

# Iain Pardoe

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## Work and experience

- 04/09– **Online Teacher/Mentor.** I teach high school mathematics for Self Design-International School of the Kootenays, British Columbia.
- 01/09– **Mathematics Tutor.** School of University Arts and Sciences, Selkirk College, British Columbia.
- 10/08– **Online Instructor.** I teach the regression analysis course for statistics.com, an online provider of professional development courses in statistics.
- 9/07–6/09 **Associate Professor** (with indefinite tenure). Department of Decision Sciences, Charles H. Lundquist College of Business, University of Oregon.  
Areas of research interest: Bayesian analysis, multilevel modeling, graphical methods, diagnostics and validation, and choice modeling.  
Courses taught: business statistics (intermediate regression course for undergraduates), multivariate statistical methods (elective for MBAs, advanced undergraduates), information analysis for managerial decisions (elective for MBAs, advanced undergraduates).
- 9/01–9/07 **Assistant Professor.** Department of Decision Sciences, Charles H. Lundquist College of Business, University of Oregon.
- 4/05–6/05 **Statistical Consultant.** Department of Decision Sciences, Charles H. Lundquist College of Business, University of Oregon.  
Provided consulting on statistical validation of shipyard scheduling software.
- 5/01–8/01 **Statistical Consultant.** School of Statistics, University of Minnesota.  
Provided statistical consulting on experimental design, data analysis and interpretation of results to graduate student and faculty researchers.
- 9/00–5/01 **Research Assistant.** School of Statistics, University of Minnesota.  
Worked with R. D. Cook on graphical techniques for regression and discriminant analysis.
- 5/00–8/00 **Statistical Consultant Intern.** 3M, St. Paul, Minnesota.  
Worked with supply chain planners and 3M statisticians to improve their monthly forecasts of product demand.
- 1/00–5/00 **Instructor.** School of Statistics, University of Minnesota.  
Taught an intermediate level class on applied statistical inference and computing.
- 9/96–12/99 **Teaching Assistant.** School of Statistics, University of Minnesota.  
Taught laboratory sessions, graded, tutored, maintained web-sites for undergraduate and graduate statistics classes in applied regression, categorical data, introduction to statistics, and statistical analysis.
- 6/97–6/99 **Research Assistant.** School of Statistics, University of Minnesota.  
Worked with S. Weisberg and R. D. Cook on regression text-book and accompanying software.
- 8/93–9/96 **Assistant Statistician.** Department of the Environment, London, UK.  
Civil Service Fast Stream (accelerated promotion) statistician working on environmental policy and government finance.

## Education

- 8/01 **PhD in Statistics.** University of Minnesota, Minneapolis, Minnesota.  
Thesis: A Bayesian approach to regression diagnostics.  
Advisor: R. Dennis Cook.
- 10/98 **MSc in Statistics.** University of Minnesota, Minneapolis, Minnesota.  
Advisor: Sanford Weisberg.
- 6/92 **BSc in Economics and Statistics** (first class). University of Birmingham, UK.

