

# Professor Richard Lockhart

## *Curriculum Vitae*

Updated: 2016 July 20

Born: 1954 July 13

Citizenship: Canadian

## PERSONAL HISTORY

### Educational Background

|       |      |  |
|-------|------|--|
| Ph.D. | 1979 | Statistics, University of California, Berkeley, USA<br>Thesis title: <i>The Programming Operation on <math>\sigma</math>-fields</i><br>Supervisor: David Blackwell |
| M.A.  | 1976 | Statistics, University of California, Berkeley, USA  |
| B.Sc. | 1975 | Mathematics, University of British Columbia, Canada  |

### Employment History at Academic Institutions

|                |   |
|----------------|---|
| 2015 - 2020    | University Professor, Statistics & Actuarial Science, Simon Fraser University             |
| 2001 - Current | Professor, Statistics & Actuarial Science, Simon Fraser University                        |
| 2008 - 2014    | Professor and Chair, Statistics & Actuarial Science, Simon Fraser University              |
| 2007 - 2008    | Supernumerary Member of Senior Common Room, Jesus College, Oxford                         |
| 1993 - 2001    | Professor, Department of Mathematics & Statistics, Simon Fraser University                |
| 1994 - 1995    | Senior Research Fellow (Visiting), Jesus College, Oxford                                  |
| 1987 - 1993    | Associate Professor, Mathematics & Statistics, Simon Fraser University                    |
| 1987 - 1988    | Associate Professor, Department of Statistics, University of Toronto                      |
| 1986 - 1987    | Assistant Professor (Visiting), Statistics & Actuarial Science,<br>University of Waterloo |
| 1979 - 1987    | Assistant Professor, Statistics, Mathematics, Simon Fraser University                     |
| 1979 Feb - Aug | NSERC Post-doctoral Fellow, Centre de Recherche Mathématiques,<br>Université de Montréal  |

### Other Academic and Research Employment History

|      |  |
|------|--|
| 1978 | Research Assistant, Lawrence Berkeley Laboratories, Analysis of Energy Forecasting Models  |
| 1975 | NSERC Undergraduate Research Award. Jim Zidek and Donald Ludwig supervisors. Lions Gate Bridge load forecasting; applied mathematics conference note-taker |

### Awards, Honours and Scholarships

BC Sugar Achievement Award, SFU, 2016.

Beaufort Visiting Fellowship, St. John's College, Cambridge. 2017.

Gold Medal. Statistical Society of Canada. 2015.

Fellow of the Institute of Mathematical Statistics. 2014.

Fellow of the American Statistical Association. 2013.

Statistical Society of Canada Service Award. 2002.

Visiting Senior Research Fellowship, Jesus College, Oxford, 1994–1995.

Elected member, International Statistical Institute, 1991.

R. D. James Gold Medal in Mathematics, University of British Columbia, 1975.

## RESEARCH

### Funding

#### Research Grants

NSERC Discovery Grant, PI. (2014 - 2019). “Bayes assisted frequentist model assessment and statistical inference”. \$27,000 per year for 5 years.

NSERC Accelerator Supplement, PI. (2014 - 2017). “Bayes assisted frequentist model assessment and statistical inference”. \$40,000 per year for 3 years.

NSERC Discovery Grant, PI. (2008 - 2013). “Bayes assisted goodness-of-fit”. \$34,000 per year for 5 years.

NSERC Discovery Grant, PI. (2003 - 2008). “Uniform asymptotic approximations”. \$29,000 per year for 5 years.

NSERC Discovery Grant, PI. (1999 - 2003). “Goodness-of-fit”. \$21,000 per year for 4 years.

NSERC Discovery Grant, PI. (1995 - 1999). “Goodness-of-fit”. \$18,000 per year for 4 years.

NSERC Discovery Grant, PI. (1992 - 1995). “Goodness-of-fit, many parameter problems, inference in stochastic processes”. \$20,000 per year for 3 years.

NSERC Discovery Grant, PI. (1989 - 1992). “Goodness-of-fit, many parameter problems, inference in stochastic processes”. \$17,300 per year for 3 years.

NSERC Discovery Grant, PI. (1986 - 1989). “Goodness-of-fit in survival analysis”. \$12,238 per year for 3 years.

NSERC Discovery Grant, PI. (1983 - 1986). “Goodness-of-fit in survival analysis”. \$4,357 per year for 3 years.

NSERC Discovery Grant, PI. (1980 - 1983). “Programmable set operations; estimation in pulsed nuclear magnetic resonance models, estimation of reporting rates”. \$2,800 per year for 3 years.

SFU President’s Research Fund, PI. (1979 - 1980). \$2000.

#### Conference Grants

PIMS Workshop Grant \$16,000; CANSSI Grant \$2,000; SFU Conference Fund Grant \$3,500. “Statistical Inference for Large Scale Data”, Simon Fraser University, April 20-24, 2015.

PIMS Workshop Grant \$16,000; CANSSI Grant \$2,000; SFU Conference Fund Grant \$3,500. “Big Data for Environmental Science”, University of British Columbia, May 11-15, 2015.

NSERC Conference Grant \$40,000, PI (1995). “Joint SSC/IMS Annual meetings in Montreal, June 1995. Collaboration: I wrote this grant application for the SSC in my role as program co-chair. It is only in this sense that I list myself as PI in this or other joint grants.

## Equipment Grants

- NSERC Equipment Grant, Co-investigator. (2007 - 2008). "Computer network enhancement". \$57,097. PI: McNeney, WB; Collaboration: Altman, Bingham, Dean, Graham, Lu, Parker, Routledge, Schwarz, Sitter.
- NSERC Equipment Grant, PI. (2005 - 2006). "Computing network enhancement". \$8,000. Collaboration: with most of the rest of the department.
- NSERC Equipment Grant, PI. (2003 - 2004). "Computing network enhancement". \$10,696. Collaboration: with most of the rest of the department.
- NSERC Equipment Grant, PI. (2002 - 2003). "Computing network enhancement". \$34,346. Collaboration: Dean, Graham, McNeney, Routledge, Schwarz, Sitter, Stephens, Swartz, Weldon.
- NSERC Equipment Grant, PI. (2001 - 2002). "Computing network enhancement". \$53,290. Collaboration: Dean, Graham, McNeney, Routledge, Schwarz, Sitter, Stephens, Swartz, Weldon, Wirch.
- NSERC Equipment Grant, PI. (2000 - 2001). "Computing network enhancement". \$51,616. Collaboration: Dean, Graham, McNeney, Routledge, Schwarz, Sitter, Stephens, Swartz, Wirch.
- NSERC Equipment Grant, PI. (1999 - 2000). "Computing network upgrade". \$35,277. Collaboration: Dean, Schwarz, Sitter and Swartz.
- NSERC Equipment Grant, PI. (1997 - 1998). "Computing network upgrade". \$42,160. Collaboration: Routledge, Swartz, Schwarz, Dean, and Sitter.
- NSERC Equipment Grant, PI. (1995 - 1996). "Computing network upgrade". \$32,645. Collaboration: Dean, Eaves, Parker, Routledge, Schwarz, Sitter and Swartz.
- NSERC Equipment Grant, PI. (1993 - 1994). "Computing network upgrade". \$47,140. Collaboration: Dean, Eaves, Routledge, Stephens, Swartz, and Weldon.
- NSERC Equipment Grant, PI. (1991- 1992). "Computing network upgrade". \$33,430. Collaboration: Dean, Eaves, Routledge, Stephens, Swartz, and Weldon.
- NSERC Equipment Grant, PI. (1990 - 1991). "Computing network upgrade". \$17,300. Collaboration: T. Swartz.
- NSERC Equipment Grant, PI. (1989 - 1990). "Computing network upgrade". \$12,150. Collaboration: T. Swartz.

