Curriculum Vitae

Jacqueline E. Rice

Faculty of Arts & Science
University of Lethbridge
4401 University Drive
Lethbridge AB, T1K 3M4

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web: http://www.cs.uleth.ca/~rice

Citizenship:

Canadian & British

Current Position(s):

Associate Dean, Faculty of Arts & Science
Professor, University of Lethbridge
Adjunct Professor, University of New Brunswick

Education

Ph.D. Computer Science, University of Victoria, 2003
M.Sc. Computer Science, University of Victoria, 1995
B.Sc. Computer Science, University of Victoria, 1993

Fields of Research

- sociolinguistic differences in the use of programming languages
- reversible logic, representations of functions, multiple-valued logic, logic synthesis, CAD
- women in computer science and engineering
- computer science education

Employment History

Associate Dean	Faculty of Arts & Science
2014 – present	University of Lethbridge
Professor	Dept. of Math & Computer Science
2002 – present	University of Lethbridge
2007	awarded tenure
2009–2012	Computer Science Coordinator
Adjunct Professor	Faculty of Computer Science
2008 – present	University of New Brunswick
Visiting Researcher	School of Computing & Communications
2012	Lancaster University, UK
Visiting Scholar	Dept. of Computer Science
2010 – 2011	University of Victoria
Adjunct Assistant Professor	Dept. of Computer Science
2004 – 2010	University of Victoria
Visiting Assistant Professor (Limited Term)	Dept. of Computer Science
2001 – 2002	University of Victoria
Sessional Instructor	Dept. of Computer Science
1998 – 2001	University of Victoria

Computer Consultant Apr. 2000 – Dec. 2000	Certificate Exchange
Computer Consultant Sept. 1998 – May 1999	Self-employed (contract with SHL Systemhouse)
Senior Programmer/Analyst Jan. 1996 – Sept. 1998	SHL Systemhouse Ltd (now EDS Systemhouse)
Sessional Instructor Jan. 1995 – Dec. 1995	School of Trades and Technology Camosun College

Publications

Note: student co-authors are indicated in **bold**.

Refereed Papers – Journals

1. M. H. A. Khan and J. E. Rice, "First Steps in Creating Online Testable Reversible Sequential Circuits," *VLSI Design* vol. 2018, Article ID 6153274, 13 pages, 2018. doi:10.1155/2018/6153274. *9% acceptance rate (self-reported); open access.*

2. **M. Z. Rahman** and J. E. Rice, "Template Matching with Ranking for Toffoli Circuits," *International Journal of Computer and Information Technology (IJCIT)* ISSN: 2279-0764, vol. 5, no. 1, pp. 18–24, Jan. 2016. *Global Impact Factor (self-reported)for 2014 of 0.876; open access.*

3. J. E. Rice, "Reversible Logic: a stepping stone to quantum computing?," *Encyclopedia of Information Science and Technology*, Third Edition. IGI Global, 2015, pp. 7271–7279. *invited article.*

4. **N. M. Nayeem** and J. E. Rice, "Online Testable Approaches in Reversible Logic," *Journal of Electronic Testing, Theory and Application (JETTA)*, vol. 29, issue 6, pp. 763–768, Dec. 2013. available online `http://dx.doi.org/10.1007/s10836-013-5399-3`. *Reuters impact factor for 2014 of 0.519.*

5. J. E. Rice and **R. Rahman**, "A Modular Approach to Designing an Online Testable Ternary Reversible Circuit," *International Journal of Information and Computer Science (IJICS)*, vol. 2, no. 5, pp. 66–76, July 2013 (633 downloads as of Aug. 2016). *impact factor not available. open access.*

6. **N. M. Nayeem** and J. E. Rice, "A Shared-cube Approach to ESOP-based Synthesis of Reversible Logic," *Facta Universitatis Series: Electronics and Energetics*, vol. 24, no. 3, pp. 385–402, Dec. 2011 ISSN 0353-3670. *invited paper. impact factor not available. open access.*

7. J. E. Rice, J. C. Muzio and **N. Anderson**, "New Considerations for Spectral Classification of Boolean Switching Functions," *VLSI Design*, vol. 2011, Article ID 356137, 9 pages, 2011 doi:10.1155/2011/356137. *acceptance rate of 6%; newly accepted for coverage in the Reuters Emerging Sources Citation Index. impact factor not available. open access*

8. J. E. Rice and K. B. Kent, "Systolic Array Technique for Determining Common Approximate Substrings," *Journal of Computer Science and Engineering*, vol. 1, no. 1, pp. 1–9, May 2010. *published by the Korean Institute of Information Scientists and Engineers. impact factor not available. open access*

9. J.E. Rice, J.C. Muzio, **N.A. Anderson** and **R. Jansen**, "Properties of Autocorrelation Coefficients for Single-Output Switching Functions,", *International Journal of Computer Theory and Engineering (IJCTE)*, vol. 1, no. 5, pp. 546–555, Dec. 2009. *impact factor not available. open access*

10. J. E. Rice and K. B. Kent, "Case Studies in Determining the Optimal FPGA Design for Computing Highly Parallelizable Problems," *IET Computers & Digital Techniques* vol. 3, no. 3, pp. 247–258, May 2009. *2008 impact factor of 0.316.*

11. J. E. Rice, "An Introduction to Reversible Latches", *The Computer Journal*, vol. 51, no. 6, pp. 700–709, Nov. 2008, doi: 10.1093/comjnl/bxm116. *2008 impact factor of 1.00.*

Refereed Papers – Conference/Workshop Proceedings

12. **Md. A. Nashiry**, M. H. A. Khan, and J. E. Rice, "Controlled and Uncontrolled SWAP Gates in Reversible Logic Synthesis", to appear in Proceedings of the International Conference on Reversible Computation, Kolkata, India, July 6–7 2017.