## Publications

### Refereed papers

- Pardoe, I (2008). Modeling home prices using realtor data. *Journal of Statistics Education* 16(2), online.
- Pardoe, I. and D. K. Simonton (2008). Applying discrete choice models to predict Academy Award winners. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 171(2), 375–394.
- Gelman, A. and I. Pardoe (2007). Average predictive comparisons for models with nonlinearity, interactions, and variance components. *Sociological Methodology* 37(1), 23–51.
- Pardoe, I. and R. D. Cook (2007). A graphical diagnostic for variance functions. *Australian & New Zealand Journal of Statistics* 49(3), 241–250.
- Pardoe, I., X. Yin, and R. D. Cook (2007). Graphical tools for quadratic discriminant analysis. *Technometrics* 49(2), 172–183.
- Gelman, A. and I. Pardoe (2006). Bayesian measures of explained variance and pooling in multilevel (hierarchical) models. *Technometrics* 48(2), 241–251.
- Pardoe, I. and R. R. Weidner (2006). Sentencing convicted felons in the United States: a Bayesian analysis using multilevel covariates (with discussion). *Journal of Statistical Planning and Inference* 136(4), 1433–1472.
- Pardoe, I. (2005). Just how predictable are the Oscars? *Chance* 18(4), 32–39.
- Pardoe, I. (2004). Multidimensional scaling for selecting small groups in college courses. *The American Statistician* 58(4), 317–321.
- Durham, C. A., I. Pardoe, and E. Vega (2004). A methodology for evaluating how product characteristics impact choice in retail settings with many zero observations: an application to restaurant wine purchase. *Journal of Agricultural and Resource Economics* 29(1), 112–131.
- Pardoe, I. (2004). Model assessment plots for multilevel logistic regression. *Computational Statistics and Data Analysis* 46(2), 295–307.
- Weidner, R. R., R. Frase, and I. Pardoe (2004). Explaining sentence severity in large urban counties: a multilevel analysis of contextual and case-level factors. *The Prison Journal* 84(2), 184–207.
- Pardoe, I. and R. D. Cook (2002). A graphical method for assessing the fit of a logistic regression model. *The American Statistician* 56(4), 263–272.
- Pardoe, I. (2001). A Bayesian sampling approach to regression model checking. *Journal of Computational and Graphical Statistics* 10(4), 617–627. (Winning entry in the 2000 Student Paper Competition sponsored by the Statistical Computing Section of the American Statistical Association.)
- Cook, R. D. and I. Pardoe (2000). Comment on “Bayesian backfitting” by T. J. Hastie and R. J. Tibshirani. *Statistical Science* 15(3), 213–216.
- Pardoe, I. and R. D. Cook (2000). Sampling to assess the fit of regression models. *Joint Newsletter for the Section on Physical and Engineering Sciences and the Quality and Productivity Section of the American Statistical Association* 6(1), 10–11.

### Work in progress

- Tools for understanding multilevel regression models (with A. Gelman and S. V. Subramanian)—target journal: *Journal of the American Statistical Association*.
- A multilevel model for audit fees (with B. Cadman and M. Stein)—target journal: *The Accounting Review*.
- Discrete choice modeling of food product eco-labels—target journal: *Journal of Marketing Research*.

Graphical displays of predictive comparisons (with B. Shor)—target journal: *Journal of Computational and Graphical Statistics*.

Data partitioning for model selection and assessment (with Y. Fang)—target journal: *Data Mining and Knowledge Discovery*.

Demand impacts and implementation of eco-labels for food products (with C. A. Durham, J. McCluskey, R. King, C. Roheim, and A. Johnson)—target journal: *Review of Economics and Statistics*.

### Conference proceedings

Dain, O., M. Ginsberg, E. Keenan, I. Pardoe, J. Pyle, T. Smith, and A. Stoneman (2006). Stochastic shipyard simulation with SimYard. In *Proceedings of the 2006 Winter Simulation Conference*, Piscataway, NJ. Institute of Electrical and Electronics Engineers.

Pardoe, I. (2006). Designing a stated choice survey to study food product eco-labels. In *Proceedings of the 2006 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

Pardoe, I. (2006). Forming small class groups using multidimensional scaling. In *Proceedings of the 7th International Conference on Teaching Statistics*, Voorburg, Netherlands. International Statistical Institute, International Association for Statistical Education.

Pardoe, I. (2005). Predicting Academy Award winners using discrete choice modeling. In *Proceedings of the 2005 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

Gelman, A. and I. Pardoe (2004). Measures of explained variance and pooling in multilevel models. In *Proceedings of the 2004 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

Pardoe, I. and C. A. Durham (2003). Model choice applied to consumer preferences. In *Proceedings of the 2003 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

Pardoe, I. (2002). Model assessment plots for logistic regression with multilevel covariates. In *Proceedings of the 2002 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

Pardoe, I. (2001). A graphical method for assessing the fit of a regression model. In *Proceedings of the 2001 Joint Statistical Meetings*, Alexandria, VA. American Statistical Association.

### Non-refereed articles

Pardoe, I. (2007). Predicting Oscar winners. *Significance* 4(4), 168–173.

Dain, O., M. Ginsberg, E. Keenan, I. Pardoe, J. Pyle, T. Smith, and A. Stoneman (2005). Statistical validation of shipyard scheduling software. Technical Report, Lundquist College of Business, University of Oregon.

Pardoe, I., D. Boush, and H. Okut (2003). Measuring consumer preference for socially responsible products: an application of the multinomial adjacent-categories logit random effects model. Technical Report, Lundquist College of Business, University of Oregon.

