

SCHOOL OF COMPUTER SCIENCE

Annual Report

2009 - 2010

Submitted by

**G. Dudek
October 2011**

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SECTION I
OBJECTIVES

The School of Computer Science has had an exciting year with significant implications for the coming year.

Our objectives over this period were to maintain high standards in teaching and research while attempting to build undergraduate enrollment in Computer Science, something which has been gradually recovering nationally. As our junior faculty progress, we have also kept up an ongoing effort to provide resources for them to grow their research activities despite the current budget constraints.

With respect to research, we seek to increase the breadth of our activities and attract additional graduate students. This is a challenge due to constraints on funding at both provincial and national levels, and the presence of differential fees for international students.

With respect to teaching, we have sought to keep up an interesting program of courses in fundamental areas while also creating new courses to keep up with the continual evolution of our field.

At the university level it is clear that Computer Science concepts play a role in most areas of academic endeavor. While this is especially true in the sciences, it is also the case in many other areas where mere proficiency with computing devices is not only indispensable, but where even awareness of more fundamental principles of operation has become a commonplace necessity. One challenge in the next few years is to find ways to bring rigorous yet accessible computing knowledge to a broader spectrum of students in all disciplines and at all levels at our university.

Basic facts:

Number of full-time faculty (as of July 1, 2009): 31. These are broken down as follows: 8 full professors (including one Associate Dean, and one Director of a Research Center), 17 associate professors, 5 assistant professors and 1 faculty lecturer.

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Total number of administrative and technical staff: 13. The school has technical staff to support our computing facilities and teaching labs, as well to provide support for off-site computing and students and faculty with their own hardware. The administrative and technical staff, support activities in three different buildings on campus (the Trottier Building, the McConnell Building, as well as bioinformatics research in the Bellini Building).

Number of graduate students: M.Sc.: 120, Ph.D.: 79, Postdoctoral: 14. We currently have 274 undergraduate students in our programs in the U1, U2 and U3 levels (not including students with undeclared majors). There are 106 in minor programs.

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SECTION I

- *Staff listing*

RANK TITLE	NAME	FULL/PART
Professor	Avis/David/Dr*	Full
Professor	Devroye/Luc P/Dr	Full
Professor	Dudek/Gregory/Dr	Full
Professor	Hendren/Laurie/Dr*	Full
Professor	Panangaden/Prakash/Dr*	Full
Professor	Reed/Bruce/Dr*	Full
Professor	Siddiqi/Kaleem/Dr	Full
Professor	Thérien/Denis/Dr*	Full
Associate Professor	Blanchette/Mathieu/Dr*	Full
Associate Professor	Chang/Xiao-Wen/Dr	Full
Associate Professor	Crépeau/Claude/Dr	Full
Associate Professor	Friedman/Nathan/Dr	Full
Associate Professor	Hallett/Michael T/Dr	Full
Associate Professor	Hayden/Patrick/Dr*	Full
Associate Professor	Kemme/Bettina/Dr	Full
Associate Professor	Kienzle/Jörg/Dr	Full
Associate Professor	Langer/Michael/Dr	Full
Associate Professor	Precup/Doina/Dr	Full
Associate Professor	Tropper/Carl/Dr	Full
Associate Professor	Vangheluwe/Hans/Dr*	Full
Associate Professor	Verbrugge/Clark/Dr	Full
Associate Professor	Vetta/Adrian/Dr*	Full
Associate Professor	Maheswaran/Muthucumaru/Dr	Full
Associate Professor	Pientka/Brigitte/Dr	Full
Associate Professor	Pineau/Joelle/Dr	Full
Associate Professor	Robillard/Martin/Dr	Full
Assistant Professor	Hatami/Hamed/Dr***	Full
Assistant Professor	Kry/Paul/Dr	Full
Assistant Professor	Liu/Xue/Dr	Full
Assistant Professor	Ruths/Derek/Dr	Full
Assistant Professor	Singh/Mohit/Dr	Full
Assistant Professor	Waldispuhl/Jerome/Dr	Full
Faculty Lecturer	Vybihal/Joseph/Mr	Full
Administrative Officer	Morrissey/Sheryl/Ms	Full
Financial Administrator	Holowathy/Heather/Mrs	Full
Administrative Coordinator	Minogue/Lise/Miss**	Full
Secretary	Bettencourt-Laberge/Vanessa/Ms	Full
Student Affairs Coordinator	Anastasopoulos/Diti/Miss	Full
Sr. Student Affairs Coordinator	Chin/Liette/Miss	Full
Student Affairs Coordinator	Jack/Ann/Mrs	Full
Accounting Clerk/Secretary	Bernier/Tricia/Ms*	Full
Secretary (Bioinformatics)	Bray/Lynda/Mrs	Full
Systems Manager	Bogecho/Andrew/Mr	Full

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Operations Manager	Simpson/Ron/Mr	Full
Systems Programmer	Mussai/Kailesh/Mr	Full
Systems Manager (Bioinformatics)	Fleming/Martin/Mr	Full
Course Lecturer	Zellag/ Kamal/Mr	Part
Course Lecturer	Petitpas/ Mathieu/Mr	Part
Course Lecturer	Hossein Rabbani/ Amir/Mr	Part
Course Lecturer	Gélineau/Samuel/Mr	Part
Course Lecturer	Schlimm/Dirk/Mr	Part
Course Lecturer	Meraji/ Seyed Sina/Mr	Part
Course Lecturer	Nguyen/ The Phuong /Dr	Part
Course Lecturer	Rekleitis/Ioannis/Dr	Part
Course Lecturer	McMurray/Scott /Mr	Part
Course Lecturer	Sadri/ Javad/Dr	Part
Course Lecturer	Pickett/ Christopher/Mr	Part
Course Lecturer	Scaccia/ Milena/Ms	Part
Course Lecturer	Khalil/ Mansoor	Part
Course Lecturer	Faulkner/Ryan/Mr	Part
Course Lecturer	Dunfield/Joshua/Mr	Part
Course Lecturer	Syriani/ Eugene/Mr	Part
Course Lecturer	Vincent/ Robert/Mr	Part
Course Lecturer	Dubrau/ Anton W/Mr	Part
Course Lecturer	Maja Zofia Frydrychowicz	Part
Course Lecturer	Ranjbar/ Amin/Mr	Part
Course Lecturer	Doherty/ Jesse/Mr	Part
Course Lecturer	Naves/ Guylain Pierre/M.	Part

*Were on leave in 09-10; **Left the School in this academic year, *** on staff as of Fall 2010

(ii) Staff who hold the designated title of “Emeritus Professors”

Emeritus Professor	Paige/Christopher/Dr
Emeritus Professor	Toussaint/Godfried/Dr
Emeritus Professor	Ratzer/Gerald/Dr
Emeritus Professor	Newborn/Monroe/Dr
Emeritus Professor	Merrett/Tim/Dr
Emeritus Professor	De Mori/Renato/Dr

(v) Staff who are affiliated with the School as “Associate Members”

Associate Member	Shultz/Thomas Richard/Dr	Psychology
Associate Member	Levitin/Daniel J/Dr.	Psychology
Associate Member	Shepherd/Bruce F/Dr	Math and Stats.
Associate Member	Schlimm/Dirk/Dr	Philosophy
Associate Member	Sengupta, Raja	School of Environment
Associate Member	Sieber/Renée	Geography

(iv) Staff who are affiliated with the School as “Adjunct Professors”

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Adjunct Professor	Rekleitis/Ioannis/Dr	(until 31-Aug-2013)
Adjunct Professor	Tesson/Pascal/Dr	(until 30-Nov-2011)
Adjunct Professor	Perkins/Theodore/Dr	(until 14-Feb-2012)
Adjunct Professor	Pieter J. Mosterman	(until 30-Apr-2012)
Adjunct Professor	Tabaeh Izadi/Masoumeh/Dr	(until 30-Sept-2013)

*Dates in () indicate the end date of their current affiliation.

Section II

Highlights of the past year's activities

Teaching and Learning

Interest in computer science declined at the start of the 21st century following the well-publicized burst of the "dot com" investment bubble. While the job market for computer science graduates recovered fairly quickly, the psychological impact of the decline has taken a long time to wear off and enrollments in CS departments all over both Canada and the USA have only gradually been climbing except in rare special cases. Even more troubling, there has been a continent-wide decline in interest and enrollment in Science, a phenomenon that has been particularly worrisome in the USA and a cause of significant effort by the USA National Science Foundation.

In the last year, however, interest in computer science has started to rise rapidly and followed by increased enrollments, especially at McGill. This is probably partly due to the sustained availability of CS jobs (and undersupply of graduates), a continent-wide shift in popularity and several factors specific to McGill. In terms of McGill specifically, the School of Computer Science engaged several energetic new professors over the last ten or fifteen years, and the news of the strength of our programs has gradually been filtering out to the public, a process that is painstakingly slow but very gratifying.

Promotions

We had three successful and promotions. Professors Joelle Pineau (2010), Brigitte Pientka (2009) and Martin Robillard (2009) each were promoted from Assistant Professor to Associate Professor with tenure. In each case this was based on a long record of exceptional performance.

Research

The School had an excellent year in terms of research productivity and impact with faculty not only publishing extensively, but also participating in a range of research activities including the organization of research meetings, editorial work and the development of new funded research projects.

Michael Hallett of the School of Computer Science was awarded a three-year Genome Quebec grant to further develop several bioinformatic tools for clinical use within the

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province. In particular, one tool has been designed to predict patient clinical outcome in cases of invasive breast carcinomas and identify those individuals where chemotherapy will provide no clinical benefit. This spares patients from an unnecessary and painful treatment, and reduces the cost of treating the patient (chemotherapy costs \$16K per patient per year). A successful implementation of this predictor within the provincial health care system will save the province \$33M in 2012 alone. A second tool has been shown to be capable of identifying those breast cancer patients whose cancers are likely to metastasize to bone, helping clinicians determine the correct drugs and therapeutic regime for these individuals, thus increasing their chance and duration of surviving the disease. Our goal is to place ourselves, Genome Quebec and the Quebec Health care system in a position to offer these diagnostic tests by the end of 2012.

Professor Doina Precup was awarded an NSERC Discovery Accelerator grant in recognition of her extensive and impressive achievements in research, and her potential to reach the pinnacle of her sub-field.

The "smart wheelchair" developed by a research team led by Joelle Pineau was presented publicly in the context of the Salon "Prendre sa Place" (May 31, 2010 at the Complexe Desjardins).

GRAND, a new \$23M NCE was created this year, funding 56 collaborating researchers on 30 projects at 19 Canadian universities. Professor Paul Kry was made co-leader on the MOTION project on modeling human motion.

Honors and Awards

The School had another great year in terms of reaping awards and honors. Some of those are listed below.

Professor Laurie Hendren was selected as a Fellow of the Association for Computing Machinery (ACM). The ACM is the world's largest scientific and educational computing society and sponsors many key research activities and meetings.

The ACM recognized Professor Hendren as a Fellow based on her "outstanding technical and professional achievements", specifically "for contributions to program analysis of procedural, object-oriented and aspect-oriented programming languages." Out of 68,000 Professional Members of the ACM, just 47 fellows were named this year.

Professor Patrick Hayden was selected for the CACS/AIC Outstanding Young Researcher prize to be awarded in 2011.

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Bettina Kemme from the School of Computer Science and Professor Gustavo Alonso from the Swiss Federal Institute of Technology (ETHZ) received the 2010 VLDB 10-Year Best Paper Award for their work on Postgres-R published in VLDB 2000. This award is given each year to the authors of the paper presented at the VLDB conference 10 years prior which proved to be the most influential in that decade. The paper was entitled: Don't Be Lazy, Be Consistent: Postgres-R, A New Way to Implement Database Replication.

Professor Gregory Dudek was the recipient of the “Prix J.Armand-Bombardier” for Technological Innovation and Robotics from ACFAS, the Association francophone pour le savoir (the French learned society). He received the CRV 2010 award for Academic Achievement and Service to the community and was also elected as one of the “10 IT people of the month for 2010” (his month is November) by ActionTI, a consortium of IT companies and organizations with some 10,000 members. Professor Dudek was also awarded the 2009 Fessenden Prize and the 2010 Fessenden.

PhD. student Maxime Boucher, with colleague Logan F. Smyth , won the Startupifier contest, a contest to encourage startup company projects, with the best product award for their mathematical computation tool called PyAlpha.

A group of bioinformatics researchers led by Professors Jerome Waldispuhl and Mathieu Blanchette together with students Alex Kawrykow and Gary Roumanis from the School launched a research-oriented on-line game called Phylo (<http://phylo.cs.mcgill.ca>). It harnesses players on the Internet to solve bioinformatics sequence alignment problems. This effort received extensive media coverage this year.

Graduate student Mathieu Lavallée-Adam was awarded the NSERC Vanier Canada Graduate Scholarship. This highly competitive scholarship is a mark of distinction and exceptional achievement.

SOCS Alumnus, Mr Yang Li (Math and CS) was among only five Canadians awarded scholarships from the Bill and Melinda Gates Foundation to study at the University of Cambridge.

Appendix II

HONOURS, AWARDS AND PRIZES

AVIS, D.

Visiting Fellowship, ERATO-SORST, Tokyo, December 2010.

BLANCHETTE, M.

Tomlinson Science Award. Faculty of Science. McGill University.

Nomination by the School of Computer Science for the Principal's teaching award.

DUDEK, G.

2009 Fessenden Prize, McGill University Faculty of Science.

2010 Fessenden Professorship, McGill University Faculty of Science.

Awarded the "Prix J.-Armand-Bombardier 2010" (the J. Armand- Bombardier Honorary prize) for technology innovation by l'Association francophone pour le savoir (AFCAS), the principal French-language learned society in Canada.

Awarded the Canadian Information and Pattern Recognition Society award for both "research excellence and service to the research community".

Distinguished Speaker - selected by the IEEE Robotics and Automation Society to represent the field.

Elected as one of the "10 IT people of the month for 2010" (his month is November) by Action TI, a consortium of IT companies and organizations with some 10,000 members.

HAYDEN, P

Named a **Distinguished Research Chair** (DRC) of the Perimeter Institute for Theoretical Physics. The twenty chairs include Stephen Hawking (Cambridge), Nima Arkani-Hamed (Institute for Advanced Study), Subir Sachdev (Harvard), Neta Bahcall (Princeton), Leonard Susskind (Stanford) and Yakir Aharonov (Tel Aviv). He is one of only two DRCs at a Canadian university.

HENDREN, L.

ACM Fellow, December 2009.

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SOCS nominee for the Tomlinson Science award at the Full Professor Level, Sept 2009.

KEMME, B.

10-year Paper award of the VLDB conference. See information under invited talks.

LIU, X.

Supervised visiting student, Mr. Jianguo Yao, who won a Quebec Merit Fellowship for Foreign Students, 2009.

Outstanding Leadership Award, as vice chair of the Embedded and Ubiquitous Computing track of the 12th IEEE Computational Science and Engineering (CSE 2009), Vancouver, BC, Canada.

Outstanding Service Award, 7th IEEE International Conference on Embedded Software and Systems (ICCESS-2010), 2010.

PIENTKA, B.

Elected to the Board of Trustees for CADE. CADE is the major international forum for research on all aspects of *automated deduction*; the Board of Trustees is the governing body of CADE, oversees the finances of CADE, organizes the annual conference CADE or IJCAR and awards the Herbrand Award for distinguished contributions to the field of automated deduction.

REED, B.

Became a Fellow of the Royal Society of Canada, November 27, 2009.

ROBILLARD, M.

Humboldt Research Fellowship for Experienced Researchers

ACM SIGSOFT Distinguished Paper Award

RUTHS, D.

Carnegie Mellon University Lane Center for Computational Biology Fellowship

Intelligence Community Fellowship

SIDDIQI, K.

Awarded a best reviewer award for papers reviewed for CVPR 2009.

TOUSSAINT, G.

Radcliffe Fellowship from the Radcliffe Institute of Advanced Study, Harvard University, September 1, 2009 to July 31, 2010

Appendix III

Publications for 2009 - 2010 Calendar Years

(January 1, 2009 – December 31, 2010)

- AVIS, D.** (Ohsaki, M., Katoh, N., Kinoshita, T., Tanigawa, S., **Avis, D.**, and Streinu, I.) Enumeration of optimal pin jointed bistable compliant mechanisms with non-crossing members. *J. of Structural and Multidisciplinary Optimization*, 2009, v. 37, pp. 645-651.
- (**Avis, D.**, Devroye, L., and Iwama, K.) "The Locker Problem with Empty Lockers", *World Academy of Science, Engineering and Technology* 60 (2009)
- (**Avis, D.**, Moriyama, S., and Owari, M.) "From Bell Inequalities to Tsirelson's Theorem", *IECIE E92-A (2009)*1254-67
- (**Avis, D.** and Moriyama, S.) "On Combinatorial Properties of Linear Program Digraphs", in *Polyhedral Computation, CRM-AMS Proceedings*, 48(2009) 1-14
- (**Avis, D.**, Rosenberg, G., Savani, R., and von Stengel, B.) "Enumeration of Nash Equilibria for Two-Player Games", *Economic Theory* 42(2009) 9-37
- (**Avis, D.**, Miyata, H., Moriyama, S.) "A Family of Polytopal Digraphs that do not Satisfy the Shelling Property", 6-th Japanese-Hungarian Symposium, June 2009
- (**Avis, D.**, and Broadbent, A.) "The Quantum Locker Puzzle", *ICQNM09*, Cancun, February 2009
- BLANCHETTE, M.** (Cloutier, P., Al-Khoury, R., Lavallée-Adam, M., Faubert, D., Jiang, H., Poitras, C., Bouchard, A., Forget, D., **Blanchette, M.**, and Coulombe, B.) High-resolution mapping of the protein interaction network for the human transcription machinery and affinity purification of rna polymerase ii-associated complexes. *Methods*. 2009.
- (Fraser, J., Rousseau, M., Shenker, S., Ferraiuolo, M., Hayashizaki, Y., **Blanchette, M.**, and Dostie, J.) Chromatin conformation signatures of cellular differentiation. *Genome Biology*, 2009, v. 10, n. 4, p. R37.
- (Diallo, A. B., Badescu, D., **Blanchette, M.**, and Makarenkov, V.) A whole genome study and identification of specific carcinogenic regions of the human papilloma viruses. *Journal of Computational Biology*, 2009, v. 16(10), pp. 1461-73.
- (Bertrand, D., **Blanchette, M.**, and El-Mabrouk, N.) Genetic map refinement using a comparative genomic approach. *Journal of Computational Biology*, 2009, v. 16(10), pp. 1475-86.
- (Lavallee-Adam, M., Coulombe, B., and **Blanchette, M.**) Detection of locally over-represented go terms in protein-protein interaction networks. In *RECOMB 2009*, 2009.

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- (Ge, B., Pokholok, D., Kwan, T., Grundberg, E., Morcos, L., Verlaan, D., Le, J., Koka, V., Lam, K., Gagné, V., Dias, J., Hoberman, R., Montpetit, A., Joly, M., Harvey, E., Sinnett, D., Beaulieu, P., Hamon, R., Graziani, A., Dewar, K., Harmsen, E., Majewski, J., Goring, H., Naumova, A., **Blanchette, M.**, Gunderson, K., and Pastinen, T.) Global patterns of cis variation in human cells revealed by high-density allelic expression analysis. *Nature Genetics*, 2009, v. 41(11), pp. 1216-22.
- (Mongin, E., Dewar, K., and **Blanchette, M.**) Long-range regulation is a major driving force in maintaining genome integrity. *BMC Evolution Biology*, 2009, v. 9:203.
- (Hoberman, R., Dias, J., Ge, B., Harmsen, E., Mayhew, M., Verlaan, D., Kwan, T., Dewar, K., **Blanchette, M.**, and Pastinen, T.) A probabilistic approach for snp discovery in high-throughput human resequencing data. *Genome Research*, 2009, n. 19(9), pp. 1542-52.
- (Hickey, G., and **Blanchette, M.**) A practical algorithm for estimation of the maximum likelihood ancestral reconstruction error. In *Proceedings of the Pacific Symposium on Biocomputing*, 2010, pp. 31-42.
- (Diallo, A., Makarenkov, V., and **Blanchette, M.**) Ancestors 1.0: a web server for ancestral sequence reconstruction. *Bioinformatics*, 2010, v. 26(1), pp. 130-1.
- (Wagner, J., Ge, B., Pokholok, D., Gunderson, K., Pastinen, T., and **Blanchette, M.**) Computational analysis of whole-genome differential allelic expression data in human. *PLoS Computational Biology*, 2010, v. 6(7), p. e1000849.
- (Lavallée-Adam, M., Coulombe, B., and **Blanchette, M.**) Detection of locally over-represented go terms in protein-protein interaction networks. *Journal of computational biology.*, 2010, v. 17(3), pp. 443-57.
- (Hickey, G., **Blanchette, M.**, Carmi, P., Maheshwari, A., and N., Z.) An approximation algorithm for the noah's ark problem with random feature loss. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2010, v. 99.
- (Mongin, E., Dewar, K., and **Blanchette, M.**) Mapping association between long-range cis-regulatory regions and their target genes using comparative genomics. In *Eighth Annual RECOMB Satellite Workshop on Comparative Genomics (RECOMB-CG)*, 2010, pp. 216-227.
- (Bertrand, D., Gagnon, Y., **Blanchette, M.**, and El-Mabrouk, N.) Reconstruction of ancestral genome subject to whole genome duplication, speciation, rearrangement and loss. In *10th Workshop on Algorithms in Bioinformatics (WABI)*, 2010, pp. 78-89.
- (Dostie, J., Rousseau, M., **Blanchette, M.**, and Fraser, J.) Computing chromosome conformation, v. 674, pp. 251-68. 2010.

CHANG, X.-W. (**Chang, X.-W.**, Yang, Le-Ngoc, X.T., and Wang, P.) Partial Regularization Approach for Detection Problems in Underdetermined Linear Systems, *IET Communications*, 3 (2009), pp. 17-24.

-- (**Chang, X.-W.**, and Titley-Peloquin, D.) Backward Perturbation Analysis for Scaled Total Least

Squares Problems, *Numerical Linear Algebra with Applications*, 16 (2009), pp. 627-648.

-- (**Chang, X.-W.** Paige, C. C. and Titley-Peloquin, D.) Stopping Criteria for the Iterative Solution of Linear Least Squares Problems, *SIAM J. Matrix Anal. Appl.*, 31 (2009), pp. 831-852.

-- (**Chang, X.-W.** and Golub, G.H.) Solving Ellipsoid-Constrained Integer Least Squares Problems, *SIAM J. Matrix Anal. Appl.*, 31 (2009), pp. 1071-1089.

-- (**Chang, X.-W.**, and Stehle, D.) Rigorous Perturbation Bounds of Some Matrix Factorizations, *SIAM Journal on Matrix Analysis and Applications*, 31 (2010), pp. 2841-2859

DE MORI, R. (Camelin, N., **De Mori, R.**, Bechet, F., and Damnati, G.) Error correction of proportions in spoken opinion surveys. In *International Conference on Speech Communication and Technology*, Interspeech, Brighton, UK, 2009.

-- (Camelin, N., Bechet, F., Damnati, G., and **De Mori, R.**) Detection and interpretation of opinion expressions in spoken surveys. *IEEE Transactions On Audio, Speech, And Language Processing*, February 2010, v. 18, n. 2, pp. 369-381.

DEVROYE, L. (**Devroye, L.**, Lugosi, G., Park, G., and Szpankowski, W.) "Multiple choice tries and distributed hash tables," *Random Structures and Algorithms*, vol. 34, pp. 337-367, 2009.

-- (**Devroye, L.**, King, J. and McDiarmid, C.) "Random hyperplane search trees," *SIAM Journal on Computing*, vol. 38, pp. 2411-2425, 2009.

-- "Random variate generation for exponentially and polynomially tilted stable distributions," *ACM Transactions on Modeling and Computer Simulation*, vol. 19 (article 18, DOI 1596519.1596523), 2009.

-- (**Devroye, L.** and Mal-Alla, E.) "On the k-orientability of random graphs," *SIAM Journal on Discrete Mathematics*, vol. 309, pp. 1476-1490, 2009.

-- On exact simulation algorithms for some distributions related to Jacobi theta functions," *Statistics and Probability Letters*, vol. 21, pp. 2251-2259, 2009.

-- (**Devroye, L.**, Gudmundsson, J., and Morin, P.) "On the expected maximal degree in random Gabriel and Yao graphs," *Advances in Applied Probability*, vol. 41, pp. 1123-1140, 2009.

-- (**Devroye, L.** and Janson, S.) "Distances between pairs of vertices and vertical profile in conditioned Galton—Watson trees," *Random Structures and Algorithms*, 2009

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- (**Devroye, L.** and Janson, S.) "Long and short paths in uniform random recursive dags," *Arkiv fur Matematik*, 2009.
- (Devroye, L., Karasozen, B., Kohler, M., and Korn, R.), "Recent Developments in Applied Probability and Statistics Dedicated to the Memory of Jürgen Lehn", *Physica-Verlag*, Berlin, 2010.
- (**Devroye, L.**, and Janson, S.) "Distances between pairs of vertices and vertical profile in conditioned Galton--Watson trees," *Random Structures and Algorithms*, 2010.
- (**Devroye, L.** and Fawzi, O.) "Simulating the Dickman distribution," *Statistics and Probability Letters*, vol. 80, pp. 242-247, 2010.
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- (Addario-Berry, L., Broutin, N., **Devroye, L.**, and Lugosi, G.) "On combinatorial testing problems," *Annals of Statistics*, vol. 38, pp. 3063-3092, 2010.
- (Bose, P. **Devroye, L.**, Loffler, M. Snoeyink, J., and Verma, V. "Almost all Delaunay triangulations have stretch factor greater than π over 2," *Computational Geometry Theory and Applications*, 2010.
- (Biau, G. and **Devroye, L.**) "On the layered nearest neighbour estimate, the bagged nearest neighbour estimate and the random forest method in regression and classification," *Journal of Multivariate Analysis*, vol. 101, pp. 2499-2518, 2010.
- (**Devroye, L.**, Fawzi, O., and Fraiman, N.) "The height of scaled attachment random recursive trees," *Discrete Mathematics and Theoretical Computer Science*, vol. 12(3), pp. 129-142, 2010.
- (Broutin, N., **Devroye, L.**, and McLeish, E.) "Note on the structure of Kruskal's algorithm," *Algorithmica*, vol. 56, pp. 141-159, 2010.
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- "Complexity questions in non-uniform random variate generation," in: *Proceedings in Computational Statistics 2010*, ed. Yves Lechevallier and Gilbert Saporta, pp. 3-18, *Physica-Verlag*, Berlin, 2010.
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-- (Liu, Y., and **Toussaint, G.T.**) "A simple algorithm for constructing perfect monolinear sona tree drawings, and its application to visual art education," *Proceedings of The 8th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases (AIKED'09)*, University of Cambridge, February 21-23, 2009, pp. 288-294.

-- (Bremner, D., Demaine, E.D., Taslakian, P., and **Toussaint, G.T.**) "Reconstructing points on a circle from labelled distances," *Proceedings of the 25th European Workshop on Computational Geometry (EuroCG'09)*, Brussels, Belgium, March 16-18, 2009.

-- (**Toussaint, G.T.**, Gerofsky, S., Gomez, F., and Rappaport, D.) "Spirograph patterns and circular representations of rhythm: Exploring number theory concepts through visual, tangible and audible representations," *Proceedings of Bridges-2009: Mathematics, Music, Art, Architecture, Culture*, Banff International Research Station, The Banff Centre, Banff, Alberta, Canada, July 26-29, 2009, pp. 279-286.

