curriculum vitae

Joanna Monika Biernacka

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Education

- Currently enrolled in the Ph.D. program in Biostatistics, Department of Public Health Sciences, University of Toronto, Toronto, Canada
  Thesis topic: Statistical methods for studying two linked disease genes.
  Supervisor: Dr. Shelley B. Bull
  (Thesis has been submitted to examining committee. The final oral examination is scheduled for October 8, 2004.)

Degrees

- 1998 – M.Sc. Statistics, McMaster University, Hamilton, Ontario, Canada
- 1996 – B.Sc. Honours Biology and Mathematics, McMaster University, Hamilton, Ontario, Canada

Theses/Projects

- Degree: M.Sc.
  Supervisor: Dr. A. R. Willan
  Department: Mathematics and Statistics, McMaster University
  Title: Accounting for Uncertainty in Cost-Effectiveness Studies.
- Degree: B.Sc.
  Supervisor: Dr. R. S. Singh
  Department: Biology, McMaster University
  Title: Allozyme Expression in the Male Reproductive Tract of Hybrids in the *Drosophila melanogaster* Subroup

Research and Teaching Experience

Research Assistant, Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, Canada (1999-present)

- Responsibilities include assisting a principal investigator with developing and carrying out statistical research projects, as well as data analysis

Lecturer, University of Toronto, Toronto, Canada (2003)

- Course: Biostatistics I (Introductory level graduate level course in the Department of Public Health Sciences)
- Responsibilities included preparation and delivery of several lectures introducing the topic of statistical inference, and preparation of assignment and examination questions

Teaching Assistant, University of Toronto, Toronto, Canada (1998-2003)

- Courses: Biostatistics I and II, and Biostatistics for Pharmacy Students
- Responsibilities included grading assignments and examinations, and preparing and conducting tutorials and SAS labs

Teaching Assistant, McMaster University, Hamilton, Canada (1996-1998)

- Courses: Several introductory probability and statistics courses
- Responsibilities included grading assignments and examinations, and preparing and conducting tutorials

Undergraduate Teaching Assistant, McMaster University, Hamilton, Canada (1993-1996)

- Courses: Introductory calculus, algebra, and differential equations
- Responsibilities included preparation of marking schemes and grading assignments

Research Assistant, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, Canada (1996)

- Responsibilities included updating a database for an evidence based medical abstract journal, which included calculation of descriptive statistics for existing articles, rewriting the results summaries, and working with authors of the original articles to ensure the information presented is current

NSERC Undergraduate Student Researcher, Department of Biology, McMaster University, Hamilton, Canada (1995)

- Duties included project design, literature research, laboratory work, analysis of results, and presentation of results to supervisors and graduate students

Academic Honours and Awards

- Ontario Student Opportunity Trust Fund Award, held September 2003-August 2004
- First place award in the poster competition, MITACS (Mathematics of Information Technology and Complex Systems) fourth annual conference, 2003
- Ontario Student Opportunity Trust Fund Award, held September 2002-August 2003
- Second place award in the poster competition, MITACS second annual conference, 2001
- Ontario Graduate Scholarship in Science and Technology, held September 2001-August 2002

- University of Toronto Open Fellowship, held January 2001-August 2001
- First place award in the poster competition, Department of Public Health Sciences Research Day 2001, University of Toronto
- Natural Sciences and Engineering Research Council of Canada (NSERC) PGS-B, held January 1999-December 2000
- Natural Sciences and Engineering Research Council of Canada (NSERC) PGS-A, held September 1996-December 1998
- McMaster University Entrance Scholarship, held September 1996-August 1997
- Natural Sciences and Engineering Research Council of Canada (NSERC) Undergraduate Student Research Award, held May 1995-August 1995
- The Esther McCandless Memorial Prize, awarded June 1996
- The Canada Scholarship, held September 1992-April 1996
- The Class of '44 Scholarship, held September 1995-April 1996
- The William K. Allan Memorial Scholarship, held September 1995-April 1996
- University Scholarship, held September 1993-April 1995
- Dundas Scholarship, held September 1992-April 1993

Publications

Biernacka J.M., Sun L., Bull S.B. (2004) Simultaneous localization of two linked disease susceptibility genes. *Genetic Epidemiology*. Accepted.

Biernacka J., Lewinger J.P., Chan V., Bull S. (2001) Does simultaneous consideration of multiple regions improve disease gene localization? *Genetic Epidemiology* 21 Suppl 1: S504-9.

Published Abstracts

Biernacka J.M., Bull S.B. (2003) One gene or two? Methods for estimation and testing for two linked disease genes. *Genetic Epidemiology* 25(3): 239.

Biernacka J.M., Sun L., Stafford J., Bull S.B. (2003) Joint localization of two linked disease genes: Derivation, evaluation, and application of a new method. *The American Journal of Human Genetics* 73(5) Suppl: pg 193.

Biernacka J.M., Bull S.B. (2002) Simultaneous localization of two linked disease susceptibility genes. *Genetic Epidemiology* 23(3): 268.

Bull S., Greenwood C., Mirea L, **Biernacka** J.M., Morgan K. (2001) Analysis of accumulating data in genomewide studies of affected sib pairs. *Genetic Epidemiology* 21(2): 145.

Bull S., Nikolakakos P., **Biernacka** J. (1999) Effects of order of analysis in mapping complex disease. *The American Journal of Human Genetics* 65(4) Supp: A245.

Biernacka J., Bull S., Nikolakakos P. (1999) Detection of Interaction between Loci in Genome Scans. *Genetic Epidemiology* 17(3): 214.

Accepted Abstracts

Biernacka J.M., Sun L. Bull S.B. (2004) A GEE approach for disease gene localization: Using IBD sharing proportions versus mean IBD. *Genetic Epidemiology*.

