

SHELLEY B. BULL

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EDUCATION:

1976 B. Math. University of Waterloo (Statistics)
1977 M. Math. University of Waterloo (Statistics)
1983 Ph.D. The University of Western Ontario (Epidemiology & Biostatistics)

APPOINTMENTS HELD:

1983-85 Ontario Ministry of Health Postdoctoral Fellow, Department of Epidemiology and Biostatistics,
The University of Western Ontario

1985-86 Assistant Professor, Department of Epidemiology and Biostatistics, The University of Western
Ontario

1986-91 Staff Scientist, Division of Clinical Epidemiology, Samuel Lunenfeld Research Institute of
Mount Sinai Hospital, Toronto, Ontario

1991- Senior Scientist, Samuel Lunenfeld Research Institute of Mount Sinai Hospital

1986-93 Assistant Professor, Department of Preventive Medicine and Biostatistics, University of Toronto
1993-2001 Associate Professor, Department of Public Health Sciences (formerly known as Department of
Preventive Medicine and Biostatistics), University of Toronto

2000-2001 Associate Professor, Department of Health Administration, University of Toronto
2001-2008 Professor, Department of Public Health Sciences, University of Toronto
2008- Professor, Dalla Lana School of Public Health, University of Toronto

1988-92 Associate Member, Graduate Department of Community Health, School of Graduate Studies,
University of Toronto

1992- Member, Graduate Department of Public Health Sciences, U of Toronto
2001- Member, Graduate Department of Statistics, U of Toronto

RESEARCH AWARDS:

1979-1983 National Health Research Development Program, Doctoral Training Award
1983-1985 Ontario Ministry of Health Post-doctoral Fellowship
1989-94 National Health Research Scholar, National Health Research Development Program (First award)
1994-99 National Health Research Scholar (Second award)
2001 Recipient of The Anthony Miller Award For Excellence In Research In Public Health to
recognize the outstanding contributions to research of faculty in the Graduate Department of
Public Health Sciences.
2002 Recipient of 2001 Best Paper Award from the International Genetic Epidemiology Society for the
article entitled: Design considerations for association studies of candidate genes in families,
Genetic Epidemiology 20:149-174, 2001. Authors SB Bull, GA Darlington, CMT Greenwood, J
Shin.

2002-2007 Senior Investigator, Canadian Institutes of Health Research
 2012 Recipient of International Genetic Epidemiology Leadership Award in recognition of outstanding leadership through research, teaching or service to the Society

EDITORIAL AND REVIEW ACTIVITIES:

Associate Editor of the American Journal of Epidemiology (1991-98).
 Associate Editor of the Canadian Journal of Statistics (2007-2013)
 Associate Editor of Statistics in Medicine (2010- present).

Review of papers submitted for publication in:

Journal of the American Statistical Association, Canadian Journal of Statistics, International Journal of Epidemiology, American Journal of Epidemiology, Canadian Journal of Public Health, Pediatric Research, Journal of the National Cancer Institute, American Journal of Human Genetics, Nature Genetics, Genetic Epidemiology, Human Heredity, Statistics in Medicine, Biometrics, Biometrika, Communications in Statistics, Statistical Methods in Genetics and Molecular Biology, Heredity, Applied Statistics (JRSS-C), J of the Royal Statistical Society (JRSS-A)

Member of review committee for National Health Research Development Program Training Awards (1990-94).
 Ad hoc member - Genetics Panel review committee, Medical Research Council of Canada (1998)
 Member - Population Health Review Committee, Canadian Institutes for Health Research (2000-03).
 Invited Member - Genetics Review Committee, Canadian Institutes for Health Research (2005).
 Member - Panel C - Molecular, Environmental & Lifestyle Cancer, National Cancer Institute of Canada (2005-2008).
 Member – Genetics Review Committee, Canadian Institutes for Health Research (2007-2011).

Review of grant applications for:

Ontario Ministry of Health - Health Care Systems Grant Review Committee,
 Natural Sciences & Engineering Research Council - Statistical Sciences Committee,
 Natural Sciences & Engineering Research Council – Genomics Program Committee,
 Physician Services Incorporated Foundation, Heart and Stroke Foundation, Medical Research Council of Canada/ Canadian Institutes for Health Research, National Cancer Institute of Canada, Alberta Heritage Foundation, Michael Smith Foundation for Health Research, The Wellcome Trust, UK.

OTHER PROFESSIONAL ACTIVITIES:

Scientific Program Chair, Statistical Society of Canada Annual Meeting, June 2011.
 Member, Organizing Committee, Annual Canadian Genetic Epidemiology and Statistical Genetics Workshop, March 2006, March 2007, April 2008, May 2009, April 2010, May 2011.
 Session Organizer, 2006 MITACS Annual Meeting, Full day session on Bioinformatics (sub-theme Statistical Genomics), June 19, 2006.
 Organizer, Fields Institute/MITACS Workshop in Honour of David F Andrews and Short Course in Microarray Data Analysis, May 23-25, 2002.
 Session Organizer and Chair, Statistical Methods for Microarray Gene Expression Data, Annual Meeting of the Statistical Society of Canada, May 2002.
 Session Organizer and Chair, Symposium on Statistical Analysis in Genetic Epidemiology -Using Genetic and Epidemiologic Information in the Investigation of Disease Susceptibility, First North American Congress of Epidemiology 2001, Toronto, Ontario, June 2001.
 Organizer, Centre de Recherche Mathématique (CRM) Workshops in Statistics and Epidemiology & in Statistics and Genetic Epidemiology, Montreal, May 4-15, 1998, (1996-98).
 Session Organizer and Chair, Statistical Issues in Human Genetics, Annual Meeting of the Statistical Society of Canada, June 1997.

Member, Research Committee of the Statistical Society of Canada (2012-).
 Member – Advisory Committee, Genetic Analysis Workshops (2011 – present)
 Member – Board of Directors, International Genetic Epidemiology Society (2005 - 2008)
 Member, Genetic Epidemiology Best Paper Committee, International Genetic Epidemiology Society, (2004 - 2005).
 Member (Co-Chair 2001-2005), Joint Priorities & Planning Committee in Genetic Epidemiology for the CIHR Institutes of Genetics and Population and Public Health (2001-2011)
 Member, Awards Committee of the Statistical Society of Canada (1997-2000, 2004-2006).
 Member, Publications Committee of the Statistical Society of Canada (1995-97)
 Secretary of the Biostatistics Section of the Statistical Society of Canada (1992-95).
 Member, Local Organizing Committee, XVII International Biometrics Conference (1992-94).
 Vice-Chair of the Canadian Section of the Caucus for Women in Statistics (1991-92).
 Ontario regional representative - Board of Directors, Statistical Society of Canada (1989-91).