13. **Musharrat Khan** and Jacqueline E. Rice, "Ternary Max-Min Algebra for Representation of Reversible Logic Functions," *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)* Montreal, Canada, 2016, pp pp. 1670–1673. *Aug. 2016 h5-index as reported by Google Scholar: 27*

14. **Musharrat Khan** and Jacqueline E. Rice, "Synthesis of Reversible Logic Functions using Ternary Max-Min Algebra," *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)* Montreal, Canada, 2016, pp. 1674–1677. *Aug. 2016 h5-index as reported by Google Scholar: 27*

15. Mozammel H A Khan and Jacqueline E. Rice, "Improved Synthesis of Reversible Sequential Circuits," *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)* (special session on reversible logic) Montreal, Canada, 2016, pp. 2302–2305. *Aug. 2016 h5-index as reported by Google Scholar: 27*

16. **M. A. Nashiry**, **G. G. Bhaskar** and J. E. Rice, "Online Testing for Three Fault Models in Reversible Circuits," in *Proceedings of the 2015 IEEE International Symposium on Multiple-Valued Logic (ISMVL)*, 18–20 May, Waterloo, Canada, 2015, pp. 8–13, doi: 10.1109/ISMVL.2015.36. *Aug. 2016 h5-index as reported by Google Scholar: 12*

17. **F. Naz** and J. E. Rice, "Sociolinguistics and Programming," in *Proccedings of the 2015 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, 24–26 Aug., Victoria, Canada, 2015, pp. 74–79, doi: 10.1109/PACRIM.2015.7334812. *Aug. 2016 h5-index as reported by Google Scholar: 12*

18. **J. Law** and J. E. Rice, "Line Reduction in Reversible Circuits using KFDDs," in *Proceedings of the 2015 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, 24–26 Aug., Victoria, Canada, 2015, pp. 113–118, doi: 10.1109/PACRIM.2015.7334819. *Aug. 2016 h5-index as reported by Google Scholar: 12*

19. J. E. Rice, **B. Ellert**, I. Genee, F. Taiani and P. Rayson, "Concept Vocabularies in Programmer Sociolects," in *Proceedings of the 25th Annual Workshop of the Psychology of Programming Working Group (PPIG)*, Jun., Brighton, UK, 2014, paper no. 14. Available at `http://www.ppig.org/library/paper/concept-vocabularies-programmer-sociolects` *h5-index not available*

20. J. E. Rice, I. Genee and **F. Naz**, "Linking Linguistics and Programming: How to start," in *Proceedings of the 25th Annual Workshop of the Psychology of Programming Working Group (PPIG)* Jun., Brighton, UK, 2014, paper no. 13. Available at `http://www.ppig.org/library/paper/linking-linguistics-and-programming-how-start`. *h5-index not available*

21. **Md. Z. Rahman**, J. E. Rice, "Templates for Positive and Negative Control Toffoli Networks," in *Proceedings of the 6th Conference on Reversible Computation (RC 2014)*, Jul. 2014, Kyoto, Japan. Published in Springer Lecture Notes in Computer Science, vol. 8507, pp. 125–136, Yamashita, Shigeru, Minato, Shin-ichi (Eds.). *h5-index not available*

22. J. E. Rice, "An Overview of Fault Models and Testing Approaches for Reversible Logic," in *Proceedings of the 2013 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, Aug. 2013, Victoria, Canada, pp. 125–130. *Aug. 2016 h5-index as reported by Google Scholar: 12*

23. F. Taiani, J. E. Rice and P. Rayson, "What is Middleware Made Of? Exploring abstractions, concepts, and class names in modern middleware," in *Proceedings of the 11th Workshop on Adaptive and Reflective Middleware (ARM 2012)*, 3–4 Dec., 2012, Montreal, Canada, pp. 6:1–6:6, doi: 10.1145/2405679.2405685. *h5-index not available*

24. J. E. Rice and **N. M. Nayeem**, "Design of an Online Testable Ternary Circuit from the Truth Table," in *Proceedings of Reversible Computation*, 2–3 July., 2012, Copenhagen, Denmark. Published in Springer Lecture Notes in Computer Science, vol. 7581, Robert Glück, Tetsuo Yokoyama (eds.), 2013 pp. 152–159. *h5-index not availble*

25. **Y. Zhu**, J. E. Rice, B. Dobing, G. Shan, and M. Dong "Feasibility Evaluation of a Secured Architecture for 2-party Mobile Payments (SA2pMP)," in *Proceedings of the IEEE/ACIS International Conference on Computer and Information Science (ICIS)*, 30 May–June 1, 2012, Shanghai, China, pp. 277–282. *Aug. 2016 h5-index as reported by Google Scholar: 12*

26. **N. M. Nayeem** and J. E. Rice, "A New Approach to Online Testing of TGFSOP-based Ternary Toffoli Circuits," in *Proceedings of the International Symposium on Multiple-Valued Logic (ISMVL)*, May, 2012, Victoria, Canada, pp. 315–321. *Aug. 2016 h5-index as reported by Google Scholar: 12*

27. **N. M. Nayeem** and J. E. Rice, "Online Fault Detection in Reversible Logic", in *Proceedings of the 26th IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems*, Oct., 2011, Vancouver, Canada, pp. 426–434. *Aug. 2016 h5-index as reported by Google Scholar: 12*

28. **N. M. Nayeem** and J. E. Rice, "A Simple Approach for Designing Online Testable Reversible Circuits", in *Proceedings of the 2011 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, Aug., 2011, Victoria, Canada, pp. 85–90 (**BEST PAPER AWARD**). *Aug. 2016 h5-index as reported by Google Scholar: 12*

29. **N. M. Nayeem** and J. E. Rice, "Ordering Techniques for ESOP-Based Toffoli Cascade Generation," in *Proceedings of the 2011 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, Aug., 2011, Victoria, Canada, pp. 274–279. *Aug. 2016 h5-index as reported by Google Scholar: 12*

30. **Md. R. Rahman** and J. E. Rice, "On Designing a Ternary Reversible Circuit for Online Testability", in *Proceedings of the 2011 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, Aug., 2011, Victoria, Canada, pp. 119–124. *Aug. 2016 h5-index as reported by Google Scholar: 12*

31. **N. M. Nayeem** and J. E. Rice, "Improving ESOP-based Synthesis of Reversible Logic," in *Proceedings of the 2011 Reed-Muller Workshop*, 25–26 May, 2011, Tuusula, Finland, pp. 57–62. *h5-index not available*

32. **Md. R. Rahman** and J. E. Rice, "Online Testable Ternary Reversible Circuit", in *Proceedings of the 2011 Reed-Muller Workshop*, 25–26 May, 2011, Tuusula, Finland, pp. 71–79. *h5-index not available*

33. J. E. Rice and **V. Suen**, "Using Autocorrelation Coefficient-based Cost Functions in ESOP-based Toffoli Gate Cascade Generation," in *Proceedings of the 23rd IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)*, 2–5 May, 2010, Calgary, Canada, pp. 1–6. *Aug. 2016 h5-index as reported by Google Scholar: 15*

34. **Y. Zhu** and J. E. Rice, "A Lightweight Architecture for Secure Two-Party Mobile Payment," in *Proceedings of the International Conference on Computational Science and Engineering (CSE)*, 29–31 Aug., 2009, Vancouver, Canada, vol. 2 pp. 326–333. *Aug. 2016 h5-index as reported by Google Scholar: 12*