## Infrastructure Grants

- NSERC Infrastructure Grant, (1994 - 1995). Larry Weldon, PI. Statistical Consulting Service, \$30,000. Co-investigators: Dean, Eaves, Routledge, Stephens, Swartz.
- NSERC Infrastructure Grant, (1993 - 1994). Larry Weldon, PI. Statistical Consulting Service, \$30,000. Co-investigators: Dean, Eaves, Routledge, Stephens, Swartz.
- NSERC Infrastructure Grant, (1992 - 1993) Robert Russell, PI. Computing Infrastructure, \$30,000. Co-investigators: Dean, Lachlan, Lardner, Mekler, Stephens, Swartz, Trummer.
- NSERC Infrastructure Grant, (1992 - 1993) Larry Weldon, PI. Statistical Consulting Service, \$30,000. Co-investigators: Dean, Eaves, Routledge, Stephens, Swartz.
- NSERC Infrastructure Grant, PI, ( 1991 - 1992). Statistical Consulting Service, \$30,000. Co-investigators: Dean, Eaves, Routledge, Stephens, Swartz.

NSERC Infrastructure Grant,(1990 - 1991). Larry Weldon, PI. Statistical Consulting Service, \$30,000.  
Co-investigators: Eaves, Routledge, Stephens, Swartz.

NSERC Infrastructure Grant, (1989 - 1990). Larry Weldon, PI. Statistical Consulting Service, \$30,000.  
Co-investigators: Eaves, Routledge, Stephens, Swartz.

NSERC Infrastructure Grant, (1988 - 1989). Larry Weldon, PI. Statistical Consulting Service, \$14,236.  
Co-investigators: Eaves, Routledge, Stephens.

NSERC Infrastructure Grant, (1987 - 1988). Larry Weldon, PI. Statistical Consulting Service, \$14,236.  
Co-investigators: Eaves, Routledge, Stephens.

NSERC Infrastructure Grant, (1986 - 1987). Larry Weldon, PI. Statistical Consulting Service, \$17,338.  
Co-investigators: Eaves, Routledge, Stephens.

### **Other funding**

NSERC Travel Grant, 1986. Sabbatical funding for travel to the University of Waterloo, \$974.

### **Conferences, Workshops and Presentations**

#### **Invited Talks**

June 2016, International Society for Nonparametric Statistics, III, Avignon, France. *Contiguity in High Dimensions*

May 2016, Statistical Society of Canada, Brock University, St. Catharines, Ontario. Gold Medal Address. *Big Data, High Dimensions, Goodness-of-fit: something of this nature.*

April 2016, University of Victoria, Department of Mathematics and Statistics. *Inference after model selection in high dimensional linear regression.*

September 2015, Goodness-of-fit Days; University of Athens; Athens Greece. *Bayes Optimality for Goodness of Fit.*

January 2015, Theme Period in Big Data: Opening Conference; Fields Institute; Toronto. *Inference after LASSO – limits and limitations.*

May 2014, Advances in Directional Statistics; Université Libre de Bruxelles; Brussels Belgium. *Bayes assisted goodness-of-fit for von Mises regression.*

March 2014, UBC SFU Graduate Student Workshop. *Some statisticians I knew and some I didn't.*

February 2014, CMS (Compact Muon Spectrometer) Statistics Group (Large Hadron Collider at CERN). *Calibrated Bayes for Detection and Exclusion in Searches.* Video Link Presentation.

September 2012, Simon Fraser University, Department of Mathematics. *David Blackwell: the man and the math.*

September 2012, Simon Fraser University, Department of Statistics and Actuarial Science. *David Blackwell: the man and the math.*

August 2012, Joint Statistical Meetings, San Diego. *David Blackwell: Games and Measure.*

August 2012, Carleton University, Department of Mathematics and Statistics. *Particle discovery in high energy physics: the role of statistics.*

June 2012, SLAC, Progress on Statistical Issues in Searches. *Response from a Statistician.*

February 2012, University of Virginia, Department of Statistics. *Discovery: Bayes, bumps, goodness-of-fit.*

June 2010, Autonomous University of Barcelona. *The Large Hadron Collider and Goodness-of-Fit.*

May 2010, DASF (Data Analysis and Statistical Foundations) III. *The Large Hadron Collider and Goodness of Fit.*

November 2009, El compleanos 64 del Dr. Federico O'Reilly Togno. *Conditional tests of goodness-of-fit.*

June 2009, Statistical Society of Canada. *Randy Sitter: his career, his humour and his many accomplishments.*

May 2009, University of Washington. *Bayes Assisted Goodness of Fit.*

April 2008, Universitat Autònoma de Barcelona. *Bayes assisted goodness of fit.*

April 2008, Oxford University. *Bayes assisted goodness of fit.*

April 2008, Bristol University. *Bayes assisted goodness of fit.*

May 2007, UBC SFU Graduate Student Workshop. *Some statisticians I knew and some I didn't.*

April 2007, Statistical Distributions and Models: Assessment and Applications: a conference to celebrate Michael Stephens' 80th Birthday. *Michael (and me).*

April 2003, UBC seminar series. *Bayes assisted goodness-of-fit.*

March 2002, Read Paper Series of The Canadian Journal of Statistics. *Box-Cox transformations in linear models: Large sample theory and tests of normality.*

June 2000, Goodness-of-Fit 2000. *Tests of normality in Box-Cox transformations.*

Spring 1995, Birmingham University. *Uniform Asymptotic Approximations and Goodness-of-fit.*

Spring 1995, Heriot Watt University. *Goodness-of-fit and the Box-Cox Transformation.*

April 1995, 31st Annual Gregynog Conference. *Goodness-of-fit and the Box-Cox Transformation.*

February 1995, Oxford University (Fall 1994). *Goodness-of-fit and the Box-Cox Transformation.*

April 1994, Discover the Possibilities, SFU. *Mandatory testing: do you have CCCC?*

September 1993, Université du Québec à Montréal. *Statistical Consulting at SFU.*

November 1992, Frontiers in Science: SFU. *Mandatory Testing – do you have CCCC?*

June 1992, Statistical Society of Canada Annual Meetings. *When the ARE of ANOVA is 0.*

Spring 1990, University of British Columbia, title forgotten.

Spring 1989, University of British Columbia, title forgotten.

1989, Alberta Statistics Day, title forgotten.

November 1987, Pacific Northwest Statistics Group meeting at Simon Fraser. *Shapiro-Wilk and related statistics.*

April 1987, 23rd Annual Gregynog Conference, Wales. *Goodness-of-fit, quadratic forms and invariance principles.*

March 1987, University of Washington. *Quadratic Forms in Uniform Order Statistics*.

February 1987, University of Western Ontario. *Q-Q plots, goodness-of-fit and invariance principles*.

February 1987 York University. *Q-Q plots, goodness-of-fit and invariance principles*.

November 1986, McMaster University. *Quadratic forms in uniform order statistics*.

October 1986, University of Western Ontario. *Quadratic forms in uniform order statistics*.

October 1986, University of Toronto. *Quadratic forms in uniform order statistics*.

September 1986, University of Waterloo. *Quadratic forms in uniform order statistics*.

June 1985, Annual meeting of Stat. Soc. of Canada, University of Manitoba. *Quadratic forms in goodness-of-fit testing*.

August 1984, Annual western regional meeting of Inst. of Math. Stat., Lake Tahoe, Cal. *Goodness-of-fit tests based on normalized spacings*.

August 1983, Annual joint meetings of Institute of Mathematical Statistics, American Statistical Association, Statistical Society of Canada and Biometric Society, Toronto. *Goodness of fit statistics with estimated shape parameters*.

January 1983, University of British Columbia. *Weak convergence results (coupling?)*.

May 1982, Annual meeting of Stat. Soc. of Canada, University of B.C. *Coupling proofs of weak convergence*.

June 1981, Western Regional Meetings: Institute of Mathematical Statistics, University of Victoria. *Large Sample Theory for the Cox Model*.

### Session Organizer

May 2010. Annual General Meetings of Statistical Society of Canada. Panel Discussion, National Institute in Statistics, co-organizer with Charmaine Dean

May 2008. SSC-SSdF: SSC annual meetings. Session on “Model assessment and goodness of fit”.

May 1998. 7th International Meeting on Statistical Climatology. Local arrangements chair.