TROPPER, C. (Meraji, S., **Tropper, C.**, and Zheng, W.) "On the Scalability of Parallel Verilog Simulation", *International Conference on Parallel Processing (ICPP)*, September 22-September 29, 2009, Vienna, Austria

-- (**Tropper, C.**, and Xu, Q.) "On Determining how many Computers to Use in a Parallel VLSI Simulation", *Workshop on Advanced and Distributed Simulation (PADS 2009)*, June 22-June 25, 2009, Lake Placid, NYS, USA

-- (Meraji, S., and **Tropper, C.**) "On the Scalability and Dynamic Load Balancing of Parallel Verilog Simulation", *Winter Simulation Conference (WSC)*, Austin, Texas, December 13-December 16, 2009

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- (**Tropper, C.**, and Wang, J.) "Using Genetic Algorithms to Limit the Optimism in Time Warp", Winter Simulation Conference (WSC), Austin, Texas, December 13-December 16, 2009
 - (Meraji, S., **Tropper, C.**, and Zheng, W.) "A Simulated Annealing Technique for Optimizing Time Warp Simulations" International Conference on Parallel and Distributed Systems (ICPADS'09), December 8-December 11, 2009, Shenzhen, China
 - (Meraji, S., Zheng, W. and **Tropper, C.**) "On the Scalability of Parallel Verilog Simulation", International Conference on Parallel Processing (ICPP), September 22-September 29, 2009, Vienna, Austria
 - (Zheng, W., Meraji, S. and **Tropper, C.**) "A Simulated Annealing Technique for Optimizing Time Warp Simulations", Second International Conference on Computer Modeling and Simulation (ICCMS2010), pp.197-201, Sanya, China, January 2010
 - (Meraji, S. and **Tropper, C.**) "A Machine Learning Approach for Optimizing Parallel Logic Simulation" International Conference on Parallel Processing (ICPP2010), July, 2010
 - (Meraji, S. and **Tropper, C.**) "A Multi-State Q-Learning Approach for the Dynamic Load Balancing of Time Warp", 24th ACM/SCS/IEEE Workshop on the Principles of Advanced and Distributed Simulation (PADS2010), Atlanta, Georgia, May 2010
 - (Meraji, S. and **Tropper, C.**) "A Reinforcement Learning Approach for Dynamic Load Balancing of Parallel Digital Logic Simulation", 22nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2010), Santorini, Greece, June 2010
- VERBRUGGE, C.** (Kienzle, J., **Verbrugge, C.**, Kemme, B., Denault, A., and Hawker, M.) Mammoth: A massively multiplayer game research framework. In *Fourth International Conference on the Foundations of Digital Games (FDG'09)*, April 2009, pp. 1-8.
- (**Verbrugge, C.**, and Zhang, P.) Analyzing computer game narratives. In Entertainment Computing - ICEC 2010, 9th International Conference. Springer-Verlag, September 2010, n. 6243 in LNCS, pp. 224-231.
 - (Chevalier-Boisvert, M., Hendren, L., and **Verbrugge, C.**) Optimizing MATLAB through just-in-time specialization. In Compiler Construction: 19th International Conference. Springer-Verlag, March 2010, n. 6011 in LNCS, pp. 46-65.
 - (Ching Ling Chen, T. and **Verbrugge, C.**) A protocol for distributed collision detection. In The 9th Annual Workshop on Network and Systems Support for Games (NetGames 2010), November 2010, pp. 1-6.
 - (Pominville, P., Qian, F., Vallée-Rai, R., Hendren, L., and **Verbrugge, C.**) A framework for optimizing Java using attributes. In Special Edition of the Proceedings of CASCON for High-Impact papers for the 20th Anniversary of CASCON. IBM, November 2010.

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-- (Casey, A. M., Li, J., Doherty, J., Chevalier-Boisvert, M., Aslam, T., Dubrau, A., Lameed, N. A., Aslam, A., Garg, R., Radpour, S., Savary Belanger, O., Hendren, L. J., **Verbrugge, C.**) "McLab: An extensible compiler toolkit for MATLAB and related languages." (Poster) in C3S2E '10: Proceedings of the Third C* Conference on Computer Science and Software Engineering, pp. 114--117. Montreal, Canada. May 2010

VETTA, A. (Geelan, J., Gerards, B., Reed, B., Seymour, P., and **Vetta, A.**) "On the odd-minor variant of Hadwiger's conjecture" *Journal of Combinatorial Theory Series B*, 99, pp20-29, 2009.

-- (Sonnerat, N., and **Vetta, A.**) "Defending planar graphs against star-cutsets", accepted Proceedings of European Conference on Combinatorics, Graph Theory and Applications (EUROCOMB), *Electronic Notes in Discrete Mathematics*, Volume 34, pp107-111, August 2009.

-- (Thain, N., and **Vetta, A.**) "Computational aspects of multimarket price wars", Proceedings of 5th Workshop on Internet & Network Economics (WINE), pp304-315, 2009.

-- (Narayanan, M., Schadt, E., **Vetta, A.**, and Zhu, J.) "Simultaneous clustering of multiple gene expression and physical interaction datasets", *Research in Computational Molecular Biology - Regulatory Genomics (RECOMB-RG)*, 2009.

-- Video Games, *The Video Game Theory Reader 2*, B. Perron and M. Wolf (eds), pp350-352, 2009

-- (Sonnerat, N., and **Vetta, A.**) "Galaxy cutsets in graphs", *Journal of Combinatorial Optimization*, 19(3), pp 415-427, 2010

Waldispühl, J. (O'Donnell, C.W., **Waldispühl, J.**, Will, S., Devadas, S., Backofen, R., and Berger, B.) Simultaneous alignment and folding of proteins. *Lecture Notes in Computer Science, Research in Computational Molecular Biology*, June 2009, pp. 339-355.

-- (**Waldispühl, J.**, Devadas, S., Berger, B., and Clote, P.) Rnamutants: A web server to explore the mutational landscape of rna secondary structures. *Nucleic Acids Research, Web Server issue*, 2009, pp. 281-286.

-- (Berger, B. and **Waldispühl, J.**) Novel Perspectives on protein structure prediction, *The Problem Solving Handbook for Computational Biology and Bioinformatics*, Heath, Lenwood S.; Ramakrishnan, Naren (Eds.), 2010.

-- (Shenker, S., O'Donnell, C.W., Devadas, S., Berger, B., and **Waldispühl, J.**) Efficient traversal of β -sheet protein folding pathways using ensemble models. In *Proceeding of the 15th Annual International Conference on Research in Computational Molecular Biology (RECOMB 2011)*, 2011.

-- (**Waldispühl, J.**, and Ponty, Y.) An unbiased adaptive sampling algorithm for the exploration of RNA mutational landscapes under evolutionary pressure. In *Proceeding of the 15th Annual International Conference on Research in Computational Molecular Biology, RECOMB2011*.

-- (Berger, B., and **Waldispühl, J.**) Novel perspectives on protein structure prediction. In Naren Heath, Lenwood S.; Ramakrishnan, editor, The Problem Solving Handbook for Computational Biology and Bioinformatics. Springer, 2010.

-- (Reinharz, V., and **Waldispühl, J.**) Reconstruction of RNA tertiary structures from predicted secondary structures and RNA 3d motifs. Abstract in the proceedings of the first annual RNA-UNY conference, Rensselaerville, New York, USA, 2010.

-- RNAmutants: A computational framework to explore the mutational landscape of structural RNAs: theory and applications. Abstract in the proceedings of the first annual RNA-UNY conference, Rensselaerville, New York, USA, 2010.

APPENDIX A

Research, Other Scholarly Contributions, Funding

RESEARCH**• *Post-doctoral fellows and Other Visitors***

The following table represents Post-docs currently registered in the School and visitors, who have visited the School during the period of June 1, 2009 to December 31, 2010.

Post-doctoral Fellows

<u>Name</u>	<u>Supervisor</u>	<u>Funding Source</u>
Assemblal, Haz-Edine	K. Siddiqi	Research
Bortel, Aleksandra Beata	J. Pineau	Research
Bradler, Kamil (to May 15, 2010)	P. Hayden	Research
Bush, Keith	J. Pineau	Research
Desrosiers, Simon Pierre	C. Crépeau	Research
Dunfield, Joshua	B. Pientka	Research
Kang, Ross	B. Reed	Research
Nguyen, Phuong	D. Thérien	Research
Ong, Sylvie	J. Pineau	Research
Panuccio, Gabriella	J. Pineau (co-supervisor)	Research
Paquette, Éric Oliver (to May 15, 2010)	P. Panangaden	Research
Rao, Lei	X. Liu	Research
Sadri, Javad (to May 31, 2010)	M. Blanchette	Research
Shortreed, Susan	J. Pineau	Research
Tardif, Jean-Philippe	M. Langer	Research
Tofigh, Ali	M. Hallett	Research
Wilde, Mark	P. Hayden	Research
Zhioua, Sami	P. Panangaden	Research
Zwols, Yori	B. Reed	Research

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Research Assistants

<u>Name</u>	<u>Supervisor</u>	<u>Funding Source</u>
Alam, Omar	J. Kienzle	Research
Cingolani, Pablo Esteban	M. Blanchette	Research
Cory, Sean	M. Hallett	Research
Dutil, Nicolas	P. Hayden	Research
Gélineau, Samuel	J. Kienzle	Research
Knight, Sophia	P. Panangaden	Research
Livingstone, Julie Marie	M. Hallett	Research

Research Associates

<u>Name</u>	<u>Supervisor</u>	<u>Funding Source</u>
Bradler, Kamil (starting May 16, 2010)	P. Hayden	Research
Paquette, Éric Oliver (starting May 16, 2010)	P. Panangaden	Research
Sadri, Javad (starting June 1, 2010)	M. Blanchette	Research

Visiting Professors

<u>Name</u>	<u>Supervisor</u>	<u>Funding Source</u>
Chudnovsky, Maria	B. Reed	Research
Ruiz-Ascencio, Jose	G. Dudek	Research
Sen, Pranab	P. Hayden	Research
Seymour, Paul	B. Reed	Research

RESEARCH

• *Conference Presentations*

BLANCHETTE, M., “Inferring 3D chromatin structure from 5C data”, Fifth Barbados conference on gene regulation, Barbados, April 2010. (talk by Mathieu Rousseau, Mathieu Blanchette).

--“Modelling contaminants in AP-MS experiments”, Canadian Network on Proteomics Symposium, Montreal, QC, Canada, May 2010. (talk by Mathieu Lavallée-Adam, Benoit Coulombe, Mathieu Blanchette).

--“Modelling contaminants in AP-MS experiments”, Recomb Satellite conference on computational proteomics, San Diego, CA, USA, March 2010. (poster by Mathieu Lavallée-Adam, Benoit Coulombe, Mathieu Blanchette).

DEVROYE, L., “The Hungarian Connection: 25 Years of L1 Density Estimation”, Prague Stochastics 2010, Prague, Czech Republic, August 30 – September 3, 2010.

--“ Oblivious routing in convex subdivisions: random walks are optimal”, 26th European Workshop on Computational Geometry (EuroCG'10), Dortmund, Germany, March 22-24, 2010. (Chan, D., Devroye, L., Dujmovic, V., Morin, P.).

--“The locker problem with empty lockers”, 3rd Annual Meeting of the Asian Association for Algorithms and Computation (AAAC 2010), Pohang, Korea, April 17-19, 2010. (Avis, D., Devroye, L., Iwama, K.).

--“The spanning ratio of the Delaunay triangulation is greater than $\pi/2$ ”, CCCG09, Vancouver, B.C., Canada, 2 June 2009. (Bose, P., Devroye, L., Loeffler, M., Snoeyink, J., Verma, V.)

--“The locker problem with empty lockers”, ICAMCS 2009: International Conference on Applied Mathematics and Computer Sciences, Bangkok, Thailand, December 25-27, 2009. (Avis, D., Devroye, L., Iwama, K.)

--“The height of scaled attachment random recursive trees”, 21st International Meeting on Probabilistic, Combinatorial, and Asymptotic Methods in the Analysis of Algorithms (AofA'10), Vienna, Austria, June 28-July 2, 2010. (Devroye, L., Fawzi, O., Fraiman, N.). (Talk given by my student, Omar Fawzi).

HALLETT, M.T., “Microdissection of breast cancer models provides new depth in the biology of the tumor microenvironment”, AACR Special Conference, San Diego, California, 2009. (Laferrriere J, Cory S, Souleimanova M, Liu J, Zacksenhaus E, Muller W, Hallett M, Park M).

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--“Bioinformatics Approaches to Understanding the Breast Cancer Microenvironment”, Montreal International Symposium on Angiogenesis and Metastasis, Montreal, QC, Canada, June 2009. (Pepin F).

--“Searching for signaling balance through the identification of genetic interactors of the Rab Guanine-nucleotide Dissociation Inhibitor, *gdi-1* in *Caenorhabditis elegans*”, Montréal, QC, Canada, June 2009. (Lee AY).

--“Searching for signaling balance through the identification of genetic interactors of the Rab Guanne-nucleotide Dissociation Inhibitor, *gdi-1* in *Caenorhabditis elegans*”, Bioinformatics User Group (MonBUG) Symposium, Institut de recherches cliniques de Montréal, Montréal, QC, Canada Lee AY, Perreault R, Harel S, Boulier E, Suderman M, Hallett M, Jenna S (2009, June). 17th International *C. elegans* meeting, Los Angeles, California, USA.

--“The identification of genetic interactions in *C. elegans* towards the discovery of therapeutic targets for monogenic disorders”, 1er Colloque Annuel de Pharmaqam, Montréal, QC, Canada, June 2009. (Lee AY, Perreault R, Harel S, Boulier E, Suderman M, Hallett M, Jenna S).

--“Chemogenomic profiling predicts antifungal synergy”, 1er Colloque Annuel de Pharmaqam, Montréal, Québec, Canada, June 2009. (Lee AY, Jansen G, Surprenant J, Epp E, Marcus D, Scott M, Tan E, Nishimura T, Whiteway M, Hallett M, Thomas DY).

--“Breast Signature Analysis Tool (BreSAT): uncovering the hidden molecular signatures of breast cancer”, Goodman Cancer Centre Retreat, Mont Tremblant, QC, Canada, October 2009. (Lesurf, R).

--“Breast Signature Analysis Tool (BreSAT):uncovering the hidden molecular signatures of Breast Cancer, WIP” - Work In Progress seminar, Goodman Cancer Centre, McGill University, Montreal, QC, Canada, October 2009. (Lesurf, R).

--“A distinct unfolded protein response in lower eukaryotes suggest translational attenuation predates transcriptional regulation”, MonBUG Bioinformatics Symposium, Montreal, QC, Canada, 2009. (Gosline, S et al).

--“Microdissection of breast cancer models provides new depth in the biology of the tumor microenvironment”, AACR Special Conference, San Diego, CA, USA, November 2009. (Shahalizadeh, S).

Laferriere J, Cory S, Souleimanova M, Liu J, Zacksenhaus E, Muller W, Hallett M, Park M., (2009). Laferriere J, Cory S, Souleimanova M, Liu J, Zacksenhaus E, Muller W, **Hallett M**, Park M (2009). Microdissection of breast cancer models provides new depth in the biology of the tumor microenvironment, *AACR Special Conference*, San Diego, California

--“Bioinformatics Approaches to Understanding the Breast Cancer Microenvironment”, Montreal International Symposium on Angiogenesis and Metastasis, Montreal, QC, Canada, June 2009. (Pepin F).

--“Searching for signaling balance through the identification of genetic interactors of the Rab

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Guanine-nucleotide Dissociation Inhibitor, *gdi-1* in *Caenorhabditis elegans*”, Montréal Bioinformatics User Group (MonBUG) Symposium, Institut de Recherches Cliniques de Montréal, Montréal, QC, Canada, June 2009. (Lee AY).

--“Searching for signaling balance through the identification of genetic interactors of the Rab Guanine-nucleotide Dissociation Inhibitor, *gdi-1* in *Caenorhabditis elegans*”, 17th International *C. elegans* meeting, Los Angeles, California, USA, June 2009. (Lee AY, Perreault R, Harel S, Boulier E, Suderman M, Hallett M, Jenna S).

--“The identification of genetic interactions in *C. elegans* towards the discovery of therapeutic targets for monogenic disorders”, 1er Colloque Annuel de Pharmaqam, Montréal, QC, Canada, June 2009. (Lee AY, Perreault R, Harel S, Boulier E, Suderman M, Hallett M, Jenna S).

--“Chemogenomic profiling predicts antifungal synergy”, 1er Colloque Annuel de Pharmaqam, Montréal, QC, Canada, June 2009. (Lee AY, Jansen G, Surprenant J, Epp E, Harcus D, Scott M, Tan E, Nishimura T, Whiteway M, Hallett M, Thomas DY).

--“Breast Signature Analysis Tool (BreSAT): uncovering the hidden molecular signatures of breast cancer”, Goodman Cancer Centre Retreat, Mont Tremblant, QC, Canada, October 2009. (Lesurf, R).

--“Breast Signature Analysis Tool (BreSAT): uncovering the hidden molecular signatures of breast cancer”, WIP - Work In Progress seminar, Goodman Cancer Centre, McGill University, Montreal, QC, Canada, October 2009. (Lesurf, R).

--“A distinct unfolded protein response in lower eukaryotes suggest translational attenuation predates transcriptional regulation”, MonBUG Bioinformatics Symposium, Montreal, QC, Canada, 2009. (Gosline, S et al).

--“Genomic predictors of breast cancer recurrence that carry information beyond subtype classification”, WIP – Work in Progress seminar, Goodman Cancer Centre, McGill University, Montreal, QC, Canada, November 2009. (Shahalizadeh, S).

HAYDEN, P., “Multiparty state merging”, Workshop on Single-Shot Quantum Information Theory, Cambridge University, July 2009. (Presentation by PhD student Nicolas Dutil.).

-- “Capacity of quantum channels with side information at the sender”, IEEE International Symposium on Information Theory, Seoul, July 2009. (Presentation given by PhD student Frederic Dupuis).

--“Trading Resources in Quantum Shannon Theory”, Asian Quantum Information Science Conference, Tokyo, September 2010. (Speaker: Mark Wilde (postdoc speaking about work on which I am a co-author)).

--“Capacities of qudit cloning channels and optical amplifiers (invited talk), Quantum Optics V, Cozumel, Mexico, November 2010. (Kamil Bradler (postdoc speaking about work on which I am a co-author)).

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HENDREN, L.J., “Impact analysis and visualization toolkit for static crosscutting in AspectJ”, 17th International Conference on Program Comprehension (ICPC 2009), Vancouver, B.C. Canada, May 2009. (presented by Ekwa Duala-Ekoko).

--“Object representatives: a uniform abstraction for pointer information”, BCS International Academic Conference, British Computing Society, London, England, December 2008. (presented by Patrick Lam).

--“Finding Programming Errors Earlier by Evaluating Runtime Monitors Ahead-of-Time”, Sixteenth ACM SIGSOFT International Symposium on Foundations of Software Engineering (FSE 2008), Atlanta, Georgia, USA, November 2008. (presented by Eric Bodden).

--“Enabling Static Analysis for Partial Java Programs”, OOPSLA 08 Nashville, Tennessee, USA, October 2008. (presented by Barthélémy Dagenais).

--“Relational aspects as tracematches,” 7th International Conference on Aspect-Oriented Software Development (AOSD 08), Brussels, Belgium, March 2008. (presented by Eric Bodden).

KEMME, B., “SMS based group communication system for mobile devices”, Indianapolis, Indiana, USA, June 6, 2010. (Presentation of the paper in the MobiDE Workshop).

KIENZLE, J., “Aspect-Oriented Modeling and Information Hiding”, 14th International Workshop on Aspect-Oriented Modeling, Denver, Colorado, USA, October 4, 2009. (Presented by my student and co-author Wisam Al Abed).

--“Model Transformation of Dependability-Focused Requirements Models”, Workshop on Modeling in Software Engineering, MiSE, Vancouver, BC, Canada, June 2009. (Presented by my student and co-author Sadaf Mustafiz).

--“Aspect Model Unweaving”, 12th International Conference on Model-driven Engineering Languages and Systems - MoDELS, Denver, USA, October, 2009. (Presented by my student and co-author Sadaf Mustafiz).

KRY, P., “A Multimodal Floor for Virtual Environments”, ACM SIGGRAPH Emerging Technologies, New Orleans, USA, 3-7 August 2009. Alvin Law, Jessica Ip, Benjamin Peck, Yon Visell, Paul Kry, Jeremy Cooperstock, Severin Smith. (Demonstration given by graduate students Alvin Law and Jessica Ip).

--“Volume Contact Constraints at Arbitrary Resolution”, ACM SIGGRAPH Technical Program, Los Angeles, USA, 25-29 July 2010. (Talk given by Jeremie Allard for paper on which I am co-author).

--“Medial Spheres for Shape Approximation”, Symposium on Brain, Body and Machine, Montreal, QC, Canada, 10-12 November 2010. (Talk given by Svetlana Stolpner for paper on which I am co-author).

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LANGER, M., (Poster) York Conference Toronto, ON. June 2009

"Performance of MRF-based Stereo Algorithms for 3D cluttered scenes" International Symposium on the Occasion of the 25th Anniversary of the McGill University Centre for Intelligent Machines,

--Poster, International Conference on Computational Photography
Cambridge, MA, March 27, 2010

LIU, X., "Joint Optimization of System Lifetime and Network Performance for Real-Time Wireless Sensor Networks", in Proceedings of The Sixth International ICST Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QShine 2009), Las Palmas de Gran Canaria, Spain, 2009.

--"Performance of Bulk Data Dissemination in Wireless Sensor Networks", in Proceedings of the 5th International Conference on Distributed Computing in Sensor Systems (DCOSS 2009), Marina Del Rey, California, USA, 2009 (Acceptance Rate: 29/116 = 25%).

--"EUL: an Efficient and Universal Localization Method for Wireless Sensor Network", in Proceedings of the 29th International Conference on Distributed Computing Systems (ICDCS'09), Montreal, QC, Canada, 2009.

--"Reduced Dimension Control Based on Online Recursive Principal Component Analysis", in Proceedings of the 2009 American Control Conference (ACC'09), St. Louis, MO, USA, 2009.

--"Asymptotically Stable Adaptive Critic Design for Uncertain Nonlinear System", in Proceedings of the 2009 American Control Conference (ACC'09), St. Louis, MO, USA, 2009.

--"MEC-IDC: Joint Load Balancing and Power Control for Distributed Internet Data Centers", in Proceedings of the First ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS'10), Stockholm, Sweden, 2010 (Talk).

MAHESWARAN, M., "CASTLE: A Social Framework for Collaborative Anti-Phishing Databases", presented at 5th International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2009), Washington, DC, USA, 2009.

--"Socially Enhanced Network Address Translation", presented at Workshop on Leveraging Social Patterns for Privacy, Security, and Network Architectures (SP4SPNA09) (held in conjunction with SocialCom 2009)., Vancouver, BC, Canada, 2009.

--"Social Authentication Protocol for Mobile Phones", presented at International Symposium on Social Intelligence and Networking (SIN-09), Vancouver, BC, Canada, 2009.

--"GINI: A User-level Toolkit for Creating Micro Internets for Teaching & Learning Computer Networking", presented by Alex Malozemoff (undergraduate student) at 12th ACM SIGCSE Conference on Innovation and Technology in Computer Science Education, Where & When?

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--“Using Social Factors in Digital Rights Management”, at 4th USENIX Workshop on Hot Topics on Security, (presented by Bader Ali ,PhD student). Where & When?

--“A Case for Community-Centric Controls for Information Sharing on Online Social Networks”, presented at 2010 Workshop on Complex and Communication Networks held in conjunction with IEEE Globecom, Miami, Florida, 2010.

PAIGE, C., “The Concept of Augmented Backward Stability for Some Iterative Algorithms”, invited talk in the minisymposium :Core Issues in Numerical Linear Algebra and Its Applications', SIAM Conference on Applied Linear Algebra, Embassy Suites, Monterey Bay, California, USA, October 26-29, 2009.

--“Solving Linear Regression Problems Using LSQR”, 3rd International Conference of the ERCIM Working Group on Computing and Statistics, University of London, December 10-12, 2010. (Chris Paige and D. Titley-Peloquin co-authors).

PIENTKA ,B., “A Framework for Programming and Reasoning with Deductive Systems (System Description)”, 5th International Joint Conference on Automated Reasoning (IJCAR-10), Edinburgh, UK, July 2010, Brigitte Pientka, Joshua DunfieldBeluga, (presented by B.Pientka).

--“Reasoning with Higher-Order Abstract Syntax and Contexts: A Comparison”, First International Conference on Interactive Theorem Proving (ITP'10), Edinburgh, UK, July 2010, Amy P. Felty, Brigitte Pientka, (presented by A.Felty).

--“Explicit Substitutions for Contextual Type Theory”, International Workshop on Logical Frameworks, (Andreas Abel, Brigitte Pientka). Where & When?

PINEAU, J., “Manifold Embeddings for Model-Based Reinforcement Learning under Partial Observability”, Conference: Neural Information Processing Systems (NIPS), Vancouver, BC, Canada, December 7, 2009. (Poster Presented by: Keith Bush).

--“Performing Tasks while Doing Simultaneous Localization and Mapping”, Conference: NIPS workshop on Probabilistic Approaches for Robotics and Control, Whistler, BC, Canada, December 11, 2009. (Poster -Presented by: Arthur Guez).

--“Completing Wikipedia’s Hyperlink Structure through Dimensionality Reduction”, Conference: ACM Conference on Information and Knowledge Management (CIKM), Hong Kong, November 5, 2009. (Talk - Presented by: Robert West).

--“Wikispeedia: An Online Game for Inferring Semantic Distances between Concepts”, Conference: International Joint Conference On Artificial Intelligence (IJCAI), Pasadena, CA, USA, July 14, 2009. (Talk - Presented by: Robert West).

--“Manifold Embeddings for Model-Based Reinforcement Learning of Neurostimulation Policies”, Conference: ICML/UAI/COLT Workshop on Abstraction in Reinforcement Learning , Montreal, QC, Canada, June 18, 2009. (Talk -Presented by: Keith Bush).

--“Unmasking Neurostimulation Policies for the Treatment of Epilepsy”, Conference: Multidisciplinary Symposium on Reinforcement Learning, Montreal, QC, Canada, June 18, 2009. (Poster - Presented by: Keith Bush).

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--“Model-based Bayesian Reinforcement Learning with Adaptive State Aggregation”, Conference: Multidisciplinary Symposium on Reinforcement Learning, Montreal, QC, Canada, June 18, 2009. (Poster - Presented by: Cosmin Paduraru).

--“Using batch RL to optimize neurostimulation strategies”, Conference: Multidisciplinary Symposium on Reinforcement Learning, Montreal, QC, Canada, June 18, 2009. (Poster - Presented by: Arthur Guez).

--“Using clinical trial data to construct policies for guiding clinical decision making”, Conference: American Control Conference, Special Sessions on Emerging Topics, St. Louis, Missouri, USA, June 11, 2009, (Talk - Presented by: Susan Murphy).

--“Dynamic representations for adaptive neurostimulation treatment of epilepsy”, Conference: 4th International Workshop on Seizure Prediction, Kansas City, USA, June 6, 2009. (Poster - Presented by: Keith Bush).

--“A computational model of epileptiform activity in the in vitro entorhinal cortex”, Conference: 4th International Workshop on Seizure Prediction, Kansas City, USA, June 6, 2009. (Poster - Presented by: Robert Vincent).

--“On the design and validation of an intelligent powered wheelchair: Lessons from the SmartWheeler project”, Conference: NIPS workshop on Machine Learning for Assistive Technologies, Whistler, BC, Canada, December 10, 2010. (Talk - Presented by: Joelle Pineau).

--“Overcoming missing data in a sequentially randomized trial of patients with schizophrenia”, Conference: NIPS workshop on Predictive Models in Personalized Medicine, Whistler, BC, Canada, December 10, 2010. (Poster - Presented by: Susan Shortreed).