35. J. E. Rice and **Y. Zhu**, "A Proposed Architecture for Secure Two-Party Mobile Payment," in *Proceedings of the 2009 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, 23–26 Aug., 2009, Victoria, Canada, pp. 88–93. *Aug. 2016 h5-index as reported by Google Scholar: 12*

36. J. E. Rice, "The Autocorrelation Transform and its Application to the Classification of Boolean Functions", in *Proceedings of the 2009 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, 23–26 Aug., 2009, Victoria, Canada, pp. 94–99. *Aug. 2016 h5-index as reported by Google Scholar: 12*

37. J. E. Rice, **K. Fazel**, M. Thornton and K. B. Kent, "Toffoli Gate Cascade Generation Using ESOP Minimization and QMDD-Based Swapping," in *Proceedings of the Reed-Muller Workshop*, 23–24 May, 2009, Okinawa, Japan, pp. 63–72. *h5-index not available*

38. J. E. Rice, *J. Schultz* and W. Osborn, "Investigating the Implementation of a 2DR-tree on a FPGA," in *Proceedings of the 5th Annual IEEE International Northeast Workshop on Circuits and Systems (NEWCAS)*, 5–8 Aug., 2007, Montreal, Canada, pp. 646–649. *h5-index not available*

39. J. E. Rice, M. Thornton and **K. Fazel**, "ESOP-based Toffoli Gate Cascade Generation," in *Proceedings of the 2007 IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, 22–24 Aug., 2007, Victoria, Canada, pp. 206–209. *Aug. 2016 h5-index as reported by Google Scholar: 12*

40. J. E. Rice, W. Osborn and **J. Schultz**, "Implementation of a Spatial Data Structure on a FPGA," in *Proceedings of the Second International Joint Conferences on Computer, Information, and Systems Sciences and Engineering (CISSE)*, 4–14 Dec., 2006, CDROM paper no. 549 (e-conference). *h5-index not available*

41. J. E. Rice, "An Analysis of Several Proposals for Reversible Latches," in *Proceedings of the Second International Joint Conferences on Computer, Information, and Systems Sciences and Engineering (CISSE)*, 4–14 Dec., 2006, CDROM paper no. 548 (e-conference). *h5-index not available*

42. J. E. Rice, "A New Look at Reversible Memory Elements," in *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)*, 21–24 May, 2006, Kos Island, Greece, CDRom paper 1628.pdf. *Aug. 2016 h5-index as reported by Google Scholar: 27*

43. J. E. Rice and K. B. Kent, "A Systolic Array Technique for Determining Common Approximate Substrings," in *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS)*, 21–24 May, 2006, Kos Island, Greece, CDRom paper 1480.pdf. *Aug. 2016 h5-index as reported by Google Scholar: 27*

44. J. E. Rice, "First Thoughts on Determining a Method for Fast Autocorrelation Classification," in *Proceedings of the IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)* 24–26 Aug., 2005, Victoria, Canada, pp. 661–664. *Aug. 2016 h5-index as reported by Google Scholar: 12*

45. J. E. Rice, "Making a Choice Between FDDs and BDDs," in *Proceedings of the International Workshop on Logic Synthesis (IWLS)*, 8–10 Jun., 2005, Lake Arrowhead, California, pp. 46–50. *h5-index not available*

46. J. E. Rice and **R. Jansen**, "Symmetrical, Dual and Linear Functions and Their Autocorrelation Coefficients," in *Proceedings of the International Workshop on Logic Synthesis (IWLS)*, 8–10 Jun., 2005, Lake Arrowhead, California, pp. 30–35. *h5-index not available*

47. J. E. Rice, K. B. Kent, **S. Van Schaick**, and P. A. Evans, "Hardware-Based Implementation of the Common Approximate Substring Algorithm," in *Proceedings of the Euromicro Conference on Digital System Design (DSD)*, 30 Aug.–3 Sept., 2005, Porto, Portugal, pp. 314–320. *Aug. 2016 h5-index as reported by Google Scholar: 16*

48. J. E. Rice and K. B. Kent, **T. Ronda** and **Z. Yong**, "Instance-specific versus Parameter-specific Circuit Generation," in *Proceedings of the Engineering of Reconfigurable Systems and Applications (ERSA) Conference*, part of the International Multiconference on Computer Science and Computer Engineering, 27–30 Jun., 2005, Las Vegas, USA, pp. 243–246. *h5-index not available*

49. J. E. Rice and J. C. Muzio, "Antisymmetries in the Representation of Boolean and Multi-Valued Functions," in *Proceedings of the International Symposium on Multiple-Valued Logic (ISMVL)*, May, 2005, Calgary, Canada, pp. 270–275. *Aug. 2016 h5-index as reported by Google Scholar: 12*

50. J. E. Rice, K. Kent, **T. Ronda** and **Z. Yong**, "Configurable Hardware Solutions for Computing Autocorrelation Coefficients: a Case Study", in *Proceedings of the 13th International ACM/SIGDA Symposium on Field Programmable Gate Arrays (FPGA)*, 20-22 Feb., 2005, Monterey, USA, pp. 274–274 (abstract only). *Aug. 2016 h5-index as reported by Google Scholar: 23*

51. J. E. Rice and J. C. Muzio, "Properties of Autocorrelation Coefficients," in *Proceedings of the IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, Aug., 2003, Victoria, Canada, pages 577–580. *Aug. 2016 h5-index as reported by Google Scholar: 12*

52. J. E. Rice and K. B. Kent, "Using Instance-Specific Circuits to Compute Autocorrelation Coefficients," in *Proceedings of the First Annual Northeast Workshop on Circuits and Systems (NEWCAS)*, 17–20 Jun., 2003, Montreal, Canada, pp. 61–64. *h5-index not available*

53. J. E. Rice and J. C. Muzio, "On the Use of Autocorrelation Coefficients in the Identification of Three-Level Decompositions" in *Proceedings of the International Workshop on Logic Synthesis (IWLS)*, Jun. 2003, Laguna Beach, California, pp. 187–191. *h5-index not available*

54. J. E. Rice and J. C. Muzio, "Use of the Autocorrelation Function in the Classification of Switching Functions," in *Proceedings of Euromicro Symposium on Digital System Design: Architectures, Methods and Tools (DSD 2002)*, Sept. 2002, Dortmund, Germany, pp. 244–251. *Aug. 2016 h5-index as reported by Google Scholar: 16*

55. J. E. Rice and J. C. Muzio, "Antisymmetries in the Realization of Boolean Functions," in *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS 2002)*, 26–29 May 2002, Scottsdale, USA, pp. IV-69–IV-72 vol. 4, CD ROM paper number 2666. *Aug. 2016 h5-index as reported by Google Scholar: 27*

56. J. E. Rice and J. C. Muzio, "Methods for Calculating Autocorrelation Coefficients", in *Proceedings of the 4th International Workshop on Boolean Problems (IWSBP 2000)*, Sept. 2000, Freiberg, Germany, pp. 69–76. *h5-index not available*

57. J. E. Rice, M. Serra and J. C. Muzio, "The Use of Autocorrelation Coefficients for Variable Ordering for ROBDDs," in *Proceedings of the 4th International Workshop on Applications of the Reed-Muller Expansion in Circuit Design (RM99)*, 1999, Victoria, Canada, pp 185–196. *h5-index not available*

Non-refereed

58. J. E. Rice, "Computer Science and Liberal Education," in *Light on Teaching*, University of Lethbridge Teaching Center, 2015–16 issue, pp. 14–16. Available at `https://issuu.com/reamsbottom/docs/lightonteaching_2015-16-sept9-web`.

