

GERDA DE VRIES

Department of Mathematical & Statistical Sciences
University of Alberta
Edmonton, Alberta, T6G 2G1, Canada

Phone: (780) 492-4561, Fax: (780) 492-6826

Email: gerda.devries@ualberta.ca

URL: www.math.ualberta.ca/~devries

Citizenship: Canadian

ACADEMIC APPOINTMENTS

Associate Chair (Undergraduate Studies) (July 2010 –)

Department of Mathematical & Statistical Sciences, University of Alberta

Professor (July 2008 –)

Department of Mathematical & Statistical Sciences, University of Alberta

Associate Professor (July 2002 – June 2008)

Department of Mathematical & Statistical Sciences, University of Alberta

Assistant Professor (July 1998 – June 2002)

Department of Mathematical Sciences, University of Alberta

EDUCATION AND TRAINING

Postdoctoral Research Fellow (1995 – 1998)

Mathematical Research Branch, National Institutes of Health, Bethesda, MD, U.S.A.

Postdoctoral supervisor: Arthur Sherman

Doctor of Philosophy in Mathematics, 1995

Department of Mathematics and Institute of Applied Mathematics, University of British Columbia, Vancouver, BC, Canada

Thesis supervisor: Robert M. Miura

Bachelor of Mathematics, Honours Co-op, 1989

University of Waterloo, Waterloo, ON, Canada

Joint Applied Mathematics with Computer Science, Dean's Honours List

AWARDS AND SCHOLARSHIPS

Research Awards

- NSERC Discovery Accelerator Supplement (2009–2012)

Teaching Awards

- Presidents Achievement Award “Dare to Discover”, Overall Achievement for Science 100: Learning Beyond Boundaries, University of Alberta (2011)

- Pacific Institute for the Mathematical Sciences (PIMS) Education Prize (2009)
- The AC Rutherford Award for Excellence in Undergraduate Teaching, University of Alberta (2006)
- Faculty of Science Award for Excellent Teaching, University of Alberta (2005)
- Undergraduate Teaching Award for Instructors of Service Courses from Outside the Faculty of Engineering, University of Alberta (2004)
- Department of Mathematical & Statistical Sciences Award for Excellence in Undergraduate Teaching, University of Alberta (2004)
- Award for Excellence in Teaching, Department of Mathematics, University of British Columbia (1994)
- Award for Excellence in Teaching, Department of Mathematics, University of British Columbia (1993)

Academic Awards and Scholarships

- NSERC Postdoctoral Fellowship, held at the Mathematical Research Branch, National Institutes of Health, Bethesda, MD (1995 – 1997)
- NSERC Postgraduate Scholarship, held at the University of British Columbia (1989 – 1993)
- NSERC Industrial Undergraduate Student Research Award, held at Atomic Energy of Canada Limited, Chalk River, ON (1988)
- NSERC Industrial Undergraduate Student Research Award, held at Watcom Systems Inc., Waterloo, ON (1986)
- Rene Descartes Fellowship, Faculty of Mathematics, University of Waterloo (1984 – 1989)
- Rene Descartes Prizes, Faculty of Mathematics, University of Waterloo (1985, 1986, 1988)

PUBLICATIONS

Books

- A. Deutsch, L. Bruschi, H. Byrne, G. de Vries, and H. Herzel (Eds.), *Mathematical Modeling of Biological Systems, Volume I: Cellular Biophysics, Regulatory Networks, Development, Biomedicine, and Data Analysis*, Birkhauser, Boston, 2007.
- G. de Vries, T. Hillen, M. Lewis, J. Muller, and B. Schoenfish, *A Course in Mathematical Biology: Quantitative Modelling with Mathematical and Computational Methods*, Society for Industrial and Applied Mathematics, Philadelphia, 2006.

Refereed Journal Publications

- S.P. Norris, N. Stelnicki, and G. de Vries, *Teaching mathematical biology in high school using adapted primary literature*, Res. Sci. Educ. (10.1007/s11165-011-9215-8, April 2011).
- V. Rajani, G. Carrero, D.E. Golan, G. de Vries, and C.W. Cairo, *Analysis of molecular diffusion by first-passage time variance identifies the size of confinement zones*, Biophys. J. (10.1016/j.bpj.2011.01.064, 2011), 100 (2011), pp. 1463–1472.
- N. Stelnicki, J. Braga, G. de Vries, and S.P. Norris, *Using Adapted Primary Literature to teach high school science*, Alberta Science Education Journal, 41 (2011), pp. 11–15.
- T. Hillen, G. de Vries, J. Gong, and C. Finlay, *From cell population models to tumour control probability: including cell cycle effects*, Acta Oncologica, 49 (2010), pp. 1315–1323.
- S.P. Norris, J.S. Macnab, M. Wonham, and G. de Vries, *West Nile virus: Using adapted primary literature in mathematical biology to teach scientific and mathematical reasoning in high school*, Res. Sci. Educ., 39 (2009), pp. 321–329.
- R. Eftimie, G. de Vries, and M.A. Lewis, *Weakly nonlinear analysis of a hyperbolic model for animal group formation*, J. Math. Biol., 59 (2009), pp. 37–74.
- G. de Vries and R.E. Plant, *Plant model*, Scholarpedia, 2 (2007), p. 1413 (www.scholarpedia.org/article/Plant_Model).

