Catalina Stefanescu
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Education

2002	PhD, Operations Research, Cornell University.
2000	MS, Operations Research, Cornell University.
1997	BS, Mathematics, University of Bucharest, Romania.

Academic Position

2002-	Assistant Professor of Decision Sciences, London Business School.

Papers

In refereed journals

1. Stefanescu, C. and B.W. Turnbull, 2009, "Likelihood Inference for Exchangeable Continuous Data: Use of the Farlie-Gumbel-Morgenstern Model". *Statistical Methodology*, forthcoming.
2. Stefanescu, C., R. Tunaru and S. Turnbull, 2009, "The Credit Rating Process and Estimation of Transition Probabilities: A Bayesian Approach". *Journal of Empirical Finance* **16**, 216–234.
3. Stefanescu, C. and D.V. Mehrotra, 2008, "A More Powerful Average Bioequivalence Analysis for the 2×2 Crossover". *Communications in Statistics — Simulation and Computation* **37**, 212–221.
4. Stefanescu, C. and B.W. Turnbull, 2006, "Multivariate Frailty Models for Exchangeable Survival Data". *Technometrics* **48**, 411–417.
5. Stefanescu, C., V.W. Berger and Y.Y. Zhou, 2006,"The Analysis of Stratified 2×2 Contingency Tables". *Biometrical Journal* **48**, 992–1007.
6. Stefanescu, C. and B.W. Turnbull, 2005, "On the Multivariate Probit Model for Exchangeable Binary Data With Covariates". *Biometrical Journal* **47**, 206–218.
7. Stefanescu, C. and B.W. Turnbull, 2003, "Likelihood Inference for Exchangeable Binary Data with Varying Cluster Sizes". *Biometrics* **59**, 18–24.
8. Stefanescu, C., C. Ahrens, N. Altman, G. Casella, M. Eaton, G. Hwang and J.Staudenmayer, 2001, "Leukemia Clusters and TCE Waste Sites in Upstate New York: How Adding Covariates Changes the Story". *Environmetrics* **12**, 659–672.
9. Stefanescu, C., C. Calude and E. Calude, 1998, "Computational Complementarity for Mealy Automata". *European Association for Theoretical Computer Science Bulletin*, **66**, 139–149.
10. Stefanescu, C., 1998, "Simulation of a Multitype Galton–Watson Chain". *Simulation Practice and Theory* **6**, 657–663.
11. Stefanescu, C., 1995, "A Markov Process of Sequential Allocation". *Journal of Universal Computer Science* **1**, 821–827.

Under review

12. Stefanescu, C. and G. Gallego, 2008, “Upgrades, Upsells and Pricing in Revenue Management”. **Best Paper Award** at the 48th AGIFORS Annual Symposium (Montreal, 2008). **Best Paper Award** at the AGIFORS Revenue Management Conference (Tahiti, 2008).

13. Stefanescu, C., S. Chava and S. Turnbull, 2008, “Modeling the Loss Distribution”. **Best Paper Award**, Honorable Mention of the INFORMS Financial Services Section at the INFORMS Annual Meeting (San Francisco, 2005).

14. Stefanescu, C., 2009, “Multivariate Demand: Modeling and Estimation from Censored Sales”.

15. A. Kocabiykoglu, I. Popescu and C. Stefanescu, 2009, “Revenue Management with General Stochastic Price Sensitive Demand”.

Work in progress

16. Stefanescu, C., 2008, “Modeling Mergers Activity”.

17. Stefanescu, C., and S. Turnbull, 2008, “Credit Rating Transitions and Non-Markovian Effects”.

18. Stefanescu, C. and G. Gallego, 2008, “Product Design for Revenue Management”.

19. Stefanescu, C. and G. Gallego, 2008, “Customer Relationship and Revenue Management for Golf Courses”.

20. Stefanescu, C. and D.V. Mehrotra, 2007, “Cox Model Versus Generalized Logrank Test for Time–to–Event Data with Ties”.