Member, Advisory Graduate Chair Search Committee, Graduate Department of Statistics, U of Toronto (2013)
 Member, Advisory Search Committee, Chair of the Department of Statistical Sciences, U of Toronto (2013)
 Member, Credentials Committee - Samuel Lunenfeld Research Institute (2006-2007, 2011, 2013).
 Member, Search Committee for Position in Molecular or Genetic Epidemiology - Samuel Lunenfeld Research Institute (2006).
 Member, Promotions Committee - Dept of Public Health Sciences (2004-2007).
 Member, Search Committee for Director - Samuel Lunenfeld Research Institute (2000-2002).
 Member, Computer Coordinating Committee - Lunenfeld Research Institute (1989-94, 1996-2005).
 Member, Ad-hoc Committee to Review Associate Membership - Samuel Lunenfeld Research Institute (2000).
 Member, Search Committee for Positions in Biostatistics - Dept of Public Health Sciences (2000).
 Member, Search Committee for Positions in Genetic Statistics and Genetic Epidemiology - Samuel Lunenfeld Research Institute (2000).
 Member, Search Committee for Position in Statistical Genetics – Hospital for Sick Children Research Institute (1999-2000).
 Member, Search Committee for Head, Division of Epidemiology - Samuel Lunenfeld Research Institute (1996-98)
 Member, Science Day Committee - Samuel Lunenfeld Research Institute (1996).
 Acting administrative head, Division of Clinical Epidemiology, Samuel Lunenfeld Research Institute (while Head on sabbatical leave, Sept 1995- June 1996).
 Member, Animal Care Committee - Samuel Lunenfeld Research Institute (1995-98).
 Member, Equipment Committee - Samuel Lunenfeld Research Institute (1994-95)
 Member, Steering Committee of the Samuel Lunenfeld Research Institute (1991-94).
 Chairperson of Committee considering the role of hospital-based PhDs in the Program in Clinical Epidemiology, University of Toronto. Reported to the First Retreat of the Clinical Epidemiology Program, December 19, 1988.

CURRENT FUNDING HELD:

2009 – 2013 Discovery & characterization of clinically important changes in axillary node-negative breast cancer. IL Andrulis (PI), **SB Bull**, FP O'Malley, CIHR (\$ 1,773,450 in total)
 2009 - 2015 Regression models for genetic and genomic data. **SB Bull** (PI). Individual Discovery Grant, Natural Sciences and Engineering Research Council (\$ 190,000 in total).
 2010 – 2016 STAGE: An integrated program in statistical and epidemiological training for genetics with a population health impact. F Gagnon (co-PI), **SB Bull** (co-PI), RJ Hung, G Liu, S Narod, J McLaughlin, E Parra, AD Paterson, S Scherer, L Sun. STIHR Program, CIHR (\$ 1,790,000 in total).
 2012 - 2013 Lipids in type 1 diabetes. AD Paterson (PI), A Boright, A Canty, **SB Bull**, K Eny. CIHR (\$100,000 in total).

- 2012 - 2015 Genetics of the decline in Glomerular Filtration Rate in Type 1 Diabetes. AD Paterson (PI), **SB Bull**, A Boright, L Sun, R Klein, B Klein, M Mauer, I de Boer, D Maahs. Juvenile Diabetes Research Foundation (International) (US\$1,457,482 in total).
- 2012 - 2016 Analysis methods for the next generation of complex trait studies. **SB Bull** (PI), RV Craiu. Collaborators: Sun L, Paterson AD, Yoo YJ, CIHR (\$ 436,366 in total)

PAST FUNDING RECEIVED:

- 1983-85 An evaluation of hyperbaric oxygen therapy in the treatment of multiple sclerosis: a double blind evaluation. With G.D. Harpur (PI), Tobermory Hyperbaric Facility and Department of Family Medicine, The University of Western Ontario. Funded by The Physician's Services Incorporated Foundation (\$149,000).
- 1984-85 Changes in functional abilities of women with premenstrual syndrome: a feasibility study. B. Posthuma (PI) et al., Program in Occupational Therapy, University of Western Ontario. Funded by the Ontario Ministry of Health. (\$10,000).
- 1986-87 Population survey of attitudes toward anti-smoking measures: Further analyses of attitudes and knowledge. L.L. Pederson (PI), **S.B. Bull**, M.J. Ashley and N.M. Lefcoe, Department of Epidemiology and Biostatistics, The University of Western Ontario. Ontario Ministry of Health (\$20,586). Follow-up to previous funding for: Analysis of a survey of knowledge and attitudes toward smoking and restrictive measures against smoking in the Province of Ontario, LL Pederson (PI), Ontario Ministry of Health, 1983-85 (\$88,000).
- 1987 Further development of methods for sample size determination in logistic regression. Funded by the Dean's Fund for new staff, Faculty of Medicine, U of Toronto (\$5,000).
- 1987 Microcomputer requirements for epidemiologically-based clinical research. A.G. Logan and **S.B. Bull**, Division of Clinical Epidemiology, Mount Sinai Hospital Research Institute. Ontario Ministry of Health, Clinical Research Equipment Fund (\$50,000).
- 1984-89 A study of regional differences in perinatal and infant mortality in the Province of Ontario. C.W. Buck and **S.B. Bull**, Department of Epidemiology and Biostatistics, The University of Western Ontario. National Health Research Development Program (\$181,800).
- 1987-90 Estimation in polychotomous logistic regression with mixed covariates. Natural Sciences and Engineering Research Council, **S.B. Bull** (PI), Individual Operating Grant (\$25,299).
- 1988-90 Evaluation of the Workplace Smoking bylaw in the City of Toronto: A survey of knowledge, attitudes and smoking behaviour. L.L. Pederson (PI), **S.B. Bull**, M.J. Ashley, J. Garcia, N. Lefcoe, A. MacPherson, University of Western Ontario and University of Toronto. National Health Research Development Program (\$121,498).
- 1989-94 National Health Research Scholar Award. National Health Research Development Program (\$252,899).
- 1989-95 Prognostic value of neu oncogene amplification and EGFr overexpression in node-negative breast cancer. I.L. Andrulis (PI), **S.B. Bull**, M.E. Blackstein. Ontario Ministry of Health (\$688,123).
- 1989-90 Nutrition and lipids in cyclical mastopathy - a feasibility project. P.J. Goodwin (PI), **S.B. Bull**, S. Sidlofsky, L. Gougeon, Mount Sinai Hospital. Ont Ministry of Health (\$13,000).
- 1990-91 Does MDR1 gene expression influence outcome in osteosarcoma? Prognostic significance of multidrug resistance gene expression in sarcoma. R.S. Bell (PI), I. Andrulis, M.E. Blackstein, **S.B. Bull**, P. Goodwin, S. Keating. Ont Ministry of Health (\$55,887).
- 1991-92 A population survey on legislative measures to restrict smoking in Ontario: Trends in knowledge, attitudes and predicted behaviour from 1983 to 1991. **S.B. Bull** (PI), L.L. Pederson, M.J. Ashley. Funded by the Health Promotion Branch, Ontario Ministry of Health (\$89,700).
- 1991-92 Canadian three-centre study of anesthetic outcomes (Renewal third year), M.M. Cohen (PI), P. Duncan, **S.B. Bull**, L.L. Roos. National Health Research Development Program (\$77,000).
- 1989-93 Prevention of non-A, non-B post-transfusion hepatitis by screening donor blood for anti-HBc and ALT: A prospective, randomized, double-blind controlled trial. S.V. Feinman (PI), M.A. Blajchman (PI), et al. (**S.B. Bull**) Funded by the National Health Research Development Program and the Canadian Red Cross (\$2,453,349).