- R. Eftimie, G. de Vries, and M.A. Lewis, *Complex spatial group patterns result from different animal communication mechanisms*, Proceedings of the National Academy of Sciences (10.1073/pnas.0611483104, 2007), 104 (2007), pp. 6974-6979.
- R. Eftimie, G. de Vries, M.A. Lewis, and F. Lutscher, *Modeling group formation and activity patterns in self-organizing collectives of individuals*, Bull. Math. Biol. (10.1007/s11538-006-9175-8, 2006), 69 (2007), pp. 1537–1565.
- D. McDonald, G. Carrero, C. Andrin, G. de Vries, and M.J. Hendzel, *Nucleoplasmic beta-actin exists in a dynamic equilibrium between low mobility polymeric species and rapidly diffusing populations*, J. Cell Biology, 172 (2006), pp. 541–552.
- G. Carrero, M.J. Hendzel, and G. de Vries, *Modelling the compartmentalization of splicing factors*, J. Theor. Biol., 239 (2006), pp. 298–312.
- G. Carrero, E. Crawford, M.J. Hendzel, and G. de Vries, *Characterizing fluorescence recovery curves for nuclear proteins undergoing binding events*, Bull. Math. Biol., 66 (2004), pp. 1515-1545.
- G. Carrero, E. Crawford, J. Th'ng, G. de Vries, and M.J. Hendzel, *Quantification of protein-protein and protein-DNA interactions in vivo using fluorescence recovery after photobleaching*, Methods Enzymol., 375 (2004), pp. 415-442.
- G. de Vries, *The effect of coupling, noise, and heterogeneity on bursting oscillations*, Can. Appl. Math. Q., 11 (2003), pp. 29-50.
- M.J. Riedel, P. Boora, D. Steckley, G. de Vries, and P.E. Light, *Kir6.2 polymorphisms sensitize beta-cell ATP-sensitive potassium channels to activation by Acyl CoAs: A possible cellular mechanism for increased susceptibility to type 2 diabetes?*, Diabetes, 52 (2003), pp. 2630-2635.
- G. Carrero, D. McDonald, E. Crawford, G. de Vries, and M.J. Hendzel, *Using FRAP and mathematical modeling to determine the in vivo kinetics of nuclear proteins*, Methods, 29 (2003), pp. 14–28.
- G. de Vries, *Bursting as an emergent phenomenon in coupled chaotic maps*, Phys. Rev. E, 64 (2001), article number 051914 (9 pages).
- G. de Vries and A. Sherman, *From spikers to bursters via coupling: Help from heterogeneity*, Bull. Math. Biol., 63 (2001), pp. 371-391.
- G. de Vries and A. Sherman, *Channel sharing in pancreatic beta-cells revisited: Enhancement of emergent bursting by noise*, J. Theor. Biol., 207 (2000), pp. 513-530.
- B. Topp, K. Promislow, G. de Vries, R.M. Miura, and D.T. Finegood, *A model of beta-cell mass, insulin and glucose kinetics: Pathways to diabetes*, J. Theor. Biol., 206 (2000), pp. 605-619.
- S.R.J. Hoare, G. de Vries, and T.B. Usdin, *Measurement of agonist and antagonist ligand-binding parameters at the human parathyroid hormone type 1 receptor: Evaluation of receptor states and modulation by guanine nucleotide*, J. Pharmacol. Exp. Ther., 289 (1999), pp. 1323–1333.
- T.A. Kinard, G. de Vries, A. Sherman, and L.S. Satin, *Modulation of the bursting properties of single mouse pancreatic β -cells by artificial conductances*, Biophys. J., 76 (1999), pp. 1423–1435.
- G. de Vries, A. Sherman, and H-R. Zhu, *Diffusively coupled bursters: Effects of cell heterogeneity*, Bull. Math. Biol., 60 (1998), pp. 1167–1199.
- G. de Vries, *Multiple bifurcations in a polynomial model of bursting oscillations*, J. Nonlinear Science, 8 (1998), pp. 281–316.
- G. de Vries and R.M. Miura, *Analysis of a class of models of bursting electrical activity in pancreatic β -cells*, SIAM J. Appl. Math., 58 (1998), pp. 607–635.

Refereed/Invited Book Chapters

- G. de Vries and A. Sherman, *Beyond synchronization: Modulatory and emergent effects of coupling in square-wave bursting*, in Bursting: The Genesis of Rhythm in the Nervous System, S. Coombes and P.C. Bressloff, editors, World Scientific Publishing, London, 2005, pp. 243-272.
- G. de Vries, *Modulatory effects of coupling on bursting maps*, in Bursting: The Genesis of Rhythm in the Nervous System, S. Coombes and P.C. Bressloff, editors, World Scientific Publishing, London, 2005, pp. 223-242.
- G. de Vries, *Analysis of mathematical models for bursting electrical activity in pancreatic beta cells*, in Mathematical Models for Bio-Engineering and Probabilistic Systems, J.C. Misra, editor, Narosa Publishing House, New Delhi, 2004, pp. 221-243.

- G. de Vries, R.M. Miura, and M. Pernarowski, *Analysis of models of pancreatic β -cells exhibiting temporal pattern formation*, in Pattern Formation: Symmetry Methods and Applications, J. Chadam, M. Golubitsky, W. Langford, and B. Wetton, eds., Fields Institute Communications, Vol. 5, American Mathematical Society, Providence, RI, 1996, pp. 143–164.
- G. de Vries, R.M. Miura, and M. Pernarowski, *Parameter studies for an analog model of bursting electrical activity*, in Differential Equations and Applications to Biology and to Industry, M. Martelli, K. Cooke, E. Cumberbatch, B. Tang, and H. Thieme, eds., World Scientific, Singapore, 1996, pp. 385–392.

Refereed Conference Publications

- G. de Vries and T. Hillen, *Teaching mathematical biology in a summer school for undergraduates*, in Mathematical Modeling of Biological Systems, Volume II: Epidemiology, Evolution and Ecology, Immunology, Neural Systems and the Brain, and Innovative Mathematical Methods, A. Deutsch, R. Bravo de la Parra, R. de Boer, O. Diekmann, P. Jagers, E. Kisdi, M. Kretzschmar, P. Lansky, and H. Metz, editors, Birkhauser, Boston, 2008, pp. 369–377.
- G. de Vries, *Textiles - Math = 0, Textiles + Math = Infinity: Mathematical approaches in quilt design*, in Proceedings of the 10th Biennial Symposium of the Textile Society of America, Textile Society of America, Earleville, MD, 2007, pp. 228-234.

Refereed Letters to the Editor

- C. Meyer, S.T. Davidge, D.C. Mayes, and G. de Vries, *Reassessing the mathematical modelling of the contribution of vasomotion to vascular resistance*, J. Applied Physiol., 92 (2002), pp. 888-889.

Published Abstracts

- G. de Vries, *Quilts as mathematical objects: From traditional to contemporary*, in Proceedings of the 10th Biennial Symposium of the Textile Society of America, Textile Society of America, 2007.
- L.S. Satin, T.A. Kinard, G. de Vries, and A. Sherman, *Heterogenous fast bursting in single mouse beta-cells*, Diabetes, 47 (1998), pp. A264 1027 Suppl. 1.
- T.A. Kinard, G. de Vries, A. Sherman, and L.S. Satin, *Single β -cells from mouse pancreatic islets exhibit a fast form of bursting which does not require free $[Ca^{++}]$ accumulation*, Biophys. J., 74 (1998), pp. A101.
- T.A. Kinard, L.S. Satin, G. de Vries, and A. Sherman, *Titration of KATP conductance into single insulin-secreting cells via dynamic clamping*, Biophys. J., 72 (1997), pp. A250.

Nonrefereed/Other Publications

- G. de Vries, *Sierpinski Meets Mondrian*, in Bridges Images: Connections of Mathematics and Art, A souvenir booklet for the 2006 Bridges Conference, P. Kent, editor, Bridges Conference and the London Knowledge Lab, 2006, pp. 14-15.
- G. de Vries, *Looking for a career that counts? Stephanie Wichuk is not alone*, WISEST Newsletter, University of Alberta, Fall 2005.
- L.S. Satin, T.A. Kinard, A. Sherman, and G. de Vries, *Dynamic clamping of excitable cells: A window into the role of ion channels in excitability*, Axobits 19, November 1996.
- G. de Vries, *Analysis of Models of Bursting Electrical Activity in Pancreatic Beta Cells*, Ph.D. Thesis, University of British Columbia, 1995.