--“PAC-Bayesian Model Selection for Reinforcement Learning”, Conference: Neural Information Processing Systems (NIPS), Vancouver, BC, Canada, December 5, 2010. (Poster - Presented by: Mahdi Milani Fard).

--“On the design and validation of an intelligent powered wheelchair: Lessons from the SmartWheeler project”, Conference: CIM-25 International Symposium on Brain, Body and Machine, Montreal, QC, Canada, November 12, 2010. (Talk - Presented by: Joelle Pineau).

--“Treating Epilepsy by Reinforcement Learning via Manifold-based Simulation”, Conference: AAAI 2010 Fall Symposium on Manifold Learning and its Applications, Arlington, VA, USA, November 11, 2010. (Talk - Presented by: Keith Bush).

--“Automatically Suggesting Topics for Augmenting Text Documents”, Conference: ACM Conference on Information and Knowledge Management (CIKM), Toronto, Ontario, Canada, October 29, 2010. (Talk - Presented by: Robert West).

--“Set-Valued Dynamic Treatment Regimes”, Conference: Annual meeting of the Society for Medical Decision Making (SMDM), Toronto, Ontario, Canada, October 25, 2010. (Poster - Presented by: Eric Laber).

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--“Towards a Standardized Test for Intelligent Wheelchairs”, Conference: Performance Metrics for Intelligent Systems (PerMIS'10), Baltimore, MD, USA, September 29, 2010. (Talk - Presented by: Joelle Pineau).

--“Human-Oriented Design and Initial Validation of an Intelligent Powered Wheelchair”, Conference: Annual Conference of the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), Las Vegas, Nevada, USA, June 27, 2010. (Poster -Presented by: Wormser Honore).

--“Intelligent voice control wheelchair for activities of daily living”, Conference: Canadian Mobility & Seating Conference (CMSC), Toronto, Ontario, Canada, May 19, 2010. (Talk - Presented by: Amin Atrash).

--“A Bayesian Method for Learning POMDP Observation Parameters for Robot Interaction Management Systems”, Conference: ICAPS POMDP Practitioners Workshop: solving real-world POMDP problems, Toronto, Ontario, Canada, May 12, 2010. (Poster - Presented by: Amin Atrash).

--“Multi-Tasking SLAM”, Conference: International Conference on Robotics and Automation (ICRA), Anchorage, AK, USA, May 4, 2010. (Talk - Presented by: Arthur Guez).

--“Variable Resolution Decomposition For Robotic Navigation Under a POMDP Framework”, Conference: International Conference on Robotics and Automation (ICRA), Anchorage, AK, USA, May 4, 2010. (Talk - Presented by: Robert Kaplow).

--“Screening suboptimal treatments using the fused lasso”, Conference: ENAR meeting of the International Biometric Society, New Orleans, LA, USA, March 23, 2010. (Talk - Presented by: Eric Laber).

PRECUP, D., “Jordan Frank, Activity recognition using mobile devices”, Demonstration presented at NIPS'09, Vancouver, BC, Canada, December 2009. (supervised by myself and S. Mannor).

--“Equivalence relations in Fully and Partially Observable Markov Decision Processes”, Presentation at IJCAI'09 (see paper above), Pasadena, CA, USA, July 2009. (Presented by: Pablo S. Castro).

--“Equivalence relations in Fully and Partially Observable Markov Decision Processes”, Presentation at Univ. Barcelona, Spain, July 2009. (Presented by: Pablo S. Castro).

--“Equivalence relations in Fully and Partially Observable Markov Decision Processes”, Presentation at Univ. California Berkeley, July 2009. (Presented by: Pablo S. Castro).

--“Wikispeedia: An Online Game for Inferring Semantic Distances between Concepts”, Presentation at IJCAI'09 (see paper above), Pasadena, CA, USA, July 2009. (Presented by: Robert West).

--“Completing Wikipedia’s Hyperlink Structure through Dimensionality Reduction”, Presentation at CIKM'09 (see paper above), Hong Kong, November 2009. (Presented by: Robert West).

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--“Optimal Time-Scales for Reinforcement Learning Behavior Strategies”. Poster at NIPS'09 workshop on robotics and control, Whistler, BC, Canada, December 2009. (Gheorghe Comanici).

--“Activity Recognition with Time-Delay Embeddings”, AAAI 2010, Atlanta, GA, USA, July 15 2010.

--“A Machine Learning Approach to the Detection of Fetal Hypoxia during Labor and Delivery”, IAAI 2010, Atlanta, GA, USA, July 15 2010 (co-located with AAAI).

REKLEITIS, I.M., ‘Cooperative Exploration, Localization, and Visual Map Construction’, in Brain, Body and Machine, International Symposium on the Occasion of the 25th Anniversary of the McGill University Centre for Intelligent Machines, 2010.

--“Optimal Coverage of a Known Arbitrary Environment”, in IEEE International Conference on Robotics and Automation (ICRA), Anchorage, AK, May 2010.

ROBILLARD, M., “Automatically Recommending Triage Decisions for Pragmatic Reuse Tasks”, 24th IEEE/ACM International Conference on Automated Software Engineering, Auckland, New Zealand, 20 November 2009. (Talk).

--“Improving API Usage through Detection of Redundant Code”, 24th IEEE/ACM International Conference on Automated Software Engineering, Auckland, New Zealand, 20 November 2009. (Talk- presented by my M.Sc. student David Kawrykow. I was a co-author).

--“A Detailed Examination of the Correlation Between Imports and Failure-Proneness of Software Components”, 3rd International Symposium on Empirical Software Engineering, Lake Buena Vista, FL, USA, 15 October 2009. (Talk - presented by my Ph.D. Student Ekwa Duala-Ekoko. I was a co-author).

--“Analysis and Recommendation Support for API Evolution”, 31th ACM/IEEE International Conference on Software Engineering, Vancouver, BC, Canada, 22 May 2009. (Talk and poster - presented by my Ph.D. student Barthélémy Dagenais. I was a co-author).

--“Detecting Inefficient API Usage”, 31th ACM/IEEE International Conference on Software Engineering, Vancouver, BC, Canada, 20 May 2009. (Talk and poster - presented by my M.Sc. student David Kawrykow. I was a co-author).

--“A Qualitative Study on Project Landscapes”, ICSE 2009 Workshop on Cooperative and Human Aspects of Software Engineering, Vancouver, BC, Canada, 18 May 2009. (Talk - presented by my Ph.D. student Barthélémy Dagenais. I was a co-author).

--“Impact Analysis and Visualization Toolkit for Static Crosscutting in AspectJ”, 17th IEEE International Conference on Program Comprehension, Vancouver, BC, Canada, 17 May 2009. (Talk - presented by my Ph.D. student Ekwa Duala-Ekoko. I was not a co-author).

--“Creating and Evolving Developer Documentation: Understanding the Decisions of Open Source Contributors”, ACM SIGSOFT International Symposium on the Foundations of Software Engineering, Santa Fe, NM, USA, 10 November 2010. (Presented by my Ph.D. student Barthélémy Dagenais. I am a co-author on the work).

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RUTHS, D., “A Model of Social Network Formation”, Sunbelt Conference on Social Network Analysis, Riva del Garda, Italy, July 2, 2010. (Talk).

--“Deriving predictive models of signaling network dynamics from qualitative experimental data”, Computation Systems Bioinformatics Workshop, Stanford, CA, USA, August 18, 2010. (Talk).

SIDDIQI, K., “3D Stochastic Completion Fields for Fiber Tractography”, IEEE Workshop on Mathematical Methods in Biomedical Imaging, Miami, Florida, USA, June 2009, based on our refereed paper. (Talk given by my doctoral student Parya Mommayez).

--“Oriented Morphometry of Folds on Surfaces”, Information Processing in Medical Imaging Conference, Williamsburg, VA, USA, July 2009, based on our refereed paper. (Poster prepared by doctoral student Maxime Boucher, who is co-supervised with Alan Evans).

--“Beyond Crossing Fibers: Probabilistic Tractography of Complex Subvoxel Geometries”, MICCAI Workshop on Diffusion Modeling and the Fiber Cup, London, UK, September 2009, based on our refereed paper. (Poster prepared by my doctoral student Parya Mommayez).

--“Revealing Significant Medial Structure in Polyhedral Meshes”, International Workshop on 3D Digital Imaging and Modeling, Kyoto, Japan, October 2009, based on our refereed paper. (Talk given by my doctoral student Svetlana Stolpner).

SINGH, M. “Secretary Problems via Linear Programming”, Niv Buchbinder, Kamal Jain and Mohit Singh, In Proceedings of the 14th Conference on Integer Programming and Combinatorial Optimization (IPCO), Lausanne, Switzerland, June 2010.

--“Incentives in Online Auctions via Linear Programming”, Niv Buchbinder, Kamal Jain and Mohit Singh, In Proceedings of Sixth Workshop on Internet and Network Economics, (WINE), Stanford, CA, USA, December 2010.

VERBRUGGE, C. “Analyzing Computer Game Narratives”, Entertainment Computing -- ICEC 2010, 9th International Conference, Seoul, South Korea, September 2010. (Talk Given by students)

--“A Protocol for Distributed Collision Detection”, NetGames 2010: The 9th Annual Workshop on Network & Systems Support for Games, Taipei, Taiwan, November 2010. (Talk given by Tom Ching Ling Chen. I am co-author).

--“Optimizing MATLAB through Just-In-Time Specialization”, Compiler Construction: 19th International Conference, Paphos, Cyprus, March 2010. (Talk given by Maxime Chevalier-Boisvert. I am co-author).

--“McLab: An extensible compiler toolkit for MATLAB and related languages”, C3S2E '10: Proceedings of the Third C* Conference on Computer Science and Software Engineering, Montreal, QC, Canada, May 2010. (Poster prepared by Rahul Garg. I am co-author).

VETTA, A., “Galaxy Cutsets in Graphs”, International Symposium on Combinatorial

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Optimization (CO), (Talk given by my student N. Sonnerat).

--“Defending planar graphs against star-cutsets”, European Conference on Combinatorics, Graph Theory and Applications (EUROCOMB), (Talk given by my student N. Sonnerat).

--“Computational aspects of multimarket price wars”, 5th Workshop on Internet & Network Economics (WINE), Talk given by my student N. Thain).

--“On the efficiency of markets with two-sided proportional allocation mechanisms”, Proceedings of 3rd International Symposium on Algorithmic Game Theory (SAGT), 2010, (Talk given by my student V. Kuleshov).

--“Maximum flows on disjoint paths”, Proceedings of 13th International Workshop on Approximation Algorithms for Combinatorial Optimization (APPROX), 2010 (Talk given by the postdoctoral student G. Naves).

WALDISPUHL, J., ”Perspectives on RNA design”, Ninth Annual McGill Workshop on Bioinformatics in Barbados, Chemical genomics and its application to disease, Holetown, Barbados, January 28, 2010.

--“Computing the Energy Landscape and Folding Dynamics of β -sheet Proteins”, Annual student symposium of the tri-institutional program in computational biology and medicine, Cornell University, Ithaca, New York, USA, August 3, 2010. (Poster presented by Solomon Shenker).

--“RNAmutants: A computational framework to explore the mutational landscape of structural RNAs: theory and applications”, First annual RNA-UNY Conference, Rensselaerville, New York, USA, October 9, 2010.

--“Reconstruction of RNA tertiary structures from predicted secondary structures and RNA 3D motifs”, First annual RNA-UNY conference, Rensselaerville, New York, USA, October 9, 2010. (Poster presented by Vladimir Reinharz).

--“Proposed Model of the Shadoo Amyloid and Identification of Mutation affecting Fibrillogenicity”, PrioNet/APRI Joint Annual Scientific Meeting, Vancouver, BC, Canada, December 2, 2010. (Poster by Deena Gendoo and Paul Harisson; presented by Deena Gendoo).

RESEARCH

• *Invited Talks*

AVIS, D., “On Leggett-Garg Inequalities”, ERATO-SORST Quantum Information Project, Tokyo, Dec 18, 2009.

-- “30 years in 30 minutes”, Discrete Geometry seminar, Tokai University, Tokyo, July 12, 2009.

--“On history based pivot rules and unique sink orientations”, Canada-Japan Workshop on Discrete and Computational Geometry.

--“The Quantum Locker Problems”, ICQNM09, Cancun, February, 2009.

BLANCHETTE, M., “Ancestral Genome Reconstruction: Indel Maximum Likelihood Inference”, 2nd Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM), Montreal, May 25th 2009.

-- “Comparative and regulatory genomics”, MonBUG Seminar Series, Montreal, February, 2009.

-- “Locally over-represented GO terms in PPI networks”, Barbados workshop on protein-protein interaction networks, April 2009.

CHANG, X-W., “Unify Backward Error Analysis of Ordinary Least Squares, Data Least Squares and Total Least Squares, Ill-posed Problems in Science and Engineering at the 10th US National Conference on Computational Mechanics, in Columbus, Ohio, USA, July 16 - 19, 2009.

--"Numerical Analysis and Linear Algebra", at NAMIAM 2010, First North American Meeting on Industrial and Applied Mathematics, Huatulco, Oaxaca Mexico, December 7 - 10, 2010.

CRÉPEAU, C., "About codes and lattices", INRIA, Aug 10th, 2009.

--"Les nombres, ces grands cachottiers" Journée de Réflexion sur les Sciences (JRS), 29ème édition CEGEP de St-Félicien, Nov. 4th, 2009.

--"About codes and lattices", INRIA, Aug 10th, 2009.

--"Les nombres, ces grands cachottiers", Journée de Réflexion sur les Sciences (JRS), 29ème édition, CEGEP de St-Félicien, Nov 4th, 2009.

DEVROYE, L., “Randomness is not a bad word”, (Gold Medal Address) Statistical Society of Canada: 2009 Annual Meeting, Vancouver, BC. June 2, 2009.

--“ Classification and trees”, (Pierre Devijver Award Lecture) SSPR 2010, August, 18-20, 2010, Izmir, Turkey, 2010,
<http://www.rvg.ua.es/ssspr2010/http://www.ee.surrey.ac.uk/CVSSP/Projects/TC1/awards.html>,
invited plenary talk

--“Complexity questions in non-uniform random variate generation”, Compstat 2010, August, 22-27, 2010, Paris, France, <http://www.compstat2010.fr/>, invited plenary talk

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DUDEK, G., “Robot Navigation”, York University, Toronto, Ontario, Canada, 05/27/09

-- “A Vision-based Control and Interaction Framework for a Legged Underwater Robot”, University of British Columbia, Kelowna, BC, Canada, May 27, 2009.

-- “Human-Robot Teamwork for Underwater Data Collection”, RSS Invited workshop talk, Seattle, WA, USA, June 29, 2009.

-- “Robotics Research: Challenges and Opportunities”, Canadian Space Agency, Montreal, QC, Canada June 18, 2009.

-- “Human-Robot Teamwork for Underwater Data Collection”, Universidad del Sol, Cuernavaca, Mexico, February 26, 2009.

-- “Human-Robot Teamwork for Underwater Data Collection”, St George's School, Montreal, QC, Canada, January 20, 2009.

-- “Human-Robot Teamwork for Underwater Data Collection” Tecnologico de Monterrey, Saltillo, Mexico, October 15, 2009.

-- “Recommendation Systems on the Web Drupal.org”, (with webcast and recorded video available more broadly), Montreal, QC, Canada, October 18, 2009.

-- “Human-Robot Teamwork for Underwater Data Collection III”, IEEE Latin-American Summer School on Robotics, Santiago, Chile, December 17, 2009.

-- “Learning the Structure of the Environment from Weak Data”, Universidad de Chile, Santiago, Chile, December 16, 2009.

HALLETT, M. T., “A systems approach to understanding breast cancer”, B.R.I Meeting, Moncton, New Brunswick, Canada, 2009.

-- “A systems approach to understanding breast cancer”, Human Proteome Organization, Toronto, Ontario, Canada, 2009.

-- “A systems approach to understanding breast cancer progression”, Canadian Student Conference on Biomedical Computing, UBC, Vancouver, British Columbia, Canada, 2009

-- “A systems approach to understanding breast cancer”. Montreal Symposium on Bioinformatics November 2010

-- “Gene expression approaches in cancer research”, The NOWAC Symposium, Tromso, Norway, June 2010

HAYDEN, P., “Operator Structures in Quantum Information”, Fields Institute, Toronto, Ontario, Canada, July 2009.

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- “Quantum Theory and Symmetries 6”. Plenary lecture at one of the largest conferences in theoretical physics, Lexington, Kentucky, USA, July 2009.
 - “Mathematics Colloquium”, University of Ottawa, Ontario, Canada, September 2009.
 - “FirstChoice program”, Dawson College, Montreal, QC, Canada, November 2009.
 - “Quantum Information Theory”, NATO Advanced School in Quantum Information, Centre de Recherches Mathematiques, Montreal, QC, Canada, June 2010.
 - “Black Holes as Mirrors”, International Iran Summer School on Quantum Information, Kish Island, Iran, September 2010.
 - “Concentration of Measure Effects in Quantum Information”, Perspectives in High Dimensions, Cleveland, Ohio, USA, July 2010.
 - “Concentration of Measure Effects in Quantum Information”, International Conference on Quantum Information and Computation, Stockholm, Sweden, November 2010.
 - “Random Constructions in Quantum Information Theory”, Random Matrices in Quantum Information, Perimeter Institute, Waterloo, Ontario, Canada, July 2010.
 - “From Low-Distortion Embeddings to Efficient Information Locking Seminar”, Perimeter Institute, Waterloo, Ontario, Canada, November 2010.
 - “Concentration of Measure Effects in Quantum Information Colloquium”, Institute for Quantum Information, University of Waterloo, Ontario, Canada, November 2010.
 - “From Low-Distortion Embeddings to Efficient Information Locking Seminar”, Mittag-Leffler Institute, Stockholm, Sweden, October 2010.
 - “Concentration of Measure Effects in Quantum Information Mathematics Colloquium”, University of Toronto, Ontario, Canada, December 2010.
- KEMME, B.**, “Replication in Cloud Computing”, Panel discussion at Doctoral Symposium associated with ACM/IFIP/ USENIX Middleware Conference, Urbana-Champaign, Illinois, USA, December 2009.
- “Event-Based Interest Management for Multi-Player Online Games”, 3rd Event-driven Business Process Management Workshop (edBPM) at CASCON, Toronto, Ontario, Canada, November 2009.
 - “Database Replication: a Tale of Research across Communities”, Int. Conf. on Very Large Data Bases (VLDB), Singapore, September 16, 2010.
 - “Research in Databases”, Mentoring Workshop associated with ACM SIGMOD Conference, Indianapolis, Indiana, USA, June 11, 2010.

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KIENZLE, J., "Aspect-Oriented Design of a Crisis Management System", 14th Workshop on Aspect-Oriented Modeling, Denver, Colorado, USA, October 4th 2009.

-- "Aspect-Oriented Multi-View Modeling", Canadian University Software Engineering Conference (CUSEC 2009), Montreal, Canada, January 2009.

KRY, P., "From Composite elements to coarse rods and shells", Massachusetts Institute of Technology Computer Graphics Group Annual Retreat, Ashland, Massachusetts, USA, October 10-11, 2009.

-- "Preserving Topology and Elasticity for Embedded Deformable Models" Graphics Seminar, INRIA Rhône-Alpes, August 20, 2009.

--"Animation of Human Motion, Deformation, and Contact", Cornell University, Computer Graphics Group, Ithaca, N.Y., USA, March 29, 2010.

--"Character Animation with Reduced Models", Columbia University, Columbia Vision + Graphics Center, New York, USA, July 22, 2010.

--"Character Animation, Reduced Models, Interaction, and Deformation", Disney Animation Studios, Burbank, California, USA, August 4, 2010.

--"Physics Simulation for Interactive Characters and Environments", MIGS (Montreal International Games Summit), Montreal, QC, Canada, November 9, 2010.

--"Preserving Topology and Elasticity for Embedded Deformable Models", Industrial Materials Institute - NRC, Boucherville, QC, Canada, October 28, 2010.

--"Skeletal Motion, Deformation, and Contact", REWIND ACMSIGGRAPH, Montreal, QC, Canada, April 2010.

--"Composite Elements", Bellairs Workshop on Computer Animation: Reduced Physics, Simulation, and Control, Holetown, Barbados, February, 2010.

LANGER, M., "Motion parallax in 3D cluttered scenes", York University, North York, Ontario, Canada, June 2008.

-- "Stereovision in 3D cluttered scenes", University of Western Ontario, London, Ontario, Canada, May 2009.

"Visual Motion Computation", Computational Neuroscience Colloquium", McGill Neuroscience Retreat, Montreal, QC, Canada, September 21, 2010.

LIU, X., "Towards Achieving Co-stability for Cyber-Physical Systems", University of Illinois at Urbana-Champaign, Illinois, USA, November 24, 2009.

-- "Challenges and Opportunities for Internet Data Center Power Management", Shanghai Jiaotong University, August 17, 2009.

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-- "Feedback Control of Internet Data Centers" Harbin Institute of Technology, August 10, 2009.

-- "Feedback Control of Internet Data Centers" Harbin Engineering University, August 7, 2009.

-- "Two Vignettes of Cyber-Physical Systems Research", Microsoft Research, Redmond, WA, USA, August 9, 2010.

--"Ensuring Power Management and Temporal Performance Guarantees for Cyber-Physical Systems", IBM Research China, Beijing, China, July 13, 2010.

-- "Ensuring Power Management and Temporal Performance Guarantees for Cyber-Physical Systems", Shanghai Jiaotong University, Shanghai, China, July 12, 2010.

--"Two Vignettes of Cyber-Physical Systems Research", University of Waterloo, Waterloo, Ontario, Canada, June 4, 2010.

MAHESWARAN, M., "Rethinking Information Flow Control on the Internet: The Social Way", Keynote lecture, Fourth IEEE International Conference on Industrial and Information Systems, Peradeniya, Sri Lanka, December, 2009.

PAIGE, C., "Augmented backward stability of Lanczos's symmetric matrix tridiagonalization process", Sparse Days at CERFACS Meeting, Toulouse, France. June 18-19, 2009.

-- "Vector orthogonalization algorithms and the Lanczos process", Linear Algebra and Optimization Seminar, Stanford University, California, USA, November 4, 2009.

-- "Orthogonality in some Matrix Computations", Mathematics Seminar, Simon Fraser University, Vancouver, BC, Canada, Friday, November 6, 2009.

PANANGADEN, P., "Tutorial on Information Theory and Security: Canada-France MITACS meeting on Security", Montreal, QC, Canada, June 2008.

--"Domain Theory and the Causal Structure of Space-time at Computability in Europe", Athens, Greece, June 2008.

--"Approximating Labelled Markov Processes", Workshop on Approximate Behavioural Equivalences, Toronto, Ontario, Canada, August 2008.

--"Knowledge and Information in Probabilistic Systems, Invited joint plenary talk at ACM Conference on Principles of Distributed Computing and International Conference on Concurrency.

--"Private Information via the Unruh Effect", Workshop on Informatic Phenomena, New Orleans, LA, USA, October 2008.

--"Tutorial on Feynman Diagrams", 25th Annual Conference on Mathematical Foundations of Programming Semantics, Oxford, U.K., April 2009.

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--“What are Feynman diagrams?”, Laboratory for the Foundations of Computer Science, University of Edinburgh, Edinburgh, Scotland, April 2009.

--“Proof Nets and Linear Logic”, Quantum Logics and Quantum Computation, University of Indiana, USA, May 2009.

--“Anyons, Braids and Topological Quantum Computing”, Workshop on Development of Computational Models, Rhodes, Greece, July 2009.

--“Approximating Labelled Markov Processes Again!” Third International Conference on Algebra and Coalgebra in Computer Science, Udine, Italy, Sept 2009.

--“Black Holes and Information”, Workshop on Informatic Phenomena, Tulane University, New Orleans, LA, USA, October 2009.

PIENTKA, B., “Beluga: programming with dependent types and higher-order data, Interaction versus Automation: The two Faces of Deduction”, Schloss Dagstuhl, Germany, October 6, 2009.

--“Beluga: programming with dependent types and higher-order data”, Programming Systems Seminar, University of Saarbruecken / Max-Planck Institute for Software Systems. Saarbruecken, Germany, October 12, 2009.

--“Beluga: programming with dependent types and higher-order data”, Parsifal Seminar, LIX, Ecole Polytechnique, Paris, France, October 14, 2009.

--“Beluga: programming with dependent types and higher-order data”, Gallium Seminar, Inria Rocquencourt, Paris, France, October 16, 2009.

-- “Contextual modal logic and its applications”, Invited Mini-Seminar Series, 3 x 3h. IT University of Copenhagen, Denmark, October 21, 22, 23, 2009.

--“Beluga: programming with dependent types and higher-order data”, Seminaire de Logique, UQUAM, Montreal, QC, Canada, December 4, 2009.

--“Belgua: Programming with contextual objects, contexts, and ...” International Workshop on Programming Languages for Mechanized Mathematics Systems, Paris, France, July 2010.

--“Beluga: Programming proofs with contexts and ...” Ludwig-Maximilian Universitaet, Muenchen, Germany, 5 November 5, 2010.

PINEAU, J., “Supportive Technologies for Assisted Powered Mobility: Human-Oriented Design and Initial Validation of an Intelligent Powered Wheelchair”, Gerontechnology Symposium, 39th Annual Scientific and Educational Meeting of the Canadian Association on Gerontology, Montreal, QC, Canada, December 4, 2010.

--“Automatic detection and suppression of epileptiform activity”, MIT, CSAIL Seminar, Boston, MA, USA, October 21, 2010.

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--“Automatic detection and suppression of epileptiform activity”, SOCS Colloquium, Montreal, QC, Canada, October 15, 2010.

--“Cognitive Robotics: Lessons from the SmartWheeler project”, Cognitive Science Research Day, Montreal, QC, Canada, September 22, 2010.

--“Treating Epilepsy via Adaptive Neurostimulation”, Congress of the Canadian Neurological Sciences Foundation, Quebec City, QC, Canada, June 9, 2010.

--“Perspectives de recherche en technologie/génie : Algorithmes et interfaces intelligentes ”, Journée de réflexion sur les Technologies de la réadaptation, Montréal, QC, Canada, May 6, 2010.

PRECUP, D., “Activity and gait recognition from mobile phone data using machine learning”, Computer Science Departmental Colloquium, Rutgers University, November 9, 2010.

--“The Brain-to-Society Diagnostic Project”, 2nd International Roadmap Development Workshop, Montreal, QC, Canada, September 29-30, 2010.

--“Behavioral modelling using reinforcement learning”, Brain-to-Society Roadmap Development Workshop on Healthy Eating, Toronto, Ontario, Canada, June 15, 2010.

--“Special session on Computational and Mathematical Modeling in Neuroscience”, Integrated Program in Neuroscience Retreat, McGill University, Montreal, QC, Canada, September 21, 2010.

--“Bridging Systems Sciences to Longitudinal and Cross-Sectoral Data to Set New Frontiers For the Multi-Level Study of Childhood Obesity and Other Diet- and Lifestyle-Related Health Problems”, McGill University, Montreal, QC, Canada, November 12, 2009.

REED, B., “Some Applications of Talagrand’s Inequality”, Concentration Inequalities session of the 57th International Statistics Institute, Durban, South Africa, August 2009.

--“A Linear Time Algorithm for the 2 Disjoint Rooted Paths Problem”, University of Toronto Combinatorics Seminar, Toronto, Ontario, Canada, November 20, 2009.

--“Total Colouring”, Oxford-Princeton Combinatorics Meeting, Princeton University, Princeton, NJ, USA, May 9, 2009.

--“An Introduction to Graph Minors”, JCALM, Sophia-Antipolis, France, October 18, 2009.

--“A three-pronged approach to graph colouring”, CIAC 2010, Rome, Italy, May 26-28, 2010.

