
Ecole Polytechnique de Montreal
C.P. 6079, Succ. Centre-ville
Montreal, Quebec
H3C 3A7

tyrel.russell@polymtl.ca
www.cs.uwaterloo.ca/~tcrussel
work: +1 (514) 340-5121 x7113
home: +1 (438) 837-7418

RESEARCH INTERESTS	Artificial Intelligence including Constraint Programming, Scheduling, Optimization and Computational Social Choice.	
EDUCATION	PhD in Computer Science, University of Waterloo, Waterloo, Ontario, Canada.	2011
	MMath in Computer Science, University of Waterloo, Waterloo, Ontario, Canada.	2006
	BSc in Computer Science, University of Northern British Columbia, Prince George, British Columbia, Canada.	2004
ACADEMIC EMPLOYMENT	Postdoctoral Fellow Department of Software and Computer Engineering Ecole Polytechnique de Montreal	2011-present
	Postdoctoral Fellow David R. Cheriton School of Computer Science University of Waterloo	Winter 2011
	Research Assistant David R. Cheriton School of Computer Science University of Waterloo	2009-2010
	Visiting Researcher Neville Roach Laboratory NICTA, Australia	Winter 2009
	Research Assistant Department of Computer Science University of Northern British Columbia	Summer 2004
TEACHING EXPERIENCE	Sessional Lecturer University of Waterloo CS 245 – Logic and Computation	Fall 2010

Teaching Assistant 2004-2010

University of Waterloo

Courses:

- CS 486 – Introduction to Artificial Intelligence
- CS 454 – Distributed Systems
- CS 444 – Compiler Construction
- CS 330 – Management Information Systems
- CS 134 – Principles of Computer Science

Student Assistant and Lab Instructor 2003-2004

University of Northern British Columbia

Courses:

- CPSC 301 – Software Engineering II
- CPSC 231 – Computer Organization and Architecture
- CPSC 230 – Introduction to Logic Design

AWARDS AND
SCHOLARSHIPS

David R. Cheriton Scholarship 2009-2011

Best Paper: 21st Canadian Conference on Artificial Intelligence 2008

NSERC Post Graduate Scholarship (Doctoral) 2007-2009

Ontario Graduate Scholarship (Declined) 2007-2008

Ontario Graduate Scholarship 2006-2007

President's Graduate Scholarship 2005-2009

Graduate Incentive Award 2004-2005

NSERC Postgraduate Scholarship (Masters) 2004-2006

University of Northern British Columbia Scholar 2000-2004

PUBLICATIONS

Journal Articles

[1] *Tyrel Russell*, Abid M. Malik, Michael Chase, and Peter van Beek. Learning Heuristics for the Superblock Instruction Scheduling Problem. *IEEE Transactions on Knowledge and Data Engineering*, 11(10):1489-1502, 2009.

[2] Abid M. Malik, *Tyrel Russell*, Michael Chase, and Peter van Beek. Learning Heuristics for Basic Block Instruction Scheduling. *Journal of Heuristics*, 14(6):549-569, 2008.

Submitted Journal Articles

[3] *Tyrel Russell* and Peter van Beek. A Hybrid Constraint Programming and Enumeration Approach for Solving NHL Playoff Qualification and Elimination Problems. *European Journal of Operational Research*. (Under Revision)

[4] Michael Chase, Abid M. Malik, *Tyrel Russell* and Peter van Beek. A Computational Study of Heuristic and Exact Techniques for Superblock Instruction Scheduling. *Journal of Scheduling*. (Under Revision)

Peer-Reviewed Conference Submissions (Full Papers)

[5] *Tyrel Russell* and Peter van Beek. An Empirical Study of Seeding Manipulations and Their Prevention. In Proceedings of the 22nd International Joint Conference on Artificial Intelligence (IJCAI 2011), Barcelona, Spain, 350-356, 2011.

[6] *Tyrel Russell* and Toby Walsh. Manipulating Tournaments in Cup and Round Robin Competitions. In Proceedings of the First International Conference on Algorithmic Decision Theory (ADT 2009), Venice, Italy, 26-37, 2009.