GRANT AWARDS

Natural Sciences and Engineering Research Council of Canada (NSERC) – Research

- 2009–2012: \$40,000 / year; \$120,000 total
Discovery Accelerator Supplement
Mathematical Modelling of Cellular and Physiological Processes
- 2008–2013: \$30,000 / year; \$150,000 total
Discovery Grants Program (Individual)
Mathematical Modelling of Cellular and Physiological Processes
- 2003–2008: \$25,000 / year; \$100,000 total
Discovery Grants Program (Individual)
Mathematical Models in Physiology and Medicine
- 1999–2003: \$15,750 / year; \$63,000 total
Research Grants Program (Individual)
Mathematical Modelling in Physiology and Medicine

Natural Sciences and Engineering Research Council of Canada (NSERC) – Equipment

- 2000: \$103,000
Replacement of departmental computers [with A. Rhemtulla, R. Moody, H. Kunzle, G. Cliff, Y.S. Wong, J.D. Lewis, M. Kovalyov, W. Krawcewicz, S. Shen, B. Sutherland, T. Gannon, J. So, J. Bowman, and P. Minev]

Mathematics of Information Technology and Complex Systems (MITACS NCE)

- May – August 2007: \$15,000
Industrial Internship
Modeling body composition with special attention to visceral and subcutaneous adiposity [with K. Hall, D. Holmes, S. Lear, and D. White]
- 2006–2007: \$6,000
Mathematical Modelling in Pharmaceutical Development [with T. Hillen]
- 2004–2006: \$6,000 / year; \$12,000 total
Mathematical Modelling in Pharmaceutical Development
- 2003–2004: \$10,5000
Mathematical Modelling in Pharmaceutical Development
- 2002–2003: \$75,000
Mathematical Modelling in Pharmaceutical Development [with J. Tuszynski (project leader) and 7 additional academics]
- 2000–2002: \$145,000 / year
Mathematical Modelling in Pharmaceutical Development [with J. Tuszynski (project leader) and 7 additional academics]
- 1999–2002: \$130,000 / year
Biomedical Models of Cellular and Physiological Systems and Disease [with L. Keshet (project leader) and 6 additional academics]

Centre for Research in Youth, Science and Technology and Learning (CRYSTAL)

- 2009–2010: \$15,000
Development of web-based instructional modules for the teaching and learning of modern applications of mathematics
- 2008–2009: \$11,000
Development of web-based instructional modules for the teaching and learning of modern applications of mathematics
- 2007–2008: \$29,400
Development and assessment of web-based instructional modules for the teaching and learning of modern applications of mathematics, with a focus on mathematical biology [with S. Norris]

- 2006–2007: \$18,570
Prototypes to Enhance Students’ Reasoning, Understanding and Participation in Mathematics [with E. Simmt]
- 2005–2006: \$22,700
Prototypes to Enhance Students’ Reasoning, Understanding and Participation in Mathematics [with E. Simmt and D. Pimm]
- 2005–2006: \$25,000
Multimedia Inquiry-Based Mathematics Teaching [with B. Sutherland and K. Cor]

University of Alberta

- July 1, 2008 – June 30, 2009, \$25,200
Visiting Scholar Program [with M.A. Lewis and T. Hillen]
- 2005–2006, \$2,000
Faculty of Science Award for Excellent Teaching
- March 1 – October 31, 2002: \$9,600
Endowment Fund for the Future – University Teaching Research Fund [with E. Talvila]
- 1998–2000: \$50,000
Start-up grant

Funding Obtained for Conferences and Workshops

Event	Amount	Source	Co-applicants
Association for Women in Mathematics Embedded Meeting at ICIAM, Vancouver, BC, July 2011	\$ 2,000 \$ 2,000	Centre de Recherches Mathématiques Pacific Institute for the Mathematical Sciences	G. Benkart
Seventh Mathematical Biology Summer Workshop, University of Alberta, May 2010	\$ 34,036 \$ 5,000	Mathematics of Information Technology and Complex Systems Pacific Institute for the Mathematical Sciences	A. Dawes, T. Hillen, M.A. Lewis, H. Wang
Connecting Women in Mathematics Across Canada IV workshop, University of Ottawa, December 2008	\$ 4,000 \$ 5,000	Fields Institute Canadian Mathematical Society	L. Campbell, A. Masuda, M. Nevins, P. Zhou
Sixth Mathematical Biology Summer Workshop, University of Alberta, May 2008	\$ 30,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis
Fifth Mathematical Biology Summer Workshop, University of Alberta, May 2007	\$??,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis
Connecting Women in Mathematics Across Canada III workshop, Fields Institute, December 2006	\$ 2,200 \$ 2,500 \$ 5,000	Anonymous Canadian Mathematical Society Fields Institute	L. Jeffrey, P. Zhou
Fourth Mathematical Biology Summer Workshop, University of Alberta, May 2005	\$ 20,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis
Third Mathematical Biology Summer Workshop, University of Alberta, May 2004	\$ 20,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis
Second Mathematical Biology Summer Workshop, University of Alberta, May 2003	\$ 20,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis
Mathematical Biology Summer Workshop, University of Alberta, May 2002	\$ 15,000	Pacific Institute for the Mathematical Sciences	T. Hillen, M.A. Lewis, M. Li

SCIENTIFIC PRESENTATIONS

2012–2013

Invited

- Canadian Undergraduate Mathematics Conference, Kelowna, BC [[keynote](#)]

2011–2012

Invited

- National Institutes of Health, Bethesda, MD
- Edmonton Lifelong Learners Association, Edmonton, AB
- Colloquium, Murray State University, Murray, KY
- Banff International Research Station, Banff, AB
- Montreal Colloquium, Université de Montreal, QC
- Grande Conférence, Centre de Reserches Mathématiques, Montreal, QC [[public lecture](#)]
- Calculus Core Workshop, Banff, AB
- Mathematical Biosciences Institute, The Ohio State University, Columbus, OH
- Graduate Colloquium, Department of Mathematical & Statistical Sciences
- Fifth Butler Meeting, University of Alberta [[plenary](#)]
- International Congress on Industrial and Applied Mathematics, Vancouver, BC

Contributed

- Mathematical Biology Journal Club, Department of Mathematical & Statistical Sciences

2010–2011

Invited

- Canadian Mathematical Society Summer Meeting, Edmonton, AB [[minisymposium speaker, and public and plenary lecture](#)]
- Banff International Research Station, Banff, AB
- First Joint North American Meeting on Industrial and Applied Mathematics, Huatulco, Mexico
- Graduate Colloquium, Department of Mathematical & Statistical Sciences
- WISEST, University of Alberta [[keynote](#)]

Contributed

- Science 100, University of Alberta

2009–2010

Invited

- NSERC Council Visit, University of Alberta
- Atlantic Mathematical Biology Workshop, University of New Brunswick, Fredericton, NB [[plenary](#)]
- Canadian Mathematical Society Summer Meeting, Fredericton, NB [[plenary](#)]
- American Association for the Advancement of Science Annual Meeting, San Diego, CA
- Centre for Applied Mathematics in Bioscience and Medicine, McGill University, Montreal, QC
- McGill University and Royal Society of Canada, Montreal, QC [[public lecture](#)]
- Mathematics Council of the Alberta Teachers' Association, Edmonton, AB [[keynote](#)]
- CRYSTAL-Alberta, University of Alberta [[keynote](#)]
- International Conference on Mathematical Biology and Annual Meeting of the Society for Mathematical Biology, Vancouver, BC

Contributed

- CRYSTAL-Alberta, University of Alberta
- Mathematical Biology Journal Club, Department of Mathematical & Statistical Sciences, University of Alberta

2008–2009

Invited

- 2009 Annual Meeting of the Canadian Mathematics Education Study Group, York University, Toronto, ON [[keynote](#)]
- MITACS 2009 Annual Conference, Fredericton, NB [[public lecture](#)]
- Alberta Colleges Mathematics Conference, Red Deer, AB
- PIMS Changing the Culture: Integrating Mathematics, Vancouver, BC [[panelist in plenary session](#)]
- Canadian Mathematical Society Winter Meeting, Ottawa, ON
- Second Graduate Research Summit, PIMS International Graduate Training Centre in Mathematical Biology, Banff International Research Station, Banff, AB