--“Some recent evidence for the Erdos-Hajnal Conjecture”, Department of Mathematics, Charles University, Prague, June 15, 2010.

--“The Lovasz Local Lemma, Kyoto Prize Satellite Workshop”, Tokyo, Japan, November 17, 2010.

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--“Some recent evidence for the Erdos-Hajnal Conjecture”, Canadian Mathematical Society Winter Meeting, Vancouver, BC, December 4, 2010.

--“The Lovasz Local Lemma”, Canadian Mathematical Society Winter Meeting, Vancouver, BC, December 4, 2010.

REKLEITIS, I.M., “Particle Filters for Mobile Robot Navigation” , CRV 2010 Tutorial Day, Seventh Canadian Conference on Computer and Robot Vision (CRV), Ottawa, Ontario, Canada, May 30, 2010.

--“Exploration”, CRV 2010 SLAM Camp, Seventh Canadian Conference on Computer and Robot Vision (CRV), Ottawa, Ontario, Canada, May 29, 2010.

--“Robot exploration”, Short Course on “New Frontiers in Robot Navigation”, 17th Mediterranean Conference on Control and Automation, Thessaloniki, Greece, June 23, 2009.

ROBILLARD, M., “Dealing with Out of Control APIs”, Department of Computer Science and Engineering, University of Washington, Seattle, WA, USA, April 28, 2009.

--“Dealing with Out of Control APIs”, Department of Computer Science, University of British Columbia, Vancouver, BC, Canada, June 3, 2009.

--“How API Documentation Matters: Evidence from the Field”, Microsoft Research, Redmond, WA, USA, July 3, 2009.

RUTHS, D., “Modeling biochemical network dynamics using qualitative experimental data.” MIT Bioinformatics Seminar, November 20, 2009.

--“Perspectives on modeling biochemical network dynamics”, Merck Frosst Pharmaceutical, November 17, 2009.

--“Applications of social network models to understanding childhood obesity”, Brain-to-Society Childhood Obesity Workshop, Montreal, QC, Canada, November 12, 2009.

--“Models of biochemical network dynamics from qualitative experimental data”, Microsoft Research at Cambridge, March 10, 2009.

--“Models of biochemical network dynamics from qualitative experimental data”, Lane Center for Computational Biology, Carnegie Mellon University, January 27, 2009.

-- “Applications of Network Modeling to Studies of Human Behavior and Health” Society for Epidemiology Research Symposium, Seattle, WA, USA, June 23, 2010.

--“How Interconnectivity Predicts Behavior”, TEDxMcGill, Montreal, QC, Canada, November 20, 2010.

SIDDIQI, K., “Completion Fields in Diffusion MRI Analysis”, Plenary talk, International Conference on Image Analysis and Recognition, Halifax, July, 2009.

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SINGH, M., “Secretary Problems, Linear Programming and Online Auctions”, McGill Discrete Math and Optimization Seminar, April 2010.

--“Iterative methods in Combinatorial Optimization”, Dagstuhl Workshop on Flexible Network Design, Dagstuhl, June 2010.

--“Iterative methods in Combinatorial Optimization”; Barriers in Computational Complexity, Center for Computational Intractability, Princeton, August 2010.

--“Secretary Problems, Linear Programming and Online Auctions”, Microsoft Research Theory Seminar, August 2010.

--“Improving Integrality Gaps via Chvatal-Gomory Rounding”, Workshop III: Discrete Optimization, Institute for Pure and Applied Mathematics (IPAM), UCLA, USA, October 2010.

TOUSSAINT, G.T., “The Geometry of Musical Rhythm”, CRA-C/CDC Workshop on Computational Geometry, Tufts University, Boston, MA, November 16, 2009.

--“Analysis and Generation of Symbolically Represented Musical Rhythm”, Conference on the Applications of Computer Algebra ACA-2009, University of Quebec at Montreal, Ecole de Technologie Supérieure, June 25-28, 2009.

--“The Geometry of Musical Rhythm”, College of Computer Science and Technology, Jilin University, Changchun, China, Monday December 28, 2009.

--“The Geometry of Musical Rhythm”, Computer Science Theory Seminar, Department of Computer Science and Engineering, Fudan University, Shanghai, China, December 22, 2009.

--“Phylogenetic Analysis of Musical Rhythms”, Seminar, Department of Human Evolutionary Biology, Harvard University. October 23, 2009.

--“Phylogenetic Analysis of The Musical Rhythms of the World”, Harvard University, Radcliffe Institute for Advanced Study, Cambridge, Massachusetts, USA, October 14, 2009.

--“Analysis and Generation of Symbolically Represented Musical Rhythm”, Computer Science Seminar, Department of Computer Science, University of Perugia, Perugia, Italy, July 14, 2009.

--“Analysis and Generation of Symbolically Represented Musical Rhythm”, Computer Science Seminar, Department of Computer Science, University of Pisa, Pisa, Italy, July 8, 2009.

TROPPER, C., “What is computational science”, Polytechnic Institute of New York University, New York City, NY, USA, November 14, 2008.

VERBRUGGE, C., “Analyses and Techniques for Optimizing MLS”, IBM Compiler Day, September 2009.

VETTA, A., “A Brief Guide to Algorithmic Game Theory”, Department of Maths & Stats, Winter School in Pure and Applied Mathematics, January 2010.

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--“Computation in Causal Graphs”, Discrete Maths Group, McGill University, Montreal, QC, Canada, March 2010.

WALDISHPUHL, J., “Ensemble Predictions of Protein Structures”, MonBUG 2nd year launch symposium at the clinical research institute of Montreal, Montreal, QC, Canada, September 3, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, Biochemistry Department at the University of Montreal, Montreal, QC, Canada. November 27, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, Boston University Biocomputing Research at the Boston University, Boston, USA, November 18, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, Systems Biology Training Program at McGill University, Montreal, QC, Canada, October 7, 2009.

--“Algorithms for exploring the RNA mutational landscape”, 3rd workshop Computational methods for RNA analysis, Benasque, Spain, July 30, 2009.

--“Ensemble Predictions of Protein Structures”, MonBUG 2nd year launch symposium at the Clinical Research Institute of Montreal, Montreal, QC, Canada, September 3, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, BIN 3002, Biochemistry Department at the University of Montreal, Montreal, QC, Canada, November 27, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, Boston University Biocomputing Research at Boston University, Boston, MA, USA November 18, 2009.

--“Ensemble Predictions of RNA and Protein Structures”, Seminars for the Systems Biology Training Program at McGill University, Montreal, QC, Canada, October 7, 2009.

--“Perspectives of RNA design”, Ninth Annual McGill Workshop on Bioinformatics in Barbados, Chemical genomics and its application to disease, Holetown, Barbados, January 28, 2010.

--"Ensemble Predictions of Protein Structures", Laboratoire de combinatoire et d'informatique mathématique (LACIM), Université du Québec à Montréal (UQAM), Montréal, QC, Canada, February 17, 2010.

--“Ensemble Predictions of RNA and Protein Structures”, Departmental Seminar, Department of Biology, Boston College, Chestnut Hill, MA, USA, May 4, 2010.

--“Ensemble Predictions of Protein Structures”. Computer Science Colloquium, Department of Computer Science, Tufts University, Medford, USA, May 7, 2010.

--“Introduction on Protein Structure Prediction I”, Invited lecture, BINF621, Department of Biology, McGill University, Montreal, QC, Canada, October 22, 2010.

COMPUTER SCIENCE 2009-2010

--“Introduction on Protein Structure Prediction II”, Invited lecture, BINF621, Department of Biology, McGill University, Montreal, QC, October 27, 2010.

RESEARCH

• *Research Areas*

Theory of Computer Science:

Algorithms, data structures
Languages, automata, complexity
Computational geometry
Scientific computation
Linear programming, operations research
Discrete mathematics
Logic, semantics
Probabilistic analysis
Cryptography
Graph Theory
Applied Mathematics
Automated Reasoning
Quantum Computing

Devroye, Avis, Toussaint, Hallett
Thérien, Friedman
Devroye, Avis, Toussaint,
Chang, Paige
Avis
Avis, Reed, Vetta
Panangaden, Pientka
Devroye
Crépeau
Reed, Vetta
Vetta
Pientka
Crépeau, Hayden

Systems, Applications of Computer Science:

Compilers
Languages
Bioinformatics
Artificial intelligence
Pattern recognition
Robotics
Concurrent programming
Parallel and distributed systems
Simulation
Databases
Graphics, vision
Real-time systems
Computer chess
Typography, font design
Machine learning
Data compression
Networks
Software
Computer Games
Computer Animation and Physically
Based Simulation

Hendren, Verbrugge
Hendren, Panangaden, Pientka
Hallett, Blanchette, Perkins
Newborn, Precup, Dudek
Toussaint, Devroye, Precup
Dudek, Pineau
Panangaden
Tropper, Kemme, Maheswaran
Tropper, Vangheluwe
Merrett, Kemme
Dudek, Siddiqi, Langer, Kry
Ratzer, Vangheluwe
Newborn
Devroye
Precup, Pineau, Perkins
Langer
Maheswaran, Tropper, Liu
Kienzle, Robillard
Kienzle, Verbrugge
Kry

- *Individual Research Profiles*

David Avis

Professor Avis is interested in the design, analysis and implementation of combinatorial and geometric algorithms, especially for high dimensional geometric problems. He has recently been working on quantum correlations, Bell inequalities and related convex bodies.

Mathieu Blanchette

Professor Blanchette's research group develops algorithmic and machine learning approaches to genomics, evolution, and proteomics. It focuses on comparative genomics, an approach where we study the evolution of genomes to improve our understanding of the function of each of their parts. We work closely with biologists and geneticists to address computational issues that arise from the analysis of high-throughput biological experiments.

Xiao-Wen Chang

Professor Chang's research area includes scientific computing, numerical linear algebra, and numerical estimation methods.

Claude Crépeau

Professor Crépeau's main research area is the study of cryptographic protocols, in the information theoretical setting as well as computational setting, for classical and quantum adversaries.

Luc Devroye

Professor Devroye's main research areas are: Probabilistic analysis of algorithms. Applications of probability theory in areas such as data structures, random graphs, random networks, pattern recognition, machine learning, random number generation and nonparametric estimation.

Gregory Dudek

Professor Dudek's research group deals with two main problem domains: robotics and web-based recommendation systems. Their work on robotics deals primarily with the development of sensing and environmental inference algorithms for use by robotic systems. They include questions of how a robot can describe its world, how to pick actions that lead to a better understanding of the world, and how a human and a robot can communicate effectively. Much of this is deployed on robot systems that swim underwater, walk over harsh terrains, or fly in the air.

Our work on recommendation systems deals with building general-purpose models of peoples tastes and preferences, so that web-based systems can cater to their personal needs and interests.

Nathan Friedman

Professor Friedman is interested in the computational complexity of semi-numeric problems, the relationship between finite computational models and models that assume we are working with real numbers and orbits of chaotic transformations.

Michael T. Hallett

Professor Hallett is primarily interested in the application of computational and statistical techniques to problems arising in breast cancer, in the identification of multi-component antifungal therapies, in endoplasmic reticulum-related protein-trafficking disorders, and in social economic epigenetic studies. His lab has expertise in the statistical analysis of high-throughput data from several technologies including gene expression microarrays, tiling microarrays, and chemical genomic data.

Hamed Hatami

Professor Hatami's main research areas include theoretical computer science and discrete mathematics. In particular he is interested in applications of analysis and probability theory to these fields.

Patrick Hayden

Professor Hayden studies the ultimate limits that the laws of physics place on information processing and tries to figure out how to exploit the laws of physics to perform tasks that would otherwise be impossible.

Laurie Hendren

Professor Hendren's research group specializes in program analysis tools and techniques for compilers. They specialize in tools for Java, AspectJ, and most recently a new toolkit for scientific languages such as Matlab. A key feature of the group's work is the design and implementation of publicly-available toolkits.

Bettina Kemme

Professor Kemme's research interests are in the management of data in distributed environments, from clusters to peer-to-peer. Particular concern is the maintenance of data consistency when distributed computation updates data located at various components. Current projects are on caching in multi-tier architectures, peer-to-peer support for web-caching and massively multiplayer games, and cloud computing for update intensive applications.

Jörg Kienzle

Professor Kienzle's research interests include: fault tolerance (software fault tolerance, transactions, exception handling, fault tolerance in massively multiplayer games), software engineering (software development methods, software architecture), and aspect-orientation (aspect-oriented modeling, and aspect-oriented implementation of fault tolerance).

Paul Kry

Professor Kry's research interests include: computer graphics, physically based animation, skin deformations of articulated characters, motion capture, interaction, and physically based modelling of humans and animals. He is specifically interested in human and animal motor control (e.g., locomotion, grasping, manipulation) in combination with natural phenomena such as the physics of rigid objects, deformation, and contact. Example application areas include computer animation for video games and movies, training simulations, ergonomics, and biologically inspired robotics and programming by demonstration. An important aspect of his work is the combination of real world measurements, approximate models, and physically based simulation. He is also interested in machine learning, numerical methods, and audio.

Michael Langer

Professor Langer has two main areas: computer vision and applied perception in computer graphics.

Xue Liu

Professor Liu's research interests include: real-time and embedded systems, cyber-physical systems, internet technologies and architecture, computer networks and wireless sensor networks, modelling and control of computing systems, and fault tolerant computing.

Muthucumaru Maheswaran

Prof. Maheswaran's research recently has focused at the intersection of security, social networking, and computer networking. As part of research in this area, he is examining how social factors can be incorporated into key secure networking operations such as authentication, access control, and identity management. Previously, for many years, he has been working in the area of resource management in heterogeneous network computing systems. As part of the research initiatives in this area he has researched various issues in scheduling, trust management, and scalable resource discovery mechanisms. His research group developed a "bi-modal" architecture for large-scale computing systems that combines opportunistic resources from peer-to-peer systems with dedicated resources from Grid computing systems. Many papers he co-authored in resource management systems have been highly cited by other researchers in the area.

Chris Paige

Professor Paige's general research area is numerical analysis and scientific computing, with particular emphasis on matrix computations. An important part of his work deals with algorithms: to design, analyse and implement effective computer algorithms, including general purpose algorithms as well as algorithms for specific applications areas such as large sparse matrix problems, control engineering and estimation. This sometimes leads to rewriting essential parts of the theory for an area as was the case with total least squares.

Prakash Panangaden

Professor Panangaden splits his time between topics related to Markov processes and Quantum information theory. In the former area he works on basic theory, mainly approximation for continuous state system and equivalences and metrics, but he also has some activity in applications related to the machine learning group at McGill. He is also very interested in information theoretic security. Professor Panangaden has been active in algebraic and logical aspects (rather than quantitative aspects) of quantum information. He is particularly interested in the effects of relativity and motion on entanglement.

Brigitte Pientka

Prof. B. Pientka's research interests lie in developing a theoretical and practical foundation for building reliable and safe software systems. To achieve this goal, she combines theoretical research on the logical foundations of computer science in programming languages with system building. She is particularly interested in how advanced type systems can be used to statically enforce safety properties about programs and certify the safety of software systems.

Joelle Pineau

Professor Pineau's research focuses on investigating new methods for planning and learning under uncertainty, and the application of these methods to problems in robotics and personalized medicine.

Doina Precup

Professor Doina Precup is interested in theoretical models and practical algorithms for learning and decision making under uncertainty. Her research emphasizes Markov Decision Processes, Partially Observable Markov Decision Processes and Reinforcement Learning. She is also interested in real-life applications of machine learning and artificial intelligence.

Bruce Reed

Professor Reed is interested in studying the structure of networks or graphs and (theoretical) algorithms to solve optimization problems on them. He is also interested in discrete stochastic processes and the study of random discrete structures.

Martin Robillard

The focus of Professor Robillard's research is to understand, model, and help control the complexity of modifying large software systems over long periods of time. Many of his current projects involve developing and experimenting with technique to decrease the cost of software evolution by reducing the knowledge and effort required of software developers involved in change tasks.

Derek Ruths

Professor Ruths' research includes: developing computational methods for modeling and analyzing living systems, with emphasis on cellular and social systems. Many of his techniques use, but are not limited to the use of network-based models and methods.

Kaleem Siddiqi

Professor Siddiqi carries out research in the area of shape analysis in computer vision and medical imaging, with a focus on approaches based on geometric flows and partial differential equations.

Mohit Singh

Professor Mohit Singh's research is in the area of combinatorial optimization and approximation algorithms. His research focus is to use mathematical programming techniques to achieve approximate solutions for NP-hard problems. He is also interested in various ways to model optimization problems under uncertainty including stochastic optimization and online algorithms.

Godfried Toussaint

Professor Toussaint is interested generally in all aspects of computational geometry but in particular he is presently involved in several problems: (A) the study of the motion of polygonal linkages in space motivated by problems in robotics, knot theory, molecular biology, protein folding and polymer physics; (B) the application of proximity graphs to instance-based learning and other aspects of data mining; (C) the development of tools for the analysis, recognition, visualization, and information retrieval of rhythm and melody in computational music theory; and, (D) pattern analysis and synthesis for pattern design.

Carl Tropper

Professor Tropper's area of research is parallel discrete event simulation, an area which he has worked in since the inception of the field. He has concentrated on parallel gate level simulation over the last several years, primarily because the increase in circuit size has resulted in the necessity to simulate them on a parallel platform. He has also been doing research in the simulation of n-body simulations.

Hans Vangheluwe

Professor Vangheluwe's group works on Modelling and Simulation based analysis, design and synthesis of complex systems. Modelling, meta-modelling, and rule-based modelling of model transformations are used to build tools. Techniques and tools are applied in a variety of domains: computer games, dependable systems, identity-preserving software, embedded systems, and user interface design.

Clark Verbrugge

Professor Verbrugge's main research interests include optimization and analysis of programming languages, compilers and runtime environments, focusing on concurrency issues. He also does research in the design, formalization, and analysis of modern computer games.

Adrian Vetta

Professor Vetta's main research areas are theoretical computer science and discrete mathematics. In particular: algorithms, combinatorial optimization, game theory and graph theory.

Joseph Vybihal

Joseph Vybihal conducts research in two areas: artificial intelligence and software engineering. His AI work is in knowledge representation and biological simulation of thinking. His SE work is in internet technologies and collaborative environments.

Jerome Waldispuhl

Professor Waldispuhl's research interests include: Computational Structural Biology: Modeling and predicting the structure of Proteins and RNAs. Methods: Dynamic programing, formal language theory, statistical mechanics.

OTHER SCHOLARLY CONTRIBUTIONS

• ***Editorial, Refereeing, and Other Scientific Activities***

AVIS, D., Editorial Board, Discrete Applied Mathematics.

-- Editorial Board, Computational Geometry: Theory and Applications.

-- Editorial Board, Discrete and Computational Geometry.

-- Editorial Board, Graphs and Combinatorics.

-- Program Committee, IPCO 2010.

-- Reviewer for NSERC Grants.

-- Referee for 3 papers.

BLANCHETTE, M., Editorial Board, Genome Research.

-- Editorial Board, Algorithm for Molecular Biology.

-- Program Committee Member for the joint conferences Intelligent Systems for Molecular Biology and European Conference on Computational Biology (ECCB) 2008.

-- Program Committee Member for the NIPS workshop on new problems and methods in Computational Biology 2008, 2009.

-- Program Committee Member for International Conference on Research in Computational Molecular Biology (RECOMB) 2009.

-- Program Committee Member for Intelligent Systems for Molecular Biology (ISB) 2009.

-- Referee for NSERC Discovery 2008 (4 grants) and 2009 (4 grants).

-- External Referee for MITACS 2009.

-- External Referee for Canada Research Chair 2008.

CHANG, X-W., Referee for International Journal of Computer Mathematics.

-- Referee for Journal of Electrical and Computer Engineering.

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- Referee for Journal of Geodesy.
 - Referee for SIAM Journal on Matrix Analysis and Applications.
 - Editorial Board, Numerical Algebra, Control and Optimization.
 - Co-chair of the track "Matrix Computations and Statistics" in 3rd International Conference of the ERCIM Working Group on Computing and Statistics, University of London, December 10-12, 2010.
 - Referee for IEEE Transactions on Signal Processing (1).
 - Referee for IEEE Systems Journal (1)
 - Referee for Numerical Linear Algebra with Applications (1)
- CRÉPEAU, C.**, Program Committee Member for QIPC 2009, June 2009.
- Program Committee Member of PQCrypto 2010, December 2009.
- DEVROYE, L.**, Associate Editor, Methodology and Computing in Applied Probability.
- Associate Editor, Canadian Journal of Mathematics.
 - Associate Editor, European Series in Applied and Industrial Mathematics: Probability and Statistics.
 - Associate Editor, International Journal of Digital Typography.
 - Advisory Editor, Statistics & Decisions.
 - Associate Editor, Annals of the Institute of Statistical Mathematics.
 - Associate Editor, ALEA Latin American Journal of Probability and Mathematical Statistics.
 - Associate Editor, Annals of Applied Probability.
 - Award Committee Member for The Lucien Le Cam Prize.
 - Nominating Committee Member for the Council and Presidency of the Institute for Mathematical Statistics.
 - Referee for SIAM Computing.
 - Referee for Statistics and Decisions.
 - Referee for IEEE Transactions on Information Theory.
 - Referee for IEEE Transactions on Signal Processing.

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- Referee for Communications in Statistics.
- Referee for Journal of the ACM.
- Referee for ACM Transactions on Algorithms.
- Referee for ACM Transactions on Modeling and Computer Simulation.
- Referee for Statistics and Probability Letters.
- Referee for Statistics.
- Referee for Statistics and Computing.
- Referee for Annals of Statistics.
- Referee for Annals of Applied Statistics.
- Referee for Comptes Rendus de l'Academie des Sciences.
- Referee for Statistical Papers.
- Referee for MCMC 2009.
- Referee for SOCG 2009.
- Referee for STACS.
- Referee for Electronic Journal of Statistics.
- Referee for Electronic Journal of Probability.
- Referee for Biometrika.
- Referee for ISIT 2010.
- Referee for Metrika.
- Referee for Mathematics of Computation.
- Referee for Canadian Journal of Statistics.
- Referee for Random Structures and Algorithms.
- Referee for Neural Processing Letters.
- Referee for Electronic Letters.

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- Referee for Pattern Recognition.
- Referee for Operations Research Letters.
- Referee for Methods of Computation in Probability.
- Ad hoc Committee Member for Tenure Cases.
- Ad hoc Committee Member for Promotion to Full Professor.
- Associate editor, ACM Transactions on Modeling and Computer Simulation.
- Associate editor, Discrete Mathematics and Theoretical Computer Science.
- Area editor, ACM Transactions on Modeling and Computer Simulation.
- Editorial board member, IMS Lecture Notes and Monograph Series, and IMS Collection Series.
- Steering committee member of AofA 2009 (Analysis of Algorithms 2009), held in Frejus, France, 14-19 June 2009.
- Program committee member of ANALCO'11 (the Eighth Workshop on Analytic Algorithmics and Combinatorics), held in San Francisco, January 22, 2011.
- Referee for Journal of Nonparametric Statistics.
- Referee for Journal of Computational Geometry.
- Referee for Journal of Discrete Algorithms.
- Referee for Journal of Statistical Planning and Inference.
- Referee for Journal of Theoretical Probability.
- Referee for SODA 2011.
- Referee for Statistical Science.
- Referee for Applications and Applied Mathematics.
- Referee for ICALP 21010.
- Referee for CCCG 2010.
- Referee for Data and Knowledge Engineering.
- Referee for INFORMS Journal on Computing.
- Referee for Mathematical Problems in Engineering.

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-- Referee for Naval Research Logistics.

-- Referee for SOCS: Ad hoc committee for tenure cases.

-- Referee for SOCS: Ad hoc committee for promotion to full professor.

DUDEK, G., North American Program Co-Chair IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2010).

-- Senior Program Committee Member: International Joint Conference on Artificial Intelligence 2011.

-- Area Chair for IEEE Transactions on Robotics and Automation, IEEE Conference on Robotics and Automation, Robotics Science and Systems.

-- Reviewer for IEEE Transactions on Robotics and Automation, IEEE Conference on Robotics and Automation, Robotics Science and Systems

HALLETT, M.T., Member of the Steering Committee for RECOMB Satellite Cancer Computational Biology Conference held in Oslo, Norway, June 24-25, 2010.

HAYDEN, P., Associate Editor, IEEE Transactions on Information Theory. Approximately 30 articles from June 2009 to December 2009.

-- Referee for IEEE Transactions on Information Theory.(2)

-- Referee for the NSERC Discovery Grants Program (3)

-- Referee for the Journal of Physics A.

-- Referee for Physical Review A.

-- Referee for Quantum Information and Computing.

-- Referee for Tenure cases. (2)

-- Associate Editor for IEEE Transactions on Information Theory. Processed roughly forty articles in June-December 2010.

-- Referee for US National Science Foundation

-- Referee for CHIST-ERA European Union funding program

-- Referee for NSERC Discovery program.

-- Referee for the Journal Physical Review A

-- Referee for the Journal Proceedings of the Royal Society A

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- Referee for the Journal Communications of Mathematical Physics (3 articles).
- Referee for the Journal of Mathematical Physics
- Referee for the Journal Quantum Information and Computation
- Referee for the Journal Quantum Information Processing
- Referee for the Journal Nature
- Referee for the Journal IEEE Transactions on Information Theory (2 articles).

HENDREN, L.J., Program Committee Member for the International Conference on Compiler Construction (CC 2010)

- Program Committee Member for the ACM ASPLOS 2010 Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '10)
- Program Committee Member for the ACM SIGPLAN 2009 Conference on Programming Language Design and Implementation (PLDI '09)
- Program Committee Member for the ACM SIGPLAN 2008 International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2008)

KEMME, B., Area Editor of Information Systems (Elsevier): transaction processing, distributed database systems, and fault-tolerance.

- Program Committee Member for the VLDB Journal Track.
- Program Committee Member for the IEEE International Conference on Distributed Computing Systems 2010 (ICDCS).
- Program Committee Member for the Doctoral Symposium of Middleware 2009.
- Reviewer for IEEE Transaction on Knowledge and Data Engineering.
- Reviewer for IEEE Transactions on Parallel and Distributed Systems.
- Reviewer for ACM Transactions on Computer Systems.
- Reviewer for the International Journal of Digital Multimedia Broadcasting.
- External Reviewer for Tenure Promotion at Cleveland State University.
- Reviewer for PhD Defense at McGill University.
- External Reviewer for PhD Defense at the University of Ottawa.

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- External Reviewer for PhD Defense at the Technical University of Dresden, Germany.
- Chair (program and organization) of the Doctoral Symposium of Middleware 2010.
- Meta-reviewer of the ACM SIGMD Conference 2011. As meta-reviewer I oversee the reviewing process of around 40 papers, guiding the discussion of the reviewers and making the final accept/reject decision on the papers. It is a position between the Program Chair and the individual reviewers.
- Program Committee Member of ACM/IFIP/USENIX International Middleware Conference
- Program Committee Member of International Conference on Extending Database Technology (EDBT Conference)
- Reviewer for the Journal Distributed and Parallel Databases, Springer.
- Reviewer of 1 NSERC Discovery Grant.
- Reviewer of 1 NSERC CREATE Application.

KIENZLE, J., Guest Editor, Special Issue of the Journal Transactions on Aspect-Oriented Development, September 2009.

- Co-Editor, Proceedings of the 13th Aspect-Oriented Modeling Workshop, Charlottesville, VA, March 2009.
- Co-Editor, Proceedings of the 14th Aspect-Oriented Modeling Workshop, Denver, CO, October 2009.
- Program Committee Member for the 4th International Conference on E-Learning and Games, Banff, Canada, August 2009.
- Program Committee Member for the 5th North American Conference on Intelligent Games and Simulation (GameOn'NA 2009), Atlanta, USA, August 2009.
- Program Committee Member for the 8th Workshop on Aspects, Components and Patterns for Infrastructure Software, AC4PIS, Charlottesville, VA, USA, March 2009.
- Referee for NWO Grants.
- External Examiner for Ph.D. Thesis for Dewan Tanvir Ahmed "Architectural Challenges and Solutions for Peer-to-peer Massively Multiuser Online Games", School of Information Technology and Engineering, University of Ottawa, Canada.