- 1990-93 Inference in polychotomous logistic regression with mixed covariates, Individual operating grant, **S.B. Bull** (PI). Natural Sciences and Engineering Research Council (\$16,380).
- 1990-93 Evaluation of multiple outcomes: Applications in the assessment of anti-smoking measures and in quality of care in anaesthesia. **S.B. Bull** (PI), L.L. Pederson, M.M. Cohen, A. Basinski. Funded by the Ontario Ministry of Health (\$107,164).
- 1991-93 Nutrition and lipids in cyclical mastopathy. P.J. Goodwin (PI), **S.B. Bull**, S. Sidlofsky, K. Ritchie, K. Pritchard. Funded by the Ontario Ministry of Health (\$139,755).
- 1992-93 Restrictions on smoking: Changes in knowledge, attitudes and predicted behaviour in the City of North York, 1983 to 1991. M.J. Ashley (PI), **S.B. Bull**, L.L. Pederson, I. Johnson. Funded by the Ontario Ministry of Health (\$15,000).
- 1992-95 Evaluation of the Workplace Smoking By-law in the City of Toronto: Long-term effects. L.L. Pederson (PI), **S.B. Bull**, M.J. Ashley. Funded by the National Health Research Development Program, (\$102,418).
- 1993-96.1 Analysis of categorical data in epidemiology, Individual operating grant. Funded by the Natural Sciences and Engineering Research Council (\$15,000).
- 1994-99 Second National Health Research Scholar Award. National Health Research Development Program (\$301,654).
- 1995 Smoking in the small workplace. J. Eakin (PI), M.J. Ashley (PI), **S.B. Bull**, L.L. Pederson. Funded by the Workplace Health and Safety Agency (Ontario) (\$6,500).
- 1995-98 Molecular genetic alterations in breast cancer: Prognostic value in node-negative disease. I.L. Andrulis (PI), **S.B. Bull**, M.E. Blackstein, D.A. Sutherland, Samuel Lunenfeld Research Institute. National Cancer Institute of Canada, Canadian Breast Cancer Research Initiative (\$469,585).
- 1995-99 Statistical methods for human genetics research. **S.B. Bull** (PI), G.A. Darlington, D.L. Tritchler, D.F. Andrews, M. Corey, M.D. Escobar, K. Siminovitch, University of Toronto. A Collaborative Project Grant funded by the Natural Sciences & Engineering Research Council (\$346,000).
- 1995-97 Survey of federal, provincial and territorial legislators regarding tobacco and tobacco control policies. M.J. Ashley (PI), R. Ferrence, D. Northrup, **S.B. Bull**, L.L. Pederson, M. Ornstein. National Health Research Development Program (\$267,196).
- 1995-97 Smoking, smoking cessation, tobacco control and programming. M.J. Ashley (PI), B. Poland (co-PI), L.L. Pederson (co-PI), R. Ferrence, **S.B. Bull**. National Health Research Development Program (\$199,840).
- 1996-2000 Problems in regression modelling in clinical and population epidemiology, Individual research grant. Natural Sciences and Engineering Research Council (\$52,460).
- 1997-1999 Evaluation of the cell cycle inhibitor p27^{kip1} as a prognostic factor in node negative breast cancer. J.M. Slingerland (PI), C. Catzavelos, I.R. Andrulis, **S.B. Bull**, W. Hanna. Funded by the Canadian Breast Cancer Research Initiative (\$193,350).
- 1997-1998 A comparison of immunostaining of phosphorylated erbB-2 and erbB-2 gene amplification as prognostic markers in node negative breast cancer. J.M. Slingerland (PI), I.L. Andrulis, **S.B. Bull**, C. Catzavelos, W. Hanna. Canadian Breast Cancer Foundation (\$50,000).
- 1997-2000 Genetic markers of inflammatory bowel disease. A.H. Steinhart (PI), **S.B. Bull**, Z. Cohen, G. Greenberg, R.S. McLeod, K. Siminovitch. Funded by the Crohn's and Colitis Foundation of Canada (\$150,000).
- 1998-2000 Role of thiazide receptor gene in primary hypertension. A.G. Logan (PI), K. Siminovitch, **S.B. Bull**, A. Pierratos. Heart & Stroke Foundation of Canada (\$195,000).
- 1998-2001 Molecular genetic alterations in breast cancer: Prognostic value in node-negative disease. I.L. Andrulis (PI), **S.B. Bull**, M.E. Blackstein, D.A.J. Sutherland. Canada Breast Cancer Research Initiative. (\$495,000).
- 1999 Equipment Grant for Dept of Statistics, University of Toronto. N Reid et al. Natural Sciences and Engineering Research Council of Canada. (\$76,000).
- 1999-2002 Molecular genetics of breast cancer development. JR Woodgett (Program Coordinator) National Cancer Institute of Canada Program Project (\$961,643). Project: Identification and clinical importance of novel genes involved in hereditary and sporadic breast cancer, IL Andrulis (PI), M Redston, **S.B. Bull** (\$280,292).

- 1999-2002 Gene chip microarray technology to identify genes controlling the predisposition and early development of human colorectal neoplasia. M Redston (PI), J Woodgett, S Gallinger, **SB Bull**. Terry Fox New Frontiers (\$163,804 per year)
- 2000-2002 A national study on environmental tobacco smoke in the home, R Ferrence (PI), MJ Ashley (co-PI), D Northrup (co-PI), **SB Bull**, J Cohen, C Lovato, B Poland, L Potvin. National Cancer Institute of Canada, Canadian Cancer Society Research Grant (\$362,133 in total).
- 2000-2003 Discovery and use of clinically relevant molecular changes in breast cancer. T Whelan (PI) and I Andrulis (coPI) et al. National Cancer Institute of Canada, Streams of Excellence Program (\$3,587,985 for three years).
- 2000-2004 Regression modelling in finite samples, Individual operating grant, **S.B. Bull (PI)**. Natural Sciences and Engineering Research Council (\$20,000 per year).
- 2002 - 2005 Identification of genes involved in hereditary breast and ovarian cancer. IL Andrulis (PI), J Murphy, B Rosen, P Shaw, **SB Bull**. Ontario Cancer Research Network, Translational Research Grant (\$165,000 per year).
- 1999-2005 Mathematics of Information Technology and Complex Systems. Halperin/Gupta (PI) et al. Networks of Centres of Excellence Program. (\$14.5 million over 4 years)
Subproject: Statistical genetic modelling and analysis of complex traits. S.B.Bull (PI), D.F. Andrews, M. Corey, G.A. Darlington, C. Field, J. Graham, C.M.T. Greenwood, P. Hooper, K. Morgan, B. Smith, D. Tritchler (\$206,000 for 02/1999-06/2000, \$137,000 for 07/2000-06/2001, \$157,000 for 07/2001-06/2002, \$118,000 for 7/2002-03/2003, \$157,000 for 04/2003-03/2004, \$157,000 for 04/2004-03/2005).
- 2000-2006 Genetic studies of complications of type 1 diabetes. S Scherer (PI), B Zinman (co-PI), A Boright, A Paterson, **SB Bull**. US National Institutes of Health (US\$1,324,512 for 6 years)
- 2001-2006 Genetic dissection of mycobacterial infection. E Schurr (PI), M Behr, E Skamene, CMT Greenwood, D Sherman, **SB Bull**. US NIH RFA-Genetic aspects of tuberculosis in the lung. (\$300,000 per year).
- 2002 – 2005 Towards a molecular classification of DCIS. S. Done (PI), E Rakovitch, J Knight, J Squire, **SB Bull**, M Pintilie, W Hannah. National Cancer Institute of Canada. (\$149,400 per year).
- 2003 – 2006 Statistical methods to improve the reliability of results from genome-wide studies of complex diseases and quantitative traits, **SB Bull** (co-PI), L Sun (co-PI). Canadian Institutes of Health Research, Institute of Genetics RFA in Novel Population Genetic and Genetic Epidemiological Methods (\$ 87,000 per year).
- 2002 – 2007 Molecular genetics of breast cancer development. J Woodgett, S Egan (Program Leaders), National Cancer Institute of Canada, Terry Fox Program Project, renewal.
Project: Identification and clinical importance of novel genes involved in hereditary and sporadic breast cancer, IL Andrulis (PI), **SB Bull**, F O'Malley (\$255,000 per year).
- 2002 – 2007 Statistical methods for human genetics, and genetic and population epidemiology with applications to complex disease. Canadian Institutes for Health Research. Senior Investigator Career Award, (\$77,000 per year).
- 2004 – 2006 Use of CGH arrays to identify genes involved in hereditary breast cancer. IL Andrulis (PI), **SB Bull**, FP O'Malley, Canadian Breast Cancer Foundation (\$ 99,951 per year)
- 2005 - 2007 Mathematics of Information Technology and Complex Systems. Gupta (PI) et al. Networks of Centres of Excellence Program. (\$5 million per year)
Subproject: Statistical genetic modelling and analysis of complex traits. S.B.Bull (PI), M. Corey, G.A. Darlington, J. Graham, C.M.T. Greenwood, K. Morgan, B. Smith, D. Tritchler (\$145,000 per year).
- 2004 - 2009 Regression models for complex data. **SB Bull** (PI). Individual Discovery Grant, Natural Sciences and Engineering Research Council (\$ 24,000 per year).
- 2006 – 2009 Identification of novel genes involved in breast cancer using the Breast Cancer Family Registry. IL Andrulis (PI), **SB Bull**, WL Lam. Canadian Institutes of Health Research (\$149,998 per year)
- 2007 - 2009 Mathematics of Information Technology and Complex Systems. Gupta (PI) et al. Networks of Centres of Excellence Program. (\$5 million per year)
Subproject: Statistical genetic modelling and analysis of complex traits. SB Bull (PI), J Beyene, M