April 1998. Centre de recherches mathématiques workshop on spatial statistics in the earth and health sciences. Program Chair.

July 1994. SSC Annual Meetings joint with IMS. Program sub chair for SSC

June 1989. SSC Annual Meetings. Organized workshop on ‘Generalized Additive Models’.

## PUBLICATIONS

### Refereed Journals

Ryan J. Tibshirani, Jonathan Taylor, Richard Lockhart, and Robert Tibshirani. (2016). Exact Post-Selection Inference for Sequential Regression Procedures, *Journal of the American Statistical Association*, **111**, to appear.

- Béliveau, Audrey, Lockhart, Richard A., Schwarz, Carl J., & Arndt, Steven K. (2015). Aerial-Access Creel Surveys with Incomplete Matching of Aerial and Access Components, *Biometrics*, **71**, 1050–1059.
- Lockhart, R. A., Taylor, J., Tibshirani, R. J. & Tibshirani, R. (2014). A significance test for the lasso. With discussion. *Annals of Statistics*, **42**, 413–531 (article 413–468, discussion 469–517, rejoinder 518–531).
- del Castillo, J., Daoudi, J., & Lockhart R. A. (2014). Methods to Distinguish Between Polynomial and Exponential Tails. *Scandinavian Journal of Statistics*, **41**, 382–393.
- Heckman, N, Lockhart, R. A. and Nielsen, J. D. (2013). Penalized Regression, Mixed Effects Models and Appropriate Modelling. *Electronic Journal of Statistics*, **7**, 1517–1552.
- Lockhart, R. A. (2012). Conditional Limit Laws for Goodness-of-Fit Tests. *Bernoulli*, **18**, 857–882.
- Linkletter, C. D., Ranjan, P., Lin, C. D., Bingham, D. R., Brenneman, W. A., Lockhart, R. A. and Loughin, T. M. (2012). Compliance testing for random effects models with joint acceptance criteria. *Technometrics*, **54**, 243–255.
- M. Dylan Tisdal, Richard A. Lockhart and M. Stella Atkins. (2011). The bias / variance trade-off in estimators for MR signal magnitude. *Magnetic Resonance in Medicine*, **66**, 1456–1467. DOI: 10.1002/mrm.22910.
- Chiu, G. and Lockhart, R. A. (2010). Bent-cable regression with autoregressive noise. *The Canadian Journal of Statistics*, **38**, 386–407.
- Lockhart, R. A. and Spinelli, J. J. (2009). The life and work of Michael A. Stephens: a conversation with Richard A. Lockhart and John J. Spinelli. *Journal of Statistical Theory and Practice*, **3**, 751–762.
- Lockhart, R. A., O’Reilly, F. J. and Stephens, M. A. (2009). Exact conditional tests and approximate bootstrap tests for the von Mises distribution. *Journal of Statistical Theory and Practice*, **3**, 543–554.
- Hu, X. J., Lagakos, S. and Lockhart, R. A. (2009). Marginal analysis of panel counts through estimating functions. *Biometrika*, **96**, 445–456.
- Hu, X. J., Lagakos, S. and Lockhart, R. A. (2009). Generalized least squares estimation with panel counts. *Statistica Sinica*, **19**, 561–580.
- Borwein, P., Erdelyi, T., Ferguson, R., and Lockhart, R. A. (2008). On the zeros of cosine polynomials: solution to a problem of Littlewood. *Annals of Mathematics*, **167**, 1109–1117.
- Jeske, D., Lockhart, R. A., Stephens, M. A., and Zhang, Q. (2008). Cramer-von Mises tests for the Compatibility of Two Software Environments. *Technometrics*, **50**, 53–60.
- Lockhart, R. A., Spinelli, J. J., and Stephens, M. A. (2007). Cramér-von Mises statistics for discrete distributions with unknown parameters. *The Canadian Journal of Statistics*, **35**, 125–133.
- Lockhart, R. A., O’Reilly, F. J., and Stephens, M. A. (2007). Use of the Gibbs Sampler to obtain conditional tests, with applications. *Biometrika*, **94**, 992–998.
- Lockhart, R. A. and Perera, C. W. (2006). Testing normality in designs with many parameters. *Technometrics*, **48**, 436–444.
- Chiu, Grace, Lockhart, R. A., and Routledge, R. R. (2006). Bent-Cable Regression Theory and Applications. *Journal of the American Statistical Association*, **101**, 542–553.
- Chiu, Grace, Lockhart, R. A., and Routledge, R. D. (2005). Asymptotic theory for bent cable regression—the basic case. *Journal of Statistical Planning and Inference*, **127**, 143–156.

- Lockhart, R. A. and O'Reilly, F. J. (2005). A note on Moore's Conjecture. *Statistics & Probability Letters*, **74**, 212–220.
- Anderson, T. W., Lockhart, R. A., and Stephens, M. A. (2004). An Omnibus Test for the Time Series Model AR(1). *Journal of Econometrics*, **118**, 111–127.
- Chiu, Grace, Lockhart, R. A., and Routledge, R. R. (2002). Bent-cable Asymptotics when the Bend is Missing. *Statistics and Probability Letters*, **59**, 9–16.
- Genest, Christian, Lockhart, R. A., and Stephens, M. A. (2002). Chi-square and the lottery. *Journal of the Royal Statistical Society, Series D*, **51**, 243–257.
- Chen, Gemai, Lockhart, R. A., and Stephens, M. A. (2002). Large Sample Theory for Box-Cox Transformations in Linear Models (With discussion. Read March 22, 2002, in the read paper series of The Canadian Journal of Statistics). *The Canadian Journal of Statistics*, **30**, 177–234.
- Chen, Gemai and Lockhart, R. A. (2001). Weak convergence of the empirical process of residuals in linear models with many parameters. *Annals of Statistics*, **29**, 748–762.
- Spinelli, J. J., Lockhart, R. A., and Stephens, M. A. (2002). Tests for the response distribution in a Poisson regression model. *Journal of Statistical Planning and Inference*, **108**, 137–154.
- Borwein, Peter and Lockhart, R. A. (2001). The Expected  $L_p$  Norm of Random Polynomials. *Proceedings of the American Mathematics Society*, **129**, 1463–1472.
- Kulperger, R. J. and Lockhart, R. A. (1998). Tests of Independence in Time Series. *Journal of Time Series Analysis*. **19**, 165–185.
- Chen, Gemai and Lockhart, Richard A. (1997). Box-Cox transformed linear models: A parameter-based asymptotic approach. *The Canadian Journal of Statistics*, **25**, 531–543.
- Lockhart, R.A and Stephens, M.A. (1994). Goodness-of-fit for the three parameter Weibull. *Journal of the Royal Statistical Society, Series B*, **56**, 491–500.
- Choulakian, V., Lockhart, R. A., and Stephens, M. A. (1994). Cramér-von Mises Statistics for discrete distributions. *The Canadian Journal of Statistics*, **22**, 125–137.
- Lockhart, R. A. and Swartz, T. B. (1992). Computing Asymptotic P-values for EDF tests. *Statistics and Computing*, **2**, 137–141.
- Lockhart, R. A. (1991). Overweight Tails are Inefficient. *Annals of Statistics*, **19**, 2254–2258.
- Guttorp, P. and Lockhart, R. A. (1989). Estimation in sparsely sampled random walks. *Stochastic Processes and their Applications*, **31**, 315–320.
- Guttorp, P. and Lockhart, R. A. (1989). On the asymptotic distribution of high order spacings statistics. *The Canadian Journal of Statistics*, **17**, 419–426.
- Guttorp, Peter and Lockhart, Richard A. (1988). Finding the location of a signal: a Bayesian Analysis. *Journal of the American Statistical Association*, **83**, 322–330.
- Guttorp, P. and Lockhart, R. A. (1988). On the asymptotic distribution of quadratic forms in uniform order statistics. *Annals of Statistics*, **16**, 433–449.
- Meester, S. G. and Lockhart, R. A. (1988). Testing for normal errors in designs with many blocks. *Biometrika*, **75**, 569–575.
- Berger, G. W., Kuo, J. and Lockhart, R. A. (1987). Regression and error analysis applied to the dose-response curves in thermoluminescence dating. *Int. J. Radiat. Appl. Instrum., Part D*, **13**, 177–184.