Pardoe, I. (2002). User's manual for BMMP S-PLUS/R software (revision). Technical Report, Lundquist College of Business, University of Oregon.

Pardoe, I. and S. Weisberg (2001). An introduction to bootstrap methods using Arc (revision). Technical Report 631, School of Statistics, University of Minnesota.

Pardoe, I. (2001). User's manual for BMMP S-PLUS/R software. Technical Report 639, School of Statistics, University of Minnesota.

Pardoe, I. and S. J. Janis (2000). An analysis of current demand forecasting methods used at 3M, and recommendations for improvements. Internal Report, 3M, St. Paul, Minnesota.

Pardoe, I. (1999). An introduction to bootstrap methods using Arc. Technical Report 631, School of Statistics, University of Minnesota.

**Books**

- Pardoe, I. (2006). *Applied Regression Modeling: A Business Approach*. New York: Wiley.
- Pardoe, I. (2006). *Instructor's Manual for "Applied Regression Modeling: A Business Approach" by I. Pardoe*.
- Pardoe, I. and J. de la Vega (2001). *Instructor's Manual for "Applied Regression Including Computing and Graphics" by R. D. Cook and S. Weisberg*.

**Presentations**

- 1/08. A Map of Bayesianity. Poster at the 3rd joint international meeting of the Institute of Mathematical Statistics and International Society for Bayesian Analysis (MCMSki II: Markov Chain Monte Carlo in Theory and Practice) in Bormio, Italy.
- 11/07. Discrete choice modeling of food product eco-labels. Invited research seminar at the Department of Statistics, Oregon State University, Corvallis, OR.
- 7/07. Discrete choice modelling of food product eco-labels. Contributed Paper at the Royal Statistical Society 2007 Conference in York, UK.
- 8/06. Designing a stated choice survey to study food product eco-labels. Contributed Session at the Joint Statistical Meetings in Seattle, WA.
- 7/06. Forming small class groups using multidimensional scaling. Contributed Paper at the 7th International Conference on Teaching Statistics in Salvador, Brazil.
- 8/05. Predicting Academy Award winners using discrete choice modeling. Topic Contributed Session at the Joint Statistical Meetings in Minneapolis, MN.
- 4/05. Tools for understanding multilevel (hierarchical) regressions. Contributed Paper Meeting at the 55th Session of the International Statistical Institute in Sydney, Australia.
- 9/04. Average predictive effects for models with nonlinearity, interactions, and variance components. Conference Theme Session at the Royal Statistical Society 2004 Conference in Manchester, UK.
- 8/04. Measures of explained variance and pooling in multilevel models. Topic Contributed Session at the Joint Statistical Meetings in Toronto, ON.
- 6/04. Average predictive effects for models with nonlinearity, interactions, and variance components. Invited presentation at the International Chinese Statistical Association 2004 Applied Statistics Symposium in San Diego, CA.
- 6/04. Average predictive effects for models with nonlinearity, interactions, and variance components. Invited research seminar at the Center for Statistics and the Social Sciences, University of Washington, Seattle, WA.
- 5/04. Average predictive effects for models with nonlinearity, interactions, and variance components. Research seminar at the Department of Decision Sciences, University of Oregon, Eugene, OR.
- 8/03. Model choice applied to consumer preferences. Topic Contributed Session at the Joint Statistical Meetings in San Francisco, CA.
- 7/03. Measuring consumer preference for socially responsible products: an application of the multinomial adjacent-categories logit random effects model. Invited presentation at the Institute of Mathematical Statistics 6th North American Meeting of New Researchers in Davis, CA.
- 3/03. Measuring consumer preference for socially responsible products: an application of the multinomial adjacent-categories logit random effects model. Invited presentation at a Sustainable Business Group Meeting, University of Oregon, Eugene, OR.

- 8/02. Model assessment plots for logistic regression with multilevel covariates. Topic Contributed Session at the Joint Statistical Meetings in New York, NY.
- 6/02. Sentencing convicted felons in the United States: a Bayesian analysis using multilevel covariates. Poster at the 7th Valencia International Meeting on Bayesian Statistics in Tenerife, Spain.
- 4/02. A graphical method for assessing the fit of a logistic regression model. Invited research seminar at the Department of Statistics, Oregon State University, Corvallis, OR.
- 8/01. A graphical method for assessing the fit of a regression model. Topic Contributed Session at the Joint Statistical Meetings in Atlanta, GA.
- 8/00. A Bayesian sampling approach to regression model checking. Topic Contributed Session at the Joint Statistical Meetings in Indianapolis, IN.
- 8/00. An analysis of current demand forecasting methods used at 3M, and recommendations for improvements. Presentation to 3M Statistical Consulting Group, St. Paul, MN.

