

Dr. Michel Toulouse

AFFILIATIONS **Visiting Associate Professor**
Department of Computer Science
Oklahoma State University
Tulsa/Stillwater, Oklahoma, USA

Adjunct Professor
Department of Computer Science and Operations Research
University of Montréal
Montréal, Québec, CANADA

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CITIZENSHIP Canadian

RESEARCH INTERESTS Parallel and distributed algorithms, combinatorial optimization, search algorithms, artificial intelligence, network optimization and security

ACADEMIC FORMATION **University of Montréal**, Montréal, Québec, Canada
Ph.D. in Computer Engineering, École Polytechnique, November 1996
• Dissertation Topic: Study of distributed search heuristics without explicit global control strategies
• Advisors: Teodor G. Crainic and Brunilde Sansó
MSc. in Computer science, Dept. of Computer Science and Operations Research, June 1989
• Dissertation Topic: An algorithm to find the 3-connexe components for general graphs
• Advisors: Gilles Brassard and Odile Marcotte
Université du Québec à Montréal (UQÀM), Montréal, Québec, Canada
Bachelor Degree in Management (M.I.S.), June 1986
University Laval, Québec city, Québec Canada
Bachelor Degree in Philosophy, April 1979

**ACADEMIC
EXPERIENCE**

- Oklahoma State University**, Dept. of Computer Science, Stillwater, Oklahoma, USA
Visiting associate professor **August 2008, present**
- University of Montréal**, Dept. of Computer Science and Operations Research, Montréal, Québec, Canada
Adjunct professor **June 2008, June 2014**
- University of Montréal**, Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation (CIRRELT), Montréal, Québec, Canada
Associate member **June 2006 - present**
- University of Manitoba**, Dept. of Computer Science, Winnipeg, Manitoba, Canada
Assistant professor **August 1999 - December 2005**
- University of Nebraska-Lincoln**, Department of Computer Science and Engineering, Lincoln, NE, USA
Visiting professor **August 1998 - July 1999**
- University of Oklahoma**, School of Computer Science, Norman, OK, USA
Post-doctorate stage **January 1997 - July 1998**
- Canadian National Defense**, Royal Military College, St-Jean, Québec, Canada
Research Associate **January 1992 - December 1994**