59. J. E. Rice, "Being a woman in computer science in Alberta," in *WGST 1000 Workbook: Gender Vista*, edited by Glenda Tibe Bonifacio, 2012.

60. J. E. Rice, "Balancing Motherhood and a Career in the Sciences, " invited paper, in *Proceedings of the 2006 University of Lethbridge Graduate Students' Association Conference*, pp. 170–191.

61. J. E. Rice and **B. Gergel**, "Reversible Logic Synthesis Example using a Transformation Based Algorithm," in *Proceedings of the 14th International Workshop on Post-binary ULSI Systems*, May, 2005, pp. 53–59.

62. J. E. Rice and **K. Hansen**, "Gender and Programming: a Sociolinguistic Perspective," in *Proceedings of the First Annual Gender Research Symposium*, 4 Mar., 2006, University of Lethbridge.

Theses & Dissertations

Autocorrelation Coefficients in the Representation and Classification of Switching Functions, J. E. Rice (Ph. D. Dissertation), 2003.

Variable Ordering for ROBDD-Based FPGA Logic Synthesis, J. E. Crow[1] (M. Sc. Thesis), 1995.

Funding

2018–2023 $100,000 ($20,000/year), NSERC
title: Sociolinguistics Tools in the Analysis of Language Use in Software Development

2017 $7500 (est.), MITACS
project: documentation and additions to the REVLIB tools
Note: this funding is allocated to paying for a top-ranked international undergraduate student to participate in a summer research internship

2015, $6,000 USD, IEEE Circuits and Systems Society
outreach event aimed at interesting middle school children in CAS-related activities

2015, $15,000 (est.), MITACS
project 1: Linking Linguistics and Programming
project 2: Testing approaches for reversible logic
Note: I was awarded funding for two separate projects. For each project the funds are allocated to paying for a top-ranked international undergraduate student to participate in a summer research internship

2014, $7,500 (est.), MITACS
title: Logic Synthesis for Reversible and Traditional Logic Circuits
Note: funding was allocated to paying for a top-ranked international undergraduate student to participate in a summer research internship

2014-2015, $12,000, University of Lethbridge Research Fund
title: Code Quality, Comprehension and Aesthetics

2012-2017, $90,000 ($18,000/year), NSERC
title: Logic Synthesis for Reversible and Traditional Logic Circuits

2011, $7,500, MITACS
title: Reducing the Number of Lines in ESOP-based Logic Synthesis
Note: funding was allocated to paying for an undergraduate student from India to come and work with me for the summer

2010, $18,048 Culture & Community Spirit Grant
title: THREADS: Technology Helping Reinforce Education And Delivery of Science
Note: funding for LUMACS outreach, shared with the Destination Exploration program under Kristy Burke

[1] Dr. Rice's maiden name is Crow.

2009, $9000, Canadian Distributed Mentorship Project (CDMP)
title: Investigations into Representations for Reversible Logic Functions
Note: funding is allocated to paying for a female undergraduate studentfrom a Canadian university to work with a female mentor; $1000 of the funding goes to the mentor for publication costs

2009–2013, $147,492 CFI Leading Edge Fund
title: emSYSCAN: Enabling Canadian Microsystems Technology Development through Multiple-Technology Platform Infrastructure
Note: although the lead institution for this grant was Queen's University the dollar figure given is for the CFI contribution (40%) towards equipment and resources to be located at the University of Lethbridge

2006–2011, $85,800 ($14,300/year) NSERC Discovery Grant
title: Representation and Classification of Switching Functions in Digital Logic Design

2009, $8,100 iCORE ISPR Grant
title: Proposal for CS/Math Outreach and Recruitment program

2009, approx $1200, Alberta Summer Temporary Employment Program
title: Design and Implementation of 'Rate-My-Conference'

2006, approx. $1200, Alberta Summer Temporary Employment Program
title: The use of a System-Level Prototyping System in Support of Multi-dimensional Database Processing

2003–2005, $13,000/year NSERC Discovery Grant
title: Autocorrelation Functions in Logic Synthesis Applications for Boolean and Multiple-Valued Logic

2005, $7,794 NSERC RTI Grant (Category I)
title: Backup System for Research on Databases for Non-Standard Data & Representations of Switching Functions

2004–2010, $33,000 (approx.), Canadian Microelectronics Corporation
hardware and software donations made available through the System-On-Chip Research Network

2003, $4500, University of Lethbridge Research Fund

2002, $10,000, University of Lethbridge Start-up Funds

multiple awards between 2002 & present, $1500/year, University of Lethbridge Travel Grant & Arts and Science Travel Grant

Students

Graduate Students Supervised

Mr. Sowkat Alam, M.Sc. candidate, University of Lethbridge, beginning Sept. 2018 (application in progress)
thesis title: tbd

Ms. Nazia Tasnin, M.Sc. candidate, University of Lethbridge, beginning Sept. 2018 (application in progress)
thesis title: tbd

Ms. Shamria Latif, M.Sc. candidate, University of Lethbridge, January 2016 – present
thesis title: tbd

Mr. Mahmudul Rafee, M.Sc., University of Lethbridge, Sept. 2015 – Aug. 2017
thesis title: Computer Program Categorization with Machine Learning
recipient of Alberta Innovates Technology Futures (AITF) Graduate Student Scholarship, 2016-17, $26,500/year

Ms. Musharrat Khan, M.Sc., University of Lethbridge, May 2015 – April 2017
thesis title: Ternary Max-Min Algebra with Application to Reversible Logic Synthesis

Mr. Asif Nashiry, PhD, University of Lethbridge, January 2014 – Dec. 2017
thesis title: Testing and Fault Tolerance of Reversible Circuits
recipient of Pacific Institute of the Mathematical Sciences (PIMS) Alberta Graduate Excellence Fellowship, 2016-17, $10,000/year

Ms. Fariha Naz, M.Sc., University of Lethbridge, September 2013 – August 2015
thesis title: DO SOCIOLINGUISTIC VARIATIONS EXIST IN PROGRAMMING?