Contributed

- Connecting Women in Mathematics Across Canada IV, Ottawa, ON

2007–2008

Invited

- Jasper Place High School, Edmonton, AB
- Bio Math Days: A Two-Day Conference on Mathematical Modelling in the Biological Sciences, University of Ottawa, Ottawa, ON [[plenary](#)]
- Institute of Mathematical Science, University of Virginia, Charlottesville, VA
- Women in Mathematics and Science, University of Virginia, Charlottesville, VA
- Southeast Atlantic Regional Conference on Differential Equations, Murray State University, Murray, KY [[plenary](#)]
- Marie Curie Research Training Network Summer School on Cancer Modelling: Mathematical Methods and Computer Simulation of Tumour Growth and Therapy, University of Dundee, Dundee, United Kingdom [[plenary lecturer](#)]
- Joint Annual Meetings of the Society for Mathematical Biology and the Japanese Society for Mathematical Biology, San Jose, CA [[plenary](#)]

Contributed

- Radiology Workshop, Cross Cancer Institute, University of Alberta
- Centre for Research in Youth, Science Teaching and Learning, University of Alberta
- Second National CRYSTAL Conference, University of Alberta
- Graduate Colloquium, Department of Mathematical & Statistical Sciences, University of Alberta

2006–2007

Invited

- Association for Women in Mathematics Panel Discussion: Shaping Your Career in Mathematics, Conference on Applications of Dynamical Systems, Society for Industrial and Applied Mathematics, Snowbird, UT
- Annual Conference, Canadian Applied and Industrial Mathematics Society, Banff, AB [2 talks]
- Connections for Women: Dynamical Systems, Mathematical Sciences Research Institute, Berkeley, CA [[plenary](#)]
- Canadian Mathematical Society Student Committee Panel Discussion: Success in an Academic Environment, Canadian Mathematical Society Winter Meeting, Toronto, ON
- Department of Mathematics, University of British Columbia, BC
- Tenth Biennial Symposium: Textile Narratives and Conversations, Textile Society of America, Toronto, ON [[panelist in plenary session](#)]
- Conference on the Life Sciences, Society for Industrial and Applied Mathematics and Society for Mathematical Biology, Raleigh, NC

Contributed

- CRYSTAL-Alberta Partner Meeting, University of Alberta

- First National CRYSTAL Conference, University of Alberta
- Tenth Biennial Symposium: Textile Narratives and Conversations, Textile Society of America, Toronto, ON

2005–2006

Invited

- Undergraduate Mathematical Biology Workshop, Washington State University, Pullman, WA
- Department of Mathematics, University of Toronto, Toronto, ON
- Third Annual Young Researchers Conference for Mathematical and Statistical Sciences, University of Alberta [keynote]
- GAME Seminar Series on How to Teach Mathematics, Department of Mathematical & Statistical Sciences, University of Alberta
- European Conference on Mathematical and Theoretical Biology, European Society for Mathematical and Theoretical Biology and Society for Mathematical Biology, Dresden, Germany

Contributed

- Origin and Regulation of Bursting Activity of Neurons, Georgia State University, Atlanta, GA
- Workshop on Growth and Control of Tumours, Banff International Research Station, Banff, AB
- The 26th Midwest-Pacific Differential Equations Conference, University of Alberta
- Canadian Summit on the Integration of Teaching and Research, University of Alberta
- Renaissance Banff, The Banff Centre, Banff, AB
- XXV Dynamics Days Europe, Technische Universitat Berlin, Berlin, Germany
- European Conference on Mathematical and Theoretical Biology, European Society for Mathematical and Theoretical Biology and Society for Mathematical Biology, Dresden, Germany

2004–2005

Invited

- Korean Institute for Advanced Study, Seoul, South Korea
- Integration of Mathematics and Bioscience in University Mathematics Education, Ewha Womans University, Seoul, South Korea [keynote]
- The Second International Workshop for Korean Women in Mathematics, Seoul National University, Seoul, South Korea [plenary]
- Fifth Annual North/South Dialog in Mathematics, Grant MacEwan College, Edmonton, AB

Contributed

- Annual Meeting, Canadian Applied and Industrial Mathematics Society, Winnipeg, MB
- Mathematical Physiology Research Seminar, Department of Mathematical & Statistical Sciences, University of Alberta [2 talks]
- International Conference for Mathematics in Biology and Medicine, Society for Mathematical Biology, Ann Arbor, MI

2003–2004

Invited

- Joint Mathematics Meetings, American Mathematical Society, Phoenix, AZ
- Winter Meeting, Canadian Mathematical Society, Vancouver, BC
- Summer School on Introduction to Mathematical Medicine, Fields Institute, Waterloo, ON
- Mathematical Biology: From molecules to ecosystems, Banff International Research Station, Banff, AB

Contributed

- Canadian Mathematical Society Summer Meeting and Canadian Applied and Industrial Mathematics Society Annual Meeting, Halifax, NS
- Fifth Annual Conference and Atlantic Interchange, Mathematics of Information Technology and Complex Systems, Halifax, NS

- International Conference of Mathematical Biology, Society for Mathematical Biology, Dundee, United Kingdom

2002–2003

Invited

- Fourth Geoffrey J. Butler Memorial Conference, University of Alberta
- Connecting Women in Mathematics Across Canada, Canadian Mathematical Society and the Pacific Institute for the Mathematical Sciences, Edmonton, AB
- Symmetry and Bifurcation in Biology, Banff International Research Station, Banff, AB
- Conference on Applications of Dynamical Systems, Society for Industrial and Applied Mathematics, Snowbird, UT
- Mathematics/Statistics and Computer Science Conference, Atlantic Provinces Council on the Sciences, Mount Allison University, Sackville, NB
- The 5th Americas Conference on Differential Equations and Nonlinear Dynamics, University of Alberta

Contributed

- International Conference on Mathematics and Biology, Society for Mathematical Biology, Knoxville, TN

2001–2002

Invited

- Western Sectional Meeting, American Mathematical Society, Portland, OR
- Conference on the Life Sciences, Society for Industrial and Applied Mathematics, Boston, MA
- Annual Meeting, Society for Industrial and Applied Mathematics, San Diego, CA

Contributed

- Differential Equations and Dynamical Systems Seminar, Department of Mathematical & Statistical Sciences, University of Alberta
- International Conference on Mathematical and Theoretical Biology, Society for Mathematical Biology and Japanese Association for Mathematical Biology, Hilo, HI

2000–2001

Invited

- Mathematics Symposium: Focus on Pure and Applied, Edmonton Regional Consortium, Edmonton Regional School Board and University of Alberta, Edmonton, AB
- Annual Meeting, Canadian Applied and Industrial Mathematics Society, Victoria, BC
- Institute of Applied Mathematics, University of British Columbia, Vancouver, BC
- Pacific Rim Dynamical Systems Conference, Society for Industrial and Applied Mathematics, Maui, HI [2 talks]

Contributed

- Mathematical Biology Research Seminar, Department of Mathematical Sciences, University of Alberta [2 talks]