**SCIENTIFIC
ACTIVITIES:
Refereed journal
publications**

1. P.K. Nguyen, T.G. Crainic and M. Toulouse, A Tabu Based Local Search for Time-dependent Multi-zone Multi-trip Vehicle Routing Problem with Time Windows. Submitted to International Journal of Operational Research.
2. M. Vu Duc, T.G. Crainic, M. Toulouse, A Tabu Search Metaheuristic for the Capacitated Multicommodity Network Design Problem with Asset Management Constraints. Submitted to Journal of Heuristics.
3. M. Vu Duc, T.G. Crainic, M. Hewitt, M. Toulouse, Service Network Design with resources Constraints. In preparation.
4. P.K. Nguyen, T.G. Crainic, M. Toulouse, A Hybrid Genetic Algorithm for the Periodic Vehicle Routing Problem with Time Windows. In preparation.
5. B. Li and M. Toulouse, Maximum Leaf Spanning Tree Problem for Grid Graphs, Journal of Combinatorial Mathematics and Combinatorial Computing, Vol. 73, 2010, pp. 181-194.
6. C. Dai, B. Li and M. Toulouse, A Multilevel Cooperative Tabu Search Algorithm for the Covering Design Problem, Journal of Combinatorial Mathematics and Combinatorial Computing, Vol. 68, 2009, pp 33-65.
7. I. Oduntan, M. Toulouse, R. Baumgartner, C. Bowman, R. Somorjai and T. Crainic, A Multilevel Tabu Search Algorithm for the Classification of Biomedical Data, *Computers & Mathematics with Applications*, Vol. 55, No. 5, March 2008, pp. 1019-1033.
8. B. Li and M. Toulouse, Variations of the Maximum Leaf Spanning Tree Problem for Bipartite Graphs, *Information Processing Letters*, Vol. 97, No. 4, February 2006, pp. 129-132.
9. T.G. Crainic, Y. Li and M. Toulouse, A First Multilevel Cooperative Algorithm for the Capacitated Multicommodity Network Design, *Computer & Operations Research*, Vol. 33, No. 9, September 2006, pp. 2602-2622.
10. B. Li and M. Toulouse, Some NP-Completeness Results on Partial Steiner Triple Systems and Parallel Classes, *Ars Combinatoria*, Vol. 80, July 2006, pp. 45-51.
11. M. Toulouse, T.G. Crainic and B. Sansó, Systemic Behavior of Cooperative Search Algorithms, *Parallel Computing*, Vol. 21, No. 1, January 2004, pp. 57-79.
12. M. Ouyang, M. Toulouse, K. Thulasiraman, F. Glover and J.S. Deogun, Multilevel Cooperative Search for the Circuit/Hypergraph Partitioning Problem, *IEEE Transactions on Computer-Aided Design and Integrated Circuits and Systems*, Vol. 21, No. 6, June 2002, pp. 685-693.
13. M. Toulouse and T.G. Crainic and K. Thulasiraman, Global Optimization Properties of Parallel Cooperative Search Algorithms: A Simulation Study, *Parallel Computing*, Vol. 26, No. 1, January 2000, pp. 91-112.
14. T.G. Crainic, M. Toulouse and M. Gendreau, Towards a Taxonomy of Parallel Tabu Search Heuristics, *INFORMS Journal of Computing*, Vol. 9, No. 1, January 1997, pp. 61-72.
15. T.G. Crainic, M. Toulouse and M. Gendreau, Parallel Asynchronous Tabu Search for Multicommodity Location-Allocation with Balancing Requirements, *Annals of Operations Research*, Vol. 63, No. 2, April 1996, pp. 277-299.
16. T.G. Crainic, M. Toulouse and M. Gendreau, Synchronous Tabu Search Parallelization Strategies for Multicommodity Location-Allocation with Balancing Requirements, *OR Spektrum*, Vol. 17, No. 2-3, June 1995, pp. 113-123.
17. J. Desbiens, M. Lavoie, S. Pouzyreff, P. Raymond, T. Tamazouzt and M. Toulouse, CLAP: an Object-Oriented Programming System for Distributed Memory Parallel Machines, *ACM SIGPLAN OOPS Messenger*, Vol. 5, No.1, 1994, pp. 44-48.
18. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, A Tabu Search Procedure for Multicommodity Location/Allocation with Balancing Requirements, *Annals of Operation Research*, Vol. 41, No. 4, December 1993, pp.359-383.