- Corey, GA Darlington, J Graham, CMT Greenwood, R Kustra, JC LoredO-Osti, B McNeney, K Morgan, B Smith, D Tritchler (\$90,000 per year)
- 2008 – 2009 Discovery & characterization of clinically important changes in axillary node-negative breast cancer. IL Andrulis (PI), **SB Bull**, FP O'Malley, CIHR (\$ 100,000 per year)
- 2006 - 2010 Genome-wide association of common alleles with long-term diabetic complications AD Paterson (PI) with AP Boright, JD Brunzell, **SB Bull** (co-Investigator), P Cleary, Debour, Deeb, JM Lachin, L Sun. US NIH / NIDDK (\$ 4,175,781 in total)
- 2009 - 2011 Mathematics of Information Technology and Complex Systems. Gupta (PI) et al. Networks of Centres of Excellence Program.
Subproject: Statistical genetic modelling and analysis of complex traits. **SB Bull** (PI), J Beyene, M Corey, GA Darlington, J Graham, CMT Greenwood, R Kustra, JC LoredO-Osti, B McNeney, K Morgan, B Smith, D Tritchler (\$ 245,000 in total).
- 2011 - 2013 M-Prime (formerly Mathematics of Information Technology and Complex Systems – Networks of Centres of Excellence Program).
Subproject: Statistical genetic modelling and analysis of complex traits. **SB Bull** (PI), J Beyene, GA Darlington, J Graham, CMT Greenwood, R Kustra, JC LoredO-Osti, B McNeney (\$ 104,000 in total).
- 2009-2012 A clinical phenotyping and computational facility for the study of complex diseases. J Knight (PI), L Briollais, **SB Bull**, RJ Hung, AG Logan, B Zinman. Canadian Foundation for Innovation (\$ 442,000 in total).
- 2011-2012 Identification of genes for severe early diabetic nephropathy. AD Paterson (PI), A Boright, **SB Bull**, L Sun. McLaughlin Centre U of Toronto, Accelerator Grant in Genomic Medicine (\$75,000)
- 2010-2012 Statistical methods for molecular genetic analysis of breast cancer. MITACS-Accelerate Post-doctoral Fellowship for Y Yilmaz, **SB Bull** (Supervisor), M-Prime/NCE-MITACS (\$140,000)
- 2007 - 2012 Design and analysis of genomewide studies of complex diseases and traits **SB Bull** (PI), L Sun, RV Craiu, CIHR (\$ 543,030 in total)

PEER-REVIEWED PUBLICATIONS:

Trainees (students and post-docs) are underlined>

1. A Donner and **S.B. Bull**. The mean versus the minimum as a criterion for hypertension screening, *Journal of Chronic Disease*, 34, 527, 1981.
2. KL Robinson, T Gill, **S.B. Bull** and SJ Spaulding. Comparative analysis of occupational therapy pre-vocational assessments and industrial vocational assessments: a pilot study, *Canadian Journal of Occupational Therapy*, 48, 207, 1981.
3. A Donner and **S.B. Bull**. On estimation of a common intraclass correlation coefficient, *Biometrics*, 39, 771-775, 1983.
4. A Donner, JJ Koval and **S.B. Bull**. Testing the effect of sex differences on sib-sib correlations, *Biometrics*, 40, 349-356, 1984.
5. GH Fick, AW Rademaker, A Donner and **S.B. Bull**. A comparison of plans for hypertension screening, *Journal of Chronic Disease*, 37, 365-368, 1984.
6. A Donner and **S.B. Bull**. A comparison of significance-testing procedures for parent-child correlations computed from family data, *Applied Statistics*, 33, 278-284, 1984.
7. GD Harpur, R Suke, BH Bass, MJ Bass, **S.B. Bull**, JH Noseworthy, GPA Rice and GC Ebers. Hyperbaric oxygen therapy in chronic stable MS: A double-blind controlled study, *Neurology*, 36, 988-991, 1986.
8. LL Pederson, **S.B. Bull**, MJ Ashley and NM Lefcoe. A population survey regarding legislative measures to restrict smoking in Ontario: I. Survey methodology, design and sample representativeness, *American Journal of Preventive Medicine*, 2, 307-315, 1986.
9. LL Pederson, **S.B. Bull**, MJ Ashley and NM Lefcoe. A population survey regarding legislative measures to restrict smoking in Ontario: II. Knowledge, attitudes and predicted behaviour, *American Journal of Preventive Medicine*, 2, 316-323, 1986.
10. C Buck and **S.B. Bull**. Preventable causes of death versus infant mortality as an indicator of the quality of

