

# CURRICULUM VITAE

## DANI GAMERMAN

Date of birth: 30/10/1957

Nationality: Brazilian

Postal address: Instituto de Matemática - UFRJ

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## 1 Higher Education

1976-1980: Studying for a degree in Mechanical Engineering

Instituto Militar de Engenharia

Rio de Janeiro - Brazil

1979-1982: Studying for a degree in Psychology

Universidade do Estado do Rio de Janeiro

Rio de Janeiro - Brazil

1981-1983: Studying for M.Sc. in Statistics

Instituto de Matemática Pura e Aplicada (IMPA)

Rio de Janeiro - Brazil

1983-1987: Researching for Ph.D. in Statistics

Department of Statistics, University of Warwick, UK

Thesis entitled *Dynamic analysis of survival models and related processes*

## 2 Employment

1995 - : Professor of Statistics

Universidade Federal do Rio de Janeiro

Rio de Janeiro - Brazil

1987 - 1995: Lecturer in Statistics

Universidade Federal do Rio de Janeiro

Rio de Janeiro - Brazil

### 3 Invited Visits

1