CURRICULUM VITAE

Michèle Breton

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Languages:	French, English, Spanish

EDUCATION

1987	University of Montreal, Department of Computer Science and Operations Research. Ph. D. Computer Science. *Equilibriums for Sequential Games* Director: Alain Haurie
1977	Polytechnique of Montreal, Department of Industrial Engineering M. Ing. Operations Research. *Maximal coupling in a graph* Director: Jean-Claude Picard
1975	Polytechnique of Montreal, Department of Industrial Engineering B.Sc.A. Industrial engineering, operations research Project: *Distribution of petroleum products at ESSO* Director: Jean-Claude Picard

EXPERIENCE

Since 06/94	Full Professor, Department of Management Sciences HEC Montreal
06/05 – 06/06	Visiting Professor, Department of Applied Mathematics Universidad de Valladolid
08/98 – 07/99	Visiting Professor, Department of Business Instituto Technológico Autónomo de México
06/89 – 06/94	Associate Professor, Department of Management Sciences HEC Montreal
06/86 – 06/89	Assistant Professor, Department of Management Sciences HEC Montreal
01/77 – 06/86	Lecturer, Department of Management Sciences andDepartment of Production and Operations Management HEC Montreal
01/76 – 01/77	Research assistant and lecturer, Department of Industrial Engineering Polytechnique of Montreal

06/75 – 01/77	Lecturer, Department of Civil Engineering Ahuntsic College Collège du Vieux-Montreal

DISTINCTIONS

- Professorship in dynamic optimization, 2011 – 2014.
- Guest editor, *Environmental Applications,* special Issue of Computational Management Science, 2013
- Guest editor, Annals of the International Society of Dynamic Games, 2011.
- Elected to the Royal Society of Canada, 2009.
- Guest editor, *Applications of OR in Finance*, Special Issue of *Computers & Operations Research*, 2008.
- Guest editor, *Applications of Dynamic Games*, Special Edition of International *Game Theory Review*, 2008.
- Pierre-Laurin 2004 Award, best research production in 2001-2004, full professors and researchers, HEC Montreal.

INTERNAL ADMINISTRATIVE POSITIONS

06/13 –	Director, Academic Affairs
06/06 – 06/12	Director, LACED scientific computation lab
06/08 – 06/11	President of the College of Professors
06/06 – 06/08	Director, Centre for Research on e-finance
04/03 – 06/05	Director, LACFAS
01/03 – 06/05	Director, Centre for Research on e-finance
09/01 – 01/03	Director, Ph.D. program
08/99 – 01/03	Director, M.Sc. Program
06/95 – 05/98	Director, Department of Quantitative Methods in Management
04/91 – 08/93	Co-director, ESSEC-HEC (university cooperation, at Douala, Cameroon)

SCIENTIFIC ACTIVITIES

PUBLICATIONS

Books

1. Breton, M. and K. Sadowski, editors, *Advances in Dynamic Games: Theory, Applications and Numerical Methods for Differential and Stochastic Games, Annals of the International Society of Dynamic Games*, Volume 11, Springer, 2011.
2. Breton, M. and H. Ben Ameur (editors), *Numerical Methods in Finance,* Springer, 2005.
3. Breton, M. and G. Zaccour (editors), *Industrie pétrolière: outils d'aide à la décision et études de cas*, Paris, Éditions Technip, 1994.
4. Breton, M. and G. Zaccour (editors), *Advances in Operations Research in the Oil and Gas Industry*, Paris, Éditions Technip, 1991.
5. Breton, M. and A. Haurie, *Initiation aux techniques classiques de l'optimisation*, 1st ed., Montreal, Modulo, 1983, 2nd ed., Montreal, Modulo, 1986.

Proceedings

1. Breton, M. and G. Zaccour (editors), *Proceedings of the Sixth International Symposium on Dynamic Games and Applications*, Montreal, 1994, 682 p.
2. Breton, M. (editor), *Proceedings of the ASAC Conference 1984, Management Science section*, 1984.

Scientific edition

1. Breton, M. and G. Zaccour, guest editors, *Environmental Applications,* special Issue of Computational Management Science, 2013
2. Breton, M., guest editor, *Applications of OR in Finance*, special issue of *Computers & Operations Research,* **35**-1, January 2008.
3. Breton, M. and G. Martín-Herran, guest editors, Dynamic *Games Applications and Methods*, special issue of *International Game Theory Review*, **10**-1, March 2008.

Papers in Scientific Journals

1. Breton, M. and S. Garrab, "Evolutionary Farsightedness in International Environmental Agreements," *Cahier du GERAD G-2013-14*, February 2013, forthcoming in ***International Transations in Operational Research.***
2. Ben Youssef, S., M. Breton and G. Zaccour, "Cooperating and Non-cooperating Firms in Inventive and Absorptive Research,"***Journal of Optimization Theory and Applications*** 157 (1), April 2013, p. 229-251.
3. Annabi, A., M. Breton and P. François, "Resolution of financial distress under Chapter 11", ***Journal of Economic Dynamics & Control*** 36, December 2012, p. 1867-1887.
4. Ben Abdallah, R., H. Ben Ameur and M. Breton, "Pricing the CBOT T-Bonds Futures with empirical applications", ***Quantitative Finance*** 12-11, November 2012, p. 1663-1678.
5. Annabi, A., M. Breton and P. François, "Game Theoretic Analysis of Negotiations under Bankruptcy," ***European Journal of Operational Research*** 221-3, September 2012, p. 603-613.
6. Mafakheri, F., M. Breton and S. Chauhan, "Project-to-Organization Matching: An Integrated Risk Assessment Approach ", ***International Journal of Information Technology Project Management*** 3-3, July-September 2012, p. 45-59.