- health services, *International Journal of Health Services*, 16, 553-563, 1986.
11. **S.B. Bull** and A Donner. Derivation of large sample efficiency of multinomial logistic regression relative to multiple group discriminant analysis, *In honour of V.M. Joshi, Vol. 5, Biostatistics*, I.B. MacNeill and G.J. Umphrey (eds.), Boston: D. Reidel, 177-197, 1987. (peer-reviewed)
 12. BW Posthuma, MJ Bass, **S.B. Bull**, and JA Nisker. Detecting changes in functional ability in women with premenstrual syndrome, *American Journal of Obstetrics and Gynecology*, 156, 275-278, 1987.
 13. LL Pederson, **S.B. Bull**, MJ Ashley and NM Lefcoe. A population survey in Ontario regarding restrictive measures on smoking: Relationship of smoking status to knowledge, attitudes and predicted behaviour, *International Journal of Epidemiology*, 16, 383-91, 1987.
 14. **S.B. Bull** and A Donner. The efficiency of multinomial logistic regression compared to multiple group discriminant analysis, *Journal of the American Statistical Association*, 82, 1118-1122, 1987.
 15. WM Leung, AG Logan, PJ Campbell, TE Debowski, **S.B. Bull**, PY Wong, LM Blendis and KL Skorecki. Role of atrial natriuretic peptide and urinary cyclic GMP in the natriuretic and diuretic response to central hypervolemia in normal human subjects, *Canadian Journal of Physiology and Pharmacology*, 65, 2076-2080, 1987.
 16. **S.B. Bull**, L Pederson, MJ Ashley, and N Lefcoe. Intensity of follow-up: Effects on estimates in a population telephone survey with an extension of Kish's methodology, *American Journal of Epidemiology*, 127, 552-61, 1988.
 17. AE Simor, L Ramage, L Wilcox, **S.B. Bull** and H Bialkowska-Hobrzanska. Molecular and epidemiological study of multiresistant *Serratia Marcescens* infections in a spinal cord injury rehabilitation unit, *Infection Control*, 9, 20-27, 1988.
 18. RJ Morrow, JWK Ritchie and **S.B. Bull**. Maternal smoking: The effect on umbilical and uterine blood flow, *American Journal of Obstetrics and Gynecology*, 159, 1069-1071, 1988.
 19. K Skorecki, WM Leung, P Campbell, LC Warner, PY Wong, **S.B. Bull**, AG Logan, LM Blendis. The role of atrial natriuretic peptide in the natriuretic response to central volume expansion induced by head-out water immersion in sodium retaining cirrhotic subjects, *American Journal of Medicine*, 85, 375-382, 1988.
 20. RJ Morrow, JWK Ritchie and **S.B. Bull**. The fetal and maternal hemodynamic response to exercise in pregnancy assessed by Doppler ultrasound, *American Journal of Obstetrics and Gynecology*, 160, 138-140, 1989.
 21. RJ Morrow, SL Adamson, M Lewin, **S.B. Bull**, JWK Ritchie. The influence of spontaneous accelerations of fetal heart rate on umbilical artery velocity waveforms, *American Journal of Obstetrics and Gynecology*, 160, 995-997, 1989.
 22. RJ Morrow, SL Adamson, **S.B. Bull**, JWK Ritchie. The effect of placental embolization on the umbilical artery velocity waveform in fetal sheep, *American Journal of Obstetrics & Gynecology*, 161, 1055-1060, 1989.
 23. SL Adamson, RJ Morrow, **S.B. Bull** and BL Langille. Vasomotor responses of the umbilical circulation in fetal sheep, *American Journal of Physiology*, 256, R1056-1062, 1989.
 24. LL Pederson, **S.B. Bull**, MJ Ashley, NM Lefcoe. A population survey on legislative measures to restrict smoking in Ontario: III. Variables related to attitudes of smokers and non-smokers, *American Journal of Preventive Medicine*, 5, 313-322, 1989.
 25. LL Pederson, **S.B. Bull**, MJ Ashley, NM Lefcoe. A population survey on legislative measures to restrict smoking in Ontario: IV. Variables related to knowledge of active and passive smoking health effects and to predicted behaviour of smokers and non-smokers, *American Journal of Preventive Medicine*, 5, 323-329, 1989.
 26. SL Adamson, RJ Morrow, BL Langille, **S.B. Bull** and JWK Ritchie. Site-dependent effects of increases in placental vascular resistance on the umbilical arterial velocity waveform in fetal sheep, *Ultrasound in Medicine and Biology*, 16, 19-27, 1990.
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142. M Ponzo, R Lesurf, S Petkiewicz, FP O'Malley, D Pinnaduwege, I Andrulis, **SB Bull**, N Chughtai, D Zuo, M Souleimanova, D Germain, A Omeroglu, R Cardiff, M Hallett, M Park. Met induces mammary tumors with diverse histologies and is associated with poor outcome and human basal breast cancer., *Proc Natl Acad Sci U S A*. 2009 Aug 4;106(31):12903-8. Epub 2009 Jul 17.
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- linkage studies a waste of time? Exploiting candidate regions within genome-wide association studies. *Genet Epidemiol* 2010 Feb;34(2):107-118.
145. C Infante-Rivard, L Mirea, **SB Bull**. Combining case-control and case-trio data from the same population in genetic association analyses: overview of approaches and illustration with a candidate gene study, *American Journal of Epidemiology*, 2009 Sep 1;170(5):657-64. Review.
 146. AD Paterson, MF Lopes-Virella, D Waggott, AP Boright, SM Hosseini, RE Carter, E Shen, L Mirea, B Bharaj, L Sun, **SB Bull**, and The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Research Group. Genome-wide association identifies the ABO Blood Group as a Major Locus Associated with Serum Levels of Soluble E-Selectin, *Arteriosclerosis, Thrombosis, and Vascular Biology*, 2009 Nov; 29(11):1958-1967. Epub 2009 Sep 3.
 147. DR Brenner, MC Tammemägi, **SB Bull**, D Pinnaduwege, IL Andrulis. Using cancer registry data: agreement in cause-of-death data between the Ontario Cancer Registry and a longitudinal study of breast cancer patients, *Chronic Dis Can.* 2009;30(1):16-9.
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 149. YJ Yoo, D Pinnaduwege, D Waggott, **SB Bull**, L Sun. Genome-wide association analyses of North American Rheumatoid Arthritis Consortium and Framingham Heart Study data utilizing genome-wide linkage results, *BMC Proceedings*, 2009 Dec 15;3 Suppl 7:S103.
 150. J Asimit, YJ Yoo, D Waggott, L Sun, **SB Bull**. Region-based analysis in genome-wide association study of Framingham Heart Study blood lipid phenotypes, *BMC Proceedings*, 2009 Dec 15;3 Suppl 7:S127.
 151. AD Paterson, D Waggott, AP Boright, SM Hosseini, E Shen, M-P Sylvestre, I Wong, B Bharaj, PA Cleary, JM Lachin, MAGIC, J Below, D Nicolae, NJ Cox, AJ Canty, L Sun, **SB Bull**, and The Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Research Group. A genome-wide association study identifies a novel major locus for glycemic control in type 1 diabetes, as measured by both HbA1c and glucose, *Diabetes*, 2010;59(2):539-49.
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 153. AM Mulligan, D Pinnaduwege, AL Bane, **SB Bull**, FP O'Malley, IL Andrulis. CK8/18 expression, the basal phenotype and family history in identifying BRCA1-associated breast cancer in the Ontario site of the Breast Cancer Family Registry, *Cancer*, 2011 Apr 1;117(7):1350-9.
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 155. J Asimit, IL Andrulis, **SB Bull**. Regression models, scan statistics, and reappearance probabilities to detect regions of association between gene expression and copy number, *Statistics in Medicine*, 2011 May 10;30(10):1157-78. doi: 10.1002/sim.4193. Epub 2011 Feb 21.
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158. W He, **SB Bull**, S Colby, IL Andrusis. Informative Gene Screening In High Dimensional Gene Expression Data Analysis Using Reliability Coefficients, *JP J of Biostatistics*, 2011, 5(2), 121-137.
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160. Y Yilmaz, **SB Bull**. Are quantitative trait-dependent sampling designs cost effective for analysis of rare and common variants?" *BMC Proceedings* 2011; 5(suppl 9):S111.
161. LL Faye, **SB Bull**. Two-stage study designs combining GWAS tag SNPs and exome sequencing: accuracy of genetic effect estimates, submitted for publication in *BMC Proceedings* 2011; 5(suppl 9):S64. (Genetic Analysis Workshop 17).
162. JE Bailey-Wilson, JS Brennan, **SB Bull**, R Culverhouse, Y Kim, Y Jiang, J Jung, Q Li, C Lamina, Y Liu, R Mägi, YS Niu, CL Simpson, L Wang, YE Yilmaz, H Zhang, Z Zhang. Regression and Data Mining Methods for Analyses of Multiple Rare Variants in the Genetic Analysis Workshop 17 Mini-Exome Data, *Genetic Epidemiology* 2011;35 Suppl 1:S92-100.
163. W Xu, L Mirea, **SB Bull**, CMT Greenwood. Model-free linkage analysis of a binary trait. *Methods in Molecular Biology* 2012;850:317-45
164. L Mirea, L Sun, C Infante-Rivard, **SB Bull**. Strategies for Genetic Association Analyses Combining Unrelated Case-Control Individuals and Family Trios, *American Journal of Epidemiology*, 2012 Jul 1;176(1):70-9. Epub 2012 May 9.
165. Z Chen, R Craiu, **SB Bull**. Two-phase stratified sampling designs for regional sequencing. *Genetic Epidemiology*, 2012 May;36(4):320-32. doi:10.1002/gepi.21624. Epub 2012 Mar 28.
166. L Eder, V Chandran, F Pellett, S Shanmugarajah, C Rosen, **SB Bull**, D Gladman. Differential Human Leukocyte Allele Association between Psoriasis and Psoriatic Arthritis – A Family-Based Association Study, *Annals of the Rheumatic Diseases*, 2012 Aug;71(8):1361-5. Epub 2012 May 14.
167. AD Paterson, **SB Bull**. Does familial clustering of risk factors for long-term diabetic complications leave any place for genes that act independently?, *Journal of Cardiovascular Translational Research*, 2012 Aug;5(4):388-98.
168. P Hu, **SB Bull**, H Jiang. Gene network modular-based classification of microarray samples. *BMC Bioinformatics*. 2012 Jun 25;13 Suppl 10:S17.
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170. MA Rotondi, **SB Bull**. Cumulative meta-analysis for genetic association: When is a new study worthwhile? *Human Heredity*, 2012 Dec;74:61-70.
171. CL Forse, YE Yilmaz, D Pinnaduwege, FP O'Malley, AM Mulligan, **SB Bull**, IL Andrusis. Elevated Expression of Podocalyxin is Associated with Lymphatic Invasion, Basal-like Phenotype and Clinical Outcome in Axillary Lymph Node-negative Breast Cancer, *Breast Cancer Research and Treatment* 2013; 137:709-719.
172. YE Yilmaz, JF Lawless, IL Andrusis, **SB Bull**. Insights from mixture cure modeling of molecular markers for prognosis in breast cancer, *Journal of Clinical Oncology* 2013, Jun 1;31(16):2047-54