### Awards and honors

- 2007 **Royal Statistical Society.** Recipient of a conference grant to attend the Royal Statistical Society 2007 Conference.
- 2006–2007 **University of Oregon.** Recipient of the Goulet Research Excellence Award from the Lundquist College of Business.
- 2002–2007 **University of Oregon.** Recognized for excellent teaching by the Lundquist College of Business.
- 2005 **American Statistical Association.** Recipient of travel funds to attend the 55th Session of the International Statistical Institute.
- 2005 **University of Oregon.** Recipient of foreign travel funds to attend the 55th Session of the International Statistical Institute.
- 2003 **San Diego State University Foundation.** Recipient of travel funds to attend the 6th North American Meeting of New Researchers.
- 2002 **International Society for Bayesian Analysis.** Winner of a Conference Travel Award for the 7th Valencia International Meeting on Bayesian Statistics.
- 2002 **University of Oregon.** Recipient of foreign travel funds to attend the 7th Valencia International Meeting on Bayesian Statistics.
- 2001 **University of Minnesota.** Recipient of a Graduate School Doctoral Dissertation Fellowship supplemental grant for the 2001 Joint Statistical Meetings.
- 2001 **American Statistical Association.** Winner of a Student Travel Award sponsored by the Section on Bayesian Statistical Science for the 2001 Joint Statistical Meetings.
- 2000–2001 **University of Minnesota.** Graduate School Doctoral Dissertation Fellowship.
- 2000 **American Statistical Association.** Winner of the Student Paper Competition sponsored by the Section on Statistical Computing.
- 1996–1998 **University of Minnesota.** British Universities North America Club BEST Scholarship.
- 1992 **University of Birmingham.** Highest scoring first class degree in the Economics Department and highest final examination marks in the Mathematics Department.
- 1989–1992 **University of Birmingham.** Brockhouse Scholarship.

### Research grants

- 2007–2009 Interactions in multilevel models (with A. Gelman). National Science Foundation: Social, Behavioral & Economic Sciences; Methodology, Measurement, and Statistics Program. Not funded; resubmission planned.
- 2006–2007 Investor and Company Responses to the Provision of New Environmental Information: The Case of Electric Utilities (with M. Russo). US Environmental Protection Agency, National Center for Environmental Research, Science to Achieve Results Program. Not funded; resubmission planned.
- 2004–2007 Demand impacts and implementation of eco-labels for food products (with C. A. Durham, J. McCluskey, R. King, C. Roheim, and A. Johnson). US Department of Agriculture, National Research Initiative Grants Program. \$460,000.

**Professional activities**

Ad hoc reviewer for journals: *Annals of Epidemiology*, *Bayesian Analysis*, *Biometrics*, *Biostatistics*, *Computational Statistics and Data Analysis*, *INFORMS Transactions on Education*, *Journal of Computational and Graphical Statistics*, *Journal of Statistical Planning and Inference*; grant agencies: *National Science Foundation*; and publishers: *McGraw-Hill*, *Elsevier*.

Conference session chair: Joint Statistical Meetings (Toronto, 2004, San Francisco, 2003), International Conference on Teaching Statistics (Salvador, Brazil, 2006).

Conference session organizer: Joint Statistical Meetings (Minneapolis, 2005, Atlanta, 2001).

Member of the American Statistical Association and the Institute of Mathematical Statistics.

**University of Oregon service**

Statistical/Research Design Support Committee, University of Oregon, 2006–2007.

Undergraduate Program Committee, Lundquist College of Business, 2005–2006.

Doctoral Dissertation Committee, Department of Economics, 2004–2006.

Clark Honors College Thesis Committee, 2006.

Summer Research Award Committee, University of Oregon, 2004–2006.

Undergraduate Core Coordinators Committee, Lundquist College of Business, 2003–2005.

Faculty Search Committee, Department of Accounting, 2002–2003.

Building Transition Committee, Lundquist College of Business, 2002–2003.