1999–2000

Invited

- Summer Meeting, Canadian Mathematical Society, Hamilton, ON
- Research Training Group in Nonlinear Dynamics in Biology, University of California, Davis, CA
- Graduate Seminar on Cell Development and Physiology, Department of Biological Sciences, University of Alberta
- Edmonton Workshop on Methods of Nonlinear Analysis, University of Alberta

Contributed

- Mathematical Research Branch, National Institutes of Health, Bethesda, MD
- Mathematical Biology and Biophysics Seminar, Departments of Mathematical Sciences and Physics, University of Alberta

- Differential Equations and Bifurcation Theory Seminar, Department of Mathematical Sciences, University of Alberta

1998–1999

Invited

- Panel Discussion: Women in Mathematical Biology, International Conference on Theory and Mathematics in Biology and Medicine, European Society for Mathematical and Theoretical Biology and Society for Mathematical Biology, Amsterdam, The Netherlands
- Workshop on Mathematical Physiology, Pacific Institute for the Mathematical Sciences, University of British Columbia, Vancouver, BC [3 lectures, 1 lab session]
- Workshop on Endocrinology: Mechanism of Hormone Secretion and Control, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN
- Department of Mathematics, University of British Columbia, Vancouver, BC

Contributed

- International Conference on Theory and Mathematics in Biology and Medicine, European Society for Mathematical and Theoretical Biology and Society for Mathematical Biology, Amsterdam, The Netherlands
- Joint Annual Meeting, Society for Industrial and Applied Mathematics and Society for Mathematical Biology, Toronto, ON

1997-1998

Invited

- Annual Meeting, Society for Mathematical Biology, Raleigh, NC [plenary]

1996–1997

Invited

- Department of Mathematics, Harvey Mudd College, Claremont, CA
- Department of Mathematical Sciences, University of Alberta

Contributed

- Conference on Applications of Dynamical Systems, Society for Industrial and Applied Mathematics, Snowbird, UT

1995–1996

Contributed

- Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH

1994–1995

Invited

- Department of Mathematics, Boston University, Boston, MA
- Mathematical Research Branch, National Institutes of Health, Bethesda, MD

Contributed

- Pacific Northwest Workshop on Mathematical Biology, Vancouver, BC

1993–1994

Contributed

- Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH
- Pacific Northwest Workshop on Mathematical Biology, Pullman, WA

1991–1992

Contributed

- Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH
- Pacific Northwest Workshop on Mathematical Biology, Seattle, WA

- Annual Meeting, Society for Mathematical Biology, Santa Fe, NM

1990–1991

Contributed

- Pacific Northwest Workshop on Mathematical Biology, Vancouver, BC

TRAINING OF STUDENTS

Ph.D. Students

- Diana White (2008–present) [jointly supervised with A. Dawes, Ohio State University]
- Raluca Eftimie (2002–2008) [jointly supervised with M. Lewis]
Thesis title: *Modeling group formation and activity patterns in self-organizing communities of organisms.*
Moved on to: Lecturer, Department of Mathematics, University of Dundee.
- Gustavo Carrero (1999–2005)
Thesis title: *Quantifying and modelling the spatio-temporal dynamics of nuclear proteins.*
Moved on to: Assistant Professor (tenure-track) of Mathematics, Centre for Science, Athabasca University.

M.Sc. Students

- Harun Kalayci (2009–present)
- Anastasia Lykyanova (2009–2011)
Thesis title: *Spatial modeling of the composting project.*
Moved on to: Employment in industry, Vancouver, BC.
- Rita Wong (2008–2010)
Thesis title: *Study of animal movement and group formation with a Lagrangian model.*
Moved on to: Employment as a mathematics and physics high school teacher, Hong Kong, People's Republic of China.
- Vishaal Rajani (2008–2010)
Thesis title: *Quantitative analysis of single particle tracking experiments: applying ecological methods in cellular biology.*
Moved on to: Ph.D. program, Department of Physiology, University of Alberta.
- Diana White (2006–2008)
Thesis title: *Modeling body composition with special attention to visceral adiposity.*
Moved on to: Ph.D. program, Department of Mathematical & Statistical Sciences, University of Alberta.
- Andrew Beltaos (2004–2006)
Thesis title: *An introduction to discrete bursting.*
Moved on to: Employment as a sessional instructor, Department of Mathematical & Statistical Sciences, University of Alberta.
- Ozden Yurtseven (2004–2006) [jointly supervised with T. Hillen]
Thesis title: *Effects of the cell cycle on the Tumor Control Probability (TCP) in radiation treatment and comparison of protocols.*
Moved on to: After-Degree program, School of Business, University of Alberta.
- Bettina Greese (2004–2005) [jointly supervised with T. Hillen]
Thesis title: *Development, analysis and application of a nonlinear integro-differential equation.*
Moved on to: Ph.D. program, University of Freiburg, Germany.
- Christopher Meyer (1999–2000)
Thesis title: *Mathematical models for vasomotion and the myogenic response.*
Moved on to: Employment in the IT sector, Switzerland.
- Lisa Corscadden (1998–2000)
Thesis title: *Mathematical model of bursting electrical activity of pancreatic beta cells in response to glucose diffusion.*
Moved on to: Employment at the Canadian Institute for Health Information, Ottawa.

Undergraduate Students

- Neil Borle (2011)
- Dustin Chelen (2011)
- Rochelle Nieuwenhuis (NSERC USRA, 2011)
- Cole Zmurchok (2009 and 2010)
- Michael Chi (2009)
- William (Billy) Davis (2009)
- David Galavan (2009)
- Vishaal Rajani (NSERC USRA, 2007 and 2008)
- Andrew (Drew) Hanson (2006–2008)
- Pandora Lam (NSERC USRA, 2006)
- Robert Barrington-Leigh (NSERC USRA, 2004)
[jointly supervised with T. Hillen]
- Andrew Beltaos (2002, 2003, 2004)
[jointly supervised with M. Lewis and T. Hillen]
- Richard Kublik (NSERC USRA, 2003)
- Patricia Taylor (NSERC USRA, 2001)
- Araya Ruangkittisakul (AHFMR summer studentship, 2001)
- Tijan Watt (research trainee, 1996)

High School Students

- Emma McDonald (WISEST summer student, 2010)
- Nadia Shardt (WISEST summer student, 2010)
- Àálá Ábdulláhi (WISEST summer student, 2009)
- Carmen Rygh (WISEST summer student, 2009)
- Rachel Peredery (WISEST summer student, 2006)

OTHER RESPONSIBILITIES FOR STUDENTS

External Examiner

- Adriana Dawes, Ph.D. 2006, University of British Columbia
- Alex Hodge, M.Sc. 2003, University of Victoria
- Taunia Closson, M.Sc. 2002, University of Lethbridge

Supervisory Committee Member

- William (Billy) Davis, M.Sc. candidate, Department of Mathematical & Statistical Sciences
- Silogini Thanarajah, Ph.D. candidate, Department of Mathematical & Statistical Sciences
- Jiafen Gong, Ph.D. 2011, Department of Mathematical & Statistical Sciences
- Jungmin Lee, Ph.D. 2006, Department of Mathematical & Statistical Sciences
- Andria Dawson, M.Sc. 2005, Department of Mathematical & Statistical Sciences
- Catherine Beauchemin, Ph.D. 2005, Department of Physics
- Wenxiang Liu, Ph.D. 2005, Department of Mathematical & Statistical Sciences
- Ibrahim Agyemang, M.Sc. 2001, Department of Mathematical & Statistical Sciences

