37-58.

56. H. L. M. Kerivin, M. Lacroix, A. R. Mahjoub, "Models for the single-vehicle preemptive pickup and delivery problem", *Journal of Combinatorial Optimization*, Vol 23, N°2 (2012) pp. 196-223.
57. M. Lacroix, A. R. Mahjoub, S. Martin and Ch. Picouleau, "On the NP-completeness of the Perfect Matching Free Subgraph problem", to appear in *Theoretical Computer Science*.

Articles published in proceedings

1. F. Barahona and A.R. Mahjoub, "On two connected subgraph polytopes" *Proceedings IPCO Conference*, (1992), *Pittsburg (USA)*, pp. 30-43.
2. M. Daoud, A.R. Mahjoub, M. Tanguy, "Techniques de Flots et comparaison d'images en 2D", *Proceedings 16 ème Colloque GRETSI*, (Septembre 1997), *Grenoble (France)* pp. 853-856.
3. M. Didi Biha, H. Kerivin and A.R. Mahjoub "Une approche polyédrale pour le problème de l'arbre Steiner", *Actes des sixièmes journées du groupe MODE* (Mars 1998) *Poitiers (France)* pp. 86-91.
4. J. Fonlupt and A.R. Mahjoub, " Critical extreme points of the 2-edge connected spanning subgraph polytope", *IPCO'99, Lecture Notes in Computer Sciences* (1999) 1610, pp. 166-183.
5. Fatiha Bendali, A. R. Mahjoub, Jean Mailfert: Composition of graphs and the triangle free subgraph polytope. *Electronic Notes in Discrete Mathematics* 5: 19-22 (2000)
6. A.R. Mahjoub, Pierre Pesneau: On Steiner 2-edge connected polytopes. *Electronic Notes in Discrete Mathematics* 5: 210-213 (2000)
7. S. Borne, E. Gourdin, B. Liao and A. R. Mahjoub, "Design of Survivable IP-over-Optical Networks ", *Proceedings INOC2003*, (Octobre 2003), *Evry (France)*, pp. 114-118.
8. P. Fouilhoux et A. R. Mahjoub, "Sous graphe k-partis induits et applications à la génomique et aux circuits VLSI", *Collection Sciences, Technologie « Informatique » N° 1*, *Actes des articles longs sélectionnés du 6^{ème} Congrès de la ROADEF*, (Février 2005), *Tours (France)*, pp. 83-98.
9. M. Didi Biha, A. R. Mahjoub and L. Slama, "On the separation of partition inequalities", *Proceedings INOC2005*, (Mars 2005), *Lisbone (Portugal)*, pp. 500-505.
10. D. Huygens, M. Labbé, A.R. Mahjoub and P. Pesneau, "Two Edge-Disjoint Hop-Constrained Paths: Valid Inequalities and Branch-and-Cut", *Proceedings INOC 2005*, (Mars 2005), *Lisbone (Portugal)*, pp. 581-586.
11. F. Bendali, I. Diarrassouba, M. Didi Biha, A. R. Mahjoub, J. Mailfert, "Un

algorithme de coupes et branchements pour le problème du sous graphe k-arête connexe”, ValenSciences n°5, Actes des articles longs sélectionnés du 7^{ème} Congrès de la ROADEF, (Février 2006), *Lille (France)*, pp. 57-78.

12. H. Kerivin, M. Lacroix, A. R. Mahjoub, A. Quilliot, « The capacitated vehicle routing problem with reloads », *Proceedings of the IEEE Conference ICSSSM'06*, (Octobre 2006), *Troyes (France)*, pp. 1513-1518.
13. F. Bendali, I. Diarrassouba, M. Didi Biha, A. R. Mahjoub, J. Mailfert, “ The k-edge connected subgraph problem : Valid inequalities and Branch-and-Cut”, *Proceedings of the 6th International Workshop on the Design of Reliable Communication Networks 07*, (Octobre 2007), *La Rochelle (France)*.
14. O. Ekin-Karazan, P. Fouilhoux, A. R. Mahjoub, O. Özkök, H. Yaman, "Survivability in hierarchical telecommunication networks", *Proceedings of the INOC 2009* (April 2009), *Pisa, (Italy)*.
15. S. Borne, E. Gourdin, O. Klopfenstein and A. R. Mahjoub, “The multilayer capacitated survivable IP network design problem”, *Proceedings of the INOC 2009* (April 2009), *Pisa, (Italy)*.
16. M. Lacroix, A. R. Mahjoub and S. Martin, “Structural Analysis in Diffrential-Algebraic Systems and Combinatorial Optimization”, *IEEE Computers and Industrial Engineering, Proceedings of CIE 39* (July 2009), *Troyes, (France)*. pp. 331-337. **(This paper has wonned the best student paper award.)**
17. M. Lacroix, A. R. Mahjoub and S. Martin, “Structural Analysis for Diffrential Algebraic Systems: Complexity, Formulations and Facets”, *Proceeding ISCO 2010, Electronic Notes on Discrete Mathematics* Vol. 36 (2010), pp. 1073-1080.
18. H. Kerivin, M. Lacroix and A. R. Mahjoub, “On the complexity of the Eulerian closed walk with precedence path constraints problem”, *Proceeding ISCO 2010, Electronic Notes on Discrete Mathematics* Vol. 36 (2010), pp. 899-906.
19. A. Benhamiche, A. R. Mahjoub and N. Perrot, “Design of Optical WDM Networks”, *Proceedings of the IEEE Conference NETWORKS 2010*, (September 2010), *Warsaw, Poland*, pp. 47-53.
20. Amal Benhamiche, Ali Ridha Mahjoub, Nancy Perrot, “On the Design of Optical OFDM-Based Networks”. *INOC 2011: LNCS 6701*, pp. 1-6.
21. Sylvie Borne, Virginie Gabrel, A. Ridha Mahjoub, Raouia Taktak, “Multilayer Survivable Optical Network Design”. *INOC 2011: LNCS 6701*, pp. 170-175.
22. A. Ridha Mahjoub, Luidi Simonetti, Eduardo Uchoa, “Hop-Level Flow Formulation for the Hop Constrained Survivable Network Design Problem”. *INOC 2011: LNCS 6701*, pp. 176-181.
23. Boulbaba Thabti, Aref Meddeb, A. Ridha Mahjoub, Habib Youssef, “Evolutionary algorithm for provisioning VPN trees based on pipe and hose workload models”, *ICNC 2011: 2058-2064*.