In conference proceedings

21. Stefanescu, C., V. DeMiguel, K. Fridgeirsdottir and S. Zenios, 2004, “Revenue Management With Correlated Demand Forecasting.” Proceedings of the American Statistical Association, Business and Economics Statistics Section, Alexandria, VA.

Other publications

22. Stefanescu, C., 2002, “Statistical Models and Methods for Clustered Exchangeable Binary and Survival Data”. PhD thesis, Cornell University.

23. Stefanescu, C., V.W. Berger and S.B. Hershberger, 2005, “Probits”. In *The Encyclopedia of Behavioral Statistics,* B. Everitt and D. Howell (Editors), John Wiley & Sons.

24. Stefanescu, C., V.W. Berger and S.B. Hershberger, 2005, “Yates’ Correction”. In *The Encyclopedia of Behavioral Statistics,* B. Everitt and D. Howell (Editors), John Wiley & Sons.

25. Stefanescu, C. and B.W. Turnbull, 2002, “Likelihood Inference for Exchangeable Binary Data with Varying Cluster Sizes”. Technical Report *TR OR–1329*, Cornell University.

26. Stefanescu, C., 2001, “Modelling Stochastic Volatility in Time Series of Stock Returns: Empirical Evidence”. Technical Report *TR OR–1318*, Cornell University.

Selected Invited Presentations and Conferences

2008 London School of Economics (London), INFORMS Revenue Management and Pricing Conference (Montreal), AGIFORS 48th Annual Symposium (Montreal), INSEAD (Fontainebleau).

2007 Judge Institute of Management at Cambridge University (Cambridge), Heriot-Watt University (Edinburgh), INFORMS Revenue Management and Pricing Conference (Barcelona), CREDIT (Venice), INFORMS Annual Meeting (Seattle).

2006 INFORMS Annual Meeting (Pittsburgh), University of Southampton (Southampton), BMBF workshop on credit risk management (Freising), Eidgenössische Technische Hochschule (ETH, Zurich), Bank of England (London).

2005 INFORMS Annual Meeting (San Francisco), INFORMS Revenue Management and Pricing Section Conference (Boston).

2004 American Statistical Association (Alexandria), Eastern North American Region/International Biometric Society Spring Meeting (Pittsburgh), INFORMS Annual Meeting (Denver).

2003 American Statistical Association (Toronto), Young Statisticians Meeting (University of Cambridge).

2002 INFORMS Annual Meeting (San Jose), London Business School (London), University of Bath, Eastern North American Region/International Biometric Society Spring Meeting (Arlington), American Statistical Association (New York).

2001 INFORMS Annual Meeting (Miami).

Teaching

Courses

2002- *Business Statistics.* Core course for full-time and executive MBA programmes at London Business School. Subjects covered include descriptive statistics and probability distributions, sampling and statistical inference, regression analysis, and time series analysis. PC-based-software is used to illustrate how to apply the methodologies introduced.

2003- *Managerial Statistics.* Core course for the Global-Executive MBA programme at London Business School and Columbia Business School, taught in modular units in London and New York. Teaching is case driven, based on a mixture of lecture and computer sessions. Subjects covered include sampling and statistical inference, linear and nonlinear regression modelling, and statistical portfolio analysis.

2003- *Statistical Research Methods II.* Core course in the PhD programme at London Business School. Topics include the theoretical foundations of multivariate statistics, as well as software-based applications. Subjects covered are exploratory and confirmatory factor analysis, structural equations modelling, canonical correlation, cluster and discriminant analysis.

2003-06 *Statistical Research Methods I.* Core course in the PhD programme at London Business School. Topics include the theoretical foundations of statistical modeling as well as applications to research in the social sciences. Subjects covered are probability distributions and statistical inference, sampling theory, linear models, the analysis of survival data, and time series models.

2001 *Engineering Probability and Statistics.* Core undergraduate course at Cornell University. Topics include the theoretical bases of probability theory and statistical inference with applications to engineering.