7. Breton, M. and M. Kharbach, "Transportation and Storage under a Dynamic Price Cap Regulation Process ", ***Energy Economics*** 34-4, July 2012, p. 918-929.
8. Breton, M. and M. Y. Keoula, "Farsightedness in a Coalitional Great Fish War "***, Environmental and Resource Economics*** 51-2, February 2012, p. 297-315.
9. Makhaferi, F., M. Breton, and A. Ghoniem, "Supplier Selection-Order Allocation: A Two-Stage Multiple Criteria Dynamic Programming Approach ", ***International Journal of Production Economics*** 132, July 2011, pp. 52–57.
10. Breton, M., J. Hugonnier and T. Masmoudi, "Mutual Fund Competition in the Presence of Dynamic Flows", ***Automatica*** 46, 2010 p. 1176-1185.
11. Breton, M. and J. de Frutos, "Option Pricing under GARCH Processes by PDE Methods", ***Operations Research*** 58, July - August 2010, pp. 1148-1157.
12. Breton, M., L. Sbragia and G. Zaccour, "A Dynamic Model for International Environmental Agreements", ***Environmental and Resource Economics,*** 45-1, January 2010, p. 25-48.
13. Breton, M. and M. Kharbach, "Who benefits from price indexation?", ***Economics Bulletin*** vol 29 no. 4, 2009.
14. Breton, M., O. Bahn, L. Sbragia and G. Zaccour, "Stability of International Environmental Agreements: an Illustration with Asymmetrical Countries", ***International Transactions on Operational Research*** 16, 2009, p. 307–324.
15. Ben Abdallah, R., H. Ben Ameur and M. Breton, "An Analysis of the True Notional Bond System Applied to the CBOT T-Bond Futures, ***Journal of Banking and Finance*** 33, 2009, p. 534-545. ***Esdras Minville award for the best student paper 2009.***
16. Ben Ameur, H., M. Breton and J. Martinez, "A Dynamic Programming Approach for Pricing Derivatives in the GARCH Model", ***Management Science*** 55-2, February 2009, p. 252–266.
17. Breton, M. and M. Kharbach, "The Welfare Effects of Unbundling Gas Storage and Distribution", ***Energy Economics*** **30**, May 2008, p. 732-747.
18. Breton, M., A. Sokri et G. Zaccour, "Incentive Equilibrium in an Overlapping-Generations Environmental Game", ***European Journal of Operational Research*** **185-2**, March 2008, p. 687-699.
19. Breton, M., D. Dupuis and G. Laporte, "100 ans d'histoire en méthodes quantitatives", ***Gestion*** **32-3**, Fall 2007, p. 12-20.
20. Ben Ameur, H., M. Breton, P. L'Écuyer and L. Karoui, "A Dynamic Programming Approach to Price Options Embedded in Bonds", ***Journal of Economic Dynamics & Control*** **31***,* 2007, p. 2212-2233.
21. Breton, M., G. Martin-Herran and G. Zaccour, "Equilibrium Investment Strategies in Foreign Environmental Projects", ***Journal of Optimization Theory and Applications*** **130-1**, July 2006, p. 23-40.
22. Breton, M., R. Jarrar and G. Zaccour, "A Note on Feedback Stackelberg Equilibrium in a Lanchester Model with Empirical Application", ***Management Science*** **52-5**, May 2006, p. 804-811.
23. Ben Ameur, H., M. Breton and P. François, "A Dynamic Programming Approach to Price Installment Options", ***European Journal of Operational Research*** **169-2,** Mach 2006, p. 667-676.
24. Breton, M., D. Vencatachellum and G. Zaccour, "Dynamic R&D with Strategic Behavior", ***Computers and Operations Research*** **33-2,** February 2006, p. 426-437.
25. Breton, M., K. Fredj and G. Zaccour, "International Cooperation, Coalitions Stability and Free-riding in a Game of Pollution Control", ***The Manchester School*****, 74-1**, January 2006, p. 103-122. ***SSRN Top ten downloads***.
26. Breton, M., G. Zaccour and Zahaf, "A Game-Theoretic Formulation of Joint Implementation of Environmental Projects", ***European Journal of Operational Research*** **168-1**, January 2006, pp. 221-239.
27. Breton, M., G. Zaccour and M. Zahaf, "A Differential Game of Joint Implementation of Environmental Projects", ***Automatica*** **41-10**, October 2005, p 1737-1749.

28. Breton, M., A. Turki and G. Zaccour, “Dynamic Model of R&D, Spillovers and Efficiency of Bertrand and Cournot Equilibria”, ***Journal of Optimization Theory and Applications,*** **123-1**, October 2004, p. 1-25.
29. Breton, M., S. Hachem and A. Hammadia, “Accounting for Losses in the Optimization of Production of Hydroplants”, ***IEEE Transactions on Energy Conversion*****, 19-2**, June 2004, p. 346-351.
30. Brimberg, J., P. Hansen, K.W. Lih, N. Mladenovic and M. Breton, "An Oil Pipeline Design Problem", ***Operations Research*****, 51-2**, March-April 2003, p. 228-239.
31. Breton, M., P. St-Amour and D. Vencatachellum, "Dynamic Production Teams with Strategic Behavior", ***Journal of Economic Dynamics and Control,*** **27-5**, December 2002, p. 875-905.
32. Ben Ameur, H., M. Breton, and P. L’Écuyer, "A Dynamic Programming Procedure for Pricing American-Style Asian Options", ***Management Science 48***, May 2002, p. 625-643.
33. Breton, M., S. Hachem and A. Hammadia, "A Decomposition Approach for the Solution of the Unit Loading Problem in Hydroplants", ***Automatica,*** **38-3,** March 2002, p. 477-485.
34. Breton, M. and G. Zaccour, "Equilibria in an Asymmetric Duopoly Facing a Security Constraint", ***Energy Economics,*** **23-4**, May 2001, p. 457-475.
35. Breton, M., G. Zaccour and F. Chauny, “Leader-Follower Dynamic Game for New Product Diffusion”, ***Journal of Optimization Theory and Applications*** **92-1**, January 1997, p. 77-98.
36. Breton, M. and S. El Hachem, “Algorithms for the Solution of Stochastic Dynamic Minimax Problems”, ***Computational Optimization and Applications*** **4-4,** 1995, p. 317-345.
37. Breton, M. and S. El Hachem, "A Scenario Aggregation Algorithm for the Solution of Stochastic Dynamic Minimax Programs", ***Stochastics and Stochastic Reports*** **53**, 1995, p. 305-322.
38. Breton, M., “Optimal Participation Rate Under Risk”, ***Energy Economics*** **15-2**, April 1993, p. 101-104.
39. Breton, M. and P. L’Écuyer, “Noncooperative Stochastic Games Under a N-stage Local Contraction Assumption”, ***Stochastics and Stochastic Reports*** **26**, 1989, p. 227-245.
40. Breton, M, A. Alj and A. Haurie, "Sequential Stackelberg ε-equilibria in Two-Person Games", ***Journal of Optimization Theory and Applications*** **59**, 1988, p. 71-97.
41. Breton, M., J. Filar and A. Haurie, "On the Computation of Equilibria in Discounted Stochastic Dynamic Games", ***Journal of Economics Dynamics and Control*** **10**, 1986, p. 33-36.
42. Haurie, A. and M. Breton, "Market Equilibrium in a Multistage Commodity Network", ***Automatica,*** **21-5**, 1985, p. 585-597.

Book Chapters

1. Breton, M., A Game Theoretic Perspective on Bankruptcy Procedures / Utilisation de la théorie des jeux pour l’analyse des procédures de faillite, ***Annual Review of Insolvency Law 2012,*** J. P. Sarra (ed), Carswell, p. 803-832.
2. Breton, M., Approximation of Dynamic Programs, ***Handbook of Computational Finance***, éd. par J.C. Duan, W. Härdle et J. E. Gentle, Springer, 2012, p. 633-649.
3. Breton, M. and A. Turki, "Efficiency of Bertrand and Cournot: A Two Stage Game". in ***Dynamic Games: Theory and Applications*****,** ed. by A. Haurie and G. Zaccour, Springer, 2005, p. 161-173.
4. Breton, M., A. Turki and G. Zaccour, "Efficiency of Bertrand and Cournot under Precommitment", in ***Game Theory and Applications***, vol. 10, ed. by V. Mazalov et L. Petrosjan, Nova Science, 2005, p. 31-38.
5. Ben Ameur, H., M. Breton and P. L’Écuyer, "Partial Hedging for Options Based on Extreme Values and Passage Times", ***Advances in Computational Management Science 4: Decision and Control in Management Science*****,** essays in honor of Alain Haurie, ed. by Georges Zaccour, Kluwer, 2002, p. 179-200.
6. El Hachem S., A. Hammadia, F. Welt and M. Breton, "Dynamic Models for Real Time Management of Hydroplants", in ***Hydropower ’97***, ed. by Flatabo and Helland-Hansen, Balkema, Rotterdam, 1997, p. 341-346.