- McLaren, C. G. and Lockhart, R. A. (1987). On the asymptotic efficiency of certain correlation tests of fit. *The Canadian Journal of Statistics*, **15**, 159–168.
- Lockhart, R. A., O’Reilly, F. J., and Stephens, M. A. (1986). Tests for the extreme value and Weibull distributions based on normalized spacings. *Naval Research Logistics Quarterly*, **33**, 413–421.
- Lockhart, R. A., O’Reilly, F. J. and Stephens, M. A. (1986). Tests of fit based on normalized spacings. *Journal of the Royal Statistical Society, Series B*, **48**, 344–352.
- Guttorp, P., Kulperger, R., and Lockhart, R. A. (1985). Coupling Proofs of Weak Convergence. *Journal of Applied Probability*, **22**, 447–453.
- Lockhart, R. A. and McLaren, G. C. (1985). Asymptotic Points for a Test of Symmetry about a Specified Median. *Biometrika*. **72**, 208–210.
- Lockhart, R. A. and Stephens, M. A. (1985). Tests of Fit for the von-Mises Distribution. *Biometrika*, **72**, 647–652.
- Lockhart, R. A. (1985). The Asymptotic Distribution of the Correlation Coefficient in Testing Fit to the Exponential Distribution. *The Canadian Journal of Statistics*, **13**, 253–256.
- Burgess, John P. and Lockhart, R. A. (1983). Classical hierarchies from a modern viewpoint. *Fundamenta Mathematicae*, **115**, 107–118.
- Lockhart, R. A. (1982). On the non-existence of consistent estimates in Galton-Watson processes. *Journal of Applied Probability*, **19**, 842–846.
- Zidek, James V., Navin, Francis, P. D., and Lockhart, R. A. (1979). Statistics of extremes: An alternate method with application to bridge design codes. *Technometrics*, **21**, 185–191.

### Refereed Book Chapters

- Summers, A., Swartz, T., and Lockhart, R. A. (2007). Optimal Drafting in Hockey Pools. In *Statistical Thinking in Sports*, Eds: J. Albert and R. H. Koning.
- Lockhart, R. A. and Stephens, M. A. (1998). The Probability Plot: Tests of Fit Based on the Correlation Coefficient. Chapter 16 in **Handbook of statistics, vol. 17. Order Statistics: Applications**, Eds: N. Balakrishnan and C. R. Rao. Elsevier: Amsterdam.

### Refereed Letter to Editors

- Lockhart, R. A. and Spinelli, J. J. (1990). Comments on Kinnison (1989). Refereed letter to the editor of *The American Statistician*, **44**, 259–260.

### Discussions

- Lockhart, R. A. (2000). Discussion for Contributions of empirical and quantile processes to the asymptotic theory of goodness-of-fit tests by E. del Barrio, J. A. Cuesta-Albertos and C. Matrán in *Test*, **9**, 81–84.

### Submitted Papers

- Golchi, Shirin & Lockhart R. A. (2016). A Bayesian Approach for Hypothesis Testing in Particle Physics.

## SERVICE TO THE ACADEMIC COMMUNITY

### Editorial work

- Deputy Editor, *Journal of Multivariate Analysis*, August 2016 – 2017.
- Associate Editor, *Journal of Statistical Theory and Practice*, 2009 - Current.
- Executive Editor for the Statistical Society of Canada, *Statistics Surveys*, 2007 - Current.
- Associate Editor, *The Canadian Journal of Statistics*, 2004 - Current.
- Associate Editor, *Technometrics*, 2002 - 2007.
- Editor, *The Canadian Journal of Statistics*, 2001 – 2003.
- Associate Editor, *The Canadian Journal of Statistics*, 1989 – 2000.
- Editor, *Liaison*, (Newsletter of the Statistical Society of Canada), 1988 – 1991.

### Refereeing

- 2015: Advances in Data Analysis and Classification, Annals of Statistics (x2), Australia and New Zealand Journal of Statistics, Austrian Science Fund grant, Computational Statistics and Data Analysis, Journal of the American Statistical Association, Metrika, SORT, Statistical Science, Stochastic Processes and Applications
- 2014: Bernoulli, Biometrika, Computational Statistics and Data Analysis, International Statistical Review (x2), JASA, Journal of Multivariate Analysis, NSERC grant (x2), Swiss National Science Foundation Grant, Statistical Science, Statistical Methodology, Statistical Papers
- 2013: Annals of Statistics (x2), Bernoulli, Biometrika, Biostatistics, Computer Physics Communications, JMVA, JQAS, SISP
- 2012: Communications in Statistics (x2), NSEC grant, Research Synthesis Methods
- 2011: Journal of the American Oil Chemists' Society, JASA, NSERC grant, R Journal
- 2010: American Statistician, Communications in Statistics – Simulation and Computation
- 2009: Environmetrics, JSPI, MITACS grant, Statistica Sinica, TEST
- 2008: American Journal of Mathematical and Management Sciences, Communications in Statistics: Theory and Methods, Computational Statistics and Data Analysis, FQNTR grant, Journal of Multivariate Analysis, Metrika, Statistical Methodology,
- 2007: NSERC grant, JASA, Communications in Statistics (x2), Statistics and Probability Letters, Insurance: Mathematics and Economics.
- 2006: NSERC, Annals of the Institute of Statistical Mathematics, Biometrika
- 2005: Statistics, The Canadian Journal of Statistics, Annals of Statistics, Statistics and Computing, NSERC, Journal of Discrete Algorithms, TEST.
- 2004: Journal of Multivariate Analysis, Statistics and Computation, IEEE Transactions on Signal Processing, Journal of Econometrics, Insurance: Mathematics and Economics, NSERC

2003: Journal of the American Statistical Association, Journal of Statistical Computation and Simulation, Statistics in Medicine, Computational Statistics and Data Analysis

2002: Journal of Statistical Planning and Inference, Statistics and Probability Letters, Technometrics

2001: Journal of Statistical Computation and Simulation, NSERC

2000: Bernoulli, Technometrics, Statistics and Probability Letters, Journal of Statistical Planning and Inference, NSERC

1999: Communications in Statistics, Journal of Statistical Computing and Graphics, Journal of the Royal Statistical Society, Technometrics

1998: NSERC, FCAR, JRSS-B, Annals of Statistics

1997: Annals of Statistics, Computational Statistics and Data Analysis, Journal of the Royal Statistical Society - B, Journal of Statistical Planning and Inference, Journal of Multivariate Analysis, FCAR, NSERC

1996: Linear Algebra and its Applications, Publicationes Mathematicae Debrecen, Journal of Statistical Planning and Inference, Annals of Statistics, Technometrics, The American Statistician, NSERC (4 reports Dec 1996)

1995: Annals of Statistics, Technometrics, Canadian Journal of Statistics, Journal of Econometrics, Australian Journal of Statistics, NSERC (2 reports Dec 1995)

1992: Journal of the Royal Statistic Society, Journal of Statistical Computation, ACM Transactions on Modelling & Computer Simulation, American Statistician, Technometrics (x2)

1991: Communications in Statistics

1979 - 1990: Some forgotten but: American Statistician, Annals of Statistics, Biometrics, Biometrika, Canadian Journal of Statistics, Communications in Statistics, Journal of the American Statistical Association, Journal of Multivariate Analysis, Journal of Statistical Computation and Simulation, Journal of the Royal Statistical Society, Technometrics

### **Promotion and Tenure Reviews**

2016, Reviewer, Tenure, French Research Institute.

2014, Reviewer, Promotion to Professor, Canadian University.

2014, Reviewer, Appointment as Chair and Professor, Canadian University.

2013, Reviewer, Promotion to Professor, Canadian University.

2013, Reviewer, Promotion to Professor, US University.

2011, Reviewer, Promotion to Professor, Australian University.