Biernacka J.M., Sun L. Bull S.B. (2004) Localization of linked genes for type I diabetes. *The American Journal of Human Genetics*.

Conference Presentations

- Invited talk at the International Biometric Society Eastern North American Region Conference (IMS Session), Pittsburgh, March 2004.
  Title: Joint analyses of linked disease genes: Location estimation and hypothesis testing methods.
  Authors: J.M. Biernacka, L. Sun, S.B. Bull
- Platform presentation at the Annual Meeting of the International Genetic Epidemiology Society, Redondo Beach, November 2003.
  Title: One gene or two? Methods for estimation and testing for two linked disease genes
  Authors: J.M. Biernacka, S.B. Bull
- Platform presentation at the Annual Meeting of the American Society of Human Genetics, Los Angeles, November 2003
  Title: Joint localization of two linked disease genes: Derivation, evaluation, and application of a new method.
  Authors: J.M. Biernacka, L. Sun, J. Stafford, S.B. Bull
- Oral presentation at the Statistical Society of Canada Meeting (case study presentation), Halifax, June 2003
  Title: Identification of "true" predictors of systolic blood pressure while controlling false discovery rate.
  Authors: S. Lee, J.M. Biernacka, J. Jankowski, A. Mazumder
- Poster presentation at the MITACS (Mathematics for Information Technology and Complex Systems) Annual General Meeting, May 2003
  Title: A novel approach for estimating locations of multiple linked disease genes.
  Authors: J.M. Biernacka, S.B. Bull, L. Sun, J. Stafford
- Poster presentation at the 11th Annual Meeting of the International Genetic Epidemiology Society, New Orleans, November 2002
  Title: Simultaneous localization of two linked disease susceptibility genes
  Authors: J.M. Biernacka, S.B. Bull
- Poster presentation at the MITACS Annual General Meeting, Montreal, May 2001
  Title: A genetic model in which multiple gene weighting does not improve gene localization.
  Authors: J. Biernacka, J.P. Lewinger, V. Chan, S.B. Bull

- Poster presentation at the Genetic Analysis Workshop 12, San Antonio, October 2000
  Title: Variability in Localizing Disease Susceptibility Genes
  Authors: J. Biernacka, V. Chan, S.B. Bull
- Poster presentation at the MITACS Annual General Meeting, Toronto, May 2000
  Title: Detection of Gene-Gene Interactions in Complex Disease
  Authors: J. Biernacka, S.B. Bull, P. Nikolakakos
- Poster presentation at the Annual Meeting of the International Genetic Epidemiology Society, St. Louis, September 1999
  Title: Detection of Interaction between Loci in Genome Scans
  Authors: J. Biernacka, P. Nikolakakos, S.B. Bull
- Oral presentation at the Southern Ontario Graduate Student Seminar Day, Hamilton, September 1999
  Title: An Introduction to Statistics in Human Genetics
  Authors: J Biernacka, L. Mirea
- Oral presentation at the Statistical Society of Canada Annual Meeting (case study presentation), Sherbrooke, June 1998
  Title: Tracking Trout: A Cutthroat Analysis
  Authors: J. Biernacka, S.B. Saddik, T. Srinivasan, K. Rathi, P. Macdonald

Other presentations:

- Statistics/Biostatistics Graduate Student Seminars, University of Toronto, Toronto, Canada (January 2003 and March 2004)
  - Simultaneous localization of two linked disease susceptibility genes
- Samuel Lunenfeld Research Institute Seminar Series, Toronto, Canada (February 2004)
  - A statistical method for simultaneous localization of two linked disease susceptibility genes
- Research Seminar and Journal Club in Statistical Methods in Human Genetics Research, University of Toronto, Toronto, Canada
  - May 2003. Methods for multi-locus analyses (co-presented with Lei Sun)
  - January 2002. Journal Club session: Large Upward Bias in Estimation of Locus-Specific Effects from Genomewide Scans: Goring et al. (2001) (co-presented with J.P. Lewinger)
  - January 2001. Journal Club session: A single, sequential, genome-wide test to identify simultaneously all promising areas in a linkage scan: Province (2000)
  - October 1999. Detection of interaction between loci in genome scans
- Poster at the University of Toronto Community Health Research Day, Toronto, Canada (February, 2000) (First prize winner for best poster)
  - Detection of Interaction between Loci in Genome Scans (Authors: J.M. Biernacka, S.B. Bull, P. Nikolakakos)
- Presentation at the McMaster University Statistical Seminar Series (October 1998)
  - Tracking Trout: A Cutthroat Analysis
- Poster at the Department of Biology, McMaster University, Student Research Day (March 1996)
  - Allozyme Expression in the Male Reproductive Tract of Hybrids in the *Drosophila melanogaster* Subroup

Academic Involvement / Positions held

- President, Biostatistics Union of Graduate Students (February 2000-September 2003)
- Student Representative – Department of Public Health Sciences Curriculum Committee (May 1999 – September 2003)
- Student Representative – MITACS NCE Mid-term Review, 2001.
- Co-organizer – Southern Ontario Statistics Graduate Student Seminar Day (SOSGSSD, 2000)
- Vice president, Biostatistics Union of Graduate Students (May 1999-February 2000)
- Vice president, Community Health Student Association (June 1999-May 2000)
- Biostatistics Program Student representative to the Community Health Student Association (September 1998-May 1999)

Professional Memberships

- American Society of Human Genetics
- International Genetic Epidemiology Society
- Institute for Mathematical Statistics

Technical Skills

- Computing Skills: Unix and Windows 2000/XP computing platforms, FORTRAN and Splus programming, SAS; familiarity with a number of other statistics and statistical genetics software packages including maple, minitab, SPSS, genehunter, allegro, and others.