**Refereed
conferences
publications**

19. J. Desbiens, M. Lavoie, S. Pouzyreff, P. Raymond, T. Tamazouzt and M. Toulouse, CLAP: Un système de programmation objet pour machines parallèles à mémoire distribuée (CLAP: an Object-Oriented Programming Environment for Distributed Memory Parallel Systems), *ICO Québec*, Vol. 5, No. 2, 1993, pp. 27-37.
20. B. Jaumard, K. Do Trung, M. Toulouse, A Distributed p-Cycle Scheme for Protection in Multi-Domain Optical Networks. Accepted for IEEE Global Communication Conference (IEEE 2012 GLOBECOM).
21. B. Jaumard, K. Do Trung, M. Toulouse, p-Cycle Based Protection Mechanisms in Optical Multi-Domain Networks. Accepted for The Fourth International Conference on Communications and Electronics (ICCE 2012).
22. G. S. Sharma, M. Toulouse, D. L. Truong, An Improved Distributed Routing Protocol for Multi-Domain Optical Networks using Topology Aggregation. Third Conference on Theoretical and Applied Computer Science (TACS 2012), Oklahoma State University, Feb. 17, 2012.
23. P. Prakasam, M. Toulouse, T.G. Crainic and R. Qu, A Multilevel Cooperative Search Algorithm for the Graph Coloring Problem, Learning and Intelligent Optimization Conference, LION (III) 2009, Jan 14-18, 2009, Trento, Italy (Extended abstract)
24. T.G. Crainic and M. Toulouse, Explicit and Emergent Cooperation Schemes for Search Algorithms, Learning and Intelligent Optimization Conference, LION (II) 2007, December 8-13, 2007 - Trento, Italy. Published in *Lecture Notes in Computer Science*, # 5315, 2008, pp. 95-109.
25. E. Liu, J. Wang, M. Kwok, J. Diamond, M. Toulouse and D. Cheriton, FPS Game Performance in Wi-Fi Networks, The Fourth Annual International Conference in Computer Game Design and Technology (GDTW 2006), Liverpool, England, November 15th - 16th 2006 (Conference Best Paper Award).
26. E. Liu, J. Wang, M. Kwok, J. Diamond and M. Toulouse, Capability of IEEE 802.11g Networks in Supporting Multi-player Online Games, 2nd IEEE International Workshop on Networking Issues in Multimedia Entertainment (NIME'06), Las Vegas, Nevada, January 7-10, 2006.
27. C. Dai, B. Li and M. Toulouse, A Cooperative Multilevel Tabu Search Algorithm for the Covering Design Problem, Artificial Evolution, 7th International Conference on Artificial Evolution, Lille, France, October 26-28, 2005, pp. 119-130.
28. J. Diamond, S. Camorlinga, P. Zhou, M. Toulouse and E. Liu, Archive Planning for a Metropolitan PACS Network, Proceedings of the 22nd Meeting of the Society for Computer Applications in Radiology Conference (SCAR 2005), Orlando Florida, USA. June 2-5, 2005.
29. N. Kadaba, P. Irani and M. Toulouse, Visualizing Time Dependent Semantics: An Application to Quantum Algorithms, London, UK, July 5-9, 2005. Published in Proceedings of the Ninth International Conference on Information Visualisation, ISBN ISSN:1550-6037, 0-7695-2397-8, pp. 182-187.
30. K. Subramoniam, M. Maheswaran and M. Toulouse, Towards a Micro-Economic Model for Resource Allocation in Grid Computing Systems, IEEE Canadian Conference on Electrical & Computer Engineering (CCECE'02), May 12-15, 2002 (IEEE CCECE02 Proceedings, ISBN: 0-7803-7514-9; vol. 2, pp. 782-785).
31. C. Chen, M. Maheswaran and M. Toulouse, On Bid Selection Heuristics for Real-Time Auctioning for Wide-Area Network Resource Management, 2001 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 2001), Las Vegas, June 25-28, 2001.
32. M. Ouyang, M. Toulouse, K. Thulasiraman, F. Glover and J.S. Deogun, Multi-Level Cooperative Search: Application to the Circuit/Hypergraph Partitioning Problem, International Symposium on Physical Design, San Diego, CA, ACM Press, April 9-12 2000, pp. 192-198.

33. M. Toulouse, K. Thulasiraman and F. Glover, Multi-Level Cooperative Search: A new Paradigm for Combinatorial Optimization and an Application to Graph Partitioning. *5th International Euro-Par Parallel Processing Conference*. Published in *Lecture Notes in Computer Science*, # 1685, 1999, pp. 533-542.
34. M. Toulouse, T.G. Crainic and B. Sansó, An Experimental Study of Systemic Behavior of Cooperative Search Algorithms, *Meta-Heuristics: Advances and Trends in Local Search Paradigms for Optimization*, Kluwer Academic Publishers, 1999, pp. 373-392.
35. M. Toulouse, T.G. Crainic, B. Sansó and K. Thulasiraman, Self-Organization in Cooperative Tabu Search Algorithms, *1998 IEEE International Conference on Systems, Man, and Cybernetics*, San Diego, U.S.A., Omnipress, Oct. 11-14 1998, pp. 2379-2385.
36. M. Toulouse, T.G. Crainic and M. Gendreau, Communication Issues in Designing Cooperative Multi-Thread Parallel Searches, *Meta-Heuristics: Theory and Applications*, Kluwer Academic Publishers, Norwell MA, 1996, pp. 501-522.
37. M. Toulouse and J. Desbiens, Protocole mixte de cohérence de données pour un système Acteur fonctionnant sur une mémoire virtuelle partagée (Mixed Data Consistency Protocol for an Actor System Based on a Distributed Shared Memory), in: *Actes de la 7ème Rencontres francophones du Parallélisme*, Mons, Belgium, 1995, pp. 92-95.
38. M. Toulouse, J. Desbiens and J. Zhang, Épidaure: un système basé sur le concept de segments d'acteurs (Épidaure: A Programming Environment Based on the Concept of Actor Segments), in: *Actes de la 6ème Rencontres francophones du Parallélisme*, Lyon, France, 1994, pp. 197-200.
39. J. Desbiens, M. Toulouse, M. Lavoie, S. Pouzyreff, P. Raymond and T. Tamazouzt, An Actor Based Programming System for Heterogeneous Processing, *6th International Parle Conference*, Athens, Greece, Published in *Lecture Notes in Computer Science*, # 817, 1994, pp. 753-756.
40. J. Desbiens, M. Lavoie, S. Pouzyreff, P. Raymond, T. Tamazouzt and M. Toulouse, CLAP: an Object-Oriented Programming System for Distributed Systems, *International Conference on Parallel Computing, Parco'93*, Grenoble, France, Sept. 1993, Published in *Parallel Computing: Trends and Applications*, North-Holland Publishers, 1994, pp. 601-604.