24. Mathieu Lacroix, A. Ridha Mahjoub and Sebastien Martin, "Polyhedral Analysis and Branch-and-Cut for the Structural Analysis Problem", ISCO 2012, to appear in a special LNCS Volume.

2.3. Chapter in a book

1. A. R. Mahjoub, "Polyhedral Approaches" (in French), in "*Optimisation Combinatoire 1, concepts fondamentaux*", V. Paschos (Ed.), Hermes, Paris, (2005) pp. 263-329.
2. W. Ben-Ameur, A. R. Mahjoub, J. Neto, "The max-cut problem", in "*Optimisation Combinatoire 4, problèmes paradigmatiques*", V. Paschos (Ed.), Hermes, Paris, (2007) pp. 17-59.
3. A. R. Mahjoub, "Polyhedral Approaches", in «*Concepts of Combinatorial Optimization*», V. Paschos (Ed.), ISTE-WILEY (2010) pp; 261-324.
4. W. Ben-Ameur, A. R. Mahjoub, J. Neto, "The Maximum Cut Problem", in "Paradigms of Combinatorial Optimization", V. Paschos (Ed), ISTE-WILEY (2010) pp 131-164.
5. M. Baïou, F. Barahona, A. R. Mahjoub, « Partition Inequalities : Separation, Extensions and Network Design », in Progress in Combinatorial Optimization, A. R. Mahjoub (Ed.), ISTE-WILEY (2011) pp. 1-39.

2.4. Papers submitted for publication

1. H. L. M. Kerivin, M. Lacroix, A. R. Mahjoub, "On the complexity of the Eulerian closed walk with precedence path constraints problem", submitted to *SIAM Journal on Computing*.
2. S. Borne, E. Gourdin, O. Klopfenstein and A. R. Mahjoub, "The Multilayer Capacitated Survivable IP Network Design Problem: Valid Inequalities and Branch-and-Cut". Submitted to *Networks*.
3. A. R. Mahjoub and L. Slama, "On the polytope of the (1,k)-survivable network design problem", submitted to *Journal of Combinatorial Optimization*.
4. D. Cornaz, H. Kerivin and A. R. Mahjoub, "The induced forest and acyclic subgraph problems", submitted to *SIAM J. On Discrete Mathematics*.
5. O. Ekin Karasan, A. R. Mahjoub, O. Özkök, H. Yaman, "Survivability in Hierarchical Telecommunications Networks under Dual Homing", submitted to *Inform Journal on Computing*.

2.5. Papers to be submitted for publication

1. P. Fouilhoux and A. R. Mahjoub, "Valid inequalities and facets of the bipartite induced subgraph polytope", to be submitted to *SIAM Journal on Discrete Mathematics*.

2. M. Didi Biha, A. R. Mahjoub and L. Slama, "On the separation of partition inequalities", to be submitted to *SIAM Journal on Discrete Mathematics*.
3. A. R. Mahjoub, L. Siminetti and E. Uchoa, "Hop-Level Flow Formulation for the Survivable Network Design Problem with Hop Constraints", to be submitted to *Networks*.
4. I. Diarrassouba, V. Gabrel, L. Gouviea, A. R. Mahjoub and P. Pesneau, "The k-edge hop-constrained paths problem I: Formulations", to be submitted to *Inform. J. On Computing*.
5. I. Diarrassouba, V. Gabrel and A. R. Mahjoub, "The k-edge hop-constrained paths problem II: Valid Inequalities and Branch&Cut", to be submitted to *Networks*.