7. Breton, M., A. Yezza, G. Zaccour, "Feedback Stackelberg Equilibria in a Dynamic Game of Advertising Competition: A Numerical Analysis" ***Dynamic Competitive Analysis in Marketing, Lecture Notes in Economics and Mathematical Systems,*** vol. 1, ed. by S. Jorgensen and G. Zaccour, Springer-Verlag, Berlin, 1996, p. 1-26.
8. Breton, M. and S. El Hachem, "Algorithms for the Solution of a Large Scale Single-Controller Stochastic Game", ***Annals of the International Society of Dynamic Games 1 - Advances in Dynamic Games and Applications***, ed. by T. Basar and A. Haurie, Birkhauser, 1994, p. 195-216.
9. Breton, M. and A. Lapointe, "Fiscalité pétrolière, potentiel pétrolier et risque d'exploration: le cas de dix pays", in ***L'industrie des hydrocarbures: défis et opportunités***, ed. by A. Lapointe and H. Taghvaï, Technip, 1994, p. 203-218.
10. Breton, M., "Techniques d'analyse de risque en exploration production", in ***Industrie pétrolière: outils d'aide à la décision et études de cas***, ed. by M. Breton and G. Zaccour, Paris, Technip, 1994, p. 1-22.
11. Breton, M. and S. El Hachem, "Planification des opérations de raffinage par la programmation linéaire stochastique", in ***Industrie pétrolière: outils d'aide à la décision et études de cas***, ed. by M. Breton and G. Zaccour, Paris, Technip, 1994, p. 149-168.
12. Breton, M. and P. L'Écuyer, "Approximate Solutions to Continuous Stochastic Games", in ***Lecture Notes in Control and Information Sciences 56 - Differential Games - Developments in Modelling and Computation***, ed. by R.P. Hamalainen and H. Ehtamo, Springer-Verlag, 1992, p. 257-264.
13. Breton, M. and S. El Hachem, "Application of Stochastic Programming to Medium and Long Term Planning in the Refining Industry", in ***Advances in Operations Research in the Oil and Gas Industry***, ed. by M. Breton and G. Zaccour, Paris, Technip, 1991, p. 1-20.
14. Breton, M. and G. Zaccour, "Sharing the Cost of a Pipeline: A Game Theoretic Approach", in ***Maritime and Pipeline Transportation of Oil and Gas - Problems and Outlook***, ed. by A. Poirier and G. Zaccour, Paris, Technip, 1991, p. 291-306.
15. Breton, M., "Algorithms for Stochastic Games", in ***Stochastic Games and Related Topics - Shapley Honor Volume***, ed. by T.E.S. Raghavan, T. S. Ferguson and O. J. Vrieze, Kluer Publishing Company, 1991, p. 45-57.
16. Breton, M., A. Haurie and G. Zaccour, "Methods in the Analysis of Multi-stage Commodity Markets", in ***Control and Dynamic Systems* 36 *- Advances in Large Scale Systems Dynamic and Control,*** ed. by T. C. Leondes, Academic Press, 1990, p. 75-105.
17. Breton, M. and P. L'Écuyer, "On the Existence of Sequential Equilibria in Markov Renewal Games", ***Advances in Optimization and Control, Lecture Notes in Economics and Mathematical Systems* 302**, ed. by H.A. Eiselt and G. Pederzoli, Springer-Verlag, 1988, p. 200-213.
18. Breton, M., J. A. Filar, A. Haurie and T. A. Schultz, "On the Computation of Equilibria in Discounted Dynamic Games", in ***Dynamic Games and Applications in Economics, Lecture Notes on Economics and Mathematical Systems* 205,** ed. by T. Başar, Springer-Verlag, Berlin, 1986, p. 64-87.

Refereed Proceedings

1. Breton, M., K. Fredj and G. Zaccour, “Characteristic Functions, Coalitions Stability and Free-riding in a Game of Pollution Control”, *Proceedings of the Tenth International Symposium on Dynamic Games and Applications*, vol. 1, July 2002, p. 129-138.
2. Ben Ameur, H., M. Breton and P. L’Écuyer, "Numerical Evaluation of American-Style Asian Options", *Proceedings of the International Conference on Mathematical Finance*, June 1999.
3. Breton, M., P. St-Amour and D. Vencatachellum, "Birds of a Feather: Teams as a Screening Mechanism", *Proceedings of the 8th International Symposium on Dynamic Games and Applications*, July 1998, p. 116-124.
4. El Hachem, S., A. Hammadia and M. Breton, "Extensions of the Unit Loading Problem", *Proceedings of Waterpower 97 Conference, American Society of Civil Engineers*, July 1997, p. 1114-1123.

5. Breton, M., A. Yezza and G. Zaccour, "Feedback Stackelberg Equilibria in a Dynamic Game of Advertising Competition: A Numerical Analysis". *Proceedings of the International Workshop on Dynamic Competitive Analysing Marketing*, September 1995, p. 43-55.
6. Breton, M., G. Zaccour and F. Chauny, "A Leader-Follower Dynamic Game for New Product Diffusion", *Proceedings of the Sixth International Symposium on Dynamic Games and Applications*, July 1994, p. 390-405.
7. Breton, M. and A. Haurie, "Two-Layer Piecewise Deterministic Games", *Proceedings of the 28th IEEE Conference on Decision and Control*, December 1989, p. 198-200.
8. Breton, M., "Calcul de points d'équilibre dans des jeux stochastiques : survol des algorithmes disponibles", *Proceedings of the ASAC Conference*, 1987, p. 76-87.
9. Breton, M., "Détermination d'un équilibre de Stackelberg dans un jeu stochastique par la programmation mathématique", *Proceedings of the ASAC Conference*, 1986, p. 35-43.
10. Breton, M. and A. Haurie, "Market Equilibrium in a Multi-stage Commodity Network", *Proceedings of the IFAC/IFORS/IIASA 4th Conference on the Modelling and Control of National Economies and the 1983 SEDC Conference on Economics Dynamics and Control*, June 1983, p. 281-286.
11. Breton, M. and A. Haurie, "Équilibre de marché dans un réseau multi-étage", *Proceedings of the ASAC Conference*, vol. 4, part 2, Vancouver, May 1983, p. 1-10.

Working papers

1. Boyer, M., Breton, M., François, P., Guesmi, S. and M. Robillard, "An investigation of pari-mutuel type options: the case of HuRLOs," submitted to ***International Transactions on Operational Research***, May 2013.
2. Boudhina, A. and M. Breton "An Efficient Numerical Method for Pricing Long-maturity American Put Options," *Cahiers du GERAD G-2013-30,* April 2013, 16 pages.
3. Siliadin, Y.G. under the supervision of M. Breton, "OIS/dual curve discounting, " *Technical note NT-13-01,* March 2013, Institut de la finance structurée et des instruments dérivés de Montréal, 16 pages.
4. Ben-Abdallah, R. and M. Breton, "To squeeze or not to squeeze? This is no longer the question," *Cahiers du GERAD G-2013-16*, February 2013, 17 pages.
5. Breton, M. and P. François, "Coalition strategies in syndicated loans, " May 2012.
6. Breton, M. and L. Sbragia, "Learning under Partial Cooperation and Uncertainty ", cahier du GERAD G-2011-46,September 2011
7. Baraket, C. and M. Breton, "Pricing By Fourier Transform: An Overview ", Cahiers du GERAD G-2010-72, December 2010, 25 pages.
8. Breton, M., and M.Y. Keoula, " A Great Fish War Model with Asymmetric Players ", Cahiers du GERAD G-2010-73, December 2010, revised in January 2013, in second revision at Ecological Economics.
9. Breton, M. et M. Kharbach, «Collusion and Demand Variability»
10. Ben Ameur, Hatem, M. Breton and P. François, "Pricing ASX Installment Warrants under GARCH", *Cahiers du GERAD* G-2005-42, May 2005, 17 p.
11. Breton, M., P. St-Amour and D. Vencatachellum, "Inter- vs Intra-generational Production Teams: A Young Worker's Perspective", *Cahiers du Cirano,* 2002s-57, *Cahiers du GERAD,* G-2002-29, June 2002, 20 p.
12. Breton, M. and G. Zaccour, "Le partage des coûts d'un pipeline: une approche par la théorie des jeux", *Cahiers du CETAI - Gestion d'entreprises pétrolières,* GEP-CR-92-01, 1992, 14 p.
13. Breton, M. and S. El Hachem, "Decomposition Algorithms for Stochastic Dynamic Programs", *Cahiers du GERAD*, G-91-15, 1991, 34 p.
14. Breton, M., "Équilibres dans des jeux séquentiels", *Ph.D. Thesis presented at DIRO, University of Montreal,* May 1986.