KRY, P.G., Program Committee Member for Symposium on Computer Animation, August 2009,

- Poster chair for Symposium on Computer Animation, August 2009 (14 reviews of 2 page abstracts).

COMPUTER SCIENCE 2009-2010

- Program committee member for Eurographics 2010 (14 reviews, meeting in Norrköping Sweden, November 2009).
 - Program committee member for Graphics Interface 2010 (4 papers to review received December 2009).
 - Jury Chair for SIGGRAPH ACM SIGGRAPH Student Research Competition (approximately 50 one page abstracts, selection of 25 semi-finalists, then 5 finalists selected at conference with my jury members).
 - Program committee member for Symposium on Computer Animation, Madrid , August 1-2, 2010.
 - Program committee member for Graphics Interface 2011 (6 papers to review received December 23).
 - Member of SIGGRAPH ASIA Sketches and Posters Advisory Board, meeting in Grenoble for submission sorting (approximately 150 submissions), August 2010.
 - Reviewer for IEEE Computer Graphics and Applications.
 - Reviewer for IEEE Transactions on Visualization and Computer Graphics.
 - Reviewer for ACM Transactions on Graphics.
 - Reviewer for Computer Graphics Forum.
 - Reviewer for Eurographics.
- LANGER, M.**, Associate Editor, ACM Transactions on Applied Perception.
- Program Committee Member for the ACM Symposium on Applied Perception in Graphics and Visualization APGV, 2009 (4).
 - Program Committee Member for the CVPR 2010 (5).
 - Referee for the Journal of Vision.
 - Referee for NSERC Discovery Grants.
 - Program Committee Member for ECCV 2010 (4 papers).
 - Program Committee Member for CRV 2010 (3 papers).
 - Program Committee Member for APGV 2010 (4 papers).
 - Program Committee Member for CVPR 2011 (5 papers).

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-- Referee for Journal of IEEE PAMI.

-- Referee for Wellcome Trust (U.K) Grant.

LIU, X., Program Vice-Chair, Embedded and Ubiquitous Computing track of the 12th IEEE Computational Science and Engineering (CSE 2009), Vancouver, BC, Canada, 2009.

-- Program Co-Chair, The First International Workshop on Medical-grade Wireless Networks (WiMD 2009), in conjunction with ACM Mobihoc 2009, New Orleans, Louisiana, 2009.

-- Program Co-Chair, The Second International Workshop on Cyber-Physical Systems (WCPS 2009), in conjunction with ICDCS 2009, Montreal, Canada.

-- Program Co-Chair, First International Workshop on Autonomous Embedded Systems and Networking (AESN09), in conjunction with the 9th International Symposium on Autonomous Decentralized Systems (ISADS 2009), Athens, Greece, 2009.

-- Local Co-Chair, The 29th International Conference on Distributed Computing Systems (ICDCS'09), Montreal, Canada, 2009.

-- Program Committee Member, The 30th IEEE Real-Time Systems Symposium (RTSS'09), Sensor Network Track, Washington DC, USA, 2009.

-- Program Committee Member, the 6th IEEE International Conference on e-Business Engineering (ICEBE 2009), Macau, China, 2009.

-- Program Committee Member, the 2nd International Workshop on Adaptive and Reconfigurable Embedded Systems (APRES) 2009, In conjunction with Embedded Systems Week (ESWEEK) of 2009, Grenoble, France, 2009.

-- Program Committee Member, the 11th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2009), Lyon, France, Nov 3-6, 2009.

-- Program Committee Member, The 17th International Workshop on Quality of Service (IWQoS 2009), Charleston, South Carolina, 2009.

-- Program Committee Member, The 18th International Conference on Computer Communications and Networks (ICCCN 2009), San Francisco, CA, 2009.

-- Reviewer for IEEE Transactions on Parallel and Distributed Systems (TPDS).

-- Reviewer for IEEE Transactions on Industrial Informatics (TII).

-- Reviewer for Ad Hoc & Sensor Wireless Networks Journal.

-- Reviewer for ACM Transactions on Embedded Computing Systems (TECS).

-- Reviewer for IEEE Transactions on Control Systems Technology.

COMPUTER SCIENCE 2009-2010

- Reviewer for ACM Transactions on Design Automation of Electronic Systems (ToDAES).
- Reviewer for Journal of System Architecture (JSA--Elsevier).
- Reviewer for Journal of Ad Hoc & Sensor Wireless Networks.
- Reviewer for Communications of the ACM (CACM).
- Reviewer for Embedded and Ubiquitous Computing track of the 12th IEEE Computational Science and Engineering (CSE 2009), Vancouver, BC, Canada, 2009.
- Reviewer for the 1st International Workshop on Medical-grade Wireless Networks (WiMD 2009), in conjunction with ACM Mobihoc 2009, New Orleans, Louisiana, 2009.
- Reviewer for the 2nd International Workshop on Cyber-Physical Systems (WCPS 2009), in conjunction with ICDCS 2009, Montreal, Canada.
- Reviewer for the 1st International Workshop on Autonomous Embedded Systems and Networking (AESN09), in conjunction with the 9th International Symposium on Autonomous Decentralized Systems (ISADS 2009), Athens, Greece, 2009.
- Reviewer for The 29th International Conference on Distributed Computing Systems (ICDCS'09), Montreal, Canada, 2009.
- Reviewer for the Journal IEEE Transactions on Industrial Informatics (2 papers).
- Reviewer for the Journal IEEE Transaction on Computers
- Reviewer for the Journal IEEE Transactions on Wireless Communications
- Reviewer for the Journal IEEE's Transactions on Parallel and Distributed Systems (2 papers).
- Reviewer for the Journal IEEE Transactions on Vehicular Technology
- Reviewer for the Journal ACM Transactions on Computing Systems
- Reviewer for the Journal ACM Transactions on Sensor Networks
- Reviewer for the Journal Security and Communication Networks.
- Program Committee Member for the 2010 International Conference on Reliable and Autonomous Computational Science (RACS 2010), Atlanta, GA, USA, 2010 (4 papers).
- Program Committee Member for the 7th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS'2010), San Francisco, USA, 2010 (3 papers).
- Program Committee Member for the 31st IEEE Real-Time Systems Symposium (RTSS'10), WiP Track, San Diego, USA, 2010 (3 papers).

COMPUTER SCIENCE 2009-2010

-- Program Committee Member for the 31st IEEE Real-Time Systems Symposium (RTSS'10), Sensor Network Track, San Diego, USA, 2010 (10 papers).

-- Program Committee Member for the 18th International Workshop on Quality of Service (IWQoS 2010), Beijing, China, 2010 (4 papers).

-- Program Committee Member for the IEEE Global Communications Conference (GLOBECOM 2010), Miami, FL, USA, 2010 (6 papers).

-- Program Committee Member for the 30th International Conference on Distributed Computing Systems (ICDCS 2010), Genoa, Italy, 2010 (8 papers).

-- Program Committee Member for the 29th IEEE Conference on Computer Communications (INFOCOM 2010), San Diego, CA, USA, 2010 (11 papers).

MAHESWARAN, M., Program Committee Member for the 5th International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2009), Crystal City, Washington D.C., USA, November 2009.

-- Program Committee Member for the 14th IEEE International Symposium on Computer Communications (ISCC 2009), Sousse, Tunisia, July, 2009.

-- Program Committee Member for the 4th IEEE International Conference on Industrial and Information Systems, Peradeniya, Sri Lanka, December 2009.

-- Referee for the Journal of Parallel and Distributed Computing (2 papers).

-- Referee for the IEEE Internet Computing.

-- Program Committee Member for the 6th International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2010), Chicago, Illinois, USA, October 2010.

-- Referee for the Journal of Parallel and Distributed Computing (2 papers).

-- Referee for IEEE Transactions on Networking

PAIGE, C., Referee for the Electronic Journal of Linear Algebra (ELA).

-- Referee for the SIAM Journal on Matrix Analysis and Applications (2 papers).

PANANGADEN, P., Program Committee Member of the 12th International Conference on Foundations of Software Science and Computation Structures, York, UK, March 22 to March 29.

-- Program Committee Member of the 25th Conference on the Mathematical Foundations of Programming Semantics, Oxford, UK, April 3-7 2009.

-- Program Committee Co-Chair of the 6th Workshop on Quantum Physics and Logic, Oxford, UK, April 8-9, 2009.

COMPUTER SCIENCE 2009-2010

-- Program Committee Member of the 24th Annual IEEE Symposium On Logic In Computer Science (LICS 2009), Los Angeles, California, USA, August 11-14, 2009.

-- Program Committee Member of the 5th Annual Conference on Computability in Europe, Heidelberg, Germany, July 19-24, 2009.

-- Editorial Board Member for the 5th Annual Conference on Computability in Europe, Heidelberg, Germany, July 19-24, 2009.

-- Editorial Board Member for Computational Intelligence.

-- Editorial Board Member, Guest Editor for Performance evaluation.

-- Referee for several journals

PIENTKA, B., Guest Editor for a special issue in Journal of Automated Reasoning for CADE-22.

-- Guest Editor for a special issue in Information and Computation on Intuitionistic Modal Logics and Applications (IMLA).

-- Editor for Association of Logic Programming Newsletter.

-- Program Committee Member for the International Workshop on Proof-Search in Type Theories (PSTT '09).

-- Program Committee Member for the 7th International Workshop on the Implementation of Logics (IWIL'08).

-- Program Committee Member for the 22nd International Conference on Automated Deduction (CADE '09).

-- Guest Editor for a special issue in Journal of Automated Reasoning for the best papers of CADE-22 (Coeditor with Renate Schmidt).

-- Guest Editor for a special issue in Information and Computation on Intuitionistic Modal Logics and Applications (IMLA) (Co-editor with Valeria de Paiva).

-- Program Committee Member for the 5th International Joint Conference on Automated Reasoning (IJCAR-10).

-- Program Committee Member for the International Conference on Interactive Theorem Proving (ITP-10).

-- Program Committee Member for the 26th International Conference on Mathematical Foundations of Programming Semantics (MFPS) (MFPS-10).

-- Program Committee Member for the 19th International Workshop on Functional and (Constraint) Logic Programming (WFLP'10).

COMPUTER SCIENCE 2009-2010

-- Referee for POPL'11.

PINEAU, J., Editorial Board Member for the Journal of Artificial Intelligence Research (JAIR).

-- Action Editor for the Journal of Machine Learning Research (JMLR).

-- Program Committee Member for the International Conference on Planning and Scheduling (ICAPS) (4 papers).

-- Program Committee Member for the International Conference on Machine Learning (ICML) (6 papers).

-- Program Committee Member for the Neural Information Processing Systems (NIPS) (7 papers).

-- Reviewer for the International Conference on Robotics and Automation (ICRA)

-- Reviewer for the Journal of Alzheimer Disease & Associated Disorder

-- Reviewer for the Journal of Machine Learning

-- Reviewer for the Israel Science Foundation

-- PhD Thesis Evaluation. Abdeslam Boularias. Universite Laval.

PRECUP, D., Program Committee Member for NIPS '09 (7 papers).

-- Reviewer for Neurocomputing (2 papers).

-- Reviewer for the Journal of Autonomous Agents and Mutli-Agents Systems.

-- Reviewer for Adaptive Behavior.

--Reviewer for NIPS'10 (7 papers).

--Program Committee Member for AISTATS'11 (3 papers).

--Program Committee Member for AAMAS'11 (6 papers).

--External Reviewer for ICRA'11 (1 paper).

--Reviewer for SSCI'11 (ADPRL) (2 papers).

--Reviewer for the Journal of Machine Learning Research (1 paper), International Journal of Robotics Research (1 paper).

--Editorial Board Member for Computational Intelligence (starting March 2010); selecting reviewers and making decisions on papers.

COMPUTER SCIENCE 2009-2010

--Senior Program Committee Member for the Association for the Advancement of Artificial Intelligence (AAAI'10); in charge of recruiting PC members, decisions on roughly 30 papers.

--Reviewer for AAAI Doctoral Consortium;(3 applications), will be a mentor in July.

--Senior Program Committee Member for AAAI Nectar track.

-- Program Committee Member for International Conference on Machine Learning (ICML'10) (8 papers).

-- Program Committee Member for European Conference on Machine Learning (ECML'10) (8 papers).

--Reviewer for Machine Learning.

-- Reviewer for Automatica.

--Reviewer for IEEE Transactions on Automatic Control.

REED, B., Editorial Board Member for the Journal of Combinatorial Theory.

-- Editorial Board Member for the Journal of Graph Theory.

ROBILLARD, M., Associate Editor for IEEE Software.

-- Reviewer for Empirical Software Engineering.

-- Reviewer for NSERC Discovery Grants (3).

-- Member of the Editorial Board for the Journal of Systems and Software (Elsevier).

-- Program Co-Chair of the 20th ACM SIGSOFT Symposium on the Foundations of Software Engineering.

-- Program Committee Member for the 33rd ACM/IEEE International Conference on Software Engineering.

-- Doctoral Symposium Panel Member for the 18th ACM SIGSOFT International Symposium on the Foundations of Software Engineering.

-- Chair of “New Ideas” track at the 8th Joint Meeting European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering.

-- Reviewer for the IEEE Transactions on Software Engineering.

-- Reviewer for the ACM Transactions on Software Engineering and Methodology.

COMPUTER SCIENCE 2009-2010

-- Reviewer for a European Program grant.

RUTHS, D., Program Committee Member for BIONETICS 2010.

-- Program Committee Member for the Journal of Information Technology and Policy Conference 2011.

-- Referee for the Journal PLoS Computational Biology

-- Reviewer for NSERC grant

SIDDIQI, K., Associate Editor for IEEE Transactions On Pattern Analysis and Machine Intelligence (IEEE TPAMI).

-- Program Committee Member for ICCV 2009.

-- Program Committee Member for CVPR 2009.

-- Program Committee Member for MMBIA 2009.

-- Program Committee Member for EMMCVPR 2009.

-- Reviewer for the International Journal of Computer Vision.

-- Reviewer for IEEE Transactions on Pattern Analysis and Machine Intelligence.

-- Reviewer for IEEE Transactions on Medical Imaging.

-- Reviewer for Neuroimage.

SINGH, M., Reviewer for Mathematical Programming.

-- Reviewer for Algorithmica

-- Reviewer for Computational Optimization and Applications.

-- Reviewer for the 15th Conference on Integer Programming and Combinatorial Optimization (IPCO).(3 papers)

-- Reviewer for the 43rd ACM Symposium on Theory of Computing (STOC).

-- Reviewer for IEEE Conference on Computational Complexity (CCC).

-- Reviewer for the 51st Annual IEEE Symposium on Foundations of Computer Science (FOCS).

-- Reviewer for International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX).

TOUSSAINT, G., Editor for Computational Geometry: Theory & Applications.

COMPUTER SCIENCE 2009-2010

- Editor for International Journal of Computational Geometry & Applications.
- Editor, Forma (Journal of the Society for Science on Form).
- Associate Editor for Revista Investigación Operacional.
- Advisory Board Member for IEEE Transactions on Pattern Analysis and Machine Intelligence.
- Program Committee Member for the 19th Annual Fall Workshop on Computational Geometry, Tufts University, 51 Winthrop St., Medford, Massachusetts, USA, November 13-14, 2009.
- Program Committee Member for the Mathematics and Computation in Music: 2nd International Conference, John Clough Memorial Conference, New Haven, CT, USA, June 19-22, 2009.

TROPPER, C., General Chair, ACM/IEEE Workshop and Advanced and Distributed Simulation 2009 (PADS 2009), Lake Placid, NYS, USA, June 22-25, 2009.

- Area Editor for Transactions of the Society for Computer Simulation.
- Area Editor for Parallel and Distributed Computing Practices.
- Program Committee Member for PADS 2009 & 2010.
- Program Committee Member for Simutools 2010.
- Referee for PADS 2009 & 2010.
- Referee for Simutools 2010.
- Referee for WSC 2009.
- Referee for the Journal of Transactions of the Society for Computer Simulation.
- Referee for the Journal of IEEE Transactions of VLSI.
- Referee for NSERC grant.

VERBRUGGE, C., Reviewer for the International Conference on Code Generation and Optimization.

- Reviewer for Transactions on Parallel and Distributed Systems July 2010.
- Reviewer for Oxford Computer Journal, December 2010.
- Reviewer for Game-On 2010 (2 reviews), October 2010.
- Referee for NSERC June 2010.

COMPUTER SCIENCE 2009-2010

VETTA, A., Associate Editor for the Journal Discrete Optimization

- Referee for Algorithmica.
- Referee the Journal of the ACM.
- Referee for Combinatorica.
- Referee for Discrete Applied Mathematics.
- Referee for INFORMS Journal on Computing.
- Referee for The Journal of Algorithms.
- Referee for Mathematics of Operations Research.
- Referee for Networks.
- Referee for SIAM Journal of Discrete Mathematics.
- Referee for SIAM Journal on Computing.
- Referee for the IEEE Symposium on Foundations of Computer Science (FOCS).
- Referee for the Symposium on Theory of Computing (STOC).
- Referee for the Integer Programming & Combinatorial Optimization Conference (IPCO).
- Referee for EC.
- Referee for the Workshop on Approximation Algorithms for Combinatorial Optimization (APPROX).
- Referee for the Symposium on Discrete Algorithms (SODA).
- Referee for NSERC Grants.

WALDISPUHL, J., Program Committee Member of the 14th Annual International Conference on Research in Computational Molecular Biology (RECOMB 2010) Lisbon, April 2010.

- External Examiner for Master's Thesis of Javier Enrique Sanchez Galan. Master of Science, SOCS, McGill. "Large scale identification of transcription factor binding sites in DNA sequences".
- Program Committee Member of the 14th Annual International Conference on Research in Computational Molecular Biology (RECOMB 2010), Lisbon, April 2010.
- Program Committee Member of the 18th Annual International Conference on Intelligent System for Molecular Biology (ISMB 2010), Protein Structure and Function Track, Boston, July 2010.

COMPUTER SCIENCE 2009-2010

-- Program Committee Member of the 19th Annual International Conference on Intelligent System for Molecular Biology (ISMB 2011), Protein Structure and Function Track, Vienna, July 2011.

-- Referee for the 15th Annual International Conference on Research in Computational Molecular Biology (Recomb 2011).

-- Referee for the Conference on the Pacific Symposium on Biocomputing 2011.

-- Referee for the Journal of Computational Biology.

-- Referee for the Journal of Theoretical Biology.

-- Referee for the Journal of Algorithms for Molecular Biology.

-- Referee for the Journal IEEE/ACM Transactions on Computational Biology and Bioinformatics.

Research Lab activity

OTHER SCHOLARLY CONTRIBUTIONS

- ***Research Lab Activity***

Mobile Robotics (G. Dudek)

My lab deals with two main problem domains: robotics and web-based recommendation systems. Our work on robotics deals primarily with the development of sensing and environmental inference algorithms for use by robotic systems. This includes questions of how a robot can describe its world, how to pick actions that lead to a better understanding of the world, and how a human and a robot can communicate effectively. Much of this is deployed on robot systems that swim underwater, walk over harsh terrains, or fly in the air. Our work on recommendation systems deals with building general-purpose models of peoples tastes and preferences, so that web-based systems can cater to their personal needs and interests.

McGill Centre for Bioinformatics (M. Hallett)

Lab is primarily interested in the use of bioinformatics and systems biology approaches to the study of breast cancer. In particular, his group is involved in several studies to analyze high-throughput profiles (gene expression, epigenetic, microRNA) in both mouse models of breast cancer and the human disease. For example, one of their primary goals is to identify genes or small gene sets that are predictive of patient outcome, response to therapy, or disease progression. These genes or gene sets can be developed into clinical-applicable devices that assist in the determination of patient therapy.

They are also interested in the development of new bioinformatics tools that provide global perspective of the dynamics of the disease. For example, we use bioinformatics to identify sets of genes that stratify the patient population into distinct groups. These groups reflect different types of breast cancer and each subtype may require a distinct therapeutic regime. They are particularly interested in investigating how differences in the tumor microenvironment (the area around the tumor) hinder or help the progression of a tumor. These signals may also be used by clinicians to assist in assigning patient treatment.

The Sable Research Lab (L. Hendren)

The Sable Research Lab has continued with its traditional areas of expertise and has made recent contributions to AspectJ and associated tools for runtime monitoring and verifying _nite-state properties. The Soot framework and the abc aspectbench compiler remain very popular tools for researchers around the world. Most recently the Sable Group has embarked on a new large project called McLab which aims to develop tools and techniques for languages, compilers and virtual machines for scientific languages.

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Computer Animation and Interaction Capture L (P. Kry)

The lab is now building an instrumented climbing wall. The ordering of force torque sensors was delayed due to a change from aluminum to stainless steel. Collaborations with Kaleem Siddiqi and his Shape Analysis Group has led to two publications, one on approximating shapes with spheres, and another on modelling hair with helicoids. The lab continues to have visitors from INRIA Rhône Alpes and welcomed MSc student Clement Mattia in 2010.

The parallel and distributed simulation lab (C. Tropper)

We did research on two primary topics, parallel gate level simulation and parallel n-body problems. The members of the lab are Lijun Li, Jun Wang, Qing Xu, Matthew Holly, and Sina Meraji. Wei Zheng is a visitor from the National University of Defense Technology in China. Matthew worked on the nbody problem, while the other students are working on parallel gate level simulation. This years happenings include Lijun successfully passing his PhD defense, David and Jun passing their Ph.D. proposal defenses and Sina passing his preliminary exam. Jun and David should submit their PhD theses this fall (2009). Publications for this year include "A Multi-Way Design-Driven algorithm for Distributed VLSI Design" (ICPP 2008), "How to choose the number of computers for Parallel VLSI Simulation" (accepted at Pads 2009), "Selecting the GVT interval in Time Warp distributed simulation using reinforcement learning" (Annual Simulation Symposium 2009), "Optimizing Time Warp Simulation with Genetic Algorithms" (submitted to WSC 2009), "A Scalable Distributed VLSI Simulator" (submitted to WSC 2009), "Salability Analysis for a Distributed VLSI Simulator" (submitted to ICPP 2009), "A Design Driven Partitioning Algorithm", Lijun Li and Carl Tropper, Trans. SCS, volume 84, issue 4, April 2009, pp. 257-270

APPENDIX B

Teaching and Supervision

COMPUTER SCIENCE

APPENDIX B

TEACHING AND SUPERVISION

- *History of WSUs, Undergraduate and Graduate statistics.*

**Table I. History of SOCS
Weighted FTEs. (or WSUs)**

YEAR	01-02 WSUs	02-03 WSUs	03-04 WSUs	04-05 WSUs	05-06 WSUs	06-07 WSUs
Undergraduate	403	300	222	192	223	
Graduate	183	277	341	333	334	
TOTAL WSUs	586	577	563	525	557	

Table II. SOCS M.Sc., Ph.D. Students Registered

YEAR	# M.Sc.					# Ph.D.				
	App.	Adm.	NR	TR	Can/For	App.	Adm.	NR	TR	Can/For
2004-05	443	150	53	156	104/52	142	24	11	57	47/10
2005-06	311	117	34	127	90/37	104	22	13	58	48/10
2006-07	245	113	36	89	63/26	97	31	12	51	41/10
2007-08	257	129	39	92	60/32	99	21	19	61	51/10
2008-09	217	107	30	70	45/25	107	33	18	64	50/14
2009-10	530	226	70	110	77/33	252	54	30	75	61/14

*App. = applied, Adm. = admitted, NR = new registrants,
TR = total registered, Can = Canadian, For = Foreign*

Table III. SOCS Degrees Granted

YEAR	B.Sc.	B.A.	M.Sc. Can/For*	Ph.D. Can/For*
2004-05	99	8	29/31	4/2
2005-06	81	9	43/15	6/1
2006-07	44	9	21/10	6/1
2007-08			11/13	3/4
2008-09			15/14	4/5
2009-10			29/21	15/3

** Represents breakdown of Canadian/Foreign students.*

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TEACHING AND SUPERVISION

- *Summary of Course Evaluations*

Question #	Questions	Fall 2009	Winter 2010	Fall 2010	Average 2008/09
1	Overall, this is an excellent course.	4.0	4.0	3.9	3.95
2	Overall, I learned a great deal from this course.	4.2	4.1	4.2	4.25
3	Overall, this instructor is an excellent teacher.	4.1	4.1	4.1	4.15
4	Overall, I learned a great deal from this instructor.	4.1	4.0	4.0	4.15
5	The instructor explained concepts clearly and understandably.	4.1	4.0	4.0	4.10
6	The instructor stimulated my interest in the course.	3.8	3.9	3.8	3.95
7	The instructor was available to students outside of class.	4.3	4.2	4.2	4.25
8	The course content matched the course objectives	4.3	4.2	4.2	4.2
9	As a result of this course, I have a greater appreciation for this field of study.	4.0	4.0	4.0	4.15
10	The course materials (e.g., readings, lecture notes, in-class exercises) contributed to learning the subject matter.	4.1	4.1	4.0	4.15
11	Feedback on course assignments contributed to my learning.	3.4	3.4	3.4	3.60
12	Approximately how often have you attended the classes in this course?	4.6	4.6	4.5	4.70

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree)

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TEACHING AND SUPERVISION

Undergraduate Studies

- *Academic Programs*

Undergraduate programs are offered through the Faculty of Science by the School alone or in cooperation with the Mathematics and Statistics Department, and Physics. The programs are:

Major in Computer Science

Major in Computer Science: Games Option

Major in Software Engineering

Honours in Software Engineering

Liberal Program: Core Science Component in Computer Science

Liberal Program: Core Science Component in Software Engineering

Honours in Computer Science

Joint Major in Computer Science and Biology

Joint Major in Mathematics and Computer Science

Joint Honours in Mathematics and Computer Science

Joint Major in Statistics and Computer Science

Joint Honours in Statistics and Computer Science

Joint Major in Physics and Computer Science

Minor in Computer Science [B.Sc.; B.Eng.; B.Com.; B.Mus.]

Undergraduate programs are offered through the Faculty of Arts by the School. The programs are:

Major Concentration in Computer Science

Supplementary Minor Concentration in Computer Science

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Minor Concentration in Computer Science

Major Concentration in Software Engineering

In addition, the School offers a M.Sc. (Thesis) and a M.Sc. (Project) degree program and the Ph.D. degree program. The following pages give data on course enrolment, program enrolment, and degrees awarded for the last five years.