Candidacy & Final Oral Examiner

- Ulrike Schlaegel, Candidacy 2012, Department of Mathematical & Statistical Sciences

- Irene Meglis, Candidacy 2010, Department of Secondary Education
- Hojeong Kim, Candidacy 2009, Department of Biomedical Engineering
- Peter Molnar, Ph.D. 2009, Department of Mathematical & Statistical Sciences and Department of Biological Sciences
- Jonathan Martin, Candidacy 2009, Department of Mathematical & Statistical Sciences
- Hashem Taha, Candidacy 2008, Department of Chemistry
- Achara Chaisantikulwat, M.Sc. 2006, Department of Chemical & Materials Engineering
- Javier Cuervo, Candidacy 2006, Department of Chemistry
- Peter Molnar, Candidacy 2005, Department of Mathematical & Statistical Sciences and Department of Biological Sciences
- Jonathan Mane, M.Sc. 2001, Department of Chemistry
- Jason Middleton, M.Sc. 2001, Department of Physics
- Frank Nani, Ph.D. 1998, Department of Mathematical & Statistical Sciences

COURSES TAUGHT & SEMINARS ORGANIZED

Year	Courses at the University of Alberta	Evaluation	Enrolment
2011–2012	SCIENCE 100		29
2010–2011	SCIENCE 100	4.8	32
2009–2010	SCIENCE 100	4.8	27
	MATH 499 Research Project	written	7
2008–2009	SCIENCE 100	4.8	21
2007–2008	SCIENCE 100 (course development only)	–	–
	MATH 570 Mathematical Biology	written	8
2006–2007	None (sabbatical)	–	–
2005–2006	MATH 100 Calculus I (for engineering students)	4.9	85
	MATH 201 Differential Equations (for engineering students)	4.9	94
	MATH 372 Mathematical Modelling I	5.0	15
2004–2005	MATH 100 Calculus I (for engineering students)	4.9	88
	MATH 201 Differential Equations (for engineering students)	4.9	84
	MATH 372 Mathematical Modelling I	4.9	10
2003–2004	MATH 100 Calculus I (for engineering students)	4.8	66
	MATH 101 Calculus II (for engineering students)	4.9	89
	MATH 372 Mathematical Modelling I	4.9	19
2002–2003	MATH 101 Calculus II (for engineering students)	4.9	88
	MATH 209 Calculus III (for engineering students)	4.8	71
	MATH 372 Mathematical Modelling I	4.8	21
2001–2002	MATH 100 Calculus I (for engineering students)	4.6	42
	MATH 102 Basic Linear Algebra I (for engineering students)	4.6	75
	MATH 663 Introduction to Mathematical Biology	written	6
2000–2001	MATH 102 Basic Linear Algebra I (for engineering students)	4.0	82
	MATH 114 Elementary Calculus I (for science students)	4.5	80
	MATH 372 Mathematical Modelling I	written	9
1999–2000	MATH 524 Ordinary Differential Equations (core course)	4.7	11
	MATH 664 Introduction to Mathematical Biology	written	8
1998–1999	MATH 280 Numerical Methods I	4.5	30
	MATH 524 Ordinary Differential Equations (core course)	4.6	13
Year	Summer Schools at the University of Alberta		
2009–2010	Mathematics of Biological Systems, 7th Annual Mathematical Biology Summer Workshop		
2007–2008	Mathematics of Biological Systems, 6th Annual Mathematical Biology Summer Workshop		

2006–2007	Mathematics of Biological Systems, 5th Annual Mathematical Biology Summer Workshop
2003–2004	Mathematics of Biological Systems, 3rd Annual Mathematical Biology Summer Workshop
2002–2003	Mathematics of Biological Systems, 2nd Annual Mathematical Biology Summer Workshop
2001–2002	Mathematics of Biological Systems, 1st Annual Mathematical Biology Summer Workshop

The above courses in mathematical biology are 11-day intensive workshops held at the beginning of May each year. The audience consists of mature undergraduate students from the mathematical sciences and beginning graduate students from the biological sciences. Students are introduced to the modelling of biological systems via mathematical and computational tools. Students receive instruction through formal lectures and exercise sessions, work through a self-guided Maple tutorial, and experience the modelling process by working in groups on open-ended research projects.

Year Seminars at the University of Alberta

2011–2012	Mathematical Biology Journal Club [with T. Hillen] Compost Research Group [with M. Flynn]
2010–2011	Mathematical Biology Journal Club [with A. Dawes and T. Hillen]
2009–2010	Mathematical Biology Journal Club [with A. Dawes and T. Hillen]
2005–2006	Seminar in Mathematical Physiology [with T. Hillen]
2004–2005	Seminar in Mathematical Physiology [with T. Hillen]
2003–2004	MATH 656 Seminar in Mathematical Biology
2001–2002	MATH 659 Seminar in Mathematical Biology (two terms)
2000–2001	MATH 659 Seminar in Mathematical Biology (two terms) MITACS MMPD Seminar Series
1999–2000	Weekly group meetings in Mathematical Biology

Year Courses at the University of British Columbia

Year	Courses at the University of British Columbia	Enrolment
1994–1995	MATH 101 Calculus II (for science students) [3 sections]	28, 24, 29
1993–1994	MATH 100 Calculus I (for science students)	32
	MATH 101 Calculus II (for science students)	31
1992–1993	MATH 101 Calculus II (for science students)	30
1990–1991	MATH 100 Calculus I (for science students)	27

SERVICE TO THE SCIENTIFIC COMMUNITY

Societies

- President, Society for Mathematical Biology (07/2011 - 06/2013)
- President-Elect, Society for Mathematical Biology (07/2010 – 06/2011)
- Member, Panel on Undergraduate Education in Mathematical Biology, Mathematical Biosciences Institute (with SIAM and SMB) (01/2009 –).
- Member, Committee on Committees, Association for Women in Mathematics (11/2008 – 01/2010).
- Member, Committee for Women in Mathematics, Canadian Mathematical Society (01/2008 – 12/2009).
- Chair, Nominating Committee, Society for Industrial and Applied Mathematics Activity Group on Life Sciences (2008).
- Member, Richard C. DiPrima Prize Selection Committee, Society for Industrial and Applied Mathematics (2008).
- Member, Nominating Committee, Society for Mathematical Biology (2007).
- Chair, Committee for Women in Mathematics, Canadian Mathematical Society (01/2006 – 12/2007).
- Secretary (elected), Society for Industrial and Applied Mathematics Activity Group on Life Sciences (01/2005 – 12/2006).
- Chair, Mentoring Committee, Society for Mathematical Biology (1999–2006).

- Member (elected), Board of Directors, Society for Mathematical Biology (2000–2004).
- Secretary, Society for Mathematical Biology (2001–2004).