2.6. Communications at Conferences

1. A.R. Mahjoub (June 1981), "Polyèdre des absorbants dans une classe de graphes à seuil". *Third International Symposium on Combinatorics and Graph Theory, Marseille (France)*.
2. J. Fonlupt, A.R. Mahjoub and J.P. Uhry (September 1984), "Composition of graphs and the bipartite subgraph polytope". *Conference on Combinatorial Optimization, St Gallen, (Suisse)*. (also présenté at: *Conference on computational Issues in combinatorial Optimization" (1986) Capri, (Italy)*).
3. M. Conforti, D. Corneil and A.R. Mahjoub (June 1984), " K_1 -cover II : K_1 -perfect graphs", *Bonn workshop on combinatorial optimization, Bonn, (Germany)*.
4. R. Euler and A.R. Mahjoub (August 1985), "On a composition of independence system by circuit - identification" *Eleventh International Symposium on Mathematical Programming, Boston (U.S.A.)*.
5. F. Barahona and A.R. Mahjoub (July 1990), "Composition of graphs and polyhedra : Stable sets", *Fifth International Symposium on Combinatorics and Graph theory, Marseille (France)*.
6. F. Barahona and A.R. Mahjoub (May 1992), "On two connected subgraph polytopes", *Second Conference on Integer Programming and Combinatorial Optimization, Carnegie Mellon University, Pittsburg (U.S.A.)*.
7. A. R. Mahjoub (September 1992), "On polytopes associées avec 2-edge connected graphs", *Days on graphs and Combinatorics, Aussois (France)*.
8. A. R. Mahjoub, (January 1993), "On two-edge connected subgraphs", *Combinatorial Optimization Conference, Oberwolfach (Germany)*.
9. M. Baïou and A.R. Mahjoub (July 1993 and August 1994) "The two-edge connected Steiner subgraph polytope of a series-parallel graph" *VI Franco-Japanese Days on*

10. J. Fonlupt and A.R. Mahjoub, "The minimal non-integer extreme points of two-connected subgraph polyhedra" (August 1994) *15th International Symposium on Mathematical Programming, Ann Arbor (U.S.A.)*.
11. M. Bouchakour and A.R. Mahjoub, "The dominating set problem: Composition of graphs and polyhedra", *5th International Conference on Graphs and Combinatorics* (September 1995), *Marseille (France)*.
12. M. Baïou, F. Barahona and A.R. Mahjoub, "Partition inequalities and the 2-edge connected subgraph problem" *16th International Symposium on Mathematical Programming* (August 1997), *Lausanne (Suisse)* (it has also presented in *Combinatorial Optimization 98* (April 1998) *Bruxelles (Belgique)*).
13. A.R. Mahjoub, C. Nocq, "On the linear relaxation of the 2-node connected subgraph polytope", *16th International Symposium on Mathematical Programming*, (August 1997), *Lausanne (Suisse)*.
14. M. Didi Biha, H. Kerivin and A.R. Mahjoub "Steiner trees and polyhedra *Combinatorial Optimization 98* (April 1998) *Bruxelles (Belgique)* .
15. A.R. Mahjoub and P. Pesneau, "On the Steiner 2-edge connected subgraph polytope", *6th International Conference on Graphs and Combinatorics* (September 2000), *Marseille (France)*.
16. H. Kerivin, A.R. Mahjoub "Conception de Réseaux et Polyèdres", 2^{ème} Journées de ROADEF (January 1999), *Autrans, (France)*.
17. H. Kerivin, A.R. Mahjoub "Survivable Networks and Polyhedra", *17th International Symposium on mathematical Programming*, (August 2000), *Atlanta (USA)*.
18. F. Bendali, J. Mailfert and A.R. Mahjoub, "Compositions of graphs and the triangle free subgraph polytope", *6th International Symposium on Graphs and Combinatorics* (September 2000), *Marseille (France)*.
19. A.R. Mahjoub and P. Pesneau, "On the Steiner 2-edge connected subgraph polytope", *6th Symposium on Graphs and Combinatorics* (September 2000), *Marseille (France)*.
20. B. Fortz, A. R. Mahjoub, T. McCormick and P. Pesneau, "The 2-edge connected subgraph problem with bounded ring", *ECCO XIV* (june 2001) *Bonn (Germany)*.
21. P. Fouilhoux and A. R. Mahjoub, "Via Minimization and the Bipartite Induced Subgraph problem", *ECCO XIV* (june 2001) *Bonn (Germany)*.
22. P. Fouilhoux and A. R. Mahjoub, "An exact model for the constrained multilayer Via-Minimization problem Subgraph problem", *6th Combinatorial*

Optimization Conférence, (january 2002) Aussois (France) (invitation).