RESEARCH GRANTS (last 6 years)

Project	**Agency**	**Program (principal*, co-researchers)**	**Amount**	**Years**
Viable exploitation, sustainable development and natural resource management	SSHRC	Knowledge Zaccour*, Breton	375 000$	2013-2018
Pricing, hedging and valuing derivatives	IFSID	Research funds Breton	40 000$	2012-2014
Pricing and hedging financial products	IFM2	Research funds Breton	60 000$	2012-2015
Professorship in dynamic optimization	HEC	Professorship program Breton	30 000$	2011-2014
Séminar series	Mercure	Séminars Breton, Dionne, Parent	28 000$	2011-2012
Financial option pricing using Fourier Transforms	HEC	Internal Breton	5000$	2010-2011
Dynamic Games in Management	NSERC	Breton	260 000$	2010-2015
LACED Laboratory	CFI/MEQ	Leading Edge Fund Breton and 9 researchers	$3 000 000	2009-2014
GERAD research centre	FQRNT	Strategic clusters Malhamé* and 30 chercheurs	2 340 000$	2009-2014
Option pricing under GARCH	IFM2	Research support Breton	58 200$	2009-2012
Sustainable environment cooperation agreements	SSHRC	Strategic research grant Breton and Zaccour*	153 200$	2008-2011
Dynamic Problems in Management	NSERC	Discovery grant Breton	150 000$	2005-2010
GERAD	Universities	Infrastructure Malhamé and 30 researchers	764 000$	2005-2010
Credit risk and financial distress: a game theory approach	IFM2	Research support Breton	60 375$	2006-2009
GERAD	FQRNT	Centres Zaccour* and 30 researchers	$2 254 156	2003-2009
GERAD	FQRNT	Equipment Zaccour* and 30 researchers	$398 156	2003-2009
Seminar Series	Mercure	Seminars Breton, Dionne, Normandin	$81 500	2006-2011
Sustainable Agreements and Strategic Alliances: Applications in Environment and R & D	FQRSC	Research Teams Breton*, Benchekroun, Vencatachellum and Zaccour	$348 500	2004-2008
LACFAS	CFI/MEQ	Innovation Rémillard* and 10 researchers	$482 682	2004-2008
CREF	Mercure	Groups and Centres Breton* and 30 researchers	$155 000	2003-2008
LACFAS	IFM^2	Database Breton and members LACFAS	$158 000	2003-2011

CONFERENCES (last 6 years)

A Dynamic Game involving pari-mutuel options: the case of HuRLOs, co-authors M. Boyer and P. François

- Ninth International ISDG Workshop, Barcelona, July 5-6 2013

Mitigation, adaptation or a mix, co-author L. Sbragia

- Ninth International ISDG Workshop, Barcelona, July 5-6 2013
- ***Evolutionary Farsightedness in IEAs***, co-author S. Garrab
- 2nd Canadian PhD and Early Career Workshop in Environmental Economics and Policy, Ottawa, May 9-10 2013

Stability of International Environmental Agreements, co-author S. Garrab

- 81th ACFAS Conference, Québec, May 6 - 10 2013.

Recursive approaches for the evaluation of financial derivatives

- Optimization Days, Montréal, May 6-8 mai 2013 (Tutorial talk)
- 10th International Conference on Computational Management Science, Montréal, May 1-3 2013 (plenary talk)
- Ateneo IMUVA, Universidad de Valladolid, Spain, September 27 2012

A General Framework to price electricity derivatives, co-author A. Boudhina

- Optimization Days, Montréal, May 6-8 mai 2013

Energy Subsidies reform in Iran : An example for the world?, co-authors H. Mirzapour and P.-O. Pineau

- Optimization Days, Montréal, May 6-8 mai 2013

A dynamic programming approach using Tchebychev interpolation for pricing bonds with embedded options under the two-factor Gaussian model, co-author Y. G. Siliadin

- 10th International Conference on Computational Management Science, Montréal, May 1-3 2013
- Mathematical Finance Days, Montréal April 29-30 2013

Coalition strategies in syndicated loans, co-authors P. François et J. P. Ahouassou

- 10th International Conference on Computational Management Science, Montréal, May 1-3 2013

A general framework to price segregated funds guarantees, co-author A. Boudhina

- 10th International Conference on Computational Management Science, Montréal, May 1-3 2013
- Mathematical Finance Days, Montréal April 29-30 2013

Multi-fold compound options and principal protected notes valuation, co-author M. Ndoye

- 10th International Conference on Computational Management Science, Montréal, May 1-3 2013
- Mathematical Finance Days, Montréal April 29-30 2013

Great Fish Wars with Asymmetric Players, co-author M. Keoula

- Mathematics of Ecological Economics, Paris, February 11-13 2013
- Seminar, Durham University, December 13 2012
- 4th Workshop on Game Theory in Energy, Resources and Environment, Montréal, November 29-30 2012
- 7th Workshop Modelli Dinamici in Economia e Finanza, Urbino, Italy, September 20-22 2012
- 8th International ISDG Workshop, Padova, Italiy, July 21-23 2011
- 7th Spain Italy Netherlands Meeting on Game Theory, Paris, France, July 18-20 2011
- Computational Management science, Vienna, Austria, 28 – 30 July 2010
- 4th World Congress of Environmental and Resource Economists, Montreal, June 28 – July 2 2010
- International Symposium of Dynamic Games, Banff, Canada, 20-23 June 2010

- Optimization Days, Montreal, 10-12 May 2010
- 3rd Workshop on Game theory in energy, ressources and environment, Montreal, 10-11 December 2009

Sustainable development and Game Theory

- Seminar, Club mathématique de l'Université de Montréal, April 17 2013

Management of a renewable resource with heterogeneous time preferences

- 4th Workshop on Dynamic Games in Management Science, Padova, Italy, December 6-7 2012 (opening talk)

Dynamic International Environmental Agreements with Asymmetric Countries, co-author L. Sbragia

- 4th Workshop on Game Theory in Energy, Resources and Environment, Montréal, November 29-30 2012

Is the CBOT reference rate to high?, co-author R. Ben Abdallah

- First International Conference on Futures and other Derivative Markets, Beijing, China, October 15-16 2012

Dynamics of Environmental Cooperation, co-author L. Sbragia

- 15th International Symposium on Dynamic Games and Applications, Byšice, Czech Republic, July 19-22 2012
- First Carribbean Game Theory Conference, Curacao, January 23-25 2012
- Evolutionary Approaches to International Cooperation Workshop, Tillburg Sustainability Center, Tillburg, The Netherlands, May 23-24 2011

Investigating Delivery Risk in the U.S. Interest-Rate Futures Market, co-author R. Ben Abdallah

- Computing in Economics and Finance, Prague, Chech Republic, June 27-29 2012

Borrowing and lending: two sides of the financing game

- 6th International Conference on Game Theory and Management, St-Petersburg, Russia, June 27-29 2012 (plenary)

Option Pricing under Garch with Non Gaussian Innovations co-author S. Serghini-Idrissi

- Mathematical Finance Days, Montreal, May 3-4 2012

American Option Pricing Using Exotic Option Optimization co-author A. Boudhina

- Mathematical Finance Days, Montreal, May 3-4 2012

Bicubic Spline Approximation for Option Pricing Under Heteroskedastic Asset Returns Dynamics co-author M. Ndoye

- Mathematical Finance Days, Montreal, May 3-4 2012

International Environmental Agreements with a Dynamic Number of Signatories, co-author S. Garrab

- Optimzation Days, Montreal, May 1-9 2012
- Optimization Days, Montreal, May 2-4 2011