Ms. Jayati Law, M.Sc., University of Lethbridge, September 2013 – August 2015
thesis title: MINIMIZATION OF LINES IN REVERSIBLE CIRCUITS

Mr. Md. Zamilur Rahman, M.Sc., University of Lethbridge, January 2013 – December 2014
thesis title: TEMPLATES FOR POSITIVE AND NEGATIVE CONTROL TOFFOLI NETWORKS

Mr. Md. Raqibur Rahman, M.Sc., University of Lethbridge, January 2010 – December 2011
thesis title: ONLINE TESTING IN TERNARY REVERSIBLE LOGIC

Mr. Noor Nayeem, M.Sc., University of Lethbridge, May 2010 – April 2012
thesis title: SYNTHESIS AND TESTING OF REVERSIBLE TOFFOLI CIRCUITS

Mr. Yunpu Zhu, M.Sc., University of Lethbridge, January 2009 – April 2010
thesis title: A NEW ARCHITECTURE FOR SECURE TWO-PARTY MOBILE PAYMENT TRANSACTIONS

Mr. Jeremy Schultz, M.Sc. candidate, University of Lethbridge January 2008 – Dec. 2008

Ms. Alisa Preston, M.Sc. candidate, University of Victoria (with Drs. J. Muzio and C. Benoit) May 2007 – Dec. 2009[2]

Ms. Hongliang Sun, M.Sc., University of Lethbridge Sept. 2004 – Sept. 2007
thesis title: Implementation of a classification algorithm for institutional analysis[3]

Mr. Neil Anderson, M.Sc., University of Victoria (co-supervision with Dr. Jon Muzio) Jan. 2005 – Aug. 2007
thesis title: The Classification Of Boolean Functions Using The Rademacher-Walsh Transform

I have also been a member of more than 15 supervisory committees for students at the University of Lethbridge and at the University of New Brunswick.

Undergraduate Students Supervised

Each of these students worked on special projects supervised directly by me. This list of students does not include those I supervised in Independent Study courses (these are listed further on under Teaching).

Mr. Aldo Trejo, May 2017 – July 2017 (funded by MITACS)

Mr. Cody Barnson, Sept. 2016 – Dec. 2016 (funded by the Faculty of A&S). Mr. Barnson corrected problems with our timetabling submission system.

[2]Ms. Preston withdrew due to medical reasons.
[3]Ms. Sun completed her M.Sc. under the supervision of Dr. Wendy Osborn.

Mr. Santosh Kumar Polubothu, May 2015 – July 2015 (funded by MITACS)

Mr. Mohamed Khalid Alanquri, June 2015 – Aug. 2015 (funded by MITACS)

Mr. Tom Arjannikov, MSc., and Ms. Camara Lerner, May 2014 – Aug. 2014 (funded by the Faculty of A&S). Mr. Arjannikov and Ms. Lerner analysed and developed software to automate processes in the Dean's office.

Mr. Gaurav Gite, May 2014 – July 2014 (funded by MITACS). Mr. Gite has gone on to graduate school in Computer Engineering at Columbia (NY, USA).

Ms. Lindsay Ablonczy, May 2013 – August 2013 (funded by NSERC USRA). Ms. Ablonczy is an undergraduate student (Computer Science) at the University of Lethbridge.

Mr. Stephen Hatton, May 2012 – August 2012. Mr. Hatton has graduated with a B.Sc. in Computer Science from Lancaster University.

Mr. Fei Wang, Sept. 2012 – Dec. 2012. Mr. Wang has graduated with a B.Sc. in Computer Science from the University of Lethbridge and after several years of working in industry will be starting a MSc program in the Fall of 2016.

Mr. Anupam Srivastava, May 2011 – Aug. 2011. (funded by MITACS). Mr. Srivastava is now pursuing a MSc. in Computer Science at the University of British Columbia (UBC).

Ms. Claudia Chan, Jan. 2011 – March 2011. Ms. Chan was a post-degree B.Ed. student at the University of Lethbridge, and worked for me as the LUMACS Club Director.

Mr. Harshil Patel, Jan. 2011 – March 2011. Mr. Patel was an undergraduate student at the University of Lethbridge and worked for me as the LUMACS Assistant Club Director.

Mr. Jeremy Zaretski, May 2010 – Dec. 2010. Mr. Zaretski has completed his B.Sc. in Computer Science.

Mr. David Moore, June 2010 – August 2010. Mr. Moore was the LUMACS Summer Camp Director for summer 2010 He has completed his B.Ed. (Math) at the University of Lethbridge and currently holds a teaching position in Southern Alberta.

Ms. Kaylee Mackay, June 2010 – August 2010. Ms. Mackay was the LUMACS Summer Camp Assistant Director for summer 2010.

Ms. Silvana Campus, May 2009 – August 2009. Ms. Campus has completed her B.Ed. (Math major) at the University of Lethbridge.

Ms. Vivien Suen, May 2009 – August 2009 (funded by CDMP). Ms. Suen has since completed her B.Sc. in Computer Science at the University of Toronto.

Mr. Jeremy Andrijancic, May 2009 – August 2009. Mr. Andrijancic has completed his B.Mgmt. (Computer Science major) at the University of Lethbridge.

Mr. Marc Moreau, January 2009 – April 2009. Mr. Moreau has completed his B.Sc. in Computer Science at the University of Lethbridge and holds a position in Calgary.

Mr. Jeremy Schultz, May 2006 – August 2006. Mr. Schultz has completed his B.Sc. in Computer Science and is currrently working in Fort St. John.

Ms. Kim Hansen, Sept. 2004 – April 2005. Ms. Hansen has completed her B.Sc.in Computer Science at the University of Lethbridge and is currently working as a software developer; she has recently begun her own start-up company in Vancouver.

Ms. Renee Jansen, May – August 2004 (funded by NSERC USRA). Ms. Jansen has completed her B.Sc. and M.Sc. at the University of Alberta.

Mr. Neil Anderson, May – August 2004 Mr. Anderson has completed his M.Sc. at the University of Victoria and is working in industry.

Ms. Spark (Ye) Wang, May – August 2003. Ms. Wang continued on to pursue a graduate degree in Computer Science at the University of Toronto.

Mr. Troy Ronda, May – August 2003 (funded by ULeth Chinook Award). Mr. Ronda continued on to pursue a graduate degree in Computer Science at the University of Toronto.