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TEACHING AND SUPERVISION

Undergraduate Studies

- *Program Enrolment and Degrees Awarded (2009-2010)*

Program	Number of students enrolled ^{1,2}		Number of students graduated ³	
	<i>B.Sc.</i>	<i>B.A.</i>	<i>B.Sc.</i>	<i>B.A.</i>
Major Programs:				
Computer Science	54		11	
Games Option	16		0	
Software Engineering	21		6	
Core Science Component	4		1	
Honours Program:				
Computer Science	23		6	
Major Concentrations:				
Computer Science (BA)		20		3
Computer Science (BASCI)		6		0
Software Engineering (BA)				0
Software Engineering (BASCI)		1		
Minor Programs:				
- Concentration in Computer Science*		28		7
* Includes BA. & BASCI.	4			
- Computational Molecular Biology	9			
- Cognitive Science	48	8		
- Minor in Computer Science (Science)	9		4	
- Minor in Computer Science (Eng)			0	
Joint Honours:				
Math & Computer Science	10		9	
Statistics & Computer Science	1			
Physics & Computer Science (Ad Hoc)	1			
Joint Majors:				
Computer Science & Biology	9			
Statistics & Computer Science	1		1	
Physics & Computer Science	6		2	
Math & Computer Science	16		2	

¹ Enrolled at U1, U2 and U3 levels

² Numbers are estimates, although probably accurate to within 5%

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TEACHING AND SUPERVISION

Undergraduate Studies

• *Enrolment Data (2005-2010)*

	2005/06	2006/07	2007/08	2008/09	2009/10
Fall Semester	1154	1225	1149	1344	3118
Winter Semester	885	967	1049	1151	1244
Summer Semester	70	80	84	7	39
Total:	2109	2272	2282	2502	4401
Number of Undergraduate Sections:	59	69	69	64	106
Major Programs:					
Computer Science	69	50*	44	46	54
Games Option				9	16
Software Engineering	33	29	25	25	21
Core Science Component in CS		0	1	2	4
*includes Internship					
Major Concentration FNDS	15	16	7	2	0
Major Concentration CS			2	15	26
Faculty Program: Math and CS	1	0	1	0	0
Faculty Program: Math, Stats. And CS	3	3	3	0	0
Honours in Computer Science					
includes Internship	11	11	16	17	23
Joint Honours in Math and CS	18	18	16	17	10
Joint Honours in Stats and CS				1	1
Joint Major Math and CS	15	10*	8	12	16*
*includes Internship					
Joint Major Stats and CS				1	1
Joint Major in Physics and CS	4	2	5	7	6
Joint Honours Physics & CS (Ad Hoc)				1	1
Joint Major Computer Science & Biol.					9

³ In June 2009, Nov. 2009 and Feb. 2010

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Minor Programs (B.Sc. & B.A)	77	78	68	53	106
Total:	246	217	196	208	274

COMPUTER SCIENCE

Undergraduate Studies

• Degrees Awarded (2004-2010)

	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
UNDERGRADUATE DEGREES AWARDED						
Major Programs:						
Computer Science	65	36	15	12	18	11
Games Option					0	0
Software Engineering		12	9	9	7	6
Core Science Component		0	0	0	0	1
Major Concentration FNDS	6	5	4	4	2	0
Major Concentration in CS					2	3
Faculty Program - Math & CS	0	0	0	0	0	0
Faculty Program - Math, Stats. & CS	0	0	2	0	0	0
Honours Program - Computer Science:	13	7	4	5	6	7
Joint Honours:						
Math and Computer Science	4	9	3	5	0	9
Statistics and Computer Science						1
Joint Majors:						
Math & Computer Science	11	6	4	3	0	2
Physics & Computer Science	1	3	1	0	0	2
Statistics & Computer Science						1
Computer Science & Biology						0
Minor Programs (B.Sc. & B.A)	28	12	11	20	20	11
Total:	128	90	53	58	55	54

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TEACHING AND SUPERVISION

Undergraduate Studies

• *Courses offered in 2009-2010*

Fall 2009

COMP	Course Title	Instructor
102	Computers and Computing.	Kaleem Siddiqi
202	Introduction to Computing 1.	Mathieu Petitpas
202	Introduction to Computing 1.	Kamal Zellag
202	Introduction to Computing 1.	Mathieu Petitpas
206	Introduction to Software Systems.	Joseph P Vybihal
208	Computers in Engineering.	Nathan Friedman
208	Computers in Engineering.	Amir Hossein Rabbani
208	Computers in Engineering.	Seyed Sina Meraji
230	Logic and Computability.	Dirk Schlimm
250	Introduction to Computer Science.	Mathieu Blanchette
251	Data Structures and Algorithms.	The Phuong Nguyen
273	Introduction to Computer Systems.	Joseph P Vybihal
302	Programming Languages and Paradigms.	Clark Verbrugge
303	Software Development.	Martin Robillard
310	Operating Systems.	Xue Liu
321	Programming Challenges.	Scott McMurray
330	Theoretical Aspects: Computer Science.	Prakash Panangaden
360	Algorithm Design Techniques.	David Avis
362	Honours Algorithm Design.	Patrick Hayden
396	Undergraduate Research Project.	Nathan Friedman
400	Technical Project and Report.	Nathan Friedman
401	Project in Biology and Computer Science.	Mathieu Blanchette
417	Introduction Robotics and Intelligent Systems.	Ioannis Rekleitis
462	Computational Biology Methods.	Javad Sadri, Mathieu Blanchette
499	Undergraduate Bioinformatics Seminar.	Michael Trevor Hallett
512	Distributed Systems.	Bettina Kemme
520	Compiler Design.	Christopher John Francis Pickett
535	Computer Networks 1.	Muthucumar Maheswaran
547	Cryptography and Data Security.	Claude Crepeau
557	Fundamentals of Computer Graphics.	Paul Kry
558	Fundamentals of Computer Vision.	Michael Langer
561	Computational Biology Methods and Research.	Javad Sadri, Mathieu Blanchette
575	Fundamentals of Distributed Algorithms.	Carl Tropper

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598 Topics in Computer Science 1. Xue Liu

Winter 2010

COMP	Course Title	Instructor
202	Introduction to Computing 1.	Milena Scaccia
202	Introduction to Computing 1.	Mathieu Petitpas
202	Introduction to Computing 1.	Mathieu Petitpas
206	Introduction to Software Systems.	Gregory L Dudek, Joseph P Vybihal
208	Computers in Engineering.	Nathan Friedman
208	Computers in Engineering.	Mansoor Khalil Siddiqui
208	Computers in Engineering.	Ryan Faulkner
250	Introduction to Computer Science.	Michael Langer
251	Data Structures and Algorithms.	Claude Crepeau
252	Algorithms and Data Structures.	Jérôme Waldispuhl
273	Introduction to Computer Systems.	Muthucumar Maheswaran
302	Programming Languages and Paradigms.	Joshua Dunfield
304	Object-Oriented Design.	Eugene Syriani
308	Computer Systems Lab.	Joseph P Vybihal
310	Operating Systems.	Joseph P Vybihal
322	Introduction to C++.	Robert Durham Vincent
335	Software Engineering Methods.	Joseph P Vybihal
350	Numerical Computing.	Xiao-Wen Chang
361	Systems Development Project.	Jorg Andreas Kienzle
364	Computer Tools for Life Sciences.	Derek Ruths
396	Undergraduate Research Project.	Nathan Friedman
400	Technical Project and Report.	Nathan Friedman
401	Project in Biology and Computer Science.	Mathieu Blanchette
421	Database Systems.	Bettina Kemme
424	Artificial Intelligence.	Doina Precup
499	Undergraduate Bioinformatics Seminar.	Michael Trevor Hallett
521	Modern Computer Games.	Clark Verbrugge
529	Software Architecture.	Martin Robillard
531	Theory of Computation.	The Phuong Nguyen
540	Matrix Computations.	Xiao-Wen Chang
567	Discrete Optimization 2.	David Avis
598	Topics in Computer Science 1.	Patrick Hayden
599	Topics in Computer Science 2.	Paul Kry

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Summer 2010

COMP	Course Title	Instructor
202	Introduction to Computing 1.	Anton Willy Dubrau
396	Undergraduate Research Project.	Nathan Friedman
400	Technical Project and Report.	Nathan Friedman

Fall 2010

COMP	Course Title	Instructor
102	Computers and Computing.	Derek Ruths
202	Introduction to Computing 1.	Maja Zofia Frydrychowicz
202	Introduction to Computing 1.	Mathieu Petitpas
202	Introduction to Computing 1.	Mathieu Petitpas
206	Introduction to Software Systems.	Joseph P Vybihal
208	Computers in Engineering.	Nathan Friedman
208	Computers in Engineering.	Amir Hossein Rabbani
208	Computers in Engineering.	Amin Ranjbar
230	Logic and Computability.	Dirk Schlimm
250	Introduction to Computer Science.	Doina Precup
251	Data Structures and Algorithms.	Clark Verbrugge
273	Introduction to Computer Systems.	Joseph P Vybihal
302	Programming Languages and Paradigms.	Brigitte Pientka
303	Software Development.	Martin Robillard
310	Operating Systems.	Carl Tropper
330	Theoretical Aspects: Computer Science.	Hamed Hatami
350	Numerical Computing.	Xiao-Wen Chang
360	Algorithm Design Techniques.	Adrian Roshan Vetta
361D1	Software Engineering Project.	Jorg Andreas Kienzle, Joseph P Vybihal
362	Honours Algorithm Design.	Mohit Singh
396	Undergraduate Research Project.	Nathan Friedman
400	Technical Project and Report.	Nathan Friedman
401	Project in Biology and Computer Science.	Derek Ruths
409	Concurrent Programming.	Clark Verbrugge
417	Introduction Robotics and Intelligent Systems.	Ioannis Rekleitis
462	Computational Biology Methods.	Jérôme Waldispuhl
499	Undergraduate Bioinformatics Seminar.	Michael Trevor Hallett
512	Distributed Systems.	Bettina Kemme
520	Compiler Design.	Jesse Doherty
523	Language-based Security.	Brigitte Pientka

COMPUTER SCIENCE

COMP	Course Title	Instructor
533	Object-Oriented Software Development.	Jorg Andreas Kienzle
547	Cryptography and Data Security.	Claude Crepeau
557	Fundamentals of Computer Graphics.	Paul Kry
558	Fundamentals of Computer Vision.	Michael Langer
561	Computational Biology Methods and Research.	Jérôme Waldispuhl
566	Discrete Optimization 1.	Guyslain Pierre Naves

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TEACHING AND SUPERVISION

Undergraduate Studies

• *Undergraduate Course Enrolment – 2005 - 2010*

COMP -	2005/2006			2006/2007			2007/2008			2008/2009			2009/2010			
	<i>Semesters</i>			<i>Semesters</i>			<i>Semesters</i>			<i>Semesters</i>			<i>Semesters</i>			
	<i>F</i>	<i>W</i>	<i>S</i>	<i>F</i>	<i>W</i>	<i>S</i>	<i>F</i>	<i>W</i>	<i>S</i>	<i>F</i>	<i>W</i>	<i>S</i>	<i>F</i>	<i>W</i>	<i>S</i>	<i>F</i>
102	36	19		39	24		22	16		35	15		25			39
199							4									
202	259	216	28	295	191	40	283	172	46	338	226		359	251	30	411
203		23			17											
206	47	62		58	68		57	66		61	82		86	121		75
208	223	137		239	154		173	203		253	182		235	116		250
230				16			11			21			21			30
250	73	65		85	84		89	90		100	108		135	128		136
251	26	24		38	37		60	36		50	65		58	79		79
252		10			19			21			12			21		
273	28	19		30	25		25	35			79		30	57		60
280								23			16					
302	48	42	42	38	43	36	34	43	32	63			85	64		67
303	12			16			19			25			41			53
304	22				23			25			32			26		
308											9			17		
310	16	26		21	28		21	23		18	22		29	40		21
321							7			6			6			
322							27	34		23	33		47			
330	57			70			36			44			52			48
335		21			14			18						23		
350	37			27			39			40				27		41
360	20	29		25	37		14	35		26			55			37
361		38			43			24			46			58		10
362	5						10			15			11			8
364								27						12		
396				2	3	4	2	7	5	1	1	3	4	2	4	2
400	4	10		1	7		1	5	1	1	6	4		3	5	4
401																1
409	10			18				22								35
417		16			12					7			10			6
420	26			21			15									
421		22			29			14			46		49			
423		13						14								
424	36			41			32			69				60		

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COMP -	2005/2006			2006/2007			2007/2008			2008/2009			2009/2010			
	Semesters			Semesters			Semesters			Semesters			Semesters			
	F	W	S	F	W	S	F	W	S	F	W	S	F	W	S	F
426				3			9			12						
435					23											
462				9						3			5			8
490					8											
499																
506		11			18			11								
507	11															
512				23						31			32			42
520	23			13			10			11			17			11
521					19			17					28			
522	7			5						22						
523		8						16								7
524										19						
525	7						18									
526		20			26			27								
527										18						
529				16			12						18			
531		4			4								8			
533	21			20												33
535	16			13			17			37			39			
537	33															
540		12			12			10			34			35		
547	20			24			6			19			17			16
552	12						3									
557	30						29			34			51			25
558		14					19			20			20			16
560				10												
561							13			9			6			7
563																
564					4					16						
566	10			12			7			17						11
567					7			6					20			
573																
575		7			10			5					5			
598							23			12				15		
599										15				15		
Enrolment:	1154		70	1225		80	1149		84	1344		7	1529	1244	39	1589
		885			967			1049			1151					
Sections:	31		2	33		3	34		4	35		2	34	33	3	36
		256			33			31			27					

COMPUTER SCIENCE

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Graduate Studies

- • *Summary of Enrolment Data and Degrees Awarded*

Total Graduate Course Enrolment

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Fall Semester(x2)	318	208	191	134	134	294
Winter Semester	216	206	162	168	115	157
Total:	534	414	353	302	249	451

Total Number of Course Sections

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Number of Graduate Sections	46	43	43	43	32	61

Registered Graduate Students

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Ph. D. Candidates	57	58	51	61	64	79
M. Sc. Candidate	156	127	89	92	70	120
Total Graduate Students:	213	185	140	153	134	199

Graduate Degrees Awarded

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Ph. D.	6	7	7	7	9	18
M. Sc.	60	58	31	24	29	50
Total:	66	65	38	31	38	68

COMPUTER SCIENCE

TEACHING AND SUPERVISION Graduate Studies

• *Courses offered in 2009-2010*

Fall 2009

COMP	Course Title	Instructor
601D1	Special Topics in Computer Science.	Mathieu Blanchette
601N2	Special Topics in Computer Science.	Mathieu Blanchette
616D1	Bioinformatics Seminar.	Michael Trevor Hallett
616N2	Bioinformatics Seminar.	Michael Trevor Hallett
652	Machine Learning.	Doina Precup
667	Software Fault Tolerance.	Jorg Andreas Kienzle
669D1	Computational Science Engineering Seminar.	Xiao-Wen Chang
690	Probabilistic Analysis of Algorithms.	Luc P Devroye
694	Research Project 1.	Mathieu Blanchette
695	Research Project 2.	Mathieu Blanchette
698	Thesis Research 1.	Mathieu Blanchette
699	Thesis Research 2.	Mathieu Blanchette
700	Ph.D. Comprehensive Examination.	Xiao-Wen Chang
701	Thesis Proposal and Area Examination.	Xiao-Wen Chang
762	Advanced Topics Programming 1.	Laurie Hendren

Winter 2010

COMP	Course Title	Instructor
601	Special Topics in Computer Science.	TBA
601D2	Special Topics in Computer Science.	Mathieu Blanchette
601N1	Special Topics in Computer Science.	Mathieu Blanchette
610	Information Structures 1.	Luc P Devroye
614	Distributed Data Management.	Bettina Kemme
616D2	Bioinformatics Seminar	Michael Trevor Hallett
616N1	Bioinformatics Seminar.	Michael Trevor Hallett
618	Bioinformatics: Functional Genomics.	Michael Trevor Hallett
621	Program Analysis and Transformations.	Laurie Hendren

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647	Advanced Cryptography.	Claude Crepeau
655	Distributed Simulation.	Carl Tropper
669D2	Computational Science Engineering Seminar.	Xiao-Wen Chang
694	Research Project 1.	Mathieu Blanchette
COMP	Course Title	Instructor
695	Research Project 2.	Mathieu Blanchette
698	Thesis Research 1.	Mathieu Blanchette
699	Thesis Research 2.	Mathieu Blanchette
700	Ph.D. Comprehensive Examination.	Xiao-Wen Chang
701	Thesis Proposal and Area Examination.	Xiao-Wen Chang
760	Advanced Topics Theory 1.	Mohit Singh
761	Advanced Topics Theory 2.	Prakash Panangaden
765	Advanced Topics Systems 2.	Ioannis Rekleitis, Gregory L Dudek
766	Advanced Topics Applications 1.	Kaleem Siddiqi

Fall 2010

COMP	Course Title	Instructor
601D1	Special Topics in Computer Science.	Mathieu Blanchette
601N2	Special Topics in Computer Science.	Mathieu Blanchette
616D1	Bioinformatics Seminar.	Michael Trevor Hallett
616N2	Bioinformatics Seminar.	Michael Trevor Hallett
652	Machine Learning.	Doina Precup
669D1	Computational Science Engineering Seminar.	Xiao-Wen Chang
690	Probabilistic Analysis of Algorithms.	Luc P Devroye
691	Thesis Research 1.	Mathieu Blanchette
693	Research Project 1.	Mathieu Blanchette
694	Research Project 2.	Mathieu Blanchette
695	Research Project 3.	Mathieu Blanchette
696	Thesis Research 2.	Mathieu Blanchette
697	Thesis Research 3.	Mathieu Blanchette
698	Thesis Research 4.	Mathieu Blanchette
699	Thesis Research 5.	Mathieu Blanchette
700	Ph.D. Comprehensive Examination.	Xiao-Wen Chang
701	Thesis Proposal and Area Examination.	Xiao-Wen Chang
760	Advanced Topics Theory 1.	Mohit Singh

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TEACHING AND SUPERVISION Graduate Studies

• Graduate Course Enrolments – 2004-2010

COMP	2004-05		2005-06		2006-07		2007-08		2008-09		2009-10		
	F	W	F	W	F	W	F	W	F	W	F	W	F
601	65	35	44	34	32	34	31	33	24	26	21	38	25
610	13		4									17	
612	5		1		7		5						
614				5								12	
616				17	24	11	9	12	10	8	12	12	16
617		3				4		2					
618				14		8		14		9		9	
621		13		10		8		14		16		8	
623	16		10										
627						15							
631													
642		6				4		8					
644		15	14		17								
646	17			16				15					
647						5						9	
648			8										
649			7						4				
652	36		29		24		19		40		38		54
655			6		1		3					3	
656													
667	14		9		12		13				16		
669	1						2	3	1	1	1	1	
675													
680				14	3								
690			12		10		11		18		15		20
691													3
692					10								
693													
694	16	7	9	2	1	1	2	1				3	2
695	12	8	10	4		2	1	1	1			3	1
696													
697													1
698	39	6	21	7	16	5	9	6	13	11	13	1	7

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699	18	27	8	22	10	22	10	15	7	14	6	11	3
700	8	4	6	3	7	3	8	6	6	5	13	5	13
701	5	4		5	5	7	2	4	1	3	2	4	1
760	3		5	6								7	6
761	3	11		5		3	1	4	9	5		5	
762	8	12	5	5	5	9			4		5		
763		15		14				18					
764		12		14				7					
765	14	9		9		15	7			13		6	
766	9	12			7			5				11	
767	16	16				6	1						
Enrollment:	318	215	208	206	191	162	134	168	134	115	142	165	149
Sections:	20	18	18	19	17	18	17	18	12	12	11	19	13

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Graduate Studies

• Students Registered in the M.Sc. Program 2009-2010

Last Name	First Name	Degree	Year	Supervisor	Co-supervisor	Citizenship	University of Last Degree
Ahmad	Muhammad	MSC	1	Kemme		Kuwait	B.Sc. 2008, Ghulam Ishaq Khan Ins of Eng T
Al Borno	Mazen	MSC	2	Chang		Canada	B.Eng. 2008, McGill University
Al Mallah	Amr	MSC	3	Vangheluwe		Canada	B.Sc. 2007, McGill University
Aladdin	Rami	MSC	1	Kry		Canada	B.Sc. 2010, Université de Montreal
Ali	Shamir Sultan	MSC	2	Kemme		Canada	B.Sc. 2006, Nat U of Computer & Emerging S
AlJabban	Tarek	MSC	1			Syria	Bachelor 2008, Damascus University
Almahairi	Amjad	MSC	1	Dudek		Canada	Bachelor 2008, Damascus University
Ashton	Martin	MSC	1			Canada	B.Sc. 2010, McGill University
Aslam	Toheed	MSC	3	Hendren		Canada	B.Sc. 2006, Univ. Punjab Lahore
Beard	Jacob	MSC	1	Vangheluwe		USA	B.A. 2007, McGill University
Bordianu	Gheorghita	MSC	1			Romania	B.Sc. 2010, Univ Alexandru Ioan Cuza Iasi
Breen	Stephen	MSC	1	Chang		Canada	B.Sc. 2009, Univ of New Brunswick(St John)
Cano Becerril	Victor	MSC	2	Kry		Mexico	B.Eng. 2008, Pop Autonoma Estada Pueblo
Cave	Adrew	MSC	1			Canada	B.Sc. 2010, University of Alberta
Chen	Ching Ling Tom	MSC	3	Verbrugge		Canada	B.Sc. 2004, McGill University
Chhetri	Yam B	MSC	1			Bhutan	B.Eng. 2006, National Inst of Technology
Christodoulou	Antonis	MSC	1			Canada	M.Sc. 2008, University of Southern Calif
Cohen	Raviv	MSC	1			Canada	B.Sc. 2010, Coll Management-Acad Studies
Comanici	Gheorghe	MSC	2	Precup		Canada	B.Sc. 2008, McGill University
Deering	Theresa	MSC	2	Avis		Canada	B.Sc. 2008, Malaspina College
Deng	Ou Ya	MSC	1			Canada	B.Sc. 2009, Concordia University
Desjeans Gauthier	Jean-François	MSC	2	Kemme		Canada	B.Sc. 2008, Univ. Sherbrooke
Dinculescu	Monica	MSC	3	Precup	Panangaden	Canada	B.Eng. 2007, McGill University
Doherty	Jesse	MSC	2	Hendren		Canada	B.Sc. 2008, McGill University
Dong	Xiaoxi	MSC	3	Vangheluwe		China	B. Eng. 2007, Harbin IT/Univ Birmingham
Drews	Timothy M	MSC	1			Canada	B.Sc., Eng. 2010, University of Calgary
Dubrau	Anton	MSC	2	Hendren		Germany	B.Sc. 2009, McGill University
Duman	Onur	MSC	2	Kienzle	Kemme	Turkey	B.Eng. 2008, Bilkent University
Evans	Julia	MSC	1	Panangaden		Canada	B.Sc. 2009, McGill University
Farczadi	Linda	MSC	1	Devroye		Canada	B.Sc. 2009, Queen's University
Faulkner	Ryan	MSC	2	Precup		Canada	B.Sc. 2005, Univ. of Toronto
Florjanczyk	Jan	MSC	1	Hayden		Canada	B.Sc. 2009, McGill University
Franceschi	Andrés	MSC	1			Canada	B.Sc. 2009, McGill University

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Frydrychowicz	Maja	MSC	2	Pientka	Panangaden	Canada	B.Sc. 2008, McGill University
Gal	Alex	MSC	1	Kemme		Canada	B.Sc. 2006, McGill University
Gamboia Higuera	Juan Camilo	MSC	1			Colombia	Bachelor 2008, Universidad de los Andes
Gélineau	Samuel	MSC	4	Kienzle	Pientka	Canada	B.Sc. 2006, McGill University
Germain	Renaud	MSC	4	Pientka		Canada	B.Sc. 2006, Université de Sherbrooke
Girdhar	Neil	MSC	1			Canada	B.Math 2003, University of Waterloo
Graonic	Zoran	MSC	1			Canada	B.A. 2008, McGill University
Guez	Arthur	MSC	2	Pineau		Canada	B.Sc. 2008, McGill University
Guo	Hui	MSC	1			Canada	B.Eng. 2008, McGill University
Hanssian	Sevan	MSC	1	Chang		Canada	B.Sc. 2009, McGill University
Imran	Amina	MSC	2	Maheswaran		Canada	B.Sc. 2005, Univ. Engineering Tech Lahore
Ji	Xiang	MSC	1			Canada	B.Sc. 2009, Beihang University
Jia	Ning	MSC	2	Maheswaran		Canada	B.Eng. 1997, Harbin Univ. Eng.
Jin	Yuan	MSC	2	Liu	Sieber	China	B.Sc. 2007, East China Jiaotong Univ.
Joshipura	Sanket Manjul	MSC	1	Kemme		India	B.Tech. 2009, Nirma U of Science & Tec
Kadivar	Amir Hossein	MSC	1	Precup		Iran	B.Sc. 2009, Sharif Univ Technology
Kaelin	Fabian	MSC	2	Precup		Switzerland	B.Sc. 2007, Ecole Polytech. Fed. Lausanne
Kardehi Moghaddam	Athena	MSC	1			Canada	B.Sc. 2010, University of Tehran
Kaur	Manjinder	MSC	1			India	B.Tech 2010, Punjab Technical University
Kawrykow	David	MSC	1	Robillard		Canada	B.Sc. 2009, McGill University
Khan	Hammad U	MSC	1			Pakistan	B.Sc. 2010, Lahore Univ Management Science
Ku	Wen-Yang	MSC	1	Chang		USA	B.Sc. 2006, Nat Taiwan U
Léveillé	Alexandre	MSC	1			Canada	B.Sc. 2010, UQ Ecole Technologie Supérieur
Liu	Yan	MSC	1			Canada	B.Sc. 2008, University of Manitoba
Lord	Julien Samuel	MSC	2	Maheswaran		Canada	B.Soft.Eng. 2007, McGill University
Maheshwari	Varun	MSC	1	Maheswaran		Canada	Bachelor 2009, Guru Gob Singh Indraprastha U
Manggala	Putra	MSC	1	Devroye	Dimitrakopoulos	Canada	B.Sc. 2009, McGill University
Mannan	Fahim	MSC	3	Langer		Bangladesh	B.Sc. 2006, North South Univ.
Maredia	Rizwan	MSC	1	Kemme		Pakistan	B.Sc. 2006, Nat Univ Comp & Emerging Sci
Mohammadifard	Nakisa	MSC	1			Iran	B.Sc. 2010, Sharif Univ Technology
Naeini	Armin Tavakoli	MSC	1			Iran	M.Sc. 2007, Isfahan Univ Technology
Nag	Deepanjan	MSC	1			India	Bachelor 2005, Birla Institute Technology
Natanasighamani	Hariharan	MSC	1			India	B.Eng. 2008, Anna University
Nobar	Danesh Ghafoorzadeh	MSC	1			Iran	B.Sc. 2010, Sharif Univ Technology
Novotni	Jarryd	MSC	1			USA	B.A. 2009, University of North Carolina
Ouyang	Yue	MSC	3	Langer		China	B.Sc. 2007, Sun Yat-Sen University
Perreault	Mathieu	MSC	1			Canada	B.Eng. 2010, McGill University
Pheng	Chhunry	MSC	3	Kemme		Canada	B.Sc. 2007, McGill University
Piuzé-Phaneuf	Emmanuel	MSC	2			Canada	B.Sc. 2009, McGill University