A Game Theoretic Perspective on Bankruptcy Procedures

- 9th Annual Review of Insolvency Law Conference, Vancouver, February 10 2012 (invited)

Dynamic games in finance

- 3rd Workshop on Dynamic Games in Management, Montréal, November 25 - 26 2011 (plenary)
- Alio-INFORMS 2010, Buenos Aires, 6-9 June 2010 (tutorial)
- 13th International Symposium on Dynamic Games and Applications, Wroclaw, Poland, 30 June - 3 July 2008

- Second International Conference on Game Theory and Management, St. Petersburg, Russia, 26-27 June 2008 (tutorial)

Resolution of Financial distress Under Chapter 11: A Dynamic Game Approach,co-authors: A. Annabi and P. François

- 2011 Annual meeting, Financial Management Association International, Denver, October 19-22 2011
- 11e Conférence annuelle : Les Journées du CIRPÉE, Bécancour, October 7-8 2011
- International Symposium of Dynamic Games, Banff, 20-23 June 2010
- 2nd Financial Risks International Forum on "Risk Management & Financial Crisis", Paris, 19-20 March 2009
- Rimini Centre for Economic Analysis: Workshop on Dynamic Games in Economics, Rimini, 4-5 December 2008
- 2008 FMA European Conference, Praga, 4 June 2008
- Seminar Series, Brock University, 16 May 2008

A Real Option Approach to Clean Development Mechanism Projects, co-author M. Y. Keoula

- 21st meeting of the Canadian Resource and Environmental Economics, Québec, September 23-25 2011
- Optimization Days, Montreal, May 2-4 mai 2011
- Optimization Days, Montréal, 10-12 May 2010

International Environmental Agreements with Uncertain Environmental Damage and Learning**,** co-author L. Sbragia

- Game Theory and Practice 8, Riverside, California, July 11-12 2011
- Towards Global Agreements on Environmental Protection and Sustainability, Exeter, U.K., April 13-15 2011
- Second Workshop on Dynamic Games in Economics, Rimini, Italy, December 13-14 2010
- Decision Analysis and Sustainable Development, Montreal, September 27-28 2010
- International Symposium of Dynamic Games, Banff, June 20-23 2010

A Spectral Method for Option Pricing under GARCH, co-authors J. de Frutos and S. Serghini-Idrissi

- Mathematical Finance Days 2011, IFM2, Montreal, May 9-10 2011
- Optimization Days, Montreal, May 2-4 mai 2011
- MITACS /CORS Joint annual meeting, Edmonton, Canada, 25-28 May 2010
- Mathematical Finance Days, Montreal, 13-14 May 2010
- Optimization Days, Montréal, 10-12 May 2010

A Spectral Dynamic Programming Application for Pricing Derivatives**,** co-authors J. de Frutos and S. Serghini Idrissi

- 9th conference on Operations Research, Havana, Cuba, 22-26 February 2010
- Optimization Days, Montreal, 4-6 May 2009

Pricing the CBOT T-Bond Futures with empirical application, co-authors R. Ben Abdallah and H. Ben Ameur

- 16th International Conference on Computing in Economics and Finance, London, U.K., July 15–17 2010
- 17th Annual Conference of the Multinational Finance Society, Barcelona, Spain, 27 – 30 June 2010
- 2010 Southwestern Finance Association Annual Meeting, Dallas, Texas, 2-6 March 2010
- Third annual Risk Management Conference, Singapore, 16-18 July 2009
- Third International Conference on Asia-Pacific Financial Markets, Seoul, Corea, 6 December 2008

Approximation of Dynamic Programs**,** co-author J. de Frutos

- Symposium for Computational Finance, National University of Singapore, Singapore, 28 – 29 June 2010

A Risk Based Project-to-Organization Matching System Using the Analytic Hierarchy Process, co-author F. Mafakheri

- Decision Sciences Institute 40th Annual Meeting, New Orleans, USA, 14-17 November 2009

A Two Stage Multiple Criteria-dynamic Programming Approach for Supplier Selection-order Allocation, co-author F. Mafakheri

- INFORMS Annual Meeting, San Diego, USA, 11-14 October 2009

Farsightedness in a Coalitional Great Fish War, co-author: M. Keoula

- 7th International ISGG Workshop, Djerba, Tunisia, 1-3 July 2009
- 2nd Workshop on Dynamic Games in Management Science, Valladolid, Spain, 29-30 June 2009
- 17th Annual Conference of the European Association of Environmental and Resource Economists, Amsterdam, Netherlands, 24-27 June 2009
- Canadian Economics Association, Toronto, 28-31 May 2009
- Second Workshop on Game Theory in Energy, Resources and Environment, Montreal, 20-21 November 2008

Refinancement optimal et tarification des titres hypothécaires, co-author A. Boudhina

- Optimization Days, Montreal, 4-6 May 2009

International Environmental Agreements and R&D Linkage, co-author L. Sbragia

- Second Workshop on Game Theory in Energy, Resources and Environment, Montreal, 20-21 November 2008

Option Pricing under GARCH Processes by PDE Methods, co-author: J. de Frutos

- IFORS 2008, Sandton, South Africa 13-18 July 2008
- Workshop on Dynamic Games and Application, Montréal, 2-3 May 2008

Option Pricing under GARCH (1,1) and Normal Inverse Gaussian Distribution, co-authors: H. Ben Ameur and A. Radhouane

- CORS / Optimization Days Joint meeting, Québec, 12-14 May 2008

Pricing Barrier Options under GARCH, co-authors: H. Ben Ameur and S. Ben-Khelil

- CORS / Optimization Days Joint meeting, Québec, 12-14 May 2008

A model of Strategic Competition between Mutual Funds, co-authors: J. Hugonnier and T. Masmoudi

- Workshop on Dynamic Games and Application, Montréal, 2-3 May 2008
- Small Open Economies in a Globalized World, Rimini, 29 August – 2 September 2006

An Analysis of the True Notional Bond System Applied to the CBOT T-Bond Futures, co-authors: R. Ben Abdallah and H. Ben Ameur

- Mathematical and Statistical Methods for Actuarial Sciences and Finance, Venice, Italy, 27-29 March 2008
- 4th Melbourne Derivatives Research Group Conference, Melbourne, Australia, 19 March 2008

Dynamic Models for International Environmental Agreements, co-authors: L. Sbragia and G. Zaccour

- 13th Coalition Theory Network Workshop, Venice, 24-25 January 2008

OTHER CONTRIBUTIONS

Editorial Boards

2010 - Associate Editor, Dynamic Games and Applications
2007- Associate Editor, International Transactions in Operational Research
1998- Associate Editor, Automatica
1998- Associate Editor, International Games Theory Review
1997-1998 Editorial Committee, Annals of the International Society of Dynamic Games 1998

Conference and Workshop Organization (last 6 years)

- Viability and Dynamic Games workshop, Montreal, 2011, 2013
- Mathematical Finance Days, Montreal, 2010, 2011, 2012, 2013
- 14th ISDG Symposium, Liblice, Czech Republic, 2012
- CEF 2012, Prague, Czech Republic, 2012
- Game Theory and Practice, Riverside, California, 2011
- Decision Science and sustainable development, Montreal 2010
- 13th ISDG Symposium, Banff, 2009
- Workshop on Game Theory in Energy, Resources and Environment, Montreal 2008, 2009, 2012
- Optimization Days, Montreal 2009
- Workshop on Dynamic Games and Application, Montréal , 2008