Courses Taught

University of Lethbridge Courses

Regular Courses

CPSC1000 ***Introduction to Computer Science***
This is a course intended to introduce the basic concepts of Computer Science to non-CS majors. It is a challenge in that many will have no prior experience in or confidence with computers, while others consider themselves computer experts. I cover a variety of concepts including algorithms, ethics, networking, and HCI. In 2011 I created a custom edition of the textbook with lab experiences designed to complement the material, and I have since created several additional lab experiences. *6 offerings between 2003 and 2015 for a total of over 700 students*

CPSC1620 ***Fundamentals of Programming I***
This is the first course in programming that all Computer Science majors must take. We introduce C++ and attempt to cover basic concepts of programming up to pointers in this course. In my 2010 offering I introduced some of the concepts using a learning tool called Scratch, an approach never before used here at ULeth. *3 offerings between 2002 and 2010 for a total of 217 students*

CPSC2610 ***Introduction to Digital Systems***
This is the first course in hardware, gates, Boolean logic and related topics. In Fall 2008 we added a laboratory component to this course, which uses breadboards and chips to reinforce the material. I was solely responsible for developing the curriculum for these labs. *9 offerings between 2005 and 2017; approx. 180 students.*

CPSC3660 ***Introduction to Database Systems***
This course consists of the basic introduction to databases, including relational database design, types of DBMS, and various tools for working with databases. Typically a project is incorporated into this course. *3 offerings between 2003 and 2006; total 127 students.*

CPSC3720 ***Introduction to Software Engineering***
This course covers aspects of Software Engineering that students should be applying as they move on to larger projects in their careers. For my first offering I redesigned the material to better suit the needs of the students, and introduced a number of papers from the literature as well as a major project component to the course. I undertook a major redesign to incorporate new curriculum in Spring 2010, and in Spring 2011 I continued to improve and revise the course with the addition of PSP components and assignments as well as an off-campus client for the project portion of the course. In 2014 I again revamped the course to focus on the SCRUM framework for agile software development with a major practical (project-based) portion of the course. *5 offerings from 2007 to 2015; total 92 students.*

CPSC4210/5210/7210 ***Introduction to Reversible Logic***
The objective of this course was to provide students with background in the up-and-coming area of reversible computing. Topics included a review of traditional logic synthesis, both combinational and sequential; motivation for reversible logic; technologies; gates and models; synthesis approaches, and current research on reversible logic synthesis. All graduate students in this course were required to produce a small amount of original research in the area. *Spring 2013: 19 (7 graduate students, 12 undergraduates)*

CPSC4850/5850 ***Advanced Logic Synthesis Topics***
This course covered topics such as minimization of Boolean circuits using K-maps, and worked onward through the area of logic synthesis from there. Topics such as multiple-valued logic and decision diagrams were heavily emphasized. This was a brand-new course for which I designed a coursepack consisting of chapter selections and readings which I felt were key. *Fall 2004: 21 undergrads, 3 graduate students*

CPSC5850 ***Research Tools and Skills for Graduate Students***
This course was intended to introduce and train graduate students in the basic skills and tools they will need to be successful in their graduate career. I was asked to develop this course with the intention that it be adopted as a general orientation/seminar style course required for all graduate students. *Spring 2008: 5 students*

WGST3600 ***Knowledge, Science and Technology***
This course covered an investigation of women and the roles they have played in the development of knowledge, science and technology through-out history. The emphasis was on a feminist point of view. This was an entirely new course that had not been (to my knowledge) offered before. All the material was of my own design. A revised version was offered (Fall 2013) under the title WGST3060: Gender, Science and Technology. *Fall 2006: 5 students; Fall 2013: 16 students*

Independent & Applied Studies

CPSC7990 Spring 2014: ***Independent Study: Reversible Logic***

CPSC5990 Summer 2016: ***Independent Study: Background in Reversible Logic***
Summer 2016: ***Independent Study: Ternary Logic Synthesis for Reversible Circuit Implementation***
Spring 2016: ***Independent Study: Advanced Machine Learning with Application to Sociolinguistics***
Spring 2014: ***Independent Study: Investigating Linguistics and Programming***
Fall 2010: ***Independent Study: Background in Reversible Logic***
Fall 2009 & Spring 2010: ***Independent Study: Research Skills & Tools for Graduate Students***
Summer 2008: ***Independent Study: Accelerating Spatial DB Retrievals with FPGAs***
Summer 2004: ***Independent Study: Advanced Project in FPGAs***

CPSC4990 Spring 2014: ***Independent Study: Reversible Logic***
Spring 2013: ***Independent Study: Sociolinguistics of Computer Programming***
Fall 2006: ***Independent Study: Advanced Project in Digital Logic***
Fall 2005: ***Independent Study: Gender Programming***

CPSC3990 Summer 2013: ***Independent Study: Introduction to the Testing of Digital Systems***
Spring 2011: ***Independent Study: Introduction to the Personal Software Process***
Summer 2010: ***Independent Study: Applying the Personal Software Process***
Fall 2006: ***Independent Study: Advanced Project in Digital Logic and Databases***

CPSC3980 Fall 2010: ***Applied Studies: Introducing Computer Science to Children***
Summer 2010: ***Applied Studies: Educational Resources for Introducing Math and Computer Science***
Fall 2006: ***Applied Studies: Human Computer Interfaces***

CPSC2990 Spring 2009: ***Independent Study: Computer Science in Education***

CPSC2980 Spring 2011: ***Applied Studies: Math and CS Skills for Kids***
Spring 2010: ***Applied Studies: Creative Tools for Teaching CS***

University of Victoria Courses

CSC110 *Fundamentals of Programming I* (1998 – 2002)
CSC370 *Database Systems* (1998 – 2002)
CSC250 (now CSC 355) *Digital Circuit Design* (labs only, 1993–1995)

Camosun College Courses

Computers 134 *Programming Using Pascal* (lectures & labs, 1995)
Computers 156 *Computer Concepts* (lectures & labs, 1995)

Memberships in Professional Societies & Networks

- Institute of Electronic and Electrical Engineers (IEEE), 1996–present
  (elevated to Senior Member April 2016)
- IEEE Computer Society, 1996–present
- IEEE WIE (Women in Engineering), 2006–present
- Alberta Women's Science Network (AWSN), 2006–present

Memberships in University Educational Programs

- Canadian Microelectronics Corporation (CMC), 1996–2014
- Xilinx University Program, 2002–2010
- Altera University Program, 2002–2010
- Celoxica University Program, 2002–2010

Professional Contributions

2017 continued service as Member at Large on MVL-TC
NSERC Discovery Grant reviewer
reviewer for JETTA (Journal of Electronic Testing)
reviewer for ISMVL 2018

2016 Guest Editor for Special Issue on Reversible Logic Synthesis in VLSI Design
continued service as Member at Large on MVL-TC
continued service as member of IEEE CASEO
reviewer for ISCAS Special Session on Reversible Logic
reviewer for International Journal of Circuit Theory and Applications