COMPUTER SCIENCE

Png	ShaoWei	MSC	1	Pineau		Singapore	Bachelor 2009, National University Singapore
Pylypenko	Irene	MSC	1			Canada	B.Sc. 2008, University of Western Ontario
Radpour	Soroush	MSC	1	Hendren		Canada	B.Sc. 2009, University of Tehran
Rahgoshay	Cyril	MSC	1	Kry		Canada	B.Sc. 2007, Univ Nottingham
Rahman	S. M. Rayhan	MSC	4	Whitesides		Canada	B.Sc. 2005, North South University
Ratchford	Tristan	MSC	1	Robillard		Canada	B.A. 2009, McGill University
Rémillard	Olivier	MSC	1	Kry		Canada	B.Sc. 2010, McGill University
Rezanejad	Morteza	MSC	1	Siddiqi		Iran	B.Sc. 2009, Sharif Univ Technology
Roy	Isabelle	MSC	1			Canada	B.Sc. 2009, Univ du Québec à Montreal UQAM
Sanchez Galan Frauca	Javier	MSC	3	Blanchette		Canada	B.Sc. 2006, Univ. Tech. de Panama
Sayad-Rahim	Azin	MSC	5	Blanchette		Canada	B.Sc. 2001, McGill University
Scaccia	Milena	MSC	2	Chang		Canada	B.Sc. 2008, McGill University
Schoueri	Yasmina	MSC	2	Dudek		Canada	B.Sc. 2008, Univ. of Ottawa
Sedaghat	Yasaman	MSC	1	Kry		Canada	Bachelor 2009, University of Tehran
Shahalizadeh Kalkhoran	Solmaz	MSC	3	Hallett		Canada	B.Sc. 2005, University of Tehran
Shaikh	Reehan	MSC	4	Vangheluwe		Canada	B.Sc. 2006, McGill University
Shkurti	Florian	MSC	1	Dudek		Canada	B.Sc. 2009, University of Toronto
Siddiqui	Mansoor	MSC	2	Precup	Levitin	Canada	B.Sc. 2006, Univ. of Toronto
Sigler	Andrea Jordana	MSC	1			Canada	M.A. 2008, McGill University
Smaoui	Mohamed R	MSC	1	Waldispuhl		Canada	B.Sc. 2010, McGill University
Soyen	Arin	MSC	2	Kemme		Canada	B.Soft.Eng. 2008, Concordia University
Sprott	Benjamin	MSC	2	Panangaden		Canada	M.Sc. 2004, University of Waterloo
Tang	Fugui	MSC	1	Liu		Canada	B.Eng. 2009, Huazhong U Sci T
Tessier	Ian	MSC	1			Canada	B.Eng. 2005, Concordia University
Tickoo	Neeraj	MSC	2	Kemme		Canada	B.Tech. 2006, Nat. Inst. of Tech. Moulana Azad
Travassos	Willer	MSC	3	Liu		Brazil	B.Sc. 2007, Dalhousie University
Villemure	Julien	MSC	3			Canada	B.Sc. 2007, McGill University
Viriyasuthee	Chatavut	MSC	1	Dudek		Thailand	B.Eng. 2008, Chulalongkorn University
Wang	Kang	MSC	2	Maheswaran		Canada	B.Eng. 2007, SEU Nanjing
West	Robert	MSC	3	Pineau		Canada	Diplom 2007, Tech Univ Munich
Xiao	Yancheng	MSC	1	Chang		China	B.Sc. 2009, Huazhong U Sci T
Xing	Jin	MSC	1	Liu	Sieber/Renee	Canada	B.Eng. 2007, Hebei Ind U
Xu	Yijia	MSC	1	Liu		Canada	B.Eng. 2009, Beijing U Posts Telecom
Yassaei	Mahshid	MSC	1	Crepeau		Iran	B.Sc. 2009, Sharif Univ Technology
Yuan	Zineng	MSC	1			Canada	M.Sc. 2010, University of Toronto
Zhang	Yi	MSC	1	Liu		China	B.Eng. 2009, Harbin Inst of Technology
Zhang	Kaiwen	MSC	2	Kemme		Canada	B.Sc. 2008, McGill University
Zia	Miriam	MSC	6	Vangheluwe		Canada	B.Sc. 2004, McGill University

COMPUTER SCIENCE

TEACHING AND SUPERVISION Graduate Studies

• Students Registered in the Ph.D. Program 2009-2010

Last Name	First Name	Degree	Year	Supervisor	Co-supervisor	Citizenship	University of Last Degree
Ada	Anil	PHD	4	Therien	Tesson	Turkey	M.Sc. 2008, McGill University
Al Abed	Wisam	PHD	3	Kienzle		Canada	B.Sc. 2007, McGill University
Alberini	Giulia	PHD	2	Pientka		Canada	Master 2008, Università Studi di Padova
Ali	Bader	PHD	5	Maheswaran		Canada	M.Sc. 2006, University of Southern California
Andrews	Sheldon	PHD	2	Kry		Canada	M.Sc. 2007, University of Ottawa
Atrash	Amin	PHD	6	Pineau		Canada	M.Sc. 2003, Georgia Inst of Technology
Bachman	Philip	PHD	2	Precup		USA	M.Sc. 2009, University of Texas
Bhattacharyya	Bishnu	PHD	3	Hallett		Canada	M.Sc. 2008, Carleton University
Boucher	Maxime	PHD	5	Siddiqi		Canada	M.Sc. 2006, McGill University
Canas	Cesar	PHD	2	Kienzle		Canada	Master 2007, ITec Estud Sup Monterrey ITESM
Castro Rivadeneira	Pablo Samuel	PHD	4	Precup	Panangaden	Canada	M.Sc. 2007, McGill University
Chen	Xi	PHD	2	Liu		China	M.Eng. 2007, Northwest Polytechnical Univ.
Cheng	Hanqiang	PHD	2	Liu		Canada	M.Eng. 2008, Nat Univ of Defense Tech
Clément	Ian	PHD	2	Pientka		Canada	M.Sc. 2008, McGill University
Comanici	Gheorghe	PHD	2	Precup		Canada	M.Sc. 2010, McGill University
Dagenais	Barthélémy	PHD	3	Robillard		Canada	M.Sc. 2008, McGill University
Dang	Jianxun	PHD	2	Liu		China	M.Eng. 2009, Beihang University
Denault	Alexandre	PHD	5	Kienzle		Canada	M.Sc. 2005, McGill University
Dragert	Christopher	PHD	3	Kienzle	Verbrugge	Canada	M.Sc. 2008, Queen's University
Duala-Ekoko	Ekwa	PHD	4	Kienzle		Canada	M.Sc. 2006, McGill University
Dutil	Nicolas	PHD	7	Crepeau	Hayden	Canada	M.Sc. 2002, McGill University
Egri	László	PHD	4	Therien		Canada	M.Sc. 2007, McGill University
Fawzi	Omar	PHD	3	Devroye	Hayden	Canada	M.Sc. 2008, Univ. of Paris VII
Frank	Jordan	PHD	3	Precup	Mannor	Canada	M.Sc. 2009, McGill University
Frydrychowicz	Maja Z	PHD	2	Pientka	Panangaden	Canada	M.Sc. 2010, McGill University
Garg	Rahul	PHD	2	Hendren		India	M.Sc. 2009, University of Alberta
Giguère	Philippe	PHD	7	Dudek		Canada	M.Sc 2003, Northeastern University
Girdhar	Yogesh	PHD	4	Dudek		India	M.Sc. 2005, Rensselaer Polytechnic Inst.
Gosline	Sara	PHD	6	Hallett		USA	M.Sc. 2005, McGill University
Grinberg	Yuri	PHD	2	Precup		Israel	M.Sc. 2008, Universitat Tel Aviv
Hickey	Glenn	PHD	3	Blanchette		Canada	M.Sc. 2006, Dalhousie University
Holly	Matthew James	PHD	9	Tropper		Canada	M.Sc. 2002, McGill University
Kazmi	Raza Ali	PHD	3	Crepeau		Canada	M.Sc. 2008, Concordia University
Kim	Dong Hyun	PHD	4	Blanchette	Vetta	Canada	M.Sc. 2007, McGill University

COMPUTER SCIENCE

King	James	PHD	6	Devroye		Canada	M.Sc. 2005, University of British Columbia
Laekhanukit	Bundit	PHD	2	Vetta		Canada	M.Math 2010, University of Waterloo
Lameed	Nurudeen	PHD	3	Hendren		Canada	M.Sc. 2008, Concordia University
Lavallée-Adam	Mathieu	PHD	2	Blanchette		Canada	B.Sc. 2008, McGill University
Layouni	Mohamed	PHD	7	Crepeau		Tunisia	M.A.Sc. 2003, Concordia University
Lee	Anna	PHD	4	Hallett		Canada	M.Sc. 2007, McGill University
Li	Zhentao	PHD	4	Reed		Canada	M.Math 2007, University of Waterloo
Lin	Wanru	PHD	2			China	M.Eng. 2010, Wuhan UT
Mahabadi	Ladan	PHD	4	Crepeau		Canada	M.Sc. 2007, McGill University
Mannadiar	Raphaël	PHD	3	Vangheluwe		Canada	M.Sc. 2008, McGill University
Meagher	Conor John	PHD	7	Avis	Dimitrakopoulos	Canada	M.Sc. 2004, McGill University
Meghjani	Malika	PHD	2	Ferrie	Dudek	Canada	M.Eng. 2010, McGill University
Meraji	Seyed Sina	PHD	4	Tropper		Canada	M.Sc. 2006, Sharif University
Milani Fard	Mahdi	PHD	2	Pineau		Canada	B.Sc. 2007, University of Tehran
MomayyezSiahkal	Parya	PHD	4	Siddiqi		Canada	M.Eng. 2008, McGill University
Murie	Carl Eric	PHD	6	Nadon	Hallett	Canada	M.Sc. 2006, McGill University
Mustafiz	Sadaf	PHD	7	Kienzle		Bangladesh	M.Sc. 2004, McGill University
Nourian	Arash	PHD	2	Maheswaran		Canada	B.Sc. 2000, Shahid Beheshti Univ.
Paduraru	Cosmin	PHD	5	Precup		Canada	M.Sc. 2006, University of Alberta
Pan	Zhenyu	PHD	2	Liu		Canada	M.Sc. 2009, York University
Pickett	Christopher	PHD	7	Verbrugge		Canada	B.Sc. 2001, McGill University
Piuze-Phaneuf	Emmanuel	PHD	2	Siddiqi		Canada	B.Sc. 2009, McGill University
Rabbani	Amir Hossein	PHD	4	Kry		Canada	M.Sc. 2008, Université de Sherbrooke
Ranjbar	Amin	PHD	3	Maheswaran		Canada	M.Sc. 2008, Concordia University
Rousseau	Mathieu	PHD	2	Blanchette		Canada	B.Sc. 2007, McGill University
Sattar	Junaed	PHD	6	Dudek		Bangladesh	M.Sc. 2005, McGill University
Savov	Ivan	PHD	3	Hayden		Canada	M.Sc. 2008, McGill University
Shi	Yiwei	PHD	2	Liu		China	M.Eng. 2009, Beijing Institute of Tech
Stolpner	Svetlana	PHD	5	Whitesides	Siddiqi	Canada	M.Sc. 2006, McGill University
Syriani	Eugene	PHD	4	Vangheluwe		Canada	M.Sc. 2008, McGill University
Titley-Péloquin	David	PHD	6	Chang	Paige	Canada	M.Sc. 04-05, McGill University
Uddin	Mohammad	PHD	2	Robillard		Canada	M.Sc. 2008, Queen's University
Vincent	Robert	PHD	4	Pineau		Canada	M.Sc. 2007, McGill University
Wagner	James	PHD	3	Blanchette		Canada	M.Sc. 2008, Simon Fraser University
Xie	Xiaohu	PHD	2	Chang		Canada	M.Eng. 2009, Wuhan UT
Xu	Anqi	PHD	2	Dudek		Canada	B.Eng. 2008, McGill University
Xu	Qing	PHD	8	Tropper		Canada	M.Sc. 2003, McGill University
Yahyavi Firouz Abadi	Seyed Amir	PHD	2	Kemme		Iran	M.Sc. 2009, University of Tehran
Ying	Tsui Tsui	PHD	2	Robillard		Canada	M.Sc. 2003, University of British Columbia
Zamal	Faiyaz	PHD	2	Perkins	Blanchette	Canada	M.Sc. 2008, McGill University
Zellag	Kamal	PHD	4	Kemme		Canada	M.Sc. 2003, Université de Montreal

TEACHING AND SUPERVISION
Graduate Studies

● *Students who received degrees during 2009-2010*

Student Name	Degree	Initial Reg.	Grad Term	DHL	Supervisor	Thesis Title
Asrigo, Yanwar	MSc-T	Fall 2007	Summer 2009	No	Kemme/Kienzle/Verbrugge	Communication middleware for a web-based game lobby
Casey, Andrew	MSc-T	Fall 2007	Summer 2009	No	Hendren	The MetaLexer lexical specification language
Desrosiers, Simon Pierre	PhD-T	Fall 2002	Summer 2009	No	Crepeau	Quantum entropic security
Han, Chunhui	MSc-T	Fall 2007	Summer 2009	No	Maheswaran	Social gate: a new social accountable framework for computer networks
Heilala, Samuli	MSc-T	Fall 2006	Summer 2009	No	Pientka	A path characterization of validity for multimodal logics
King, Andrew	PhD-T	Fall 2004	Summer 2009	No	Reed	Claw-free graphs and two conjectures on omega, Delta, and chi
Knight, Sophia	MSc-T	Fall 2006	Summer 2009	No	Panangaden	Epistemic strategies and games on concurrent processes
Marinakos, Dimitrios	PhD-T	Fall 2005	Summer 2009	No	Dudek	Inferring environmental representations through limited sensory data with applications to sensor network self-calibration
Milani Fard, Mahdi	MSc-T	Fall 2007	Summer 2009	No	Pineau	Non-deterministic policies in Markovian processes
Nourian, Arash	MSc-T	Fall 2008	Summer 2009	No	Maheswaran	CASTLE: a social framework for collaborative anti-phishing databases
Prokopski, Grzegorz	PhD-T	Fall 2004	Summer 2009	No	Verbrugge	Optimizing software-hardware interplay in efficient virtual machines
Zhang, Lingjiao	PhD-T	Summer 2004	Summer 2009	No	Whitesides/Lazard	On the three-dimensional visibility skeleton: implementation and analysis
Al Marhubi, Kamal Amran	MSc-T	Fall 2007	Fall 2009	No	Panangaden	Duality and finality for deterministic and probabilistic automata
Bodden, Eric	PhD-T	Fall 2006	Fall 2009	No	Hendren	Verifying finite-state properties of large-scale programs
Brown, Adam	MSc-T	Fall 2007	Fall 2009	No	Hayden	Infeasibility of solving finite mathematical problems
Chevalier-Boisvert, Maxime	MSc-T	Fall 2007	Fall 2009	No	Verbrugge/Hendren	McVM: An optimizing virtual machine for the MATLAB programming language
Layouni, Mohamed	PhD-T	Winter 2004	Fall 2009	No	Crepeau	Privacy-preserving personal information management
Li, Jun	MSc-T	Fall 2007	Fall 2009	No	Hendren	McFor: A MATLAB-to-fortran 95 compiler
Mustafiz, Sadaf	PhD-T	Fall 2004	Fall 2009	No	Kienzle	Dependability-oriented model-driven requirements engineering for reactive systems
Parmar, Victor	MSc-T	Fall 2007	Fall 2009	No	Blanchette	Predicting transcription factor binding sites using phylogenetic footprinting and a probabilistic framework for evolutionary turnover
Phillips, Caitlin	MSc-T	Fall 2007	Fall 2009	No	Panangaden/Precup	An algebraic approach to dynamic epistemic logic
Pomerantz, Daniel	MSc-T	Fall 2007	Fall 2009	No	Dudek	Designing a context dependant movie recommender: A hierarchical Bayesian approach

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Sanchez Galan Frauca, Javier	MSc-T	Fall 2007	Fall 2009	No	Blanchette	Large scale identification of transcription factor binding sites in DNA sequences
Sayad-Rahim, Azin	MSc-T	Fall 2005	Fall 2009	No	Blanchette	Motif discovery algorithms incorporating nucleosome positioning information
Aslam, Toheed	MSc-T	Winter 2008	Winter 2010	No	Hendren	AspectMatlab: an aspect-oriented scientific programming language
Comanici, Gheorghe	MSc-T	Fall 2008	Winter 2010	No	Precup	Optimal time scales for reinforcement learning behaviour strategies
Dinculescu, Monica	MSc-T	Winter 2008	Winter 2010	No	Precup	Learning approximate representations of partially observable systems
Gélineau, Samuel	MSc-T	Fall 2006	Winter 2010	No	Kienzle/Pientka	Commutative composition - a conservative approach to aspect weaving
Germain, Renaud	MSc-T	Fall 2006	Winter 2010	No	Pientka	Implementation of a dependently typed functional programming language
Kaplow, Robert	MSc-T	Winter 2007	Winter 2010	No	Pineau	Point-based POMDP solvers: Survey and comparative analysis
Travassos, Willer	MSc-T	Fall 2007	Winter 2010	No	Liu	A practical face recognition system using a game with a purpose
Wang, Jun	PhD-T	Fall 2002	Winter 2010	No	Tropper	Optimizing the time warp protocol with learning techniques
West, Robert	MSc-T	Winter 2008	Winter 2010	Yes	Pineau	Extracting semantic information from Wikipedia using human computation and dimensionality reduction
Zia, Miriam	MSc-N	Fall 2004	Winter 2010	No	Vangheluwe	
Cano Becerril, Victor	MSc-N	Fall 2008	Summer 2010	No	Kry	
Chen, Ching Ling Tom	MSc-T	Winter 2008	Summer 2010	No	Verbrugge	Distributed collision detection and resolution
Giguère, Philippe	PhD-T	Fall 2004	Summer 2010	No	Dudek	Unsupervised learning for mobile robot terrain classification
Gosline, Sara	PhD-T	Fall 2005	Summer 2010	No	Hallett	A systems biology approach to understanding the role of the endoplasmic reticulum in human disease
Guez, Arthur	MSc-T	Fall 2008	Summer 2010	No	Pineau	Adaptive control of epileptic seizures using reinforcement learning
Mannan, Fahim	MSc-T	Fall 2007	Summer 2010	No	Langer	Markov random field based methods for cluttered scene stereo
Ouyang, Yue	MSc-T	Fall 2007	Summer 2010	No	Langer	Investigating specularities on short-wave surfaces
Pheng, Chhunry	MSc-T	Fall 2007	Summer 2010	No	Kemme	Yobal: Locality-aware multicast engine for a massively multiplayer game architecture
Titley-Péloquin, David	PhD-T	Fall 2005	Summer 2010	No	Chang/Paige	Backward perturbation analysis of least squares problems
Villemure, Julien	MSc-N	Winter 2008	Summer 2010	No	Pineau	
Wang, Kang	MSc-T	Fall 2008	Summer 2010	No	Maheswaran	The design and implementation of a social accountability framework
Zhang, Kaiwen	MSc-T	Fall 2008	Summer 2010	No	Kemme	Persistent transaction models for massively multiplayer online games
Adourian, Chahe	MSc-T	Fall 2005	Fall 2010	No	Vangheluwe	Bidirectional integration of geometric and dynamic simulation tools
Al Borno, Mazen	MSc-T	Fall 2008	Fall 2010	No	Chang	Reduction in solving some integer least square problems
Al Mallah, Amr	MSc-T	Fall 2007	Fall 2010	No	Vangheluwe	Model-based testing of model transformations
Ali, Bader	PhD-T	Fall 2006	Fall 2010	No	Maheswaran	Using social factors in sharing and usage control in online systems
Aslam, Amina	MSc-T	Fall 2005	Fall 2010	No	Hendren	McFLAT: A profile-based framework for Matlab loop analysis and transformations

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Deering, Theresa	MSc-T	Fall 2008	Fall 2010	No	Avis	The least-used direction pivot rule on acyclic unique sink orientations
Denault, Alexandre	PhD-T	Fall 2006	Fall 2010	No	Kienzle	Journey, a shared virtual space middleware
Desjeans Gauthier, Jean-François	MSc-T	Fall 2008	Fall 2010	No	Kemme	A message oriented middleware for mobility
Dong, Xiaoxi	MSc-T	Fall 2007	Fall 2010	No	Vangheluwe	Ark, the metamodelling kernel for domain specific modelling
Farczadi, Linda	MSc-T	Fall 2009	Fall 2010	No	Devroye	Connectivity for line-of-sight networks in higher dimensions
Faulkner, Ryan	MSc-T	Fall 2008	Fall 2010	No	Precup	Dyna learning with deep belief networks
Frydrychowicz, Maja	MSc-T	Fall 2008	Fall 2010	No	Panangaden	An epistemic analysis of authentication
Jia, Ning	MSc-T	Fall 2008	Fall 2010	No	Maheswaran	Architecture and implementation of socially governed networks
Jin, Yuan	MSc-T	Fall 2007	Fall 2010	No	Liu/Sieber	Bridging the ontological gap between semantic web and the RESTful web services
King, James	PhD-T	Fall 2005	Fall 2010	No	Devroye	Guarding problems and geometric split trees
Lee, Anna	PhD-T	Fall 2007	Fall 2010	No	Hallett/Jenna	Bioinformatics approaches towards facilitating drug development
Meagher, Conor John	PhD-T	Fall 2004	Fall 2010	No	Avis/ Dimitrakopoulos	On the directed cut polyhedra and open pit mining
Piuzé-Phaneuf, Emmanuel	MSc-T	Winter 2009	Fall 2010	No	Siddiqi	Generalized helicoids for hair modeling
Rahman, S.M. Rayhan	MSc-T	Winter 2007	Fall 2010	No	Whitesides	Performance of local planners with respect to sampling strategies in sampling-based motion planning
Scaccia, Milena	MSc-T	Fall 2008	Fall 2010	No	Chang	Numerical algorithms for attitude determination using GPS
Shahalizadeh Kalkhoran, Solmaz	MSc-T	Winter 2008	Fall 2010	No	Hallett	An integrative bioinformatics approach for developing predictors of recurrence for the triple negative and basal subtypes of breast cancer
Xu, Qing	PhD-T	Fall 2003	Fall 2010	No	Tropper	Optimization techniques for distributed logic simulation

TEACHING AND SUPERVISION

Supervision

• • *Graduate Student Supervision Table*

Profs	# M.Sc. Students		# PhD. Students	
	Current	Graduated	Current	Graduated
Avis, David				1
Blanchette, Mathieu	1	2	5(1)	1
Chang, Xiao-Wen	4	2	3(2)	(1)
Crépeau, Claude	1(2)		3	2
Devroye, Luc	1	1	1(1)	1
Dudek, Gregory	3		4	2
Hallett, Michael	(1)	1	2(2)	1(1)
Hayden, Patrick	1	1	3(1)	
Hendren, Laurie	3	1	2	
Kemme, Bettina	6	3(1)	2	
Kienzle, Jörg	1	2	5	
Kry, Paul	6	1(2)	2	
Langer, Michael		2	2(1)	
Liu, Xue		1	4	
Maheswaran, Muthucumar	5	2	2	1
Panangaden, Prakash	1	3	2	
Pientka, Brigitte	(1)		1	
Pineau, Joelle	2	5	3	
Precup, Doina	3	3	6	
Reed, Bruce			1	
Robillard, Martin	2		4	
Ruths, Derek	1(1)		1	
Siddiqi, Kaleem	1	1	4	1
Thérien, Denis			2	
Tropper, Carl			1	2
Vangheluwe, Hans	1	2	2	
Verbrugge, Clark	4	1	2	
Vetta, Adrian		(1)	3(1)	(2)
Waldispuhl, Jerome	1(1)		(1)	

Numbers that appear in () represent supervision outside the department and/or university.

APPENDIX C

Administration and Other Contributions

COMPUTER SCIENCE 2009 - 2010

SOCS 2009-2010 Administrative Committee Assignments

Associate Director, Space & Finance	M. Langer
Associate Director, Research & Mentoring	K. Siddiqi
Academic Committee	P. Panangaden (Chair), P. Hayden, C. Verbrugge, B. Kemme and (student rep.)
Adhoc Committee on Enrollment	L. Hendren (chair), C. Crépeau, B. Pientka (on leave), M. Robillard, J. Vybihal, A. Jack (admin rep.), R. Simpson (systems rep.)
Advisory Council	X. Chang (Grad. Director), M. Langer (Assoc. Director, Space & Finance), D. Precup (Ugrad. Director), K. Siddiqi (Assoc. Director, Research & Mentoring), J. Pineau (on leave)
Annual Report Coordinator	C. Tropper
Bioinformatics Committee	M. Hallett (Chair), M. Blanchette
Colloquium Committee	X. Liu (Chair), D. Avis, J. Kienzle, TBA (student rep.)
COMP 202 Coordinator	M. Petitpas
COMP 396 & 400 Coordinator	N. Friedman
COMP 601 Coordinator	M. Blanchette
COMP 701 Coordinator	X-W. Chang
Committee on Women	D. Precup (Chair), B. Pientka (on leave), L. Hendren, B. Kemme, J. Pineau (on leave) and (student rep.)
Development Committee	D. Avis (Chair), M. Robillard , G. Dudek , X. Liu, M. Maheswaran, C. Tropper, H. Vangheluwe (on leave), J. Vybihal, and (student rep.)
Equipment & Networking Committee	M. Maheswaran (Chair), C. Verbrugge, X. Liu, A. Bogecho and R. Simpson
Hiring Committee	G. Dudek (Chair), TBAs

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Merit Committee	K. Siddiqi, B. Kemme, P. Kry
M.Sc. Committee	M. Blanchette (Chair), N. Friedman, M. Robillard, C. Tropper, B. Reed and (student rep.)
Ph.D. Committee	X-W. Chang (Chair), L. Devroye (Assoc. Chair), M. Maheswaran, P. Hayden, J. Pineau (on leave), P. Kry, J. Waldispuhl, C. Verbrugge, and (student rep.)
Faculty Prize Coordinator	P. Panangaden
Safety Committee	R. Simpson (Chair), M. Langer (CIM rep.) and A. Jack
Scholarships, Fellowships & Awards Com.	L. Devroye (Chair), N. Friedman, C. Verbrugge
Software Engineering Committee	M. Robillard (Chair), C. Verbrugge, J. Kienzle and H. Vangheluwe (on leave),
Staff Liaison Committee	S. Morrissey (Chair), TBA (Admin or Systems staff), P. Hayden, and C. Crépeau
Summer Camp Committee	J. Vybihal (Chair), TBA (student rep.), TBAs
T.A. Coordinator	Nathan Friedman
T.A. Prize Coordinator	Nathan Friedman
Tenure and Promotion Committee	G. Dudek (Chair), L. Devroye, P. Panangaden, K. Siddiqi Alternates: D. Avis, X-W Chang
Timetable Committee	L. Devroye (Chair), N. Friedman
Undergraduate Committee	D. Precup (Chair), B. Kemme, N. Friedman (Chief Academic Advisor), M. Robillard (CEGEP Liaison Coordinator), B. Pientka (on leave), J. Pineau (on leave and L. Chin
Web Committee	P. Kry (Chair), J. Kienzle, P. Hayden (Web Content Coordinator) and H. Vangheluwe (on leave)
ACM Programming Coach	J. Kienzle

COMPUTER SCIENCE 2009 - 2010

ADMINISTRATION AND OTHER CONTRIBUTION

- **Report from the Academic Committees**

The Academic Committee (AC) is in charge of overseeing the Academic Programs of the School of Computer Science. Over the last 18 months, two new courses (COMP 559 Computer Animation and COMP 553 Algorithmic Game Theory) have been approved. The course COMP 361 Systems Development Project has been revised and is now a 2-semester 6-credit course. The course COMP-692 Approximation Algorithms has been moved to the 500-level (COMP-554) in order to allow undergraduate students to enroll. Pre-requisite housekeeping had to be done for several courses.

The Department of Biology has introduced a new program "Quantitative Biology" in which students have to take two computer science courses (COMP 202 and COMP 250) and can take up to three further complementary computer science courses. Along with this program, the Department of Biology has changed some of their courses which, in turn, required changes to our Joint Major in Computer Science and Biology.

Over the last years many new programs have been introduced (the School is currently involved in more than 20 programs) and we are now seeing a phase of stabilization where minor adjustments to programs are made but no major changes appear to be needed. These changes are mainly due to the introduction of new courses or the change of courses (see above). The School removed its courses from the Minor Concentration in Science offered to Arts students as we offer a separate Minor Concentration in Arts.

- **Report from the Ph.D. Committee**

June 1, 2010 - Dec 31, 2010

(X.-W. Chang (Program Chair), L. Devroye (Assoc. Chair), J. Kienzle, J. Pineau, M. Singh, C. Verbrugge, J. Waldispuhl

The PhD committee proposed a new rule on the timing of the PhD proposal and area exam to ensure that the exam is taken within the appropriate time frame. The proposal was passed at a staff meeting.