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174. Z Chen, K-R Tan, **SB Bull**. Multi-phase analysis by linkage, quantitative transmission disequilibrium, and measured genotype: Systolic blood pressure in complex Mexican-American pedigrees, accepted *BMC Proceedings of Genetic Analysis Workshop 18*.
175. S Konigorski, YE Yilmaz, **SB Bull**. Bivariate genetic association analysis of systolic and diastolic blood pressure by copula models, accepted *BMC Proceedings Genetic Analysis Workshop 18*.
176. LL Faye, MJ Machiela, P Kraft, **SB Bull**, L Sun. Re-ranking sequencing variants in the post-GWAS era for accurate causal variant identification, in press *PLoS Genetics*.

BOOK CHAPTERS:

1. K Kopciuk, **S.B. Bull**. Risk Ratios, In *Encyclopedia of Biostatistical Genetics and Genetic Epidemiology*, Editor RC Elston, Wiley Publications, 2002.
2. IL Andrulis, N Gokgoz. **S.B. Bull**. Characterization of gene expression patterns for classification of breast carcinomas, From *Expression Profiling of Human Tumors: Diagnostic and Research Applications*, pp.121-145, Editors M Ladanyi, WL Gerald, Humana Press, 2003.
3. K. Kopciuk, **SB Bull**, Genetic Risk Ratios. *Encyclopedia of Biostatistics*, Second Edition, Wiley publications, 2004.
4. W Xu, L Mirea, **SB Bull**, CMT Greenwood. Model-free Linkage Analysis of a Binary Trait, *Statistical Human Genetics: Methods and Protocols*, Springer, 2012. Cited above as *Methods in Molecular Biology* 2012;850:317-45 (according to PubMed).

TECHNICAL REPORTS:

- S.B. Bull** and LL Pederson. Variances for polychotomous logistic regression using complex survey data, *Proceedings of the 1987 Survey Research Methods Section*, American Statistical Association, 507-512, 1988.
- S.B. Bull**, WW Hauck. Jackknife bias correction for logistic regression MLEs. *Technical Report #9*, Department of Epidemiology and Biostatistics, University of California, San Francisco, 1991.
- MJ Ashley, **S.B. Bull**, LL Pederson, and I Johnson. Trends in knowledge, attitudes and perceived behaviour with regard to restrictive measures on smoking: City of North York 1983-1991, *North York Community Health Promotion Research Unit, Report 94-101*, January 1994.
- MJ Ashley, **S.B. Bull**, and LL Pederson. Restrictive measures on smoking in Ontario: Similarities and differences between smokers and nonsmokers in knowledge, attitudes and predicted behaviour and implications for tobacco programs and policies, *Ontario Tobacco Research Unit, Working Papers Series, No. 1*, Toronto, 1994.
- MJ Ashley, J Cohen, **S.B. Bull**, R Ferrence, B Poland, LL Pederson, J Gao. Knowledge about tobacco and attitudes toward tobacco control: How different are smokers and nonsmokers. , *Ontario Tobacco Research Unit, Working Paper Series No. 43*, Toronto, February 1999.
- BD Poland, JE Cohen, MJ Ashley, E Adlaf, R Ferrence, LL Pederson, **S.B. Bull**, D Raphael. Beyond smoking status: Characterizing smokers and non-smokers by smoking related attitudes and behaviour, *Ontario Tobacco Research Unit, Working Paper Series No. 54*, Toronto, May 2000.
- C Lacchetti, JE Cohen, MJ Ashley, R Ferrence, M de Groh, **S.B. Bull**, LL Pederson. Is nicotine dependence related to smokers' support for restrictions on smoking?, *Ontario Tobacco Research Unit, Working Paper Series No. 56*, Toronto, July/August 2000.
- L Sun, **SB Bull**. Resampling-based testing and effect estimation in genomewide scans. Technical Report no. 0306 December 12, 2003. Technical Report Series, University of Toronto, Department of Statistics.
- SB Bull**, JP Lewinger, SSF Lee. Penalized maximum likelihood estimation for multinomial logistic regression using the Jeffreys prior, Report no. 0505 July 29, 2005. Technical Report Series, University of Toronto, Department of Statistics.
- L Faye, L Sun, A Dimitromanolakis, **SB Bull**. (2010) A flexible genome-wide bootstrap method that accounts for ranking- and threshold-selection bias in GWAS interpretation and replication study design. Technical Report No. 1006 October 20, 2010. Technical Report Series, University of Toronto, Department of Statistics.