Grants

2007-08 *Research and Materials Development Fund* at London Business School, £7,800. Title: "Upgrades, Upsells and Pricing in Revenue Management".

2005-06 *Research and Materials Development Fund* at London Business School, £11,900. Title: "The Credit Rating Process and Estimation of Transition Probabilities: A Bayesian Approach".

2004 *AIM*, £2,000. Title: "Airline Revenue Management with Correlated Demand and Multistage Stochastic Programming."

2003-04 *Research and Materials Development Fund* at London Business School, £7,600. Title: "Modeling Expected Loss".

Awards

2008 *Best Paper Award* at the 48th AGIFORS Annual Symposium (Montreal) for the paper "Upgrades, Upsells and Pricing in Revenue Management".

2008 *Best Paper Award* at the AGIFORS Revenue Management Conference (Tahiti) for the paper "Upgrades, Upsells and Pricing in Revenue Management".

2006 *Best Paper Award* of the INFORMS Financial Services Section at the INFORMS Annual Meeting (Pittsburgh) for the paper "The Credit Rating Process and Estimation of Transition Probabilities: A Bayesian Approach".

2005 *Best Paper Award*, Honorable Mention of the INFORMS Financial Services Section at the INFORMS Annual Meeting (San Francisco) for the paper "Modeling Expected Loss".

2002 *Best Paper Award*, second winner of the Biopharmaceutical Section at the 2002 Joint Statistical Meetings of the American Statistical Association for the paper "A More Powerful Average Bioequivalence Analysis for the 2×2 Crossover Design".

Professional Activities

Referee for the following journals

Journal of American Statistical Association; Biometrics; Biometrika; Management Science; Operations Research; Transportation Science; Statistics in Medicine; Biometrical Journal; Applied Stochastic Models in Business and Industry; Journal of Agricultural, Biological and Environmental Statistics; Journal of Multivariate Analysis; Journal of Credit Risk; Journal of Risk; Journal of Statistical Planning and Inference.

Editorial board

Journal of Revenue and Pricing Management.

External reviewer

Grant applications to ESRC and EPSRC.

Professional affiliations

Royal Statistical Society; American Statistical Association; Institute for Operations Research and Management Science; International Biometrical Society; Institute of Mathematical Statistics.

Graduate students supervised

2007-08	PhD transfer committee for Jikyung Kim.
2006-07	PhD transfer committee for Sirio Aramonte.
2006-07	PhD transfer committee for Eva Ascarza.
2006-07	PhD transfer committee for Dipeng Chen.
2006-07	PhD transfer committee for Yang Fan.

Research Interests

My research focuses on the design, analysis, and application of statistical models and methods for managerial decision making. I have worked on three different areas: demand modeling and forecasting for revenue management, statistical models for credit risk, and methodologies for correlated binary and survival data with biostatistical applications.

- Demand modeling and forecasting:
  - Multivariate demand models for revenue management.
  - Estimation of demand models from censored sales data.
  - Optimal pricing for demand models with customer choice and capacity constraints.

- Statistical models for credit risk:
  - Modeling and predicting loss distributions; default and recovery rate models.
  - Credit rating migration processes: modeling and estimation.
  - Methodologies for statistical inference in low default portfolios.

- Statistical methodologies for correlated data:
  - Likelihood inference for correlated binary data.
  - Bayesian inference for correlated survival data with applications to reliability studies.
  - Statistical methodologies for the design and analysis of clinical trials.

Biographical Sketch

Catalina Stefanescu is Assistant Professor of Decision Sciences at London Business School. She holds a BS degree in Mathematics from University of Bucharest, Romania, an MS degree in Operations Research from Cornell University, and a PhD in Operations Research from Cornell University.

Her research focuses on the design, analysis, and application of statistical models and methods for managerial decision making. Applications include demand modeling and forecasting for revenue management, statistical models for credit risk, and methodologies for correlated binary and survival data with biostatistical applications.

She teaches MBA, EMBA and EMBA-Global courses on Managerial Statistics, and PhD seminars on introductory and advanced Statistical Research Methods.