Publications in book chapters

41. T.G. Crainic and M. Toulouse, Parallel Metaheuristics, in *Handbook of Metaheuristics*, Second Edition, M.Gendreau, J.-Y. Potvin (Eds.), Springer, 2010, pp. 497-543.
42. T.G. Crainic and M. Toulouse, Parallel Strategies for Metaheuristics, in *Handbook of Metaheuristics*, F. Glover, G. Kochenberger (Eds.), Kluwer Academic Publishers, 2003, pp. 475-513.
43. T.G. Crainic and M. Toulouse, Parallel Metaheuristics, *Fleet Management and Logistics*, T.G. Crainic, G. Laporte editors, Kluwer Academic, Norwell MA, 1998, pp. 205-251.

Book:

44. T.G. Crainic and M. Toulouse, *Parallel and Distributed Search Heuristics*, Kluwer Academic Publishers, In preparation.

Book review:

45. Lee Spector, Automatic Quantum Computer Programming: A Genetic Programming Approach, *Genetic Programming and Evolvable Machines*, Vol. 7 No. 1, 2006, pp. 125-126.

Communications at conferences: first author speaker

46. F. Bastin, M.A. Tien and M. Toulouse, On the combination of Hessian approximations for data estimation, The 21st International Symposium on Mathematical Programming (ISMP), Berlin, Germany, August 19 - 24, 2012.
47. P.K. Nguyen, T.G. Crainic and M. Toulouse, A Tabu Search for the Time-Dependent Multi-zone Multi-trip Vehicle Routing Problem with Time Windows. Submitted to The First Meeting of the EURO Working Group on Vehicle Routing and Logistics Optimization (VeRoLog), Bologna, Italy June 18 to 20, 2012.

48. M.A. Tien, F. Bastin and M. Toulouse, Revisiting Optimization Algorithms for Maximum Likelihood Estimation, Optimization Days 2012, Montréal, May 7-9, 2012.
49. D. M. Vu, T.G. Crainic and M. Toulouse, Service Network Design with Resources Constraints, Optimization Days 2012, Montréal, May 7-9, 2012.
50. P. K. Nguyen, T.G. Crainic and M. Toulouse, A Tabu Based Local Search for Time-dependent Multi-zone Multi-trip Vehicle Routing Problem with Time Windows, Optimization Days 2012, Montréal, May 7-9, 2012.
51. D. M. Vu, T.G. Crainic and M. Toulouse, A Solution Framework for the Capacitated Multi-Commodity Fixed-Cost Network Design with Design-Balance Constraints, Optimization Days 2011, Montréal, May 2-4, 2011.
52. T.G. Crainic, P.K. Nguyen and M. Toulouse, A Hybrid Genetic Algorithm for the Periodic Vehicle Routing Problem with Time Windows, Twelve Annual Congress of ROADEF (Société Française de Recherche Opérationnelle et d'Aide à la Décision), St-Etienne, France, March 2-4 2011.
53. P. K. Nguyen, T.G. Crainic and M. Toulouse, A Hybrid Genetic Algorithm for the Periodic Vehicle Routing Problem with Time Windows, Optimization Days 2010, Montréal, May 10-12, 2010.
54. M. Toulouse and T.G. Crainic, Self-Assembly/Behavior-Based Programming for Cooperative Search Algorithms, CORS / Optimization Days 2008, Québec, May 12-14, 2008.
55. M. Toulouse and T.G. Crainic, Multilevel Self-Assembling Transformation Rules Enable by Cooperative Search, The Seventh Metaheuristics International Conference Montréal, June 25-29, 2007 (Short paper).
56. E.D. Taillard, M. Laurent, M. Toulouse and T.G. Crainic, Parallel Noising Methods Embedded in an Adaptive Memory, The Seventh Metaheuristics International Conference Montréal, June 25-29, 2007 (Short paper).
57. M. Toulouse, I. Oduntan, R. Baumgartner, C. Bowman and R. Somorjai, A Multilevel Tabu Search Algorithm for Feature Selection in Biomedical Data, CORS / Optimization Days 2006, Montréal, May 8-10, 2006.
58. T.G. Crainic and M. Toulouse, Feature Selection and Parallel Meta-heuristics, FIMA International Conference, "Models and Methods for Human Genomics", Ayas-Champoluc, Aosta Valley (Italy), January 23-27, 2006.
59. M. Toulouse, I. Oduntan, R. Baumgartner, C. Bowman and R. Somorjai, A Multilevel Tabu Search Algorithm for Classification of Biomedical Data, *2005 Annual Meeting of the Canadian Applied and Industrial Mathematics Society (CAIMS 2005)*, June 16-18, 2005.
60. M. Toulouse, Multilevel Cooperative Search, Forth International Workshop of the EURO Working Group on Parallel Processing in Operations Research (PAREO), Mont-Tremblant (Montréal), Canada, January 16-21, 2005.
61. J. Diamond, S. Camorlinga, P. Zhou, M. Toulouse and E. Liu, Archive Planning for a Metropolitan PACS Network, Proceedings of the 22nd Meeting of the Society for Computer Applications in Radiology Conference (SCAR 2005), Orlando Florida, USA. June 2-5, 2005.
62. M. Toulouse and T.G. Crainic, Perspectives on Multilevel Meta-Heuristics, *2004 INFORMS Annual Meeting at Denver*, October 24-27, 2004.
63. I. Oduntan, R. Baumgartner, C. Bowman, R. Somorjai and M. Toulouse, Feature Selection Using a Multi-level Approach, *2004 INFORMS Annual Meeting at Denver*, October 24-27, 2004.
64. T.G. Crainic, Y. Li and M. Toulouse, Multilevel, Cooperative Parallel Search, Network Design, *2004 INFORMS Annual Meeting at Denver*, October 24-27, 2004.