23. Fortz, A. R. Mahjoub, T. S. McCormick and P. Pesneau, "The 2-edge connected subgraph problem with bounded rings and the associated polytope.", IFOR (July 2002) (United Kingdom).
24. Fortz, A. R. Mahjoub, T. S. McCormick and P. Pesneau, "Design of minimum 2-edge connected graphs with bounded rings.", Workshop Combinatorial Optimization, (November 2002), Oberwolfach (Germany) (invitation).
25. Fortz, A. R. Mahjoub, T. S. McCormick and P. Pesneau, "Two-edge connected subgraphs with bounded rings: Polyhedral results and Branch-and-Cut.", *7th Combinatorial Optimization Conference*, (March 2003) Aussois (France).
26. D. Huygens, A. R. Mahjoub and P. Pesneau, "Two edge hop-constrained paths and polyhedra", EURO-INFORM, (July 2003) Istanbul (Turkey).
27. S. Borne, E. Gourdin, B. Liao and A. R. Mahjoub, "Design of Survivable IP-over-Optical Networks", INOC2003, (October 2003), Evry, (France).
28. P. Foulhoux and A. R. Mahjoub, "Via Minimization and the bipartite induced subgraph problem", *International Symposium on Mathematical Programming*, August 2003, Copenhagen (Dannemark).
29. D. Huygens, M. Labbé, A.R. Mahjoub and P. Pesneau, "On the Two edge-disjoint Hop-Constrained Paths Problem", 20th European Conference on Operational Research (EURO XX), Rhodes, (Greece), July 2004.
30. D. Huygens, M. Labbé, A.R. Mahjoub and P. Pesneau, "Two Edge-Disjoint Hop-Constrained Paths: Valid Inequalities and Branch-and-Cut", Optimization 2004, Lisbon, (Portugal), July 2004, and INOC 2005, Lisbon, March 2005.
31. S. Borne, E. Gourdin, B. Liao et A. R. Mahjoub, "Le problème de sécurisation multicouche du réseau IP", *6^{ème} Congrès ROADEF*, (Février 2005), Tours, (France) et *7ème Séminaire d'Optimisation de France Télécom*, (June 2005), Sophia Antipolis (France).
32. M. Didi Biha, A. R. Mahjoub et L. Slama, "Sur la séparation des contraintes de partition", *6^{ème} Congrès ROADEF*, (Février 2005), Tours, (France), *2^{èmes} Journées Polyèdres et Optimisation Combinatoire*, (Juin 2005), Marseille, (France) et *7 èmes Séminaire d'Optimisation de France Télécom*, (June 2005), Sophia Antipolis (France).
33. F. Bendali, I. Diarrassouba, M. Didi Biha, A. R. Mahjoub et J. Mailfert, "Un algorithme de coupe et branchements pour le problème du sous graphe k-arête connexe", *2^{èmes} Journées Polyèdres et Optimisation Combinatoire*, (Juin 2005), Marseille, (France); *7ème Séminaire d'Optimisation de France Télécom*, (June 2005), Sophia Antipolis (France).
34. P. Fouilhoux et A. R. Mahjoub, "Sous graphe k-partis induits et applications à la

génomique et aux circuits VLSI“, 2^{èmes} Journées Polyèdres et Optimisation Combinatoire, (June 2005), Marseille, (France).

35. P. Fouilhoux, M. Labbé, A. R. Mahjoub, H. Yaman "Procédures de lifting et facettes non booléennes pour le polytope des indépendants", 8^{ème} Congrès ROADEF, (February 2007), Grenoble, (France).
36. S. Borne, E. Gourdin, O. Klopfenstein, A. R. Mahjoub, "Sécurisation et dimensionnement des réseaux IP-sur-optique", 8^{ème} Congrès ROADEF, (February 2007), Grenoble, (France).
37. F. Bendali, I. Diarrassouba, M. Didi Biha, A. R. Mahjoub et J. Mailfert, "On the k edge-disjoint 3-hop constrained paths polytope", *Proceedings of EURO XXII*, (Juillet 2007). *Prague. Proceedings of the International Conference on Nonconvex Programming (NCP 07)*, (Décembre 2007), Rouen (France). 9^{ème} Congrès ROADEF, (February 2008), Clermont-Ferrand, (France).
38. H. Kerivin, M. Lacroix, A. R. Mahjoub, "The single-vehicle preemptive pickup and delivery problem", *Proceedings of the International Conference on Nonconvex Programming (NCP 07)*, (December 2007), Rouen (France).
39. A. R. Mahjoub and L. Slama, "On the polytope of the (1, k)-survivable network design problem", *Proceedings of the International Conference on Nonconvex Programming (NCP 07)*, (December 2007), Rouen (France).
40. H. Kerivin, M. Lacroix, A. R. Mahjoub, "Le problème de cueillette et livraison préemptif avec un véhicule", 9^{ème} Congrès ROADEF, (February 2008), Clermont-Ferrand, (France).
41. A. R. Mahjoub and L. Slama, "Sur le polytope des sous-graphes arêtes-fiables", 9^{ème} Congrès ROADEF, (February 2008), Clermont-Ferrand, (France).
42. F. Bendali, I. Diarrassouba, A. R. Mahjoub, J. Mailfert, "On the k-edge hop-constrained paths polytope", *JPOC 6*, june 2009, Bordeaux (France).
43. M. Lacroix, A. R. Mahjoub, S. Martin, "Structural Analysis problem for differential algebraic systems », 14th International Workshop on Combinatorial Optimisation and Integer Programming (on invitation) , january 2010, Aussois (France).
44. M. Lacroix, A. R. Mahjoub, S. Martin, « Analyse structurelle dans les systèmes algébro-différentiels et optimisation combinatoire » 10^{ème} Congrès ROADEF, (February 2010, Toulouse (France).
45. V. Gabrel , A .R. Mahjoub , R. Taktak, « Le problème de sécurisation multicouche du réseau optique », 10^{ème} Congrès ROADEF, (February 2010, Toulous (France).
46. I. Diarrassouba, V. Gabrel, A. R. Mahjoub, "Le problème de conception de réseaux fiables avec contraintes de bornes". 11^{ème} Congrès ROADEF, (February 2010), Toulouse, (France).

3. Ph.D. Students

Former Students

- M. Baïou, *Researcher CNRS, Université Blaise Pascal, Clermont-Ferrand, France.*
Thesis title: "Le problème du sous graphe 2-arête connexe: Approche polyédrale" [The Steinet 2-edge connected subgraph problem: Polyhedral Approach], december 1996.