2015 Member at Large on the IEEE Multiple Valued Logic Technical Committee (MVL-TC)
reviewer for Hawaii International Conference on System Sciences (HICSS)
reviewer for International Symposium on Circuits and Systems (ISCAS)
program committee for ISMVL 2015
program committee for PACRIM 2015
member of IEEE CASEO (Circuits and Systems Education and Outreach technical committee)
working group on STEM education (spearheaded by P. Wolf, Queens)

2014 member of IEEE CASEO (Circuits and Systems Education and Outreach technical committee)
reviewer for IEEE Transactions on Computers
reviewer for Institute of Electronics, Information and Communcation Engineers (IEICE) Transactions
program committee for 2014 Reversible Computing Conference
reviewer for ISMVL 2014
reviewer for Facta Universitatis

2013 reviewer for Encyclopedia of Information Science and Technology (IGI Global)
program committee for 2013 Reversible Computing Conference
reviewer for Reed-Muller workshop 2013
reviewer for Circuits, Systems & Signal Processing
reviewer for ACM JETC (Journal of Emerging Technologies in Computing
program committee for PACRIM 2013
external reviewer (renowned expert in this thematic area) for the COFUND program of the University of Bremen (co-financed by the Marie Curie Program of the European Union)

2012 reviewer for RC Workshop 2012
program committee for the IEEE International Symposium on Rapid System Prototyping (RSP2006, RSP2007, RSP2008, RSP2009, RSP2010, RSP2011, RSP2012)
reviewer for the 2012 International Symposium on Multiple Valued Logic (ISMVL)
reviewer for IEEE Transactions on Software Engineering
reviewer for IEEE Transactions on Computers

2011 reviewer for Facta Universitatis
program committee for RSP2011
program committee for International Workshop on Reed-Muller representations (RM) 2011
reviewer for the 2011 International Symposium on Multiple Valued Logic (ISMVL)
program committee and Session Chair for 2011 IEEE PACRIM (Pacific Rim Conference on Communications, Computers and Signal Processing)

2010 reviewed textbook "Fundamentals of Digital and Computer Design with VHDL" by Sandige
reviewer for the Computer Journal
program committee for RSP2010
program committee for 13th Euromicro Conference on Digital System Design (DSD) 2010

2009 reviewer for NSERC Discovery Grants
reviewer for Microelectronics Journal (Elsevier)
program committee International Workshop on Reed-Muller representations (RM 2009)
program committee for First International Workshop on Dynamic Recongurable Computing Systems (Dec. 2009)
program committee for RSP2009
contributor to revlib.org
session chair at PACRIM 2009

2008 program committee for RSP2008

2007 program committee for RSP2007
reviewer for Midwest Symposium on Circuits and Systems (MWSCAS)

2006 reviewer for NSERC Discovery Grants
reviewer for International Symposium on Multiple-Valued Logic (ISMVL)
program committee for RSP2006
program committee for The First International Workshop on Future Computing Technologies (FC06) (in conjunction with 2006 World Congress in Computer Science, Computer Engineering and Applied Computing)
invited judge for CMC Integration Award at TEXPO

2005 reviewer for International Symposium on Multiple-Valued Logic (ISMVL)
local arrangements chair for International Symposium on Multiple-Valued Logic (Calgary, AB)

2004 reviewed textbook "Introduction to Logic Design" by Marcovitz

1999 organizer for the 4th International Workshop on Applications of the Reed-Muller Expansion in Circuit Design RM99

Outreach & Related Activities

2017 continued oversight of ASPIRE
ran programming activity for Girls STEM days
continued participation in "Ask a Scientist"

2016 continued oversight of ASPIRE
organization of Hour of Code Event, Dec 9th 2016
Exploration Expo organization and participation (May 28 2016)
ran computer science activity for Science Sizzle
continued participation in "Ask a Scientist"

2015 continued oversight of ASPIRE
Exploration Expo organization and participation (May 23 2015)
ran two Operation Minerva Activities (April 29 2015)
ran computer science activities for Aboriginal Science summer camp (organized by M. Hogue; week of July 6th 2015)
taught full-day session on Python for Ladies Learning Code (Sept. 26 2015)
continued participation in "Ask a Scientist" (www.science.gc.ca)

2014 oversight of ASPIRE (Arts & Science Programs Inspiring Research Exploration) for Faculty of Arts & Science, ULeth
planned and ran four sessions for middle school girls' science club
participation and planning for CS sessions for Science Sizzle
Maker area for Exploration Expo
part of "Ask a Scientist" at www.science.gc.ca

2013 planned and ran Operation Minerva session (outreach for middle school girls)
planned and ran three outreach sessions for Gr. 4/5, Gr. 6, and Gr 7 students as part of Science Sizzle
part of "Ask a Scientist" at www.science.gc.ca

2012 organized and ran Robotics Day (over 150 in attendance)
planned and ran a session for the middle school girls science club
part of "Ask a Scientist" at www.science.gc.ca

2011 continuing Bridges to Science activities
continuing LUMACS activities:
Spring Computer Club for middle school students
Reading Week Camp
7 full-week Math & CS Camps summer 2011
Science Sizzle and Operation Minerva participation
participation in Childhoods Conference
participation in GS Lakie Middle School's "The Wonder of Science"

2010 co-founder of Bridges to Science, a science outreach program at the University of Lethbridge
continuing LUMACS activities:
Reading Week 2010 Science & Technology Camps
Science Sizzle and Operation Minerva participation
7 full-week Math & CS Summer Camps
Fall Computer Club for middle school students
organized and ran sessions at a Computer Science Education Week, Dec. 9 2010

2009 co-founder of LUMACS, the Math and Computer Science outreach program at the University of Lethbridge
LUMACS Computer Club, Friday afternoons for ages 12 to 17, Sept.–Dec. 2009
developed and organized the first ever LUMACS summer camps (July 20–24 and August 14–15 2009)
developed curriculum for and ran Lego Robot Camps and Scratch Programming Camps
(in conjunction with ULeth's Destination Exploration science camps 2007, 2008 & 2009)
organized and participated in ULeth's Science Sizzle[4] 2006, 2007, 2008 & 2009
LUMACS presentation at Probe elementary school, June 2009
South Western Alberta Teachers' Convention Association (SWATCA) presentation, Feb. 2009
mentor as part of Operation Minerva, 2009

2008 Lego Robot Camps and Scratch Programming Camps Destination Exploration 2008
Science Sizzle 2008

2007 Lego Robot Camps and Scratch Programming Camps Destination Exploration 2007
Science Sizzle 2008
ULeth representative to the Alberta Women's Science Network, Sept. 2006 – Sept. 2007