INVITED PRESENTATIONS:

1. Extensions of the multiple logistic model to outcomes with more than two categories, Seminar Series in Biostatistics, Department of Epidemiology and Biostatistics, University of Western Ontario, London, Ontario, March 1983.
2. Issues in the application of multinomial logistic regression, Department of Health Studies, University of Waterloo, Waterloo, Ontario, April 1985.
3. The relative efficiency of multinomial logistic regression to multiple group discriminant analysis: The normal case, Department of Statistics and Actuarial Science, University of Waterloo, Waterloo, Ontario, January 1986.
4. Regression methods for multiple category outcomes, Epidemiology Research Seminar Series, Laboratory Centre for Disease Control, Health and Welfare Canada, Ottawa, January 1987.
5. Statistical issues in the analysis of systolic to diastolic velocity ratios in Doppler ultrasound studies of fetal circulation, City-wide Clinical Biostatistics Rounds, Toronto, Ontario, November 1988.
6. Issues in the design of a Monte Carlo study: Bias correction in finite sample logistic regression, City-wide Clinical Biostatistics Rounds, Toronto, Ontario, January 1989.
7. Jackknife bias correction for logistic regression MLEs, City-wide Clinical Biostatistics Rounds, Toronto, Ontario, October 1989.
8. Experiences in sample size determination for logistic regression, City-wide Clinical Biostatistics Rounds, Toronto, Ontario, March 1990.
9. Theory & applications of multinomial logistic regression, York University, Department of Mathematics & Statistics, North York, Ontario, November 1990.
10. Evaluation of multiple outcomes in health research, University of Western Ontario, Department of Epidemiology & Biostatistics, London, Ontario, February 1991.
11. Being a statistician in a health-centered environment: A panel discussion, sponsored by the Caucus for Women in Statistics, Statistical Society of Canada, Annual Meeting, Edmonton, Alberta, May 30, 1992.
12. Molecular markers in breast cancer prognosis - Methodological issues, (with IR Andrulis), Ottawa Civic Hospital, Division of Clinical Epidemiology, Ottawa, February 12, 1993.
13. Statistical modelling in epidemiology, Samuel Lunenfeld Research Institute Annual Retreat, Parry Sound, Ontario, September 13, 1993
14. Estimation of per-unit-exposure disease rates, City-wide Clinical Biostatistics Rounds, Toronto, Ontario, November 3, 1993.
15. Results of a randomized trial to prevent non-A non-B post-transfusion hepatitis, (with CMT Greenwood), Downtown Clinical Epidemiology Rounds, Toronto, Ontario, November 29, 1993.
16. Changing attitudes in Ontario to restrictive measures on smoking: A decade of research, (with MJ Ashley and LL Pederson), Departmental Seminar Series, Department of Preventive Medicine and Biostatistics, U of Toronto, Toronto, Ontario, January 13, 1994.
17. Generalized estimating equations models for multiple outcomes in large epidemiologic studies, Department of Statistics and Actuarial Sciences, University of Waterloo, Waterloo, Ontario, March 18, 1994.
18. Methods for the analysis of multiple outcomes in large epidemiologic studies, Department of Mathematics and Statistics, McMaster University, Hamilton, Ontario, February 15, 1995.
19. Methods for the estimation of disease risk per unit exposure, Downtown Clinical Epidemiology Rounds, Toronto, Ontario, January 15, 1996.
20. Methods to estimate per-unit disease rates for blood transfusion, Hospital for Sick Children Clinical Epidemiology Rounds, Toronto, Ontario, June 17, 1996.
21. An alternative measure of prognostic importance in survival analysis, Downtown Clinical Epidemiology Rounds, Toronto, Ontario, March 10, 1997.
22. Methods for evaluating the genetics of complex disease, Robarts Research Institute, University of Western Ontario, London, Ontario, November 18, 1997.
23. Regression models for multiple outcomes in epidemiologic research, Department of Epidemiology, College of Human Medicine, Michigan State University, East Lansing, Michigan, December 3, 1998.
24. Statistics and the genetics of complex human disease, Fields Institute of Mathematical Sciences, Seminar

- Series in Statistics and Science, Toronto, Ontario, February 2, 1999.
25. Statistical analysis and modelling of complex human traits, Presentation and panel discussion on The Future of Community Health Research, University of Toronto Community Health Research Day, February 26, 1999.
 26. Use of families with missing parental data in tests of family based association, Invited Speaker, International Biometrics Society, Western North American Region Annual Meeting, Seattle, Washington, June 27-29, 1999.
 27. Issues in statistical modeling and analysis of complex traits, in session on Frontiers in Health Research, Samuel Lunenfeld Research Institute Retreat, September 30, 1999.
 28. From hundred to thousands of genetic variables: Issues in statistical genetic analysis, York University, Department of Mathematics and Statistics, October 29, 1999.
 29. Evaluation of a candidate genetic locus in a genome scan of complex disease. Case Western Reserve University, Department of Epidemiology and Biostatistics, November 3, 1999.
 30. Statistical issues in genetic epidemiology, Invited Seminar Speaker, Department of Epidemiology and Biostatistics, University of Western Ontario, London, Ontario, April 2000.
 31. Regression models for allele sharing, Invited Seminar Speaker, Department of Statistics and Actuarial Sciences, University of Waterloo, Waterloo, Ontario, May 2000.
 32. Recent advances in statistical genetic modeling and analysis. NCE in Mathematics of Information Technology and Complex Systems, Session on Biomedical Research, Annual General Meeting, University of Toronto, Toronto, June 2000.
 33. Recent advances in statistical modelling and analysis of complex traits, Invited Speaker in Session on Epidemiology and Methods, Statistics and Health – Edmonton Statistics Conference 2000, University of Alberta, Edmonton, Alberta, June 2000.
 34. Statistical issues in the design and analysis of gene expression studies. Invited Seminar speaker, Dept of Biostatistics, University of Michigan, Ann Arbor, Michigan, Nov 2000.
 35. Regression models for allele-sharing in affected sib pair studies, Invited Seminar Speaker, Department of Statistics, University of Toronto, April 2001.
 36. Analysis of accumulating data in genomewide studies of affected sib pairs, Invited Speaker, Genetics Seminars, McGill University Health Centre – Research Institute, May 2001.
 37. Assessment of heterogeneity using regression models for allele sharing, Invited Speaker in Session on Gene-environment interaction: Statistical issues in the epidemiologic study of how genetic makeup and environmental exposures jointly influence disease risk, International Biometrics Society, Eastern North American Region Annual Meeting, Washington DC, March 2002.
 38. Linkage assessment by allele sharing: Can we do anything about heterogeneity?, Invited Seminar Speaker, Dept of Medical Genetics, University of Alberta, Edmonton, Jan 2003.
 39. Detection and modelling of heterogeneity in IBD allele sharing: Findings for affected relatives, Invited Speaker, Oberwolfach Conference on “Medical Statistics – Current Developments in Statistical Methodology for Genetic Architecture of Complex Diseases”, Mathematical Research Institute Oberwolfach, Germany, February 2003.
 40. Assessment of genetic heterogeneity using regression models for allele sharing, Invited Speaker, Workshop on Statistical Genetics, Statistical Society of Ottawa, Ottawa, Feb 2003.
 41. Lessons in tumour classification using gene expression microarrays, Invited Speaker, First Canadian Workshop in Statistical Genomics, Fields Institute, Toronto, Canada, Sept 2003.
 42. Heterogeneity in IBD allele sharing among covariate-defined subgroups: Issues and findings for affected relatives, Invited Speaker, University of Guelph Statistics Colloquium Series, Department of Mathematics and Statistics, Guelph, Ontario, November 2003.
 43. Regression Models for Allele Sharing in Affected Relatives, Invited Seminar Speaker, McMaster University, Department of Mathematics and Statistics, Hamilton, Ontario, March 2004.
 44. Missing Data in Family-Based Genetic Association Studies, Invited Speaker, Co-presented with JP Lewinger. Workshop on Missing Data Problems, Fields Institute, Toronto, Ontario, August 2004.
 45. Improving the Reliability of Results from Genome-wide Studies, Invited Speaker, BIRS Workshop in Statistical Science for Genome Biology, Banff International Research Station, Banff, Alberta, August 2004.
 46. Summary of Results in Fine-mapping, Invited Group 7 Co-ordinator and Presenter, Genetic Analysis