65. T.G. Crainic, Y. Li and M. Toulouse, A Multilevel Cooperative Parallel Tabu Search for Network Design, *CORS/INFORMS Joint Meeting*, Banff, Alberta, May 16-19, 2004.
66. M. Xu, T.G. Crainic and M. Toulouse, A Parallel Cooperative Search Approach for Negotiation in Distributed Combinatorial Markets, *CORS/INFORMS Joint Meeting*, Banff, Alberta, May 16-19, 2004.
67. C. Dai, B. Li and M. Toulouse, Constructing Covering Designs using Parallel Tabu Search, *CORS/INFORMS Joint Meeting*, Banff, Alberta, May 16-19, 2004.
68. M. Toulouse, T.G. Crainic and E. Guillelot, A Cooperative Multilevel Tabu Search Algorithm for the Hypergraph, *2003 INFORMS Annual Meeting at Atlanta*, October 19-22, 2003.
69. T.G. Crainic, Y. Li and M. Toulouse, A Cooperative Multilevel Parallel Tabu Search for Network Design, *2003 INFORMS Annual Meeting at Atlanta*, October 19-22, 2003.
70. C. Chen, M. Maheswaran and M. Toulouse, Supporting Co-allocation in an Auctioning-based Resource Allocator for Grid Systems, 11th IEEE Heterogeneous Computing Workshop (HCW 2002), April 15th, 2002.
71. M. Toulouse and T.G. Crainic, Survey of Parallel Metaheuristics, *Adaptive Memory and Evolution: Tabu Search and Scatter Search*, University of Mississippi, March 8-10, 2001.
72. M. Toulouse, M. Ouyang, K. Thulasiraman, F. Glover and J.S. Deogun, Multi-Level Cooperative Search, *PAREO 2000 Meeting*, Second international Workshop of the PAREO working group on Parallel Processing in Operations Research, Paderborn, Germany, June 14-16, 2000.
73. M. Toulouse, M. Ouyang, K. Thulasiraman, F. Glover and J.S. Deogun, Multi-Level Cooperative Search: Application to Hypergraphs, *2000 INFORMS Meeting at Salt Lake City*, Utah, May 7-10, 2000.
74. T.G. Crainic and M. Toulouse, Parallel Metaheuristics. Tutorial. *Parallel Processing in Operations Research*, Versailles, France, July 8-10, 1998.
75. M. Toulouse and T.G. Crainic, Parallel Metaheuristics. Tutorial. *1998 INFORMS Meeting in Montréal*, Canada, April 26-29, 1998.
76. M. Toulouse, A. Das and T.G. Crainic, Can Self-Organization Improve Response Time of Self-Healing Capabilities in Telecommunication Networks. *1998 INFORMS Meeting in Montréal*, Canada, April 26-29, 1998.
77. M. Toulouse, K. Thulasiraman and F. Glover, A Parallel Vocabulary Building Metaheuristic for Graph Partitioning. *1998 INFORMS Meeting in Montréal*, Canada, April 26-29, 1998.
78. M. Toulouse, Cooperative Parallel Search: Impacts of Information Sharing, *1997 INFORMS Meeting in Dallas*, October 26-29, 1997.
79. T.G. Crainic, M. Toulouse and G. Gendreau, Global Memories, Parallel Tabu Search and Network Design, *1997 INFORMS Meeting in Dallas*, October 26-29, 1997.
80. T.G. Crainic, M. Gendreau and M. Toulouse, Network Design, Tabu Search, Parallel Computing, Multi-threads cooperative strategies, *International Symposium on Mathematical Programming*, Lausanne, Switzerland, August 24-29, 1997.
81. M. Toulouse and T.G. Crainic, Self-Organization Behavior of Interacting Multiple Walks, *1997 Joint International Meeting of EURO and INFORMS*, Barcelona, Spain, July 14-17, 1997.
82. M. Toulouse, Self-Organization Behavior of Cooperative Search, *1997 INFORMS Meeting in San Diego*, May 4-7, 1997.
83. T.G. Crainic, M. Toulouse and G. Gendreau, Parallel Metaheuristics with Applications to Network Design, *Colloquium on Fleet Management and Logistics*, Montréal, Canada, February 27-28, 1997 (Invited paper).
84. M. Toulouse, T.G. Crainic and M. Gendreau, A Model for Parallel Tabu Search, *IFORS 96*, Vancouver, Canada, July 8-12, 1996.