M. Baïou thesis has been submitted to the *W.A. Tucker price of de Mathematical Programming Society* in August 1997.

M. Baïou won in 2003 the R. Faure price offered by RoadeF (the French Operation Research Society) for young researchers.

- M. Bouchakour, *Senior Consultant at ALTRAN, Information Systems, Paris.*
Thesis title: "I. Composition dans le polytope des absorbants.
II. Un algorithme de coupes pour le problème du flot à coûts fixes"
[I. Compositions in the dominating subgraph polytope.
II. A cutting plane algorithm for the fixed charge network flow problem.]
december 1996.
- M. Didi Biha, *Associate Professor, Université de Caen, Caen, France.*
Thesis title: "Graphes k-arêtes connexe et polyèdres" [k-edge connected graphs and polyhedra] september 1998.
- H. Kerivin, *Assistant Professor, Clemson University, USA.*
Thesis title: "Réseaux Fiabiles et Polyèdres" [Survivable Networks and polyhedra] november 2000.

H. Kerivin won in 2006 the R. Faure price offered by RoadeF (the French Operation Research Society) for young researchers.

- P. Pesneau, *Assistant Professor, University of Bordeaux, France.*
Thesis title: "Conception de reseaux 2-connexes avec des contraintes de bornes"
[Design of 2-connected graphs with bound constraints] november 2003.
- Pierre Fouilhoux, *Assistant Professor, Université Pierre&Marie Curie.*
Thesis title : "Graphes k-partis et applications aux circuits VLSI" [k-Partite graphs and applications to VLSI circuits, (november 2004).

P. Fouilhoux won in 2006 the young researcher price of the city of Clermont-Ferrand

- D. Huygens, *Senior Consultant at OM Partners, Brussels.*
Thesis title: Design of Survivable Networks with Bounded-Length Paths »
(Co-Supervised by M. Labbé, Brussels. (November 2005).
- Sylvie Borne, *Assistant Professor, University Paris 13, Paris, France.*
Thesis title : "Dimensionnement et sécurisation de réseaux de télécommunications: Approche polyédrale" [Survivability and routing in

telecommunication networks] (december 2006).

- Lise Slama, *Consultant at BBS, Clermont-Ferrand, France.*
thesis title : « Conception de Réseaux Fiabiles : Séparation et Polyèdres » [Design of Survivable networks : Separation and Polyhedra], (november 2008).
- Mathieu Lacroix, *Assistant Professor, University Paris 13, Paris, France.*
Thesis title : «Le problème de ramassage et livraison préemptif : complexité, modèles et polyèdres » [The preemptive pickup and delivery problem : complexity, models and polyhedra] (december 2009) (co-supervised by A. Quilliot and H. Kerivin).
- Ibrahima Diarrassouba, *Assistant Professor, University of le Havre, France.*
Thesis title : « Survivable Network Design Problems with High Connectivity Requirements » (december 2009).
- Onur Özkök, *Consultant at Applied Materials, USA)*
Thesis title: « Hub and Regenerator Location and Survivable Network Design”, (co-supervised by O. Ekin Karasan and H. Yaman de Bilkent University (december 2010 at Bilkent University, Ankara).
- Sébastien Martin, *Lecturer in Université Paris-Dauphine*
Thesis title : "Structural Analysis of Algebraic-Differential Systems : Complexity, Models and Polyhedra » [Analyse Structurelle des Systèmes Algébro-Différentiels : Complexité, Modèles et Polyèdres] (prepared within the project ANR PARADE) (december 2011).

HDR (Habilitation)

- Mohamed Didi Biha, *Professor at University of Cean, France.*

Current Ph.D. Students:

- Sébastien Martin, “Optimisation de systèmes algebra-differentiels” [Optimization of algebraic-differential equations systems] (started October 2007).
- Raouia Taktak, « Sécurisation des réseaux multicouches » [Survivability in multilayer networks] (started october 2007)
- Amel Benhamiche, « Methods and models for optimizing transport optical networks » (started on november 2009).
- Mohamed Ould Mohamed Lemine : « Application of combinatorial optimization techniques for identification of networks of influence» (started on April 2011).

Master degree

- Hervé Kerivin , "Polyhedral study of the 3-edge connected subgraph problem" (september 1995).
- Pierre Pesneau, "The 2-edge connected subgraph problem on Halin

graphs(september 1999).

- Pierre Fouilhoux, "Via minimization and the bipartite subgraph problem" (september 2000).
- Sylvie Borne, "Study of some survivable networks" (september 2002).
- Ibrahima Diarrassouba, "Survivable k-connected networks" (june 2004).
- Mathieu Lacroix, "A routing problem with reloads" (june 2005).
- Raouia Taktak, "Multilayer networks in telecommunications" (september 2008)
- Amal Benhamiche, "Models for transport optical networks" (September 2009).
- Halim Meziane, "The separator problem" (September 2010).
- Lamia Zane, « Graph partitioning » (september 2011)
- Lounes Bentaha, « Dvelopment of a routing tool in multi-FBGA systems » (september 2011).

4. Projects :

- Project PAI TOURNESOL with Université Libre de Bruxelles (Martine Labbé), 1999-02.
- Project CNRE-FNRS, France-Belgique, with Université Libre de Bruxelles (Martine Labbé), 2003-06.
- Project with France Telecom (Bernard Liau and Eric Gourdin) (Sylvie Borne thesis).
- Project PAI BOSPHORE, France-Turquie, awith Bilkent University (Hande Yaman), Ankara, 2005- 07
- Project CMCU-PAI UTIQUE, France-Tunisie, with Université de Sousse (Habib Youssef), (2007-2009)
- Project ANR (french National Agency for Research) for 3 years with: INRIA, Université de Lyon 1 and the compagnies SIEMENS (in Toulouse) and LMS-IMAGINE (in Roanne). (Sébastien Martin thesis) 2007-2010.
- Project GDR-RO with France Telecom and Université Paris Nord, 2009-2010
- Project with France Telecom, depuis septembre 2009-2012 (Amel Benhamcuhe Thesis).
- Projet avec ALTARES (Mohamed Ould Mohamed Lemine thesis), 2011-2014.