2010, Reviewer, Tenure, Canadian University.

2010, Reviewer, Promotion to Professor, Canadian university.

2010, Reviewer, Promotion and Tenure, Canadian university.

2010, Reviewer, Promotion and Tenure, Canadian university.

2009, Reviewer, Promotion to Professor, Canadian university.

2007, Reviewer, Promotion, Canadian University.  
2007, Reviewer, Promotion, Canadian University.  
2006, Reviewer, Promotion and Tenure, Canadian University.  
2006, Reviewer, Promotion, University of California.  
2006, Reviewer, Promotion, Washington State University.  
2005, Reviewer, Tenure Promotion, Canadian University.  
2005, Reviewer, Promotion, Middle Eastern University.  
2004, Reviewer, Appointment to Research Chair, Canadian University.  
2003, Reviewer, Tier 1 CRC, Canadian University.  
1999, Reviewer, Promotion and Tenure, Canadian University.  
1999, Reviewer, Promotion to Professor, Canadian university.  
1998, Reviewer, Research Award, Canadian University.  
1995, Reviewer, Promotion and Tenure, Canadian University.

### **Program and Department Reviews**

2014, Member of External Review Committee, Programs in the département de mathématiques et de statistique at l'Université de Montréal.  
2011, Committee Member, Review of Baccalauréat programme in Département de mathématiques et statistiques, Université Laval.  
2011, Member of Committee Reviewing Department of Mathematics and Statistics, University of Victoria.

### **Advisory Committees**

- Member, Advisory Committee on Statistical Methodology to Statistics Canada, July 1998 – 2012.
- Member, Scientific Advisory Panel to the Centre de Recherches Mathématiques, 2003 – 2006.
- College of Reviewers for the Canada Research Chairs Program, Government of Canada, 2000 – 2002.
- Member, ASA Advisory Committee to the Energy Information Agency, 1991 – 1996.
- Served on committee to select a new editor for the IMS bulletin, Committee of the Institute of Mathematical Statistics, 1995 – 1995.
- Chair, Natural Sciences and Engineering Research Council of Canada Grant Selection Committee # 338 (Mathematics and Statistical Sciences Equipment), 1993 – 1994.
- Member, Natural Sciences and Engineering Research Council of Canada Grant Selection Committee # 14 (Statistical Sciences), 1991 – 1994.

## Conference organization

- Co-organizer (with Peter Craigmile, Ohio State; Wendy Meiring, UC Santa Barbara; Vladimir Minin, University of Washington; Debashis Mondal, Oregon State; Paul Sampson, University of Washington): Banff International Research Station Workshop on “Challenges in the statistical modeling of stochastic processes for the natural sciences.” July 10 to 14, 2017.
- Organizer (with C. B. Dean, Western; P. Guttorp, U Washington; Will Kleiber, U Colorado; Bo Li, U Illinois; S. Sain, The Climate Corp; and J. V. Zidek, UBC): Workshop on Big Data in Environmental Science; University of British Columbia. May 11 to 15, 2015.
- Organizer (with Nicolai Meinshausen, ETH Zurich): Workshop on Statistical Inference for Large Scale Data; Simon Fraser University. April 20 to 24, 2015.
- Member, organizing committee for “Fields Institute Thematic Program Statistical Inference, Learning, and Models for Big Data”. Nancy Reid, chair. 2014-2015.
- Co-organizer (with Louis Lyons, Oxford, and Jim Linnemann, Michigan State University): Banff International Research Station Workshop on “Statistical issues relevant to significance of discovery claims”. July 11 to July 16, 2010.
- Program Chair, Statistical Society of Canada Annual Meeting 2006; June 2004 - June 2006.
- Moderator, Young Researchers Panel Discussion, WNAR/IMS western regional meetings; Seattle WA; June 28, 1999.
- Workshop organizer: Organizing workshop on applications of spatial statistics in the earth, environmental and health sciences for a Centre de Recherches Mathématiques theme year in statistics, Centre de Recherches Mathématiques, 1996 - 1998.
- Local Arrangements Chair: 7th International Meeting on Statistical Climatology, 1996 - 1998.
- Program Sub Chair for the SSC, SSC / IMS joint meetings in Montreal in June 1995, 1994 - 1995.
- Member, Program Committee for Special SSC Workshop on Likelihood Methods in Applications, 1989.

## Session Organizer

May 2010. Annual General Meetings of Statistical Society of Canada. Panel Discussion, National Institute in Statistics, co-organizer with Charmaine Dean

May 2008. SSC-SSdF: SSC annual meetings. Session on “Model assessment and goodness of fit”.

June 1989. SSC Annual Meetings. Organized workshop on Generalized Additive Models

## Statistical Society of Canada activities

### Executive

Chair Joint Meetings Advisory Committee, SSC / ASA / IMS / WNAR / ENAR, 1999.

Member, Joint Meetings Advisory Committee: a joint committee of the ASA, IMS, WNAR, ENAR and SSC to manage the Joint Meetings agreement of those societies, 1997 - 1999.

Past President, Statistical Society of Canada 1997 - 1998.

President, Statistical Society of Canada, 1996 - 1997.

Member, Committee of Presidents of Statistical Societies, 1995 - 1998.

President Elect, Statistical Society of Canada, 1995 - 1996.

### **Committee Work**

President-Elect, President, Past-President, Probability Section, July 2016 – June 2019.

Chair, CJS Prize Committee, July 2014 – June 2017.

Convenor, Committee of Chairs, Directors and Heads of Statistics at Canadian Universities and Colleges – informal group meeting annually at the SSC meetings. 2010-2012.

Secretary, Probability Section, 2007 - 2010.

Member of ad hoc committee to find publisher for *The Canadian Journal of Statistics*, 2007 - 2008.

Member, Awards Committee, 2004 - 2008.

Member, CRM-SSC Prize Committee, 2004 - 2008.

Member, Program Committee, July - 2007.

Member, Electronic Publications Committee, 2005 - 2006.

Chair, Pierre Robillard Award Committee, 2004 - 2005.

Member: Publications Committee, 2000 - 2004.

Chair, Editorial Search Committee for *Liaison*, 1999 - 2000.

Member, Pierre Robillard Award Committee, 1999 - 2000.

Chair, Awards Committee, 1998 - 1999.

Chair, Elections Committee, 1997 - 1998.

Chair, ad hoc committee on the editorship of *Liaison*, 1995 - 1995.

Member, Bilingualism Committee, 1991 - 1993.

Member, Publications Committee, 1991 - 1993.

Chair, Statistical Education Committee, 1989 - 1990.