85. M. Toulouse, T.G. Crainic and M. Gendreau, Speculative Aspects of Parallel Algorithms for Optimization Problems, *Journées d'Optimisation 1996 / Optimization Days 1996*, Montréal, Canada, May 13-15, 1996.
86. M. Toulouse, T.G. Crainic and M. Gendreau, Cooperative Parallel Tabu Search Strategies: The Case of the Fixed Charge Multicommodity Capacitated Network Flow Problem, *Parallel Optimization Colloquium 96*, Versailles, France, March 25-27, 1996.
87. T.G. Crainic, M. Toulouse, M. Gendreau and E. Taillard, Experimenting with Parallel Tabu Search, *INFORMS Fall National Meeting*, Los Angeles (CA), October 29 - November 1, 1995.
88. M. Toulouse, T.G. Crainic and M. Gendreau, Designing Rail Services: An "Academic" Research Perspective, *Service Design and Management in Railroad Operations*, Philadelphia, July 17-18, 1995.
89. M. Toulouse, T.G. Crainic and M. Gendreau, Parallel Multi-Thread Tabu Search Approaches, *Journées d'Optimisation 1995 / Optimization Days 1995*, Montréal, Canada, May 10-12, 1995.
90. T.G. Crainic, M. Toulouse and M. Gendreau, Cooperating Multi-Thread Parallelism for Tabu Search, *INFORMS Spring National Meeting*, Los Angeles (CA), April 23-26, 1995.
91. M. Toulouse, T.G. Crainic and M. Gendreau, Asynchronous Parallel Tabu Search Algorithms, *Joint Meeting of the Annual Conference of the Canadian Operational Research Society and Optimization Days 1994*, Montréal, Canada, June 1994.
92. T.G. Crainic, M. Toulouse and M. Gendreau, An Appraisal of Asynchronous Parallelization Approaches for Tabu Search Algorithms, *Joint Meeting of the Annual Conference of the Canadian Operational Research Society and Optimization Days 1994*, Montréal, Canada, June 1994.
93. M. Toulouse and T.G. Crainic, Parallel Tabu Search for Network Design, *TIM/ORSA Joint National Meeting*, Boston, 1994.
94. M. Toulouse and T.G. Crainic, Asynchronous Parallel Tabu Search for the Network Design Problem, *Mathematical Programming*, Summer 1994, U.S.A.
95. T.G. Crainic, M. Gendreau and M. Toulouse, Analysis and Comparison of Various Implementations of Parallel Tabu, *TIMS/ORSA Joint National Meeting*, Chicago (IL), May 16-19, 1993.
96. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, Tabu Search Heuristics for Location Problems, *IFORS 93, XIII World Conference on Operations Research*, Lisbon, Portugal, July 12-16, 1993.
97. T.G. Crainic, M. Gendreau, J.M. Farvolden and M. Toulouse, Tabu Search Approaches for the Fixed Charge Network Design Problem, *IFORS 93, XIII World Conference on Operations Research*, Lisbon, Portugal, July 12-16, 1993.
98. J. Desbiens, M. Toulouse and D. Gagne, CLAP: Une implantation du modèle Acteur sur réseau hétérogène (CLAP: an Implementation of the Actor Model on a Heterogeneous Network of Workstations), *1993 DND Workshop on Advanced Technologies in Knowledge Based Systems and Robotics*, Ottawa, Canada, November 1993.
99. M. Toulouse, An asynchronous Parallel algorithm for Tabu Search Applied to a Localization Problem, *Journées d'Optimisation 1993 / Optimization Days 1993*, Montréal, Canada, May 12-14, 1993.
100. T.G. Crainic, M. Toulouse and M. Gendreau, Toward a Taxonomy of Parallel Tabu Search Algorithms, *Journées d'Optimisation 1993 / Optimization Days 1993*, Montréal, Canada, May 12-14, 1993.
101. T.G. Crainic, M. Gendreau, B. Gendron and M. Toulouse, Parallel Algorithms for Location Problems with Balancing Requirements, *Journées d'Optimisation 1993 / Optimization Days 1993*, Montréal, Canada, May 12-14, 1993.