5. Confrences Organizing and Scientific Committee member

- Co-organizer (with J-P. Barthélemy) of 3rd days of groupe MODE, Brest, March 23-25, 1995. (MODE is the french groupe « Mathématiques de l'Optimisation et de la DEcision » of the french Society SMAI (Société des Mathématiques Appliquées et Industrielles.)
- Member of the Scientific Committee des 3rd days of the groupe MODE, Brest, march 1995.
- Member of the Scientific Committee des 4th days of the groupe MODE, Limoges, march 1996.

- Member of the Scientific Committee of the 4th Symposium of ROADEF (société française de Recherche Opérationnelle et Aide à la Décision), Avignon, February 26-28 2003.
- Initiator and organizer of the first « Journées Polyèdres et Optimisation Combinatoire (JPOC) », Clermont-Ferrand, June 19-20, 2003.
- Co-organizer of
 - JPOC 2, Marseille, June 2-3, 2005,
 - JPOC3, Avignon, June 1-2, 2006,
 - JPOC4, Evry, May 30-31 and June 1st, 2007,
 - JPOC 5, Rouen, June 4-6, 2008,
 - JPOC 6, Bordeaux, June 12-14, 2009,
 - JPOC7, Valenciennes, June 8-10, 2011.
- Co-organizer of the Spring School of the groupe POC (associated with the JPOC) in 2007, 2008, 2009 and 2011.
- Member of the Scientific Committee of INOC 2003 (International Network Optimization Conference), Evry (France), October 27-28, 2003.
- Member of the Scientific Committee of:
 - 5th ROADEF Symposium, Avignon, 26-28 février 2003,
 - 6th ROADEF Symposium, Tours, 14-16 février 2005,
 - 7th ROADEF Symposium, Lille, 6-8 février 2006,
 - 8th ROADEF Symposium, Grenoble, 20-23 février 2007,
 - 11th ROADEF Symposium, Toulouse, 24-26 février 2010,
 - 12th ROADEF Symposium, St Etienne, 2-4 mars 2011,
 - 13th ROADEF Symposium, Angers, 11-13 avril 2012.
- Co-organizer of the 9th Symposium of ROADEF, Clermont-Ferrand, February 25-27, 2008.
- Member of the Scientific Committee of International Conference on Computers & Industrial Engineering, Troyes, France, July 6-7, 2009.
- Co-organiser of the international workshop « Pretty Structures, existential polytime, polyhedral combinatorics », April 7, 8, & 9, 2009, Paris, in honor of Jacques Edmonds.
- Initiator, Co-organizer and Co-Chair of « International Symposium on Combinatorial Optimization (ISCO) », Hammamet, Tunisia, March 24-26, 2010, and of the Spring School « Cutting plane methods for mixed integer programming » Hammamet, Tunisia, March 22-23, 2010.
- Member of the Scientific Committee of International Symposium on Operations Research (ISRO 2011), Alger, Algeria, May 30-June 2, 2011.
- Member of the Scientific Committee of International Network Optimization Conference (INOC 2011), Hamburg, Allemagne, 13-16 juin 2011.

- Co-organizer and Co-Chair of «International Symposium on Combinatorial Optimization (ISCO 2012)», Athens, April 19-21, 2012, and of the Spring School «Approximation algorithms», Athens, April 18-19, 2012.
- Member of the Scientific Committee of the conference COSI, Tlemcen, Algeria, May 12-15, 2012.

6. Visiting Professor

- Institut de Mathématiques Discrètes, Université de Bonn, August 1988.
- Laboratoire ARTEMIS, Institut IMAG, Université Joseph Fourier, Grenoble, September 1988.
- Département de Combinatoire et d'Optimisation, Université de Waterloo, Canada, April 1990.
- Laboratoire ARTEMIS, Institut IMAG, Université Joseph Fourier, Grenoble, July 1990.
- Laboratoire ARTEMIS, Institut IMAG, Université Joseph Fourier, Grenoble, February-March 1991.
- Thomas J. Watson Research Center, IBM, New York, August 1994.
- Institut IASI, Rome Italie, Decembre 1994.
- Thomas J. Watson Research Center, IBM, New York, August 1996.
- SMG, Université Libre de Bruxelles, February 1999, .
- Université de Santiago, Chili, April 1999.
- Laboratoire GERAD, Montreal, Canada, August 1999.
- SMG, Université Libre de Bruxelles, November 2000.
- Université PUC, Rio de Janeiro, Brésil, August 2001.
- SMG, Université Libre de Bruxelles, December 2001.
- SMG, Université Libre de Bruxelles, January 2003.
- Department of Mathematical Science, Brunel University, London, August 2003.
- GOM, Université Libre de Bruxelles, Septembre 2003-june 2004.
- Lisbon University, June 2004.
- Ecole Polytechnique et Fédérale de Lausanne, April 2004.
- Industrial Engineering department, Bilkent University, Ankara, Octobre 2006.