## TEACHING AND SUPERVISION

### Senior Supervisory Duties of a Thesis/Dissertation/or Major Project

| Name              | Degree | Project/Thesis Title  | Date    |
|-------------------|--------|---|---------|
| Ruth, Will        | Ph.D.  | TBD   | In prog |
| Yang, Yuping      | Ph.D.  | TBD<br>Note: Co-supervisor with Jiguo Cao.  | In prog |
| Zhou, Ziyang      | Ph.D.  | TBD   | In prog |
| Qiu, Derek        | M.Sc.  | TBD   | In prog |
| Béliveau, Audrey  | Ph.D.  | Contributions to Wildlife Population Surveys<br>Note: Co-supervisor with Carl Schwarz.  | 2015    |
| Golchi, Shirin    | Ph.D.  | Bayesian Computational Methods and Applications<br>Note: Co-supervisor with Derek Bingham, Dave Campbell, and Hugh Chipman.   | 2014    |
| Sun, Zheng        | Ph.D.  | Model assessment: Bayes assisted tests and tests for discrete data<br>Note: Co-supervisor with Michael Stephens.  | 2014    |
| Sayre, Eric       | Ph.D.  | Variable weighted ultrametric optimization for mixed-type data: continuous, ordinal, nominal, binary symmetric and binary asymmetric  | 2009    |
| Qian, Wei         | M.Sc.  | Goodness-of-fit: a comparison of parametric bootstrap and exact conditional tests   | 2009    |
| Bentley, John     | M.Sc.  | Modelling circular data using a mixture of von Mises and uniform distributions  | 2006    |
| Lo, Shiu          | M.Sc.  | Generalized autoregressive conditional heteroscedastic (GARCH) time series models.  | 2003    |
| Chiu, Grace       | Ph.D.  | Bent-Cable Regression for Assessing Abruptness of Change<br>Note: Co-supervisor with Rick Routledge. Grace Chiu won the Pierre Robillard Award for the best PhD thesis in the Statistical Sciences in 2002. Now at CSIRO. | 2002-2  |
| Yin, Ruihua       | M.Sc.  | Computer Network Traffic Analysis   | 2000    |
| Chan, Eva         | M.Sc.  | Regression and Quantile Regression Modelling of Census Data   | 2000    |
| Butler, Kenneth   | Ph.D.  | Some problems in paired comparisons and goodness-of-fit for logistic regression   | 1997    |
| Perera, Chandanie | Ph.D.  | Statistical Analysis of Thermoluminescence Experiments for Sedimentary Dating   | 1996    |
| Hu, Karen         | M.Sc.  | Machine Recognition of Handwritten Characters   | 1994    |
| Waweru, J         | M.Sc.  | A Statistical Analysis of the African Armyworm Moth ( <i>Spodoptera Exempta</i> )   | 1993    |
| Perera, Chandanie | M.Sc.  | Estimation and Tests of Fit for Two Component Weibull Mixtures  | 1992    |
| Wu, J             | M.Sc.  | Proportional Logistic Regression Analysis of a Forestry Data Set  | 1992    |
| Chen, G           | Ph.D.  | Empirical Processes of Residuals: Theory and Applications<br>Now Professor at University of Calgary   | 1991    |

|                  |       |   |      |
|------------------|-------|---|------|
| MacNab, Ying     | M.Sc. | An Analysis of Some Anthropometric Data   | 1991 |
| Kuo, J           | M.Sc. | Statistical Analysis of the Partial Bleaching Method of Thermoluminescence Dating of Sedimentary Rock | 1986 |
| Meester, S       | M.Sc. | Testing for Normally Distributed Errors in Block Design Experiments                                   | 1986 |
| Ng, S            | M.Sc. | Statistical Analysis of Bluegill Sunfish Data Using Linear Logistic Regression                        | 1986 |
| Hutchinson, Dora | M.Sc. | Modern Developments in Chi-Square Goodness-of-Fit Testing   | 1983 |
| Janicot, Luc     | M.Sc. | Large sample properties of the Cox technique in survival analysis                                     | 1981 |

### Thesis examination in my department

Oksana Chkrebti, Ph.D. Internal-External examiner. *Probabilistic solution of differential equations for Bayesian uncertainty quantification and inference*. Simon Fraser University, 2013.

Lu Wang, M.Sc. Examiner. *Analysis of Clustered Event Times with Right-Censoring*, Simon Fraser University, 2013.

Kasra Yousefi, M.Sc. Examiner. *A Bayesian Spatial Hierarchical Model for Putting in Golf*, Simon Fraser University, 2013.

Henry Yuen, M.Sc. Examiner. *Stochastic Modeling of Economic Variables for Pension Plan Projections*, Simon Fraser University, 2011.

Elizabeth Juarez-Colunga, Ph.D. Internal-External examiner. *Recurrent Event Studies: Efficient Panel Designs and Joint Modeling of Events and Severities*. Simon Fraser University, 2011.

Zhong Wan, M.Sc. Examiner. *Modeling Investment Returns With A Multivariate Ornstein-Uhlenbeck Process*, Simon Fraser University, 2010.

Natalia Lysenko, M.Sc. Examiner *Stochastic Analysis of Life Insurance Surplus*, Simon Fraser University, 2006.

Jason Loeppky, M.Sc. Examiner. *Ranking Non-Regular Designs*, Simon Fraser University, 2004.

### Thesis examination outside of department

Belshaw Adrian, Ph.D. (Mathematics) Internal-External examiner. *Strong Normality, Modular Normality, and Flat Polynomials: Applications of Probability in Number Theory and Analysis*. Simon Fraser University, 2013.

Dylan Tisdall, Ph.D. Internal-External examiner. *Development and validation of algorithms for MRI signal component estimation*. Simon Fraser University, 2007.

Richard Lenton, Ph.D. External Examiner. *The power of categorical goodness-of-fit test statistics*. Griffith University, 2007.

Jean-François Quessy, Ph.D. External Examiner. *Méthodologie et application des copules: tests d'adéquation, tests d'indépendance, et bornes pour la valeur-à-risque*. Université Laval, 2005.

Xuecheng Liu, Ph.D. External Examiner. *Nonparametric Estimation with Censored Data: a Discrete Approach*. McGill University, 2005.



Michelle McDougall, M.Sc. External Examiner. *A Quantile Distribution Approach to the One-sample Location Problem*. Deakin University, 2004.

Azmeri Khan, Ph.D. External Examiner. *ANOVA Procedures with Quantile Error Distribution*. Deakin University, 2003.

Michael Steele, Ph.D. External Examiner. *The power of categorical goodness-of-fit test statistics*. Griffith University, 2002.

Wilfred Rosenbaum, Ph.D. Computing Science / Epidemiology. Simon Fraser University, 1997.

Chunzhang Wu, Ph.D. External Examiner. *First Passage Laws – Derivation, Estimation and Applications*. McGill University, 1996.

Zhenlin Yang, Ph.D. External Examiner. *Inference Following Box-Cox Transformation*. University of Alberta, 1992.

### Courses Given

| Semester | Course                                     | Number   | Type             | Enrolment |
|----------|--|----------|------------------|-----------|
| 2016-1   | Stochastic Processes                       | STAT 380 | Lecture          | 35        |
| 2015-3   | Statistical Theory                         | STAT 450 | Lecture          | 35        |
| 2015-3   | Chance and Data Analysis                   | STAT 100 | Lecture          | 180       |
| 2015-2   | Probability theory and weak convergence    | STAT 895 | Directed Studies | 11        |
| 2015-1   | Introduction to Probability and Statistics | STAT 270 | Lecture          | 30        |
| 2014-3   | Chance and Data Analysis                   | STAT 100 | Lecture          | 192       |
| 2014-3   | Intermediate Probability and Statistics    | STAT 285 | Lecture          | 51        |
| 2013-3   | Statistical Theory I                       | STAT 830 | Lecture          | 16        |
| 2013-2   | Applied Probability Models                 | STAT 870 | Lecture          | 6         |
| 2012-3   | Statistics                                 | STAT 801 | Lecture          | 11        |
| 2012-3   | Statistics: Selected Topics                | STAT 890 | Lecture          | 1         |
| 2012-1   | Introduction to Statistics                 | STAT 101 | Lecture          | 96        |
| 2011-3   | Statistics: Selected Topics                | STAT 890 | Lecture          | 17        |
| 2011-2   | Applied Probability Models                 | STAT 870 | Lecture          | 5         |
| 2009-3   | Time Series Analysis                       | STAT 804 | Lecture          | 17        |
| 2009-1   | Reading                                    | STAT 895 | Directed Studies | 1         |
| 2008-3   | Reading                                    | MATH 895 | Directed Studies | 1         |
| 2008-3   | Applied Probability Models                 | STAT 870 | Lecture          | 16        |
| 2008-2   | Linear Models                              | STAT 350 | Lecture          | 26        |
| 2006-3   | Applied Probability Models                 | STAT 870 | Lecture          | 16        |
| 2006-3   | Statistics: Selected                       | STAT 890 | Lecture          | 4         |
| 2006-1   | Time Series Analysis                       | STAT 804 | Lecture          | 7         |
| 2005-3   | Directed Studies                           | STAT 495 | Directed Studies | 1         |
| 2005-3   | Probability and Statistics                 | STAT 495 | Directed Studies | 1         |
| 2005-1   | Applied Probability Models                 | STAT 870 | Directed Studies | 1         |
| 2004-3   | Statistics for the Life Sciences           | STAT 201 | Lecture          | 331       |
| 2004-3   | Applied Probability Models                 | STAT 870 | Lecture          | 12        |
| 2004-1   | Statistics                                 | STAT 801 | Lecture          | 9         |
| 2004-1   | Time Series Analysis                       | STAT 804 | Lecture          | 5         |
| 2002-3   | Statistical Theory                         | STAT 450 | Lecture          | 10        |
| 2002-3   | Statistical Theory                         | STAT 450 | Lecture          | 78        |
| 2002-3   | Multivariate Analysis                      | STAT 802 | Lecture          | 7         |
| 2002-1   | Stochastic Processes                       | STAT 380 | Lecture          | 25        |