- Workshop 14, Noordwijkerhout, Netherlands, September 2004.
47. Gene Sequence, Gene Expression, and Complex Diseases: Current Work and Future Directions, Invited Speaker, MITACS Biomedical Workshop, Montreal, Quebec, January 2005.
 48. Issues in Multiple Testing and Effect Estimation for Candidate Gene and Genome-wide Studies of Complex Traits. Invited Speaker, Workshop in Complex Data, National Program in Complex Data Structures, Banff, Alberta, April 2005.
 49. Roles for Statistical Models in Understanding Genetic and Environmental Associations with Complex Disease. Invited Speaker, MITACS Biomedical Theme Meeting, Calgary, Alberta, May 2005.
 50. Improving the validity and efficiency of statistical genetic analysis, Invited Speaker, Annual Meeting of the Statistical Society of Canada, Saskatoon, Saskatchewan, June 2005.
 51. Reduction of effect estimate bias in genomewide studies by resampling, Invited Speaker, Joint Statistical Meetings, Minneapolis, Minnesota, August 2005.
 52. Bias Reduction of Locus-specific Effect Estimates via the Bootstrap in Linkage Scans for Quantitative Trait Loci. Invited Speaker, Colloquium CRM-ISM-GERAD de Statistique, UQAM, Montreal, Quebec, February 2006.
 53. Bias Reduction of Locus-specific Effect Estimates via the Bootstrap in Linkage Scans for Quantitative Trait Loci. Invited Speaker. Ohio State University, Department of Statistics, April 2006.
 54. Genetic Effect Estimates via the Bootstrap in Genome-wide Linkage Scans. Invited Speaker, York University, Department of Mathematics and Statistics, February 2007.
 55. Bias and Efficiency in Genome-wide Association Studies with Time-to-event Phenotypes, Invited Speaker, Canadian Genetic Epidemiology and Statistical Genetics Workshop, Fields Institute, Toronto, Ontario, April 2007
 56. Statistical Genetic Methods: Present and Future of Complex Trait Studies in Individuals and Families, Invited Speaker, 40th Anniversary Conference, Dept of Statistics and Actuarial Sciences, University of Waterloo, Waterloo, Ontario, May 2007.
 57. Issues in Genome-wide Association: Power and Bias for Multi-stage Designs, Statistical Analysis of High-Throughput Genetic Data, Banff International Research Station, Banff, Alberta, June 2007.
 58. A Scan Statistic for Identifying Chromosomal Regions of Significant Association (with Jennifer Asimit), Invited Seminar Speaker, Department of Statistics and Actuarial Sciences, University of Western Ontario, London, Ontario, September 2007.
 59. Statistical Genetic Methods: Issues in Complex Trait Studies of Individuals and Families, Invited Carol Buck Lecture, Department of Epidemiology and Biostatistics, University of Western Ontario, London, Ontario, September 2007.
 60. Statistical Genetic Methods: Issues in Genome-wide Complex Trait Studies, Invited Speaker, First Canada-Mexico Statistics Meeting, Guanajuato, Mexico, February 2008.
 61. Scan statistics and bootstrap resampling to identify chromosome regions of association in genome-wide studies, Invited Speaker, Program in Statistical Genomics, Institute for Mathematical Statistics, National University of Singapore, June 2009.
 62. Current Issues in Genome-wide Association Studies of Complex Traits, Invited Speaker, Joint Statistical Meetings, Washington, DC, August 2009.
 63. Issues in Genetic Association Studies - What is the appropriate unit of analysis? Invited Speaker, Biostatistics Seminar Series, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, QC, January 2010.
 64. Regression models, scan statistics and reappearance probabilities: Detection of regions of association between microarray measures of gene expression and copy number. Invited Speaker, Statistics Seminar Series, Department of Mathematics and Statistics, York University, Toronto, Ontario, February 2010.
 65. Potential use of genetic information in risk prediction (*with* Julian Little, University of Ottawa). Invited Educational Session. Fifth Annual Canadian Genetic Epidemiology and Statistical Genetics Meeting, King City, ON, April 2010.
 66. Panel Discussion: Opportunities & Challenges in Interdisciplinary Research and Training. Invited Speaker. Statistical Society of Canada Annual Meeting, Quebec City, May 2010.
 67. Addressing the Winner's curse in genome-wide association studies, Invited presentation, Annual Meeting of the Canadian Applied and Industrial Mathematics Society, St John's, July 2010.
 68. On the utility of some bootstrap methods in genome-wide studies, Invited presentation, CRM Workshop

69. on Computational Statistical Methods for Genomics and Systems Biology, Montreal, Quebec, April 2011.
Statistical Genetic Methods for Investigation of Complex Traits: Then and Now, Invited presentation, Inaugural Biostatistics Research Day, Division of Biostatistics, Dalla Lana School of Public Health, University of Toronto, April 2011.
70. Design and Analysis of the Next Generation of Genetic Association Studies, Evaluative Clinical Sciences Rounds, Institute for Clinical Evaluative Sciences, Sunnybrook Hospital, Toronto, March 2012
71. On Ascertainment and Sampling, Special Session in Honour of Ken Morgan, Canadian Human and Statistical Genetics Meeting, Niagara-on-the-Lake, Ontario, April 2012.
72. Lessons from genetic association studies of long-term complications and other traits in a longitudinal cohort of individuals with type 1 diabetes, Workshop and Planning Meeting on the Genetics/Genomics of Psoriasis and Psoriatic Arthritis, Toronto, Ontario, May 2012.