Centres and Institutes

- Member, Scientific Advisory Board, Mathematical Biosciences Institute, Ohio State University, Columbus, OH (01/2011 – 12/2013)
- Member, Scientific Advisory Board, Centre for Applied Mathematics in Bioscience and Medicine, McGill University, Montreal, QC (10/2010 –)
- Member, Young Researcher Award Selection Committee, Mathematics of Information Technology and Complex Systems (MITACS) Network of Centres of Excellence (2010)

Organization of Conferences/Symposia/Workshops

- Member, Scientific Advisory Committee, Society for Mathematical Biology Annual Meeting and Conference, Knoxville, TN, July 25–28, 2012.
- Member, Scientific Committee, Butler Conference, University of Alberta, July 25–30, 2011.
- Member, Organizing Committee, Association for Women in Mathematics Minisymposium, International Congress on Industrial and Applied Mathematics, Vancouver, BC, July 18–22, 2011.
- Member, Scientific Committee, European Conference on Mathematical and Theoretical Biology, Cracow, Poland, June 28 - July 2, 2011.
- Organizer, Mathematics of Biological Systems, 7th Annual MITACS Mathematical Summer Workshop, University of Alberta, May 4–14, 2010.
- Co-organizer, Connecting Women in Mathematics Across Canada IV (workshop), University of Ottawa, Ottawa, ON, December 4–5, 2008.
- Organizer, Mathematics of Biological Systems, 6th Annual PIMS Mathematical Biology Summer Workshop, University of Alberta, May 6–16, 2008.
- Co-organizer, Mathematical Biology (invited session), Joint Conference of the Canadian Mathematical Society and Mathematics of Information Technology and Complex Systems (MITACS), Winnipeg, MB, June 1–3, 2007.
- Co-organizer, Innovations in Mathematics Education via the Arts (workshop), Banff International Research Station, Banff, AB, January 21–26, 2007.
- Co-organizer, Connecting Women in Mathematics Across Canada III (workshop), Canadian Mathematical Society and Fields Institute, Toronto, ON, December 7–8, 2006.
- Co-organizer, Women in Mathematics (workshop), Banff International Research Station, Banff, AB, September 23–28, 2006.
- Co-organizer, Connecting Women in Mathematics Across Canada II (workshop), Canadian Mathematical Society and Pacific Institute for the Mathematical Sciences, Banff, AB, July 21–23, 2005.
- Scientific Committee, European Conference on Mathematical and Theoretical Biology, European Society for Mathematical and Theoretical Biology and Society for Mathematical Biology, Dresden, Germany, July 18–22, 2005.
- Co-organizer, Biomedical Workshop, Mathematics of Information Technology and Complex Systems (MITACS), Montreal, QC, January 18–19, 2005.
- Co-organizer, Synchrony in Neural Networks (contributed minisymposium), Conference on the Life Sciences, Society for Industrial and Applied Mathematics, Portland, OR, July 11–14, 2004.
- Co-organizer, Connecting Women in Mathematics Across Canada (workshop), Canadian Mathematical Society and Pacific Institute for the Mathematical Sciences, Edmonton, AB, June 12–13, 2003.
- Organizer, Mathematical Neurophysiology (invited minisymposium), International Conference on Mathematical and Theoretical Biology, Society for Mathematical Biology and Japanese Association for Mathematical Biology, Hilo, HI, July 16–19, 2001.
- Co-organizer, Workshop on Mathematical Physiology, Pacific Institute for the Mathematical Sciences, University of British Columbia, Vancouver, BC, 1999.

Editorial Activities

- Co-editor of the Proceedings of the European Conference on Mathematical and Theoretical Biology, Dresden, Germany, 2005.

Grant Reviews

- Natural Sciences and Engineering Research Council
- National Science Foundation
- European Science Foundation
- Canada Foundation for Innovation
- Fields Institute
- Mathematics of Information Technology and Complex Systems (MITACS NCE)
- Alberta Ingenuity Fund Fellowship Review Committee (2003, 2004)

Journal Refereeing

- Bulletin of Mathematical Biology, Journal of Theoretical Biology, IMA Journal of Mathematics Applied in Medicine and Biology, Biological Cybernetics, Mathematics in Biology and Medicine, PLOS Computational Biology
- Journal of Nonlinear Science, SIAM Journal on Applied Dynamical Systems, SIAM Journal of Applied Mathematics, Methods and Applications of Analysis, Mathematical and Computer Modelling
- Journal of Neurophysiology
- Physica D, Physical Review E, Physics Letters A, Biophysical Chemistry, Journal of Biophysical and Biochemical Methods, Journal of the Royal Society Interface

Book Refereeing

- Calculus textbook for McGraw-Hill (2006)

Program Reviews

- Dalhousie Integrated Science Program, Dalhousie University (2009–2010)

SERVICE TO THE DEPARTMENT

Committees

2011–2012	Executive Curriculum
2010–2011	Executive Curriculum
2009–2010	Executive Teaching Awards Curriculum
2008–2009	Executive Appointment: Tenure-track position in Mathematical Biology Teaching Awards MATH 100 Crisis
2007–2008	Executive Appointment: General Appointment: Tenure-track position in Mathematical Biology Appointment: Max Wyman position in Mathematical Biology (Chair)
2006–2007	None (sabbatical)
2005–2006	Outreach & Recruitment (Chair)

	UFA Appointment (Chair)
	Curriculum
	Nursing/Medicine Liaison
2004–2005	Outreach & Recruitment (Chair)
	Undergraduate Teaching: Mentors/Awards
	UFA Appointment
	Faculty Lecturer Selection
	MITACS-MMPD Management
	Nursing/Medicine Liaison
2003–2004	Outreach & Recruitment (Chair)
	MITACS-MMPD Management
	Pacific Institute for the Mathematical Sciences Steering
	Nursing/Medicine Liaison
2002–2003	Executive
	Outreach & Recruitment (Chair)
	MITACS-MMPD Management
2001–2002	Outreach & Recruitment (Chair)
	MITACS-MMPD Management
	Pacific Institute for the Mathematical Sciences Steering
	Nursing/Medicine Liaison
2000–2001	Graduate Admissions
	Outreach & Recruitment
	MITACS-MMPD Management
	Pacific Institute for the Mathematical Sciences Steering
1999–2000	Graduate Admissions
	Pacific Institute for the Mathematical Sciences Steering
	Undergraduate Recruitment
	Computer Replacement Committee (NSERC Equipment Grant)
1998–1999	Alumni and High School Liaison
	Graduate Scholarships
1993–1994	Teaching Assistant Skills
1992–1993	Graduate Affairs
1991–1992	Course Evaluation

Other

- Acting Chair (various periods in 2010–2011 and 2011–2012)
- Course captain for MATH 100 (Fall 2004, Fall 2005)
- Organizer, J.R. McGregor Public Lecture in the Mathematical Sciences, November 2002
- Graduate Student Teaching Mentor (2 students in 1999–2000; 1 student in 2000–2001)
- Represented Department at a meeting with Alberta Learning, December 1999
- Represented Department at the University of Alberta General Meeting, September 1999

SERVICE TO THE FACULTY OF SCIENCE

Committees

2011–2012	Advisory Board, Centre for Mathematical Biology
2010–2011	Advisory Board, Centre for Mathematical Biology
2009–2010	Advisory Board, Centre for Mathematical Biology
2008–2009	Awards Selection Committee
	Advisory Board, Centre for Mathematical Biology
	PIMS-UA Steering Committee