|        |  |          |                  |    |
|--------|--|----------|------------------|----|
| 2002-1 | Stochastic Processes                     | STAT 380 | Tutorial         | 18 |
| 2002-1 | Stochastic Processes                     | STAT 380 | Tutorial         | 7  |
| 2001-3 | Time Series Analysis                     | STAT 804 | Lecture          | 7  |
| 2001-1 | Statistics                               | STAT 801 | Lecture          | 6  |
| 2001-1 | Reading                                  | STAT 894 | Directed Studies | 1  |
| 2000-3 | Stochastic Processes                     | STAT 380 | Lecture          | 18 |
| 2000-3 | Stochastic Processes                     | STAT 380 | Tutorial         | 18 |
| 2000-3 | Applied Probability Models               | STAT 870 | Lecture          | 7  |
| 2000-1 | Statistics                               | STAT 801 | Lecture          | 11 |
| 1999-3 | Statistical Theory                       | STAT 450 | Lecture          | 24 |
| 1999-3 | Statistical Theory                       | STAT 450 | Tutorial         | 24 |
| 1999-3 | Time Series Analysis                     | STAT 804 | Lecture          | 9  |
| 1999-1 | Linear Models                            | STAT 350 | Lecture          | 15 |
| 1999-1 | Linear Models                            | STAT 350 | Tutorial         | 15 |
| 1998-3 | Statistics                               | STAT 801 | Lecture          | 9  |
| 1998-2 | Reading                                  | MATH 894 | Directed Studies | 1  |
| 1998-1 | Applied Statistics I                     | STAT 330 | Lecture          | 33 |
| 1998-1 | Applied Statistics I                     | STAT 330 | Tutorial         | 33 |
| 1998-1 | Multivariate Anal.                       | STAT 802 | Lecture          | 12 |
| 1997-3 | Time Series Analysis                     | STAT 804 | Lecture          | 10 |
| 1997-1 | Linear Models                            | STAT 350 | Tutorial         | 15 |
| 1997-1 | Linear Models                            | STAT 350 | Lecture          | 15 |
| 1996-3 | Linear Models in Applied Statistics I    | STAT 330 | Lecture          | 30 |
| 1996-3 | Linear Models in Applied Statistics I    | STAT 330 | Tutorial         | 19 |
| 1996-3 | Linear Models in Applied Statistics I    | STAT 330 | Tutorial         | 11 |
| 1996-3 | Statistical Theory                       | STAT 450 | Lecture          | 19 |
| 1996-3 | Statistical Theory                       | STAT 450 | Tutorial         | 19 |
| 1996-3 | Mathematical Statistics                  | STAT 801 | Lecture          | 3  |
| 1996-2 | Probability Models                       | STAT 280 | Directed Studies | 1  |
| 1996-2 | Statistical Analysis of Sample Surveys   | STAT 410 | Lecture          | 25 |
| 1996-2 | Statistical Analysis of Sample Surveys   | STAT 410 | Tutorial         | 25 |
| 1995-3 | Linear Models in Applied Statistics I    | STAT 330 | Lecture          | 18 |
| 1995-3 | Linear Models in Applied Statistics I    | STAT 330 | Tutorial         | 18 |
| 1995-3 | Time Series Analysis                     | STAT 804 | Lecture          | 9  |
| 1994-1 | Mathematical Statistics                  | STAT 801 | Lecture          | 3  |
| 1993-3 | Time Series Analysis                     | STAT 804 | Lecture          | 9  |
| 1993-1 | Statistics                               | STAT 801 | Lecture          | 13 |
| 1992-1 | Applied Probability Models               | MATH 871 | Lecture          | 9  |
| 1992-1 | Multivariate Analysis                    | STAT 802 | Lecture          | 3  |
| 1991-3 | Time Series Analysis                     | STAT 804 | Lecture          | 6  |
| 1991-2 | Statistical Consulting I                 | STAT 811 | Seminar          | 2  |
| 1991-1 | Introduction to Stochastic Processes     | STAT 380 | Lecture          | 9  |
| 1991-1 | Introduction to Stochastic Processes     | STAT 380 | Tutorial         | 9  |
| 1991-1 | Probability Theory                       | STAT 480 | Directed Studies | 1  |
| 1991-1 | Multivariate Analysis                    | STAT 802 | Lecture          | 4  |
| 1990-3 | Statistical Theory                       | STAT 450 | Lecture          | 18 |
| 1990-3 | Statistical Theory                       | STAT 450 | Tutorial         | 18 |
| 1990-3 | Statistics                               | STAT 801 | Lecture          | 3  |
| 1990-2 | Introduction to Probability & Statistics | STAT 270 | Lecture          | 51 |
| 1990-2 | Linear Models in Applied Statistics      | STAT 330 | Lecture          | 11 |
| 1990-2 | Statistical Consulting I                 | STAT 811 | Lecture          | 2  |

|        |   |          |                    |     |
|--------|---|----------|--------------------|-----|
| 1990-2 | Statistical Consulting II                     | STAT 812 | Lecture            | 2   |
| 1990-1 | Probability I                                 | MATH 872 | Seminar            | 1   |
| 1990-1 | Introduction to Statistics - B                | STAT 102 | Lecture            | 81  |
| 1990-1 | Time Series Analysis                          | STAT 804 | Lecture            | 12  |
| 1989-2 | Reading                                       | MATH 895 | Directed Studies   | 1   |
| 1989-2 | Reading                                       | MATH 895 | Directed Studies   | 1   |
| 1989-2 | Statistical Consulting I                      | STAT 811 | Lecture            | 5   |
| 1989-1 | Introduction to Probability & Statistics      | STAT 270 | Lecture            | 74  |
| 1989-1 | Probability Theory                            | STAT 480 | Lecture            | 3   |
| 1988-3 | Applied Probability Models                    | STAT 280 | Lecture            | 9   |
| 1986-2 | Job Practicum I                               | MATH 336 | Practicum          | 1   |
| 1986-2 | Job Practicum II                              | MATH 337 | Practicum          | 3   |
| 1986-2 | Job Practicum IV                              | MATH 437 | Practicum          | 2   |
| 1986-1 | Introduction to Statistics A                  | MATH 101 | Distance Education | 45  |
| 1986-1 | Introduction to Statistics A                  | MATH 101 | Lecture            | 108 |
| 1986-1 | Job Practicum I                               | MATH 336 | Practicum          | 2   |
| 1986-1 | Job Practicum II                              | MATH 337 | Practicum          | 4   |
| 1986-1 | Job Practicum III                             | MATH 436 | Practicum          | 1   |
| 1986-1 | Applied Probability Models                    | MATH 871 | Lecture            | 9   |
| 1985-3 | Job Practicum I                               | MATH 336 | Practicum          | 4   |
| 1985-3 | Forgotten                                     | MATH 497 | Directed Studies   | 1   |
| 1985-3 | Forgotten                                     | MATH 895 | Directed Research  | 1   |
| 1985-3 | Mathematical Statistics                       | STAT 801 | Lecture            | 7   |
| 1985-2 | Introduction to Statistics – A                | MATH 101 | Distance Education | 77  |
| 1985-2 | Introduction to Statistics B                  | MATH 102 | Lecture            | 48  |
| 1985-2 | Job Practicum I                               | MATH 336 | Practicum          | 3   |
| 1985-2 | Job Practicum II                              | MATH 337 | Practicum          | 2   |
| 1985-2 | Introduction to Probability and Statistics II | MATH 372 | Lecture            | 22  |
| 1985-2 | Introduction to Probability and Statistics II | MATH 372 | Tutorial           | 22  |
| 1985-2 | Job Practicum III                             | MATH 436 | Practicum          | 2   |
| 1985-2 | Job Practicum IV                              | MATH 437 | Practicum          | 2   |
| 1985-2 | Forgotten                                     | MATH 895 | Directed Research  | 1   |
| 1985-2 | Forgotten                                     | MATH 895 | Directed Research  | 1   |
| 1985-1 | Introduction to Statistics A                  | MATH 101 | Distance Education | 61  |
| 1985-1 | Job Practicum I                               | MATH 336 | Practicum          | 3   |
| 1985-1 | Job Practicum II                              | MATH 337 | Practicum          | 2   |
| 1984-3 | Introduction to Statistics A                  | MATH 101 | Lecture            | 21  |
| 1984-3 | Introduction to Statistics A                  | MATH 101 | Distance Education | 41  |
| 1984-3 | Statistics I                                  | MATH 875 | Lecture            | 8   |
| 1984-2 | Introduction to Statistics A                  | MATH 101 | Distance Education | NA  |
| 1984-1 | Introduction to Statistics B                  | MATH 102 | Lecture            | 138 |
| 1983-3 | Statistical Analysis of Sample Surveys        | MATH 304 | Lecture            | 36  |
| 1983-3 | Real Analysis                                 | MATH 831 | Directed Studies   | 2   |
| 1983-3 | Statistics I                                  | MATH 875 | Lecture            | 4   |
| 1983-3 | Introductory Seminar in Functional Analysis   | MATH 896 | Lecture            | 3   |
| 1983-2 | Introduction to Statistics                    | MATH 101 | Distance Education | 64  |
| 1983-1 | Introduction to Statistics                    | MATH 101 | Distance Education | 36  |
| 1983-1 | Probability                                   | MATH 487 | Lecture            | 2   |
| 1982-3 | Introduction to Statistics                    | MATH 101 | Distance Education | NA  |
| 1982-3 | Introduction to Probability and Statistics    | MATH 101 | Lecture            | 31  |
| 1982-3 | Mathematical Statistics I                     | MATH 372 | Lecture            | 8   |