Management of external organizations

2012 - President, International Society of Dynamic Games
2012 - New member selection committee, Royal Society of Canada
2012-2015 Invited member, Canada Research Chair evaluation committee
2011- Scientific committee, Structured finance and derivative instruments Institute
2011-2012 External examiner, Professional Master's Program in Financial Economics, University of Western Ontario
2009-2013 Scientific director, Institut de Finance Mathématique de Montréal
2006- Treasurer, International Society of Dynamic Games
2007- Members’ representative, GERAD management board.
2008-2012 Vice-president, International Society of Dyamic Games
2006-2009 Member of the Resarch Committee, IFM^2
2005-2009 Member of the Evaluation Committee, Excellence awards for foreign students, Ministère de l’Éducation du Québec
2004-2005 Member of the Evaluation Committee, Joint Infrastructure Interdependencies Research Program (JIIRP), Natural Sciences and Engineering Research Council of Canada NSERC
2003-2005 Director management board, RROM (Réseau en recherche opérationnelle de Montreal)
2001-2003 Representative of HEC at the RROM
1999-2003 Member of the Council of the Faculté des études supérieures de l’Université de Montreal
1994-1997 Member of the Program Committee, Subventions nouveau chercheur, Fonds FCAR
1994-1997 Responsible of the Research group on methods in finance (GERAD)
1989-1991 Vice president, Administrative Sciences Association of Canada (ASAC)
1986-1989 Editor of the ASAC Bulletin

PEDAGOGICAL ACTIVITIES

TEACHING

Undergraduate
Mathematics for graduate studies in management
Operations Research
Financial Mathematics
Operations Research and Decision Support
Quantitative Methods in Finance
Statistical Methods
Probabilities
Production and Operations Management
Network and Optimization Models in Transportation (ESSEC Douala)
Initiation to STORM (ESSEC Douala)
Inventory Management (ESSEC Douala)
Linear and Integer Programming (ESSEC Douala)
Project Management with Activity Networks (ESSEC Douala)
Computer Science Project (Informatique et recherche opérationnelle, Université de Montreal)

Specialized Graduate Diplomas
Operations Research: Management Tool in the Oil Industry
Exploration and Production: Risk Analysis and Decision Making
Operations Management in the Oil Industry
Introduction to Operations Research
Application of Operations Research in Energy (HEC, Wuhan, Chengdu Chine)
Risk Analysis (HEC, Wuhan, Chengdu)
Fundamentals of Business Mathematics
Models for Decision Support

MBA
Business Analytics
Risk Analysis
Applications of Operations Research
Mathematics for Decision
Preparation in Mathematics
Probabilities
Statistics
Modelling and Decision Support (specialized course)
Introduction to Operations Research
Operations Research (ITAM Mexico)
Statistics and Forecasting (ITAM Mexico)

M.Sc.
Workshop in Operations Research
Financial Engineering

Ph.D.
Dynamic Optimization (Joint Ph.D. program HEC/Concordia/McGill/UQAM)
Introduction to financial derivatives mathematics (University of Valladolid)

TRAINING SEMINARS

Numerical techniques for derivatives pricing
- IFM2 Training seminar, June 2012
- Deloitte Annual meeting, June 2011

Power Plant Optimization (Overseas Power Plant Management Training Program
- China Yangtze Power Corp., Montreal, November 2010, October 2011

Risk Analysis (Energy Management Development Program)
- Jilin Electric Power Corp., Changchun, July 2010
- China Guodian Group Co. , Ningbo, May 2008
- Sechuan Electric Power Corporation, June 2007, June 2011
- China Yangtze Power Co and China Three Gorges Project Corporation, 9-11 January 2006.

Applications of Operations Research in the Energy Sector (Energy Management Development Program)
- Entreprise Tunisienne d'activités pétrolières (ETAP), Tunis, April 2004.

Business Analytics (EMDP)
- HEC Montréal, novembre 2008

Risk Analysis in the Energy Sector (Energy Management Development Program)
- Naftogaz, Annaba, Algeria, February 2008, Oran, January 2010
- Entreprise Tunisienne d'activités pétrolières (ETAP), Tunis, February 2004, January 2011

Risk Analysis in exploration and production
- SEREPT, Tunis, February 2004
- Entreprise Tunisienne d’activités pétrolières (ETAP), Tunis, 27-31May 1996
- Entreprise Tunisienne d’activités pétrolières, Sidi Bou Saïd, 7-11 September 1992

Risk Analysis (Programa Ejecutivo de Capacitation para el Sector Energia, in collaboration with ITAM
- Mexico, February 2001, March 2002, January 2003, January 2004, February 2005, February 2006, September 2006, November 2008, November 2011, November 2012, November 2013
- Ciudad del Carmen, November 2006
- Villahermosa, February 2003, March 2004, February 2005

Modelling and evaluating oil agreements
- SNC-Lavalin, October 1999

Risk Analysis, Exploration, Production and Pipeline Transportation
- China Petroleum Planning and Engineering Institute, Beijing, China, 3-6 July 1995 (with Alain Lapointe and Georges Zaccour)
- China Alberta Petroleum Centre, Beijing, Chine, 26-29 June 1995 (with Alain Lapointe and Georges Zaccour)

Financial Evaluation of oil projects
- Pemex Exploration y Produccion, Poza Rica, Ver, Mexico, 12-16 December 1994 (with Alain Lapointe)

Negotiation and oil legislation

- Office Militaire National pour les Industries Stratégiques, Antananarivo, Madagascar, 12-16 September 1994 (with Alain Lapointe)

Inventory management

- Union Arabe du Fer et de l'Acier, November 1993

Introduction to the use of computers in management

- ESSEC, Douala, 15-19 March 1993

The OPLAR system

- Gestion des entreprises pétrolières, HEC, February 1992, February 1991

Operations research and computer science: decision support tools in the refining and petrochemical industries

- Gestion des entreprises pétrolières, HEC, 17-19 June 1991

Risk analysis in exploration and production

- Seminario petroleo y energia estrategia y optimizacion, Universidad de Los Andes, 22-25 April 1991

Global energy models

- MARKAL-Tunisia, GERAD, 21-22 January 1991

STUDENT SUPERVISIONS

Training of trainers

1. Wang Yixia (HUST, Wuhan, China), Risk Analysis, January-March 2007
2. Lu Yaobin (HUST, Wuhan, China), Operations Research, May-June 2000

Post-doctoral trainees

1. Claire Bernard, Viable management and sustainable devlopment,. October 2013 – Joint supervision with Georges Zaccour.
2. Fushan Nasiri, *Multicriteria optimization models in environment,* October 2007 – April 2009. Joint supervision with Georges Zaccour.
3. Lucia Sbragia, *Dynamic game applications in environment*. September 2006 - September 2008. Joint supervision with G. Zaccour.
4. Denis Claude, *Sustainable agreements and strategic alliances: applications in environment.* September 2004 - September 2005 and November 2006 - November 2008. Joint supervision with Hassan Benchekroun and Georges Zaccour.

Ph.D.

1. Oussama Marzouk, Ph.D., Administration, HEC. *Counterparty risk and collateral management.* September 2013.
2. Yaovi Gassesse Siliadin, Ph.D., Administration, HEC. *Numerical pricing methodsfor multidimensional products.* September 2012.
3. Amir Ardestani Jaafari, Ph.D. Administration, HEC. *Stochastic Optimization.* January 2012. Joint supervision with Érick Delage.
4. Hossein Mizrapour, Ph.D. Administration. *Strategic Behaviour in the Energy Sector. S*eptember 2010.