102. T.G. Crainic, M. Gendreau and M. Toulouse, Analysis and Comparison of Various Implementations of Parallel Tabu Search, *TIMS-ORSA Meeting*, Chicago, May 1993.
103. T.G. Crainic, M. Gendreau and M. Toulouse, A Parallel Tabu Search Heuristic for Location/Allocation with Balancing Requirements, *TIM/ORSA Joint National Meeting*, Orlando, Florida, April 26-28, 1992.
104. T.G. Crainic, M. Gendreau and M. Toulouse, A Parallel Tabu Search Heuristic for Location/Allocation with Balancing Requirements, *Journées d'Optimisation 1992 / Optimization Days 1992*, Montréal, Canada, May 4-6, 1992.
105. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, Tabu Search Applied to Location-Allocation Problems with Balancing Requirements, *11th European Congress on Operational Research*, Aachen, Germany, 1991.
106. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, An Application of Tabu Search to the Planning of Land Container Transportation, *TIMS/ORSA Joint National Meeting*, Anaheim (CA), November 3-6, 1991.
107. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, Tabu Search Applied to Location-Allocation Problems with Balancing Requirements, *Triennial Symposium on Transportation Analysis (TRISTAN)* Montréal, Canada, June 1991.
108. T.G. Crainic, M. Gendreau, P. Soriano and M. Toulouse, Tabu Search Applied to Location-Allocation Problems with Balancing Requirements, *Journées d'Optimisation 1991 / Optimization Days 1991*, Montréal, Canada, May 8-9, 1991.

Invited speaker

109. M. Toulouse, A Hybrid Genetic Algorithm for the Periodic Vehicle Routing Problem with Time Windows, Conference on Theoretical and Applied Computer Science (TACS'10), Oklahoma State University, November 2010.
110. M. Toulouse, A cooperation/diffusion framework for search algorithms, School of Computer Science, University of Nottingham, July 2008.
111. M. Toulouse, Overview of the Multilevel Cooperative Search Paradigm, Center for Research on Transportation, Université de Montréal, April 2007.
112. M. Toulouse, Genetic Algorithms: Applications. Discrete Mathematics Seminars, Department of Mathematics, University of Manitoba, October 2003.
113. M. Toulouse, Genetic Algorithms: Theory & Models. Discrete Mathematics Seminars, Department of Mathematics, University of Manitoba, October 2003.
114. M. Toulouse, Understanding Dynamical Computing: the Case of a Multilevel System for Graph Partitioning. Dept. of Mathematic and Informatic, University of Paderborn, Germany, October 2000.
115. M. Toulouse, Multilevel Cooperative Search for the Circuit/Hypergraph Partitioning Problem. Dept. of Computer Science, UCLA, USA, August 2000.
116. M. Toulouse, Emergent Computation: Parallelization of Search Algorithms in OR & AI. Discrete Mathematics Seminars, Department of Mathematics, University of Manitoba, October 1999.
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**ACTIVITIES IN
THE
SCIENTIFIC
COMMUNITY:
Conferences
organization,
Sessions chair**