[7] *Tyrel Russell* and Peter van Beek. Determining the Number of Games Needed to Guarantee an NHL Playoff Spot. In Proceedings of the Sixth International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR 2009), Pittsburgh, USA, 233-247, 2009.

[8] Abid M. Malik, Michael Chase, *Tyrel Russell*, and Peter van Beek. An Application of Constraint Programming to Superblock Instruction Scheduling. In Proceedings of the 14th International Conference on Principles and Practice of Constraint Programming (CP 2008), Sydney, Australia, 97-111, 2008.

[9] *Tyrel Russell* and Peter van Beek. Mathematically Clinching a Playoff Spot in the NHL and the Effect of Scoring Systems. In Proceedings of the 21st Canadian Conference on Artificial Intelligence, Windsor, Canada, 234-245, 2008. (Best Paper Award)

[10] *Tyrel Russell*, Abid M. Malik, Michael Chase, and Peter van Beek. Learning Basic Block Scheduling Heuristics from Optimal Data. In Proceedings of the 15th IBM CAS Conference (CASCON 2005), Toronto, Canada, 2005.

Workshop Papers

[11] *Tyrel Russell* and Peter van Beek. Lessons Learned from Modelling the NHL Playoff Qualification Problem. In Proceedings of the Eighth International Workshop on Constraint Modelling and Reformulation (ModRef'09), Lisbon, Portugal, 2009.

Technical Reports

[12] *Tyrel Russell* and Toby Walsh. Manipulating Tournaments in Cup and Round Robin Competitions. Technical report COMIC-2009-015, May 2009.

[13] Abid M. Malik, *Tyrel Russell*, Michael Chase, and Peter van Beek. Optimal superblock instruction scheduling for multiple-issue processors using constraint programming. Technical Report CS-2006-37, School of Computer Science, University of Waterloo, 2006.

Theses

[14] *Tyrel Russell*. A Computational Study of Problems in Sports. PhD Thesis, David R. Cheriton School of Computer Science, University of Waterloo, 2010.

[15] *Tyrel Russell*. Learning Instruction Scheduling Heuristics from Optimal Data. MMath Thesis, School of Computer Science, University of Waterloo, 2006.

**PROFESSIONAL
ACTIVITIES****Program Committee Member**

- International Joint Conference on Artificial Intelligence (IJCAI). 2011

Conference Reviewer

- Principles and Practice of Constraint Programming (CP). 2009-2011
- IEEE International Conference on Tools with Artificial Intelligence (ICTAI). 2009

Professional Associations

- Member of the Association for Constraint Programming (ACP).
- Member of the Canadian Artificial Intelligence Association (CAIAC).

Other

- Volunteer at numerous graduate and undergraduate open house and recruitment events, University of Waterloo. 2004-2010
- Volunteer technical support for the Graduate Student Research Conference, University of Waterloo. 2005

**INVITED
TALKS**

Sports Scheduling and Optimization in Sports: A Case Study of the NHL Qualification Problem 2009
Undergraduate Conference on Engineering in Sports, Toronto, Ontario.

**CONFERENCE
TALKS**

Detecting and Preventing Cheating in Sports 2011
Optimization Days (JOPT 2011), Montreal, Quebec.

Determining the Number of Games Needed to Guarantee an NHL Playoff Spot 2009
6th International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR 2009), Pittsburgh, USA.

Lessons Learned for Modelling the NHL Playoff Qualification Problem 2009
8th International Workshop on Constraint Modelling and Reformulation (ModRef 2009), Lisbon, Portugal.

- Manipulating Tournaments in Cup and Round Robin Competitions** 2009
1st International Conference on Algorithmic Decision Theory (ADT 2009), Venice, Italy.
- An Application of Constraint Programming to Superblock Instruction Scheduling** 2008
14th International Conference on the Principles and Practices of Constraint Programming (CP 2008), Sydney, Australia.
- Mathematically Clinching a Playoff Spot in the NHL and the Effect of Scoring Systems** 2008
21st Canadian Conference on Artificial Intelligence (CAI 2008), Windsor, Ontario.
- Learning Basic Block Scheduling Heuristics from Optimal Data** 2005
15th IBM CAS Conference (CASCON 2005), Toronto, Ontario.

PERSONAL
INFORMATION

Citizenship: Canadian
Languages: English, French (Basic)