2007–2008	Science 100 Development Committee Awards Selection Committee Advisory Board, Centre for Mathematical Biology
2005–2006	Science 100 Development Committee Visiting Committee Martha Cook Piper Research Prize Committee
2000–2001	Visiting Committee Dean’s Information Forum

SERVICE TO THE UNIVERSITY

- Judge, Students’ Union Undergraduate Research Symposium (11/2011)
- Panelist, The Undergraduate Research Initiative (11/2011)
- Panelist, CAPS: Your U of A Career Centre (03/2011)
- Member, Provost and Vice-President (Academic) Representative on Selection or Review Committee for Department Chair (07/2010 – 06/2013)
- Presenter, FGSR NSERC Competition Workshop (10/2010 and 09/2011)
- Member, CRYSTAL-Alberta Management Committee (09/2005 – 10/2010)
- Consultant, University Teaching Services Peer Consultation Program (01/2005 – 06/2010)
- Member, GFC Committee on the Learning Environment (01/2007 – 06/2009)
- Member, Vargo Chair Selection Committee (05/2009)
- Member, FGSR Graduate Scholarship Committee (01/2008 – 12/2008)
- Member, WISEST Ad-hoc Board Restructuring Committee (07/2005 – 06/2006)
- Faculty Representative, Selection Committee for Dean of Science (07/2002 – 06/2003)

SERVICE TO THE PUBLIC

- Presenter, The Centre for Global Education at Queen Elizabeth High School, Edmonton, AB, April 2012.
- Speaker, Edmonton & District Quilters’ Guild, Edmonton, AB, March 2012.
- Presenter, The Centre for Global Education at Queen Elizabeth High School, Edmonton, AB, November 2011.
- Guest instructor, Alberta Summer Mathematics Institute, University of Alberta, July 2011.
- Speaker, Edmonton & District Quilters’ Guild, Edmonton, AB, March 2011.
- Panelist, WISEST Summer Research Program, University of Alberta, August 2010.
- Role model at the WISEST Summer Research Program. University of Alberta, July 2010.
- Assembly speaker at Glen Allan Elementary School, Sherwood Park, AB, April 2010.
- Consultation to the Department of Mathematics, Harry Ainley High School, Edmonton, AB, February 2009.
- Hosted visit by the Girls and Boys Club of Edmonton to the University of Alberta, May 2009.
- Role model at the WISEST Summer Research Program, University of Alberta, July 2008.
- Role model at the WISEST SET conference for Grade 11 students, University of Alberta, March 2007.
- Consultation to the Department of Mathematics, Strathcona High School, Edmonton, AB, May 2006.
- Role model at the WISEST SET conference for Grade 11 students, University of Alberta, March 2006.

- Consultation to Telus World of Science about their new Math Fundamentals exhibit, 2006.
- *Solving math problems with soap bubbles*, Grades 4–6, Westglen Elementary School, April 2005.
- Role model at the WISEST Summer Research Program, University of Alberta, July 2004.
- *Origami: Art, science, or architecture?*, Edmonton Association for Bright Children, May 2004.
- Role model at the WISEST SET conference for Grade 11 students, University of Alberta, March 2004.
- *Numbers in biology*, WISEST SET conference for Grade 11 students, University of Alberta, March 2003.
- *Solving math problems with soap bubbles*, Grades 4–6, Lynnwood Elementary School, January 2003.
- Judge, Edmonton Regional Science Fair, April 2002.
- *Problem solving with soap bubbles*, WISEST SET conference for Grade 11 students, University of Alberta, March 2002.
- *Solving math problems with soap bubbles*, Grades 4–6, Kensington Elementary School, May 2001.
- *Origami: Art, science, or architecture?*, WISEST SET conference for Grade 11 students, University of Alberta, April 2001.
- *Solving math problems with soap bubbles*, Grade 4, Windsor Park Elementary School, March 2001.
- *Escher tessellations*, ESSO Mathematics Camp for junior high school students, University of Alberta, August 2000.
- *Discovering Euler’s formula*, Grades 4–6, Glenora Elementary School, May 2000.
- Judge, Edmonton Regional Science Fair, April 2000.
- *Solving math problems with soap bubbles*, Grades 4–6, Glenora Elementary School, October 1999.
- Judge, Canada-Wide Science Fair, University of Alberta, May 1999.
- Judge, Edmonton Regional Science Fair, April 1999.
- *Marshmallow geometry*, Science Club, North Chevy Chase Elementary School, Chevy Chase, MD, December 1996.
- *Marshmallow geometry*, Science: Get Psyched!, Girl Scouts of the Nation’s Capital, Washington DC, March 1996.
- Visited secondary schools and conducted workshops to prepare Math 12 students for the Euclid contest and university mathematics courses, 1993–1995.
- *Origami: Art, science or architecture?*, Shad Valley, University of British Columbia, July 1995.
- *Origami: Art, science or architecture?*, Science World, Vancouver, BC, February 1995.
- *On the geometry of soap films and soap bubbles*, Shad Valley, University of British Columbia, July 1994.
- *Origami: Art, science or architecture?*, Discover the Possibilities conference for senior high school students, Simon Fraser University, April 1994.
- *MathemArtistics*, Education Department at Science World, Vancouver, BC, May and November 1993; Big Sisters, November 1993.
- *On the geometry of soap films and soap bubbles*, Shad Valley, University of British Columbia, July 1993.
- *Science Day*, Big Sisters, Vancouver, BC, February 1992.
- *Fabulous Fibonacci facts*, Songs of Science Conference for junior high school students, University of British Columbia, October 1991.
- Judge, Canada-Wide Science Fair, University of British Columbia, May 1991.

MEDIA COVERAGE

- *New math support centre popular among students*, The Gateway, University of Alberta, December 7, 2011.
- *New math centre helps students bridge the gap*, Science Contours, University of Alberta, 25(2), p. 17, 2011.

- *Quilts as mathematical objects*, Science Contours, University of Alberta, 25(2), p. 8, 2011.
- *AWM Marks 40th Anniversary with Embedded Meeting at ICIAM*, SIAM News, November 18, 2011.
- *Biological mathematician uses principles of geometry in signature quilts*, Folio, University of Alberta, November 18, 2011.
- *Traffic Flow and Crowd Dynamics: Through a Computational Lens at ICIAM 2011*, YouTube video produced for SIAM Connect, <http://connect.siam.org/?p=1410>, <http://www.youtube.com/user/SIAMConnects>, November 2011.
- *Mathematical Biology: Understanding Animal Behavior Through Computation*, YouTube video produced for SIAM Connect, <http://connect.siam.org/?p=1455>, <http://www.youtube.com/user/SIAMConnects>, November 2011.
- Interview on CBC Radio Edmonton AM, June 2, 2011.
- *Math goes viral*, ExpressNews, University of Alberta, December 10, 2009.
- *McGill and the math of quilting*, Montreal Gazette, November 25, 2009.

PROFESSIONAL AFFILIATIONS

Institutional

- Applied Mathematics Institute, University of Alberta
- Centre for Mathematical Biology, University of Alberta

National and International

- Association for Women in Mathematics
- Canadian Applied and Industrial Mathematics Society
- Canadian Mathematical Society
- European Society for Mathematical and Theoretical Biology
- Society for Industrial and Applied Mathematics
- Society for Mathematical Biology