2006 participant (mentor) in SCIBERMentor (now Cybermentor), August 2004 – September 2006

2004 attended Wilson Middle School Career Fair as a mentor, March 2004.
organized various meetings for Women in Computer Science at ULeth (2004, 2003, 2002)

2003 meetings for Women in CS, 2003

2002 meetings for Women in CS, 2002
member of the UVic WISE (Women in Science and Engineering) group 1998–2002
Chairperson of WISE Sept 2001 – May 2002

Other Adminstrative Activities

2017 continuation of duties relating to Associate Dean position, including:
- continued oversight of Global Citizenship progam
- implementation of Undergraduate Research Award
- oversight of and policy development for A&S outreach, timetabling, workload assessment, recruitment, retention, and strategic enrolment management (SEM)
- preparation of the A&S Recruitment & Marketing Plan for 2017-18
- investigations into possible Continuing Education offerings

2016 continuation of duties relating to Associate Dean position, including:
- development of second phase of Global Citizenship progam
- development of Undergraduate Research Award
- piloting of clubs related to our BA programs
- oversight of & policy development for all A&S outreach, curriculum, space allocation, and international activities
- transition to new portfolios (June 2016) of timetabling, recruitment, and strategic enrolment management (SEM) (plus continuing with the outreach portfolio)

2015 continuation of duties relating to Associate Dean position, including:
- continued building of the Engineering Transfer Program
- pilot offering of the Global Citizenship (cohort) program
- aiding in development of the MSc Remote Sensing Proposal
- development of an Undergraduate Travel Award
- oversight of all A&S outreach, curriculum, space allocation, and international activities

2014 duties related to Associate Dean position, including:
- oversight of reintroduction of Engineering Transfer Program
- creation of Global Citizenship (cohort) program
- streamlining of the A&S scheduling process and transfer assessment process
- oversight of A&S outreach activities, curriculum, and space allocation
- A&S representation on appropriate University-wide committees

2013 Co-chair of Women Scholar Speaker Series (continuing to 2014)
student advisor for Computer Science
member of curriculum committee for Math & Computer Science
alternate member of the Undergraduate and Graduate Student Discipline Committee
member of Art & Science Committee on Research and Teaching (Sciences)
member of Arts & Science Executive Committee

2012 Co-chair of Women Scholar Speaker Series (continuing to 2014)

2011 Computer Science Coordinator (continuing to 2012)
Chair Computing Taskforce (continuing)

2010 Department repesentative to CACS (Canadian Assocation of Computer Science)
Computer Science Coordinator (continuing to 2012)
Chair Computing Taskforce (continuing)
A&S representative to GFC (ending 2010)

2009 Computer Science Coordinator for Dept. of Math & CS July 2009 – June 2012
Chair Computing Taskforce for Dept. of Math & CS, 2008 – present
A&S representative to the General Faculties Council (GFC), 2008 – 2011

2008 A&S representative to the General Faculties Council (GFC)
Chair of Computing Science Taskforce

2007 member of Curriculum committee for Dept. of Math & CS, Sept. 2006 – Sept. 2007

2006 member of ULFA committee to review ULFA Academic Scholarship, Sept. 2005 – Sept. 2006
member of STP committee for Dept. of Math & CS, Sept. 2005 – Sept. 2006
member of Scholarship committee for Dept. of Math & CS, Sept. 2005 – Sept. 2006
member of Graduate Program Advisory committee for the Dept. of Math & CS Sept. 2005 – Sept. 2006
Chair Computing Task Force for Dept. of Math & CS, Sept. 2005 – Sept. 2006

2005 Computer Science Transfer Credit Advisor for the Dept. of Math & CS, Sept. 2004 – Sept. 2005.
Computer Science representative for the Dept. of Math & CS search committee, Sept. 2004 – Sept. 2005.

2003 library representative for the Dept. of Math & CS Sept. 2002 – Sept. 2003.

Invited Talks

- invited speaker for Neuroscience Seminar, November 2016 ("Women in STEM", with Shelly Wismath)
- invited speaker for the University of Lethbridge Department of Physics Summer Seminar Series, June 2013 ("Reversible Logic: stepping stone to quantum computing?")
- invited speaker for the University of Lethbridge Women Scholar Speakers Series (WSSS), May 2013 ("Sociolinguistics in Programming")
- invited speaker for the UCREL Corpus Research Seminar (University Centre for Computer Corpus Research on Language at Lancaster University), June 2012 ("Sociolinguistics in Programming")
- invited speaker at Department of Computer Science & Engineering, Southern Methodist University, Dallas Texas, March 2007 ("Classification for Reversible Functions")
- invited speaker for Panel on Women in Science, Nov. 22 2005, University of Lethbridge.
- invited speaker for iCORE forum entitled "Will nanoscale put microscale out of business?", Nov. 17 2004.

Professional Development

2018	Western Dean's Conference, Feb. 2018 (I will be presenting a workshop on Accomodations and Inclusive Education)
2017	Designing an Online Course (workshop, Nov. 2017) The multigenerational workplace: myths, facts, managing. Feb 2017
2016	Mental Health for Academic Leaders, May 2016
2015	FNMI youth engagement training, April 20, 2015
2013	Certified Scrum Master course
2008, 2009, 2011, 2013	Center for Advancement of Excellence in Teaching and Learning (CAETL) teaching day
2007	Teaching Buffet on "Experiential Education" (1 hour session, UVic Dept. of Computer Science) CAETL presentation on "Teaching in Focus"
2006	Teaching Buffet (UVic) "How to Solve It? or Helping our Students gain Problem Solving Ability" session on "World of the Millenial Generation: Students and Implication for Teaching"
2005	workshop on multicultural classrooms by Dr. Tracy M. Derwing
2004	"Teaching first year classes and large classes", a workshop offered by Dr. Pat Chuchryk
2003	Teaching Development Day (workshops by Dr. Gary Poole, "Inquiry-Based Learning" and "The Use of Technology in Inquiry-Based Learning")

Personal Notes

- Sept. 2017 – present Civilian Volunteer with 34 Chinook Sea Cadets and the Lethbridge Navy League Cadet Corps
- Feb. – Dec. 2015 Secretary and Board Member of the 2296 Lethbridge Army Cadets Parent Association
- 2014 – 2015 mentored students in the L'École Agnes Davidson Elementary School violin program
- study leave, Lancaster, UK, Jan. 2012 – June 2012
- parental leave, Nov. 2007 – April 2008
- study leave, Jan. 2007 – June 2007 (note: this was extended to August 2007, as there was an emergency need for an instructor for a May-June course that year)
- parental leave, Oct. 2003 – April 2004