|        |  |          |                    |     |
|--------|--|----------|--------------------|-----|
| 1982-2 | Introduction to Statistics                     | MATH 101 | Distance Education | 38  |
| 1982-1 | Probability I                                  | MATH 872 | Lecture            | NA  |
| 1981-3 | Introduction to Probability and Statistics     | MATH 272 | Lecture            | 30  |
| 1981-3 | Real Analysis I                                | MATH 831 | Lecture            | NA  |
| 1981-3 | Statistics I                                   | MATH 875 | Lecture            | NA  |
| 1981-2 | Directed Studies                               | MATH 497 | Directed Studies   | 1   |
| 1981-1 | Introduction to Probability and Statistics     | MATH 272 | Lecture            | 31  |
| 1981-1 | Statistical Design and Analysis of Experiments | MATH 404 | Lecture            | 30  |
| 1980-3 | Mathematical Statistics I                      | MATH 875 | Lecture            | NA  |
| 1980-3 | Reading: Stochastic Processes                  | MATH 895 | Directed Studies   | 1   |
| 1980-1 | Linear Models in Mathematical Statistics       | MATH 490 | Lecture            | 21  |
| 1979-3 | Introduction to Statistics                     | MATH 101 | Lecture            | 341 |
| 1979-3 | Statistics I                                   | MATH 875 | Lecture            | NA  |

### Teaching at Other Institutions

| Dates  | Institution                          | Approximate Title                  |
|--------|--------------------------------------|------------------------------------|
| 1988-1 | University of Toronto                | Design and Analysis of Experiments |
| 1987-3 | University of Toronto                | Statistical Theory                 |
| 1986-3 | University of Waterloo               | Introduction to Statistics         |
| 1978-3 | University of California at Berkeley | Introduction to Statistics         |

### UNIVERSITY SERVICE

#### Departmental Committees

2010 – 2016. Academic Integrity Advisor.

May 2008 - August 2014. Chair, Statistics and Actuarial Science

May 2008 - August 2014. Chair, Tenure and Promotions Committee

2004 - 2007. Chair, Graduate Studies Committee

1998 - 2003. Chair, Graduate Studies Committee

1998 - 1999. Member, Search Committee

1998 - 1999. Chair, Working group on Departmental Review Recommendation 7: computing.

1998 - 1999. Chair, Computer Users Committee

1998 - 1999. Chair, Working Group on Departmental Review Recommendation 2: graduate studies.

1997 - 1998. Member, Search Committee

1997 - 1998. Member, Graduate Studies Committee

1995 - 1998. Member, Departmental Tenure Committee

1997 - 1997. Examiner, Theoretical Statistics Comprehensive

1995 - 1997. Member, Computer Users' Committee

1979 - 1995. Examiner, Real Analysis Comprehensive Examinations, Theoretical Statistics, Applied Statistics

1994 - 1994. Member, Organizing Committee, Committee of Discover the Possibilities  
1993 - 1994. Member, Search Committee  
1993 - 1994. Member, Graduate Studies Committee  
1993 - 1994. Member, Computer Users' Committee  
1991 - 1994. Member, Appointments and Long Range Planning  
1992 - 1993. Chair, Search Committee  
1992 - 1993. Member, Graduate Admission Committee  
1991 - 1992. Chair, Two Search Committees  
1991 - 1992. Member, Actuarial Mathematics Search Committee  
1991 - 1992. Representative, move of SCS to M.T.F.  
1989 - 1992. Member, Undergraduate Studies Committee  
1988 - 1992. Member, Departmental Tenure Committee  
1991 - 1991. Faculty Coordinator (all work done by others), Math Enrichment Conference  
1988 - 1989. Member, Appointments and Long Range Planning  
1987 - 1988. Colloquium Organizer, University of Toronto  
1985 - 1986. Member, Departmental Tenure Committee  
1983 - 1984. Member, Open Labs Committee (Dates uncertain)  
1982 - 1984. Member, Graduate Admission Committee  
1980 - 1984. Member, Departmental Tenure Committee  
1982 - 1983. Coordinator, Co-op  
1981 - 1983. Member, Space Committee  
1979 - 1980. Member, Open House Committee  
1979 - 1980. Member, Graduate Admission Committee

### **Faculty Committees**

2008 - 2014. Member, Dean's Advisory Committee  
2011 - 2012. Member, Faculty of Science Teaching Committee (Malgorzata Dubiel, Chair)  
2004 - 2007. Member, Faculty of Science Graduate Studies Committee  
2005 - 2006. Chair, Faculty of Health Sciences Graduate Studies Committee  
2001 - 2003. Chair, Faculty of Science Graduate Studies Committee  
1998 - 2001. Member, Faculty of Science Graduate Studies Committee  
1981 - 1983. Member, Faculty Space Committee

## University Committees

2014 - January to March. Departmental Review, Internal member for the external review of Mathematics at SFU.

2004 - 2007. Member, Assessment Committee on New Graduate Programs

2007, April - July. Member, Working Group 2 of the Phase II Task Force on Faculty Restructuring

2007, March - July. Member, Working Group 1 of the Phase II Task Force on Faculty Restructuring

2005 - 2007. Member, Senate Graduate Studies Committee

2005 - 2006. Chair, Infectious Diseases Steering Committee

2005 - 2006. Member, Task Force on Student Supervision

2006, April. Member, External Review Committee for Mathematics Department

2003, January - August. Member, Special Arrangements Graduate Program Committee (subcommittee of Senate Graduate Studies Committee)

2002 - August 2003. Member, Assessment Committee for New Graduate Programs

1998 - 2003. Member, Senate Graduate Studies Committee

1999 - 2001. Member, review of MBA in Management of Technology, Assessment Committee for New Graduate Programs

1993 - 1994. Member, University Tenure Committee