1. The 4th International Conference on Computational Collective Intelligence (ICCCI 2012), November 28-30 2012, Ho Chi Minh city, Vietnam. Member of the International Program Committee.
2. The 3rd Symposium on Information and Communication Technology (SoICT 2012), Hanoi, Vietnam, August 23-24, 2012. Member of the Program Committee.
3. The 10th IEEE International Symposium on Parallel and Distributed Processing with Applications, Leganés, Madrid, July 11-13 2012. Member of the Program Committee.
4. The 7th FTRA International Conference on Future Information Technology (FutureTech 2012), June 26-28 2012, Vancouver, Canada. Program Vice Chair for the Bioinformatics and Bio-inspired Computing track.
5. The 2nd Symposium on Information and Communication Technology (SoICT 2011), Hanoi, Vietnam, October 13-14, 2011. Member of the Program Committee.
6. Workshop of Parallel Cooperative Search Methods, Held in conjunction with the 11th International Conference on Parallel Problem Solving From Nature (PPSN 2010). Member of the Workshop organization.
7. Symposium on Information and Communication Technology (SoICT 2010), Hanoi, Vietnam, August 27-28, 2010. Member of the Program Committee.
8. The 3rd International Conference on Metaheuristics and Nature Inspired Computing (META'10), Hammamet, Tunisia, October 28-30 2010. Member of the Scientific Committee.
9. 1st Asian Conference on Intelligent Information and Database (ACIIDS'09), Dong Hoi City, Quang Binh Province, Vietnam, 1-3 April 2009. Member of the Program Committee.
10. 2nd International Conference on Metaheuristics and Nature Inspired Computing (META'08), Hammamet, Tunisia, October 29-31 2008. Member of the Scientific Committee.
11. 2nd Workshop on Parallel Bioinspired Algorithms, London, England, Juillet 7-11, 2007. Member of the Program Committee.
12. Seventh Metaheuristics International Conference (MIC 2007), Montréal, June 25-29 2007. Member of the International Program Committee.
13. Métaheuristiques (META'06), Hammamet, Tunisia, November 2-4 2006. Member of the Scientific Committee.
14. 2004 INFORMS Annual Meeting at Denver, October 24-27 2004. Cluster chair, title: Multiscale and Multilevel Methods.
15. 2004 INFORMS Annual Meeting at Denver, October 24-27 2004. Session chair, title: Parallel Multilevel Meta-heuristics.
16. 2004 INFORMS Annual Meeting at Denver, October 24-27 2004. Session chair, title: A Tutorial on Multiscale Computational Methods for Optimization.
17. 2004 CORS/INFORMS Joint International Meeting, Banff, May 16-19 2004. Session chair, title: Parallel Metaheuristics.
18. 2000 INFORMS meeting at Salt Lake City, May 7-10 2000. Session chair, title: Sequential & Cooperative Search in Combinatorial & Nonlinear Optimization.
19. 1998 INFORMS meeting in Montréal, April 26-29 1998. Session chair, session title: Metaheuristics.
20. 1998 INFORMS meeting in Montréal, April 26-29 1998. Session chair, title: Parallel Metaheuristics.

21. 1997 INFORMS meeting in Dallas, October 26-29 1997. Session chair, title: Cooperative and Multi-threaded Parallel Algorithms.
22. 2nd METAHEURISTICS INTERNATIONAL CONFERENCE (MIC-97), Sophia-Antipolis, France, July 21-24 1997.
23. 1997 INFORMS meeting in San Diego, May 4-7 1997. Session chair, title: Cooperative Search Apply to Combinatorial Optimization Problems.
24. Journées d'Optimisation 1996 / Optimization Days 1996, Montréal, Canada, May 13-15 1996. Session chair, title: Heuristics.

Journal editorship

- Associate Editor at the Journal of Heuristics published by Kluwer Academic.
- Co-editor of a Special Issue of the Journal of Heuristics on Parallel Metaheuristics, Volume 8, Number 3, May 2002.