The routine activities include processing of applications and admissions, selection of applicants for internal scholarships, administration of comprehensive examinations, chairing proposal and area examinations and oral defenses, administration of the web site for the Ph.D. program, and dealing with course waiver requests.

1. Applications and Enrollment (2 academic years):

Applications:

<u>Accepted</u>	<u>New registered</u>	<u>Total registered</u>	<u>Total females</u>	<u>Total males</u>
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COMPUTER SCIENCE 2009 - 2010

123 20 9 65 10 55

2. Nine students graduated:

Bader Ali, "Using social factors in sharing and usage control in online systems"

Supervisor: Muthucumar Maheswaran

Alexandre Denault, "Journey, a shared virtual space middleware"

Supervisor: Joerg Kienzle

Philippe Giguère, "Unsupervised learning for mobile robot terrain classification"

Supervisor: Gregory Dudek

Sara Gosline, "A systems biology approach to understanding the role of the endoplasmic reticulum in human disease"

Supervisor: Michael Hallett

James King, "Guarding problems and geometric split trees"

Supervisor: Luc Devroye

Anna Lee, "Bioinformatics approaches towards facilitating drug development"

Supervisors: Michael Hallett and Sarah Jenna

Conor John Meagher, "On the directed cut polyhedra and open pit mining"

Supervisors: David Avis and Roussos Dimitrakopoulos

David Titley-Péloquin, "Backward perturbation analysis of least squares problems"

Supervisors: Xiao-Wen Chang and Chris Paige

Qing Xu, "Optimization techniques for distributed logic simulation"

Supervisor: Carl Tropper

3. Eight students passed their thesis proposal and area examination:

Dagenais, Barthélémy; Duala-Ekoko, Ekwa J.; Dutil, Nicolas; Hickey, Glenn N.; King, James A.; Meraji, Seyed Sina; Syriani, Eugene; Mannadiar, Raphaël

4. Eleven students passed the comprehensive examination:

Andrews, Sheldon; Bachman; Philip S.; Cheng, Hanqiang; Dang, Jianxun; Garg, Rahul; Grinberg, Yuri; Nourian, Arash; Rousseau, Mathieu; Xie, Xiaohu; Yahyavi Firouz Abadi; Seyed Amir; Zamal, Faiyaz A.

- **Report from the M.Sc. Committee**

_(P. Kry [Program Chair], N. Friedman, X. Liu, B. Reed, C. Tropper, J. Waldispuhl)

In the fall term, all files were evaluated by Professor Kry, and in some cases by a second committee member. With Professor Kry as the new chair, new applicants for the January 2011 deadline will be

COMPUTER SCIENCE 2009 - 2010

reviewed by him and in most cases by at least one other committee member. The purpose of this is to identify top candidates more quickly so that our best applicants can be accepted sooner and with offers of funding.

In September 2010, 33 students started the M.Sc. Program, in comparison to 34 students starting in the fall of 2009. In the fall of 2010, 16 M.Sc. students graduated, in comparison to 9 in fall of 2009. For the period from June 2009 to December 2010, a total of 50 students graduated (not including transfers to Ph.D.), and all but 3 of these students graduated with the thesis option as opposed to the project option. No student is currently enrolled in the B.Sc./M.Sc. Integrated stream. Applications for 2011 will possibly exceed recent years as we have already received 241 applications.

Trends in enrolment:

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Applicants	567	456	328	245	249	213	255	275	>241
Accepted	177	137	133	113	129	104	116	110	
Pending	0	0	0	0	0	0	0	0	
Enrolled	68	48	33	36	39	35	37	33	
Selectivity	31%	30%	41%	46%	52%	49%	45%	40%	
Yield	38%	35%	25%	32%	30%	34%	32%	30%	

- **Report from the Under Graduate committee**

The undergraduate committee oversees the School's academic programs and student advising. Usual activities include participation in McGill's open house, orientation sessions, career planning (such as advice on summer research opportunities and graduate school applications), and participation in student-organized events. In addition to the usual activities, last year we revised the recommended course schedules for the software engineering programs (which have undergone program revisions), and we have started revising all the undergraduate web site content (to make sure the information is consistent and up to date). The student enrollment in our programs rose considerably in 2010, led by the enrollment in joint majors rising 37% and in minor programs rising 24%. Course enrollments also saw significant increases: between 20-25% in almost all core courses and in the most popular complementary courses. Many science, engineering and arts students appear to consider computer science as a critical skill for the job market or future research careers, even if they do not want to pursue it as a major. The increasingly heterogeneous student population is posing new challenges for advising which we are now trying to tackle.

COMPUTER SCIENCE 2009 - 2010

- **Report from the Scholarships committee**

The committee consisted of Luc Devroye (chair) and Nathan Friedman. In September 2009, Clark Verbrugge joined.

The committee ranks students for various competitions, it transmits information regarding various scholarships to students and professors, it defends the interests of SOCS within the university, it provides applicants with letters of evaluation and support, and it maintains a database of available funds and allocations to students.

Ranking exercises.

The committee's major exercises within the year are

- (1) The annual NSERC competitions at the MSc, PhD and Postdoctoral levels.
- (2) The annual FQRNT provincial scholarships. Since 2007, internal rankings are no longer required, so the involvement of the scholarships committee remains limited to providing advice, guidance and information.
- (3) The annual NSERC USRA program, which provides research support for the summer months to about ten undergraduate students.
- (4) The allocation of DFW's (differential fee waivers). McGill University started a new policy in 2007 in which all foreign PhD students would automatically be granted a DFW. However, it still offers DFWs on occasion (but sparingly) at the MSc level. The School received four summer DFWs for foreign MSc students, but none for the regular terms. McGill's policy increases the number of students who go directly from BSc to PhD. Late in 2010, this program was being phased out.
- (5) The Tomlinson award: each year, one PhD and one MSc applicant are nominated for this competitive intramural award. This year, two students were successful, but one chose to go to another university.

Funding.

In the competition for September 2009, the Provost's Graduate Fellowships excepted, SOCS had 387.6k in discretionary funding for graduate students, beyond the six categories listed above, broken down as follows, from larger amounts to smaller:

SOCS funds: 150k (50 less than the year before).

SPSF (Strategic Priorities Seed Funding, Dean of Science, new since 2008): 33k (19 less than one year earlier).

CGS (Canadian Graduate Scholarships, from NSERC via the university, a top-up): 0k (28k less than one year earlier)

PGF (Principal's awards, new since 2008): 35k (an increase of 10k).

David Stewart awards: 10k (half of one year earlier)

Milton Leong awards: 0k (competition within McGill; one year earlier, we had 20k)

Lorne Trottier Science Accelerator Fellowships: 15k (down from 17.5k)

Courtemanche bioinformatics award: 0 (down from 13k)

Courtemanche award: 0 (down from 10k)

Max Binz award: 10k (competition within McGill)

Women in Science: 12.5k (new award)

Molson and Hilton Hart: 7.5k (new award)

COMPUTER SCIENCE 2009 - 2010

For September 2010, we had a total of about 291k, which is about 100k less than the year before that.

In the allocation of awards, the Scholarships Committee weighs many factors, and applies certain principles.

(1) For new students, it consults the PhD and MSc committees and asks for preliminary rankings from them. The letters with financial offers are drawn up by these committees after further consultation with potential supervisors. The Scholarship committee makes offers of 10k/year for two years for PhD students and 8k/year for one year for new MSc students. In addition, MSc students with a supervisor lined up, receive a 2-year proposal that incorporates this 8k in year one, and describes the other support explicitly.

(2) For all students who started in 2007 or later, a scholarship top-up program is applied, with 5k top-up for PhD-level NSERC or FQRNT recipients, and 4k top-up for NSERC or FQRNT MSc-level scholarship holders.

(3) For new students with an NSERC or FQRNT scholarship, the School only supports a top-up. This means that in many cases, the financial offer is actually reduced after the awards become known.

These principles imply certain commitments for the following year, and this reduces the actual funds available for making offers somewhat.

Wish list.

The committee urges the university to provide the departments scholarship-related budget items two years ahead of time so that sudden discontinuities do not occur. We have requested this repeatedly, but as of today, January 28, 2010, we still do not have the budget for admissions for September 2011.

- **Report from The Bioinformatics committee**

The Bioinformatics committee dealt with several issues over the past term. In particular, we actively participated in wide-spread discussions primarily with the Department of Biology regarding the future of the CS-Bio Option and a newly proposed Quantitative Biology program directed by Biology. This included the organization of an open house for students and mentors to discuss changes to the CS-Bio program. Members also organized seminars and workshops that generate national and international exposure for bioinformatics at McGill including an RNA seminar day (<http://csb.cs.mcgill.ca/rna2010/>) and a proposed joint meeting with the significant computational biology presence at the University of Toronto. Members of the committee also re-examined the undergraduate and graduate courses within SOCS and made changes to the minor program in computational biology. Finally, all members of the committee contributed significantly to the advancement of the CIHR funded Systems Biology program at McGill in order to ensure that SOCS remains an integral component in the development of this research area at McGill.

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- **Report from the Equipment and Networking Committee**

The committee during this period consisted of C. Verbrugge (Chair), D. Ruths, X. Liu (on leave), M. Maheswaran (on leave), A. Bogecho, and R. Simpson.

The School's equipment committee is intended to deal with capital improvements, the acquisition and renewal of computing equipment and related infrastructure, and the purchase of office equipment and furniture for graduate labs and seminar rooms. Within an undergraduate teaching context these expenditures and concerns are with respect to a diverse environment of 5 labs (and 2 open-concept areas) and approximately 185 workstation computers, as well as servers, printers and related equipment. 27 workstation machines were upgraded over the summer.

Other expenditures were directed at both server room upgrades and general improvements to our graduate and research facilities. A combination of reorganization and purchase of virtual server facilities has improved capacity as well as ventilation within the server room. This was supported by electrical and wiring improvements, machine rack purchases, and tile and subfloor upgrades. This work is intended to increase efficiency, as well as enable us to increasingly finance our facilities by providing a state-of-the-art server room for other members of the McGill community. Improvements to the School's physical space include minor renovations to research labs (furniture, painting, white-boards, electrical, A/C), as well as the introduction of card-readers and combination locks to enhance physical security. An LCD display case was also installed on the ground floor of McConnell to improve visibility of the department.

- **Report from the Software Engineering Committee**

The committee this year consisted of C. Verbrugge (Chair), M. Robillard, J. Kienzle, H. Vangheluwe (on leave), X. Liu (on leave).

This committee manages the Computer Science Software Engineering program (SE). This program shares various courses as well as the general mandate to teach Software Engineering with a similar program in the Department of Electrical and Computer Engineering (ECE).

This academic year represents the first year of a fairly large program that was put into place last academic year, revising the SE Major as well as adding an SE Honours program. These were important changes to improve the program and bring it more into line with recognized SE priorities.

Staffing is a concern for the SE program, and has been a central part of our committee discussions. This includes new course development (testing and a few other important SE areas are not yet well represented in our program), as well as the ability to continue to offer our excellent program despite circumstances that have reduced the practical number of our SE faculty specialists. One of the strengths of our SE program is that our courses are taught by faculty who do active research in the relevant areas, and the committee has been actively looking for ways to enhance and preserve that in order to ensure the SE program is able to continue to improve.

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- **Report from the Safety Committe**

Mandate:

The Safety Committee is responsible for assessing and controlling safety issues for the department; communicating with employees regarding safety committee activities; developing safety rules, policies and procedures; evaluating the safety program on a regular basis; inspecting the workplace; keeping job specific training current; motivating employees to create a safety culture in the workplace; and reviewing incidents at workplace.

The committee activities for 2010 included the following:

- * Maintained safety website: <http://www.cs.mcgill.ca/community/safety>.
- * Maintained safety email at SOCS safety@cs.mcgill.ca.
- * Sent safety reminders around holidays and low staffing days.

ADMINISTRATION AND OTHER CONTRIBUTIONS

• *Status of Women in SOCS*

The following tables depict statistics on the status of women in the School of Computer Science. Programs in both Computer Science and Mathematics and Computer science are represented. Students in IYES (Internship Year), Study Away, Session of Graduation and Part-time are also included in the figures below.

Undergraduate Student Data

Program	Total	Male	Female	Program	Total	Male	Female
Honours (BSc CS)				Majors (BSc CS)			
U1	9	8	1	U1	18	16	2
U2	7	6	1	U2	15	14	1
U3	7	6	1	U3	21	14	7
Major (Games Option)				Major (B.Sc. Soft. Eng.)			
U1	8	5	3	U1	8	7	1
U2	5	5	0	U2	5	4	1
U3	3	3	0	U3	8	7	1
Core Science Component (CS)				Core Science Component (Soft. Eng.)			
U1	0	0	0	U1	0	0	0
U2	3	3	0	U2	0	0	0
U3	1	1	0	U3	0	0	0
Jt-Hons (Math & CS)				Jt-Major (Math & CS)			
U1	4	3	1	U1	6	4	2
U2	1	1	0	U2	6	5	1
U3	5	5	0	U3	3	3	0
Jt-Major (Stats & CS)				Jt-Hons Stats & CS)			
U1	0	0	0	U1	1	1	0
U2	0	0	0	U2	0	0	0
U3	1	0	1	U3	0	0	0
Jt-Major (CS & Biol)				Jt-Major (Physics & CS)			
U1	5	3	2	U1	2	0	2
U2	4	3	1	U2	3	3	0
U3	0	0	0	U3	1	1	0
Major Concen. In CS (B.A.)				Jt-Hons Ad Hoc (Physics & CS)			
U1	11	6	5	U1	0	0	0
U2	7	3	4	U2	0	0	0
U3	2	0	1	U3	1	1	0

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Program	Total	Male	Female	Program	Total	Male	Female
Major Concen. In CS (BASCI)				Major Concen. In (Soft Eng.)			
U1	5	2	3	U1	0	0	0
U2	0	0	0	U2	1	1	0
U3	1	1	0	U3	0	0	0
Minor B.A and B.Sc. (Cognitive Science)				Minor In CS (BSc)			
U1	10	4	6	U0	2	2	0
U2	3	3	0	U1	15	14	1
U3	4	4	0	U2	24	16	8
Minor (Comp. Mole. Biol.)				Minor Concen. In CS (B.A.)			
U0	0	0	0	U0	1	1	0
U1	1	1	0	U1	13	9	4
U2	2	0	2	U2	9	8	1
U3	1	1	0	U3	5	5	0
Graduates				Scholarship Holders			
Honours/Joint Honours				(NSERCs)	10	7	3
Majors/Joint Majors				NSERC - SURA	4	4	0
Major Concentrations							
Faculty Program							

Graduate Student Data

Program	Total	Male	Female	Graduates	Total	Male	Female
M.Sc. (Admitted)	120	92	28	M.Sc.	50	38	12
Ph.D. (Admitted)	79	67	12	Ph.D.	18	14	4
				Scholarship Holders			
				NSERC/FQRNT	19	15	4

Academic Data

Rank	Total	Male	Female
Full Professor	8	7	1
Associate Professor	19	15	4
Assistant Professor	5	5	0
Emeritus Professor	6	6	0
Faculty Lecturer	1	1	0
Postdocs	15	14	1

- **Report from the Web Committee**

(P. Kry [Chair], J. Kienzle, B. Pientka , D. Ruths, M. Singh)

The web committee met twice in the fall to discuss improvements and prioritize changes. Professor Pientka has made a focused effort to improve the news and announcements on the main web page. Professors Singh and Ruths are currently updating recent graduate profiles in our alumni pages to use in our prospective student pages. Professor Ruths is evaluating Word press as a potential replacement software. Professor Kry, help from Andrew Bogecho and Ron Simpson, has made numerous changes across various pages. The colloquium page now shows pictures of speakers next to their abstract. In addition, the colloquium logo was suppressed to put the main content higher on the page. Some CSS adjustments provide better spacing in the front page portlets to allow for more news and announcements. The random portlet images on the font page were updated, and captions and a links now exist for all images. The search feature was deactivated as it did not return relevant results. Some irrelevant pages were suppressed (for instance, the page with Montreal tourism information), allowing our efforts to be spent on keeping core information up to date. The contacts page was updated to reduce clutter from the background image. The directions page was updated with an interactive Google map and concise advice (for instance, bus schedules were removed as this information is more easily provided through links). Numerous errors in the People pages have been corrected, such as phone numbers and office numbers, with further changes still pending.

External contributions. [Positions in professional organizations, conference or workshop organization, NSERC and FQRNT grant selection committee work.]

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ADMINISTRATION AND OTHER CONTRIBUTIONS

- *Representation on McGill Committees External to SOCS*

Associate Dean (Academic), Faculty of Science	L. Hendren
Faculty of Science Rep., University Admissions Committee	L. Hendren
Vice chair, Faculty of Science, Academic Committee	L. Hendren
Member, Faculty of Science, Chairs Council	L. Hendren
Member, Interfaculty B.A./ Sc. Program Admin. Committee (serves as Chair of this committee on alternate years)	L. Hendren
Member, Software Licensing Committee, McGill	L. Hendren
Member and Science Coordinator, Senate, McGill	L. Hendren
Member and Co-Chair, Advisory committee for the Faculties of Education and Science	L. Hendren
Member, Academic Committee of the Faculty of Science	B. Kemme
Member, Grievance Committee	B. Kemme
University Harassment Assessor	P. Panangaden (until 2010)
Member, MAUT - Senate Com. on Academic Salary Policy	P. Hayden
Member, University Tenure Committee	P. Panangaden (8-09)
Member, VP-Res. Com. for Director of Qc Innovation Centre	M. Hallett
Rep., Academic Committee (Sci.)	P. Panangaden (08-09)
Rep., Cognitive Science Program Committee	J. Pineau
Rep., Pension Administration Committee	G. Ratzer (until 2010)
Rep., PSEAL Advisory Board	P. Hayden
Member, Faculty of Science Scholarship committee	N. Friedman
Rep., Senate Com. on Information Systems and Technology	C. Verbrugge (Until August 31, 2009)
Rep., Trottier Building Committee	G. Dudek, D. Plant, J. Rousham
Member, Senate Committee on Student Grievances	N. Friedman
Member, University Committee on Academic Misconduct	G. Dudek
Member, McGill University Senate (Faculty of Science Senator)	G. Dudek
Rep., on the Schulich Library Committee	P. Hayden
Judge, Faculty of Science Undergraduate Research Competition	M. Robillard
Member, Ad-hoc Senate Committee for a promotion to full professor of a colleague in Philosophy	K. Siddiqi
Representative, Faculty of Science on the Enterprise Architecture committee	C. Verbrugge

ADMINISTRATION AND OTHER CONTRIBUTIONS

• **Other Administrative Contributions**

AVIS, D.

- External examiner, final exams in Dept. of Mathematics, University of West Indies, Mona, Jamaica
- Member, GERAD and coapplicant for the GERAD FQRNT and NSERC infrastructure grants
- Member, the Centre de Recherches Mathematiques (CRM)

BLANCHETTE, M.

- Member, NIH CGAT panel , Feb 2009 (10 grants)
- Member, Barbados workshop organization, April 19-25, 2009
- Member, Montreal Bioinformatics User-group organizing committee (MonBUG) conference series

DEVROYE, L.

- Co-organizer with Louigi Addario-Berry (University of Montreal) of the Fourth Annual Workshop on Probabilistic Combinatorics and WVD, held from March 28-April 5, 2009, at the Bellairs Institute in Barbados
- Co-organizer with Louigi Addario-Berry (McGill University) of the Fifth Annual Workshop on Probabilistic Combinatorics and WVD, held from March 20-27, 2010, at the Bellairs Institute in Barbados
- Co-organizer with Louigi Addario-Berry (University of Montreal) and Bruce Reed (McGill) of Combinatorics, Randomization, Algorithms and Probability held at the CRM in Montreal, May 4-8, 2009
- Co-organizer with Gabor Lugosi (Pompeu Fabra, Barcelona) and David Mason (University of Delaware) of Advances in Stochastic Inequalities and their Applications, held from June 7-12, 2009, at the Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Banff, Canada

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DUDEK, G.

- President, Canadian Pattern Recognition Society
- Member, Evaluation panel of the European Union FP7 ICT Cognitive Systems and Robotics
- Member, NSERC Computer Science Liaison Committee

HALLETT, M.

- Member, Canadian Institute of Health Research (CIHR) Genomics (2005-2006, 2008-2009)
- Member, Canadian Institute of Health Research (CIHR) Genomics Funding Panel
- Member, Ontario Genomics Research Council

HAYDEN, P.

- Co-organizer, Fields Institute Summer 2009 workshop: Quantum Marginals
- Co-organizer, Fields Institute Summer 2009 workshop: Operator Structures in Quantum Information
- Co-organizer, Fall 2009 INTRIQ workshop on Implementations of Quantum Information
- Member, Advisory board for INTRIQ FQRNT Regroupement Strategique
- Member, Nomination Committee for the American Physical Society topical group on Quantum Information
- Chair, Organizing Committee for the Fall 2011 Centre de Recherches Mathematiques thematic semester on quantum information
- Member, Steering Committee of the Canadian Quantum Information Summer School

HENDREN, L.

- Member, ACM TOPLAS Editor-in-chief search committee
- Co-organizer, Workshop Random Matrices in Quantum Information, held at the Perimeter Institute in July 2010

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- Lead Organizer, Fall 2011 thematic semester on quantum information at the Centre de Recherches Mathématiques.

KEMME, B.

- Local Arrangement Co-Chair, IEEE Int. Conference on Distributed Computing Systems (ICDCS), 2009
- Chair, Planner, and Organizer of the Doctoral Symposium of Middleware 2010
- Chair, Program committee
- Chair, Doctoral Symposium of Middleware 2010

KIENZLE, J.

- Co-organizer, 14th International Workshop on Aspect-Oriented Modeling together with Prof. Jeff Gray from University of Alabama.

KRY, P.

- Organizer, 2010 Bellairs Workshop on Computer Animation: Reduced Physics, Simulation, and Control
- External Examiner, MSc defence at Ecole de technologie supérieure (ETS) de l'université du Québec, Adaptation et réutilisation de squelettes d'animation, Martin Poirier. October 5, 2009
- Organizer, 2011 Bellairs Workshop on Computer Animation: GRAND Challenges, Animation, and Geometry
- External examiner, PhD, Peter Rizun, University of Calgary, June 16. 2010

LIU, X.

- Member, NSERC Discovery Grant Review
- Member, FQRNT new researcher grant selection committee
- Member, US NSF proposal Panel
- Member, Hong Kong GRC proposal review

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- Chair, Action Group on Hybrid Dynamic Systems, IEEE Technical Committee on Computational Aspects of Control Systems Design, 2010 Newly Elected
- Member, Technical Program Committee (TPC) for more than 9 International conferences
- Chair, Wireless Sensor Network Track, the 16th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2010), Stockholm, Sweden, 2010
- Program Co-Chair, the 7th IEEE International Conference on Embedded Software and Systems (ICCESS-2010), Bradford, UK (*Outstanding Service Award*)
- Program Vice Chair, IEEE Sensors, Ubiquitous, and Trusted Computing conference (SUTC 2010), Cyber-Physical Systems Track, Newport Beach, California, USA, 2010
- Session Chair, the 16th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2010), Stockholm, Sweden, 2010
- Session Chair, the 29th IEEE Conference on Computer Communications (INFOCOM 2010), San Diego, CA, 2010

MAHESWARAN, M.

- NSF Panelist, Network Sciences and Engineering Competition, April 2010

PIENTKA, B.

- Conference Chair, the 22nd International Conference on Automated Deduction (CADE) held at McGill University, August 2009
- Member, board of trustees for CADE

PINEAU, J.

- Member, local organization committee and Chair of the volunteer program
- Volunteers Chair, International Conference on Machine Learning (ICML). June 14-18, 2009
- Local Organizer, Multidisciplinary Symposium on Reinforcement Learning (MSLR). June 18-19, 2009
- Local Arrangements Chair, Uncertainty in Artificial Intelligence (UAI). June 18-21, 2009
- Volunteers Chair, Conference on Learning Theory (COLT). June 18-21, 2009

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- Program co-chair, NIPS workshop on Learning and Planning from Batch Time Series Data, Whistler BC, December 10, 2010
- Program co-chair, ICAPS POMDP Practitioners Workshop: solving real-world POMDP problems, Toronto ON, May 12, 2010
- Mentor, Workshop for Women in Machine Learning. December 2010

PRECUP, D.

- Member, NSERC GSC 1507 (Computer Science), starting July 2010 (3 year mandate)
- Grant Panelist, National Science Foundation, USA, Information and Intelligent Systems (IIS)
- External examiner, PhD thesis of Ali Nouri, Rutgers University (defense Nov. 9)
- External examiner, PhD thesis of Shunkai Fu, Ecole Polytechnique de Montreal (defense Aug. 26)

REED, B.

- Co-organizer, Workshop on Probabilistic and Extremal Combinatorics, held at BIRS in Banff, Alberta from August 23-29, 2009
- Co-organizer, Workshop New Trends on structural graph theory held at the Banff International Research Institute from September 5-10, 2010

ROBILLARD, M.

- Co-organizer, 2nd International Workshop on Recommendation Systems for Software Engineering in Cape Town, South Africa, May 2010.
- Co-chair, New Ideas and Emergent Results Track at the 32nd ACM/IEEE International Conference on Software Engineering in Cape Town, South Africa, May 2010.

RUTHS, D.

- Community Computer Science outreach:

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- Presenter, the Gairdner event
- Speaker, visiting high school students about “Why curing cancer requires Computer Science” October 22, 2010
- Speaker, Marianopolis CGEP CS club about the role of computer science in biomedical research
 - October 29, 2010

SINGH, M.

- Member, Program Committee of ACM-SIAM Symposium on Discrete Algorithms (SODA10)
- Member, SIAM Conference on Discrete Mathematics 2010
- Co-organizer, Bellairs Workshop on Approximation Algorithms, 2010
- Organizer, session in Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM), 2011

TROPPER, C.

- Referee, Nserc discovery grant

TOUSSAINT, G.

- Co-Organizer, with Professor Erik Demaine (Massachusetts Institute of Technology), The 25th Bellairs Winter Workshop on Computational Geometry. Theme: Discrete and Computational Geometry, Bellairs Research Institute of McGill University, Holetown, Barbados, February 5-12, 2010.
- Co-Organizer, with Professor Dmitri Tymoczko (Princeton University), The Second Bellairs Workshop on Mathematics and Music, Bellairs Research Institute of McGill University, Holetown, Barbados, February 5-12, 2010.

VERBRUGGE, C.

- Chair and organizer, 9th Workshop on Compiler-Driven Performance at the IBM CASCON 2010 Conference, November 2010

VETTA, A.

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- Member, Organizing Committee for the 2nd Canadian Discrete and Algorithmic Mathematics Conference - CanaDAM 2009
- Member, Program Committee for the 11th ACM Conference on Electronic Commerce - EC 2010
- Co-organizer, Bellairs Workshop on Approximation Algorithms, March 2010

WALDISPÜHL, J.

- Member, Grant selection Committee, Master and PhD fellowship, FQRNT
- Member, Organizing Committee of the Montreal Bioinformatics User Group (MonBUG)
- Research affiliate, Computer Science and Artificial Intelligence Laboratory at the Massachusetts Institute of Technology
- Member, Pharmaqam (Centre de recherche sur la conception, les mécanismes d'action et la vectorisation des médicaments)
- Member, RNA society
- Member, ISCB (International Society for Computational Biology)
- Member, PhD Thesis Committee, Anoop Kumar, Department of Computer Science, Tufts University, Medford, USA. "Augmented Training Methods for Hidden Markov Models for the Detection of Remote Protein Homologs". PhD advisor: Lenore Cowen. May 6, 2010.
- Member, PhD Thesis Committee, Cédric Saule, Department of Computer Science, University of Paris-Sud Orsay, France. "Combinatorial model for RNA structure with or without pseudo-knots, Application to structure comparison." PhD advisor: Alain Denise. December 17, 2010.