5. Fatemeh Behzadnejad, Ph.D. Economics. *Renewable resources.September* 2009. Joint supervision with Hassan Benchekroun.
6. Mbaye Ndoye, Ph.D. Administration. *Derivative pricing.* September 2010.
7. Samar Garrab, Ph.D. Administration. *Viability and sustainable development*. September 2009.
8. Saad Serghini Idrissi, Ph.D. Administration. *Spectral Approximation Methods.* September 2009.
9. Florent Kpodjedo, Ph.D. Administration. *Credit risk in the Insurance Industry.* January 2009. Joint supervision with Bruno Rémillard.
10. Chedly Baraket, Ph.D. Administration. *Fourier Transforms and Option Pricing.* September 2006.
11. Ali Boudhina, Ph.D. Administration. *Three essays on the valuation of exotic options: American options, segregated funds, and electricity options.* January 2009 – September 2013.
12. Mohammed Kharbach, Ph.D., Administration, HEC, *Essays on Utilities Regulation*. September 2003 – October 2012.
13. Michel Yevenunye Keoula, Ph.D. Administration, HEC. *Four Essays in Natural Resource Economics and Carbon Markets Finance.* September 2006 – June 2011
14. Fereshteh Mafakheri, Ph.d. Administration. *Project Management and Risk Analysis.* September 2008 – November 2010.
15. Amira Annabi, Ph.D., Administration, HEC, *Strategic models and corportate debt*. September 2002 – October 2009. Joint supervision with Pascal François.
16. Ramzi Ben Abdallah, Ph.D., Administration, HEC, *Essays on the Valuation of Derivatives on Long Maturity Treasury Bonds*. September 2003 – September 2008. Joint supervision with Hatem Ben Ameur. ***Best Thesis Award (2008), HEC Montréal***
17. Salmata Ouedraogo, Ph.D., Administration, HEC, *Essays in empirical economics: Health – Education - Gender.* January 2003 – March 2008. Joint supervision with Désiré Vencatachellum.
18. Tammam Mouakhar, Ph.D., Administration, HEC, *Essays on Strategic and Tactical Asset Allocation.* January 2002 - March 2007.
19. Tarek Masmoudi, Ph.D., Administration, HEC, *Portfolio Management Delegation: Investment Choice and Management Fees in a Continuous Time Framework.* September 2001 - May 2006.
20. Karim Drira, Ph.D., Administration, HEC, *Three Essays on the Valuation of Embedded Derivatives in Financial Contracts*. January 2000 - March 2006.
21. Karima Fredj, Ph.D., Administration, HEC, *Application of Game Theory to Global environmental Problems.* January 2000 - October 2004. Joint supervision with G. Zaccour. ***Best Ph.D. thesis award (2005), HEC Montreal***
22. Abdalla Turki, Ph.D., Administration, HEC, *The Efficiency of Bertrand and Cournot Equilibria.* September 2000 - September 2004.
23. Mehdi Zahaf, Ph.D., Administration, HEC*, Joint Implementation of Environmental Projects: A Game Theory Approach*. September 1998 - January 2004. Joint supervision with G. Zaccour
24. Hatem Ben Ameur, Ph.D., Administration, HEC, *Simulation and Numerical Procedures for Option Pricing*. September 1995 - March 2002. Joint supervision with P. L'Écuyer. **Best Ph.D. thesis award, HEC Montreal (2002).**
25. Abdelghani Hammadia, Ph.D., Applied Mathematics, Polytechnique. *Contribution to the optimization, in real time and short term, of the hydroelectric resources of a river*. September 1997 - January 2001.
26. Pierre-Olivier Pineau, Ph.D., Administration, HEC, *Electricity Market Reforms: Institutional Developments, Investment Dynamics and Game Modeling.* September 1995 - October 2000. Joint supervision with G. Zaccour. **Best Ph.D. thesis award, HEC Montreal (2000). Award of excellence, IREC (2000).**

Masters (with thesis)

1. Jean-Paul Olivier Ahouassou, M.Sc. financial engineering, HEC. *Syndicated loans* September 2012.
2. Mohamed Moufid Eyitayo, M.Sc. financial engineering, HEC. Interbank payment systems. September 2007.
3. Alexandre Cléroux-Perrault, M.Sc. financial engineering, HEC. *Pricing convertible bonds.* September 2011 – June 2013
4. Rami Jrad M.Sc. financial engineering, HEC. *Pricing derivatives under GARCH using a combination of spectral and finite elements methods*. September 2008 – May 2013.
5. Axel Siliadin, Master mathematical engineering, École Polytechnique de Tunisie. *Dynamic Programming and Spectral Methods for Pricing Bonds with Embedded Options.* June 2011 – April 2012.
6. Tiguéné Nabassaga, Master in economics, École Polytechnique de Tunisie. *Pricing bermudian quanto options.* September 2010 – December 2011.
7. Christopher McLaren, M.Sc. Financial Engineering, HEC. *Risk measures*. September 2010.
8. Amine Radhouane, M.Sc. financial engineering, HEC. *Non Gaussian GARCH Models* . January 2009 – July 2011.
9. Fares Ben Mahmoud, M.Sc. financial engineering, HEC. *Implicit options pricing using multifactor diffusion models*. September 2008 – December 2010.
10. Mourad El-Hila, M.Sc. financial engineering, HEC. *Empirical investigation of option prices under GARCH*. September 2008 – september 2010. ***IFM2 best thesis award 2011***
11. Judith Toupin, M.Sc. financial engineering, HEC. *Pricing and hedging of segregated funds*. September 2007 – October 2009.
12. Saad Serghini Idrissi, M.Sc. financial engineering, HEC. *Option pricing under GARCH*, September 2007 – September 2009.
13. Ali Boudhina, M.Sc. financial engineering, HEC. *Mortgage backed securities*. January 2008 – September 2009.
14. Sébastien Forté, M.Sc. Financial Engineering, HEC. *Arbitrage Strategy on the Term Structure of Swap Rates.* September 2006 – September 2008. Joint supervision with Tarek Masmoudi (CDPQ).
15. Yahaya Rhissa, M.Sc., Financial Engineering, HEC, *Families of regressors in the LS procedure*. September 2005 – September 2008. Joint supervision with H. Ben Ameur.
16. Jean-Guy Demers, Ph.D., Financial Engineering, HEC, *Prevision models for energy prices*. April 2005 - October 2007.
17. Guiseppe Iafigliola, M.Sc., Financial Engineering, HEC, *Implémentation of Black's model for normal interest rate distribution, Mortgage Backed Securities: an analysis.* January 2001 - January 2007. Joint supervision with H. Ben Ameur.
18. Valérie Lemieux, M.Sc., Finance, HEC, *Significant determinants of hedge funds performance".* September 2003 - May 2006. Joint supervision with É. Jacquier.
19. Jonathan Trépanier, M.Sc., Operations Research, HEC, *Analysis of cooperation in R&D projects with asymmetries.* January 2002 - January 2005.
20. Sarah Bounad, M.Sc., Financial Engineering, HEC, *Dynamic capital structure model*. January 2002 - May 2005. Joint supervision with Pascal François.
21. Mario Spino, M.Sc., Financial Engineering, HEC, *Pricing swing options on electricity using dynamic programming.* September 2000 - December 2003.
22. Ramzi Ben Abdallah, M.Sc., Financial Engineering, HEC, *Timing strategy for the "cheapest to deliver" bond*. September 2001 - September 2003. Joint supervision with H. Ben Ameur.
23. Maurice Bijo, M.Sc., Business Intelligence, HEC, *Demographic and macroeconomic determinants of charitable donations levels of Canadian.* January 2001 - May 2003.

24. Jean-François Giroux, M.Sc., Financial Engineering, HEC, *Pricing "lookback" American options with dynamic programming.* September 1999 - January 2003.
25. Iryna Golovan, M.Sc., Operations Research, HEC, *The dynamics of revenue inequality and direct taxation.* September 1999 - January 2003. Joint supervision with D. Vencatachellum (2002).
26. Mohamed Mokhtari, M.Sc., Financial Engineering, HEC, *Pricing American options on the natural gas market using quasi-analytic methods.* September 1999 - November 2002. Joint supervision with P. François (2002).
27. Lotfi Karoui, M.Sc., Financial Engineering, HEC, *Pricing implicit options in bonds using dynamic programming and finite elements methods*. September 2000 - September 2003. Joint supervision with H. Ben Ameur.
28. Florent Kopdejpo, M.Sc., Financial Engineering, HEC, *Comparison of various estimation methods by gaussian mixtures for financial series.* September 1999 - September 2002.
29. Giorgio Pavesio, M.Sc., Financial Engineering, HEC, *Evolution of interest rate spreads for various credit ratings.* January 2000 - May 2002.
30. Dominic Binette, M.Sc., Financial Engineering, HEC, *Is uncertainty in real exchange rates generating a strategic advantage for a multinational firm in a duopoly?* January 1998 - December 2001.
31. Jean-Jacques Chouinard, M.Sc., Financial Engineering, HEC, *Management of risk of pension plans*. September 1999 - November 2001.
32. Karine Béguin, M.Sc., Financial Engineering, HEC, *Average time between margin calls for term contracts.* September 1999 - August 2001. Joint supervision with H. Ben Ameur.
33. Jacqueline Mukamurenzi, M.Sc., Financial Engineering, HEC, *Pricing a convertible, callable and putable bond (the LYON case).* January 1997 - April 2000.
34. Éric Springuel, M.Sc., Financial Engineering, HEC, *A dynamic stochastic minimax algorithm for the solution of a portfolio optimization problem*. January 1998 - January 2000. ***Best M.Sc. Thesis Award, 2000***.
35. Mounira Boussetta, M.Sc., Financial Engineering, HEC*, Investment strategies: distresses societies stocks*. January 1998 - October 1999. Joint supervision with Minh Chau To.
36. Quoc-Xuan, Trinh, M.Sc., Financial Engineering, HEC*, Evaluating corporate bonds: analytical solution.* September 1996 - September 1999. Joint supervision with Minh Chau To.
37. Gabriel Veilleux, M.Sc., Finance, HEC, *Risk management model for interest in inflation rates in the management of pension funds*. September 1997 - August 1999. Joint supervision with P. Laroche.
38. Kafui Aithnard, M.Sc., Financial Engineering, HEC, *Optimizing the asset-liability spread for a pension fund*. January 1996 - January 1999. Joint supervision with P. Laroche.
39. Anta Niasse, M.Sc., Operations Research, HEC, *Using fuzzy optimization to analyse investment strategies*. September 1995 - September 1998. Joint supervision with P. Laroche.
40. Saloua Ouassil, Engineering, École nationale supérieure d'informatique et d'analyse des systèmes, Morocco. *Optimal Unit Loading in a hydroplant.* January 1998 - July 1998.
41. Anthony Vallée, M.Sc., Financial Engineering, HEC, *Impact of derivatives on the efficient frontier*. January 1997 - June 1998. Joint supervision with P. Laroche.
42. Claude Khalil, M.Sc., Financial Engineering, HEC, *Portfolio rebalancing*. September 1995 - March 1998. Joint supervision with P. Laroche.
43. Nagi Haddad, Operations Research, HEC, *Dynamic optimization in publicity with competition*. September 1995 - February 1998. Joint supervision with G. Zaccour.
44. Abdelghani Hammadia, M.Sc., Applied Mathematics, École Polytechnique. *Chargement optimal des groupes* January 1997 - September 1997.
45. Arnold Ngouana, M.Sc., Operations Research, HEC, *Portfolio optimization with asymmetrical risk criteria.* September 1994 - July 1997.

46. Christian Rhéaume, M.Sc., Operations Research, HEC, *Sensitivity of the binomial implicit model of Barle and Cakici: volatility structure and non-constant dividends*. September 1994 - July 1997. Joint supervision with P. Laroche.
47. Anne Mercier, M.Sc., Operations Research, HEC, *Modelling international oil agreements.* January 1995 - May 1997.
48. Sophie Leblanc, M.Sc., Operations Research, HEC, *Optimal portfolio with managers* . January 1995 - November 1996.
49. Abdelghani Hammadia, Engineering, École nationale supérieure d'informatique et d'analyse des systèmes, Maroc. *Optimal unit loading in hydroelectric plants* . September 1994 - July 1996.

Masters (with supervised projects)

1. Michaël Pednault, M.Sc. financial engineering, HEC Montréal. *MATLABIimplementation of a risky debt valuation procedure.* January 2010.
2. Laure-Cristelle Savadogo, M.Sc. Financial Engineering, HEC. *Financial Analyst*. January 2009 – September 2010.
3. Si-Yang Wu, M.Sc. Financial Engineering, HEC. *Financial Analyst*. January 2009 –May 2010.

Graduate specialized diploma in Management of Oil Industries (graduates)

1. Bin, Su, *Reservoir and River Optimization in Sechuan*, March 2004.
2. Siwu, Chang, *Dynamic Optimized Operation Mode of Hydropower Station*, March 2004.
3. Hadiji, Lamjed, *Financial evaluation of an oil field in the development phase,* May 1995.
4. Khediri, Mohamed, *A model for the STIR refinery,* May 1995.
5. Harouni, Mongi, *Optimizing the use of pump equipment at the El Borma field,* May 1995.
6. Becheikh, Khaled, *Energy models,* June 1990.
7. Nkoto-Angoula, Joël, *Optimization of transportation and distribution of petroleum products in Cameroon,* June 1990.
8. Othmani, Mohamed, *Optimization of refinery processes by linear programming,* June 1990.
9. Ratomaharo, Malalanirina, *Models for the evaluation of reserves,* June 1990.
10. Harakandi, Onesphore, *Forecasting demand, transportation and distribution of oil products in Burundi,* June 1989.
11. Khalfallah, Ezzedine, *Optimizing transportation of oil products in Tunisia,* June 1989.
12. Salem, El-Hassen, *Risk analysis, gas field production project,* June 1989.
13. Oualaalou, Said, *Optimization of refinery processes by linear programming,* June 1989.
14. Kaddour, Khaled, *Increasing the recuperation at El-Borma,* July 1988.
15. Toure, Soriba, *Optimizing transportation of petroleum products in the republic of Guinea,* July 1988.

Undergraduate trainees

1. Sahar Guesmi, École Polytechnique de Tunisie, *Simulation of the HuRLO market.* February to June 2013.
2. Marouen Baccouche, École Polytechnique de Tunisie. *Optimal Leverage and structure of risky debt.* February to June 2013.
3. Jean-Paul Ahouassou, École Polytechnique de Tunisie, *Models for loan syndicates formation.* February to June 2012.

4. Oussama Marzouk, École Polytechnique de Tunisie, *CVA valuation for american options*. February to June 2012.
5. Laeticia Wong, HEC Montréal, *Loan syndicate data analysis*. May to August 2011.
6. Axel Siliadin, École Polytechnique de Tunisie, *A dynamic Programming approach using Tchebychev interpolation for pricing bonds with embedded options under the two factor Vasicek model*. February to June 2011.
7. Tiguéné Nabassaga, École Polytechnique de Tunisie, *Quasi-Monte Carlo Methods*. February to June 2010.
8. Neji Moukla, École Polytechnique de Tunisie, *Pricing implicit options with spectral approximation methods.* February to June 2010.
9. Allia Selami, École Polytechnique de Tunisie, *Pricing Derivatives Using Prospective Dynamic Programming*, February to June 2009.
10. Salah Ben Khalil, École Polytechnique de Tunisie. *Pricing Barrier Options under GARCH*. February – June 2008. Joint supervision with Hatem Ben Ameur
11. Amina Graja, École Polytechnique de Tunisie. *Stability of environmental agreements : a MERGE approach*. February – June 2008. Joint supervision with Olivier Banh and Georges Zaccour
12. Amine Radhouane, École Polytechnique de Tunisie. *GARCH Models with non-gaussian innovations*. February – June 2008. Joint supervision with Hatem Ben Ameur
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