- Lisbon University, April 2007.
- Université de Sousse (Tunisia), July 2007.
- Industrial Engineering department, Bilkent University, Ankara, March 2008.
- Université de Sousse (Tunisia), February 2009.
- Research Institute of Mathematical Science (RIMS), Kyoto University (Japon), Juin 2010.
- Université de Sousse (Tunisia); December 2010.
- University of Montreal (Canada), september 2011.

7. Invited speaker

- *Conference on Computational Issues in Combinatorial Optimization, March 1986, Capri, Italy.*
- *Combinatorial Optimization Conference, January 1993, Oberwolfach, Germany*
- *NATO Conference on "POLYTOPES: Abstract, Convex and Computational August 1993, Toronto, Canada .*
- *First Days of MODE, SMAI, November 1992, Perpignan , France.*
- *Network reliability workshop , March 1997, Université d'Amiens, France.*
- *16 th International Symposium on Mathematical Programming, August 1997, Lausanne, Switzerland, (also invited to organize a session in that symposium.*
- *17th International Symposium on Mathematical Programming, August 2000). Atlanta, Georgia, USA.*
- *Sharpest Cut, Combinatorial Optimization Workshop on honour of Manfred Padberg on the occasion of his 60th birthday, Berlin, October 2001.*
- *Workshop: Combinatorial Optimization, November 2002, Oberwolfach, Germany.*
- *INOC2003 (plenary speaker), October 2003 Evry, France.*
- *Mathematical Programming days, April 2004, Paris, France.*
- *Math programming and Operations research days, March 2008, Paris, France.*
- *Winter School on Network Optimization, Lisbonne, Janvier 2009.*
- *Computers and Industrial Engineering 39, Troyes, juillet 2009 (IEEE Conference) (plenary speaker))*

- *International Conference on Multi Objective Programming and Goal Programming, Sousse, Tunisie, mai 2010 (plenary speaker).*
- *COSI, Guelma, Algérie, April 2011 (plenary speaker)*
- 8th Network Optimization Day, Paris, october 2011.

(I have also been invited several times for giving seminars, in different institutions in France and abroad).

8. Distinctions

- French Government Fellowship for Tunisian outstanding students, 1978-84.
- Price « Ouverture Internationale » [International openness], Free University of Brussels, 2004.
- Best student paper award (with my Ph.D. student Sebastien Martin) in CIE 39 (2009)
- Premium of research : 1994-2010
- Premium of Scientific Excellence, since October 2010.
- Distinguished Professor (Professeur Classe exceptionnelle) since september 2011.

9. Member of

- Institute for Operations Research and the Managements Sciences (INFORMS)
- Mathematical Programming Society (MPS)
- Society of Industrial Applied Mathematics (SIAM)
- Société Française de Recherche Opérationnelle et Aide à la Décision (French Society of Operations Research) (ROADEF)

10. Editorial work

- Editor in Chief of **RAIRO- Operations Research** since June 2011
- Associate Editor of **RAIRO- Operations Research**.
- Advisory Editor of **EURO Journal on Computational Optimization** since July 2011.
- Co-Editor (with Jean-François Maurras) of a special issue of RAIRO-RO (RAIRO-OR, Vol 41, N°23 (2007).)
- Co-editor (with M. Haouari) of a special issue of **Electronic Notes on Discrete Mathematics** dedicated to ISCO 2010 (ENDM Volume 36 (2010) pages 1-1326).
- Co-editor (with M. Hifi and I. Kacem) of a special issue of **IJMOR (International Journal of Mathematics and Operations Research)** (2011).
- Co-editor (with D. De Werra and N. Maculan) of a special issue of **Discrete Applied Mathematics** (2011).
- Editor of the book « Progress in Combinatorial Optimization », Wiley-ISTE. (This book will contain 22 chapters covering the recent developments in combinatorial optimization (published in october 2011)).
- Co-editor (with G. Rinaldi and G. Woeginger) of a special issue of **Mathematical Programming** associated with ISCO 2012.
- Co-editor (with Y. Milis) of a Volume of **LNCS** associated with ISCO 2012.

11. Refereeing

Ph.D theses

- Maria José F. P. Trigueiros, Leibniz, Grenoble
- Ahmed Hadjar, Leibniz, Grenoble
- Stéphane Bulteau, IRISA, Rennes
- Vincent Letruit, Leibniz, Grenoble
- Viet Nguyen, LIF, Marseille
- Eric Tannier, Leibniz, Grenoble
- Yann Kieffer, Leibniz, Grenoble
- Sonia Haddad, LIF, Marseille
- Hande Yaman, SMG, Université Libre de Bruxelles,
- Eric Duchenne, LAMIH, ROI, Valenciennes,
- José Neto, INT, Evry
- Renaud Sirdey, Compiègne (et Nortel)
- Tarek Belgacem, Paris 1
- Alexandre Skoda, Equipe Combinatoire, Paris 6
- Ibrahim Mamane Souley, LIP6, Paris 6
- Mohammadreza Ghaemi, Equipe Combinatoire, Paris 6
- Hacène Ouzia, LIP6, Paris 6
- Toufik Saadi, Paris 1
- Nora Touati, LIPN, Paris 13
- Roumen Nedev, LIF, Marseille
- Thanh Hai Nguyen, LIF, Marseille
- Jean-Christophe Gay, LIMOS, Clermont-Ferrand
- Jorge Aguera, Laboratoire de Maths, Université de Grenoble

Habilitations:

- Olivier Goldschmit, Leibniz, Grenoble
- Alain Faye, CEDRIC, CNAM, Paris
- Virginie Gabrel, LAMSADE, Paris
- Yann Vaxes, LIF, Marseille
- Walid Ben Ameer, Evry
- Imed Kacem, UTT, Troyes
- Arnaud Pêcher, Labri, Bordeaux1.
- Gautier Stauffer, Laboratoire de Maths, Bordeaux 1

Journals :

I am regularly asked to referee paper for the journals:

- Mathematical Programming
- Mathematics of Operations Research
- Discrete Mathematics
- Discrete Applied Mathematics
- SIAM Journal on Discrete Mathematics
- SIAM Journal on Optimization.
- Networks
- European Journal of Combinatorics
- Annals of Operations Research
- Operations Research Letters
- Combinatorica

- Journal of Combinatorial Optimization.
- RAIRO-Operations Research
- Mathematical Methods of Operations Research

12. Further Professional Services

- Referee for IPCO, INOC and other conferences.
- Referee for ANR projects (average 2 a year)
- President of a Jury for a Chair in Telecommunication, Ecole Polytechnique de Montréal, October 2004.
- Referee for projects of Austrian Science Fund (in 2011).
- Referee for projects of FONDECYT (National Fund for Scientific & Technological Development), Santiago, Chili) (2011).
- Member of the AERES Committee for the evaluation of the laboratories of Mathematics and Optimization in Havre and Rouen.

D. Teaching

Courses taught :

I taught courses in operations research, mathematical programming, combinatorial optimization, graph theory, computer sciences, applied mathematics and probability and statistics in different levels.

First Cycle (1st and 2nd levels):

1) **Linear Algebra and Calculus:**

- DEUG (1st year level) (1984-1985)⁽¹⁾

2) **Computer Sciences:**

- DEUG (1st year level) (1991-1993)⁽⁴⁾

Deuxième Cycle (3rd and 4th levels):

3) **Compilation and language theory:**

Master degree (4th year level) (1991-1998)⁽⁴⁾

4) **Algorithmic and data structure**

- Licence (3rd year level) (1998-2000)⁽⁵⁾

6) **Optimization methods in computer science:**

Master degree (4th year level) (1996-1998)⁽⁴⁾

7) **Network optimization and graphs:**

- ENSIMAG (1980-1982)⁽²⁾,
- Master Operations Research (4th level) (1987-1990)⁽³⁾,
- Master Math engineering (4th level) (1995-98)⁽⁴⁾
- Licence (2000-2007)⁽⁵⁾
- Licence MIAE (2007-2008) ⁽⁶⁾

7) **Applied mathematics:**

- Master degree (4th level) (1991-1996)⁽⁴⁾

(1) Université des Sciences Sociales de Grenoble.

(2) Ecole Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble.

(3) Université du Roi Saoud, Riyadh (Arabie Saoudite).

(4) Université de Bretagne Occidentale, Brest.

(5) Université Blaise Pascal, Clermont-Ferrand

(6) Université Paris-Dauphine

8) Probability and Statistics *

- Licence (3rd level) (1991-1998) ⁽⁴⁾ and since 2004⁽⁵⁾

9) Numerical methods:

- Master degree (4th level) (1996-1998) ⁽⁴⁾

10) Linear programming:

- 2nd level (1979-1985) ⁽¹⁾
- ENSIMAG (1980-1982) ⁽²⁾
- Licence of Operations Research (1988-1989)⁽³⁾
- Master degree (4th level) (1995-98)⁽⁴⁾
- Licence of Computer Science (1998)-(1999)⁽⁵⁾
- 1st year of the CUST (Centre Universitaire de Science et Technologie) (1998)-(1999)⁽⁵⁾
- Master degree in social science 54th level) (2001)-(2007)⁽⁵⁾

11) Modelisation

- Licence of Operations Research (1986-91) ⁽³⁾

12) Combinatorial Optimization :

- ENSIMAG (1980-1982)⁽²⁾
- Master of Operation Research (4th level) (1987-1990)⁽³⁾
- Master of Computer Sciences (4th level) (1998)-(2007)⁽⁵⁾

13) Stochastic Processus :

- Master of Statistics (4th level) (1986-1987) ⁽³⁾

14) Nonlinear programming :

- Master of Operations Research (4th level) (1986-1987)⁽²⁾

15) Continuous optimization:

- Licence of Operations Research (1986)-(1989)⁽³⁾
- Licence of Computer Sciences (1998-2000)⁽⁵⁾

*) A 75 pages text book for this course has been written with S. Gire.

16) Mathematical programming in finance

Master degree (4th level) since 2007⁽⁶⁾

3rd Cycle (Master2, 5th level):

17) Combinatorial Optimization

- Master of Operation Research (5th level) (1989-91)⁽³⁾
- Master of Computer Sciences since (5th level) 1998⁽⁵⁾

18) Linear and integer programming

- Master of Operations Research and Optimization (MODO) (5th level) since 2007⁽⁶⁾

19) Network flows

- Master of Computer Sciences (5th level) (1992-1998)⁽⁴⁾

20) Applied combinatorial optimization

- Master of Computer Sciences (5th level) (1992-93)⁽⁴⁾

21) Optimization and Decision Aid

- Master of Computer Sciences (5th level) (1999-2007)⁽⁵⁾.

22) Applications of Operations research

Master of Computer Sciences (5th level) since 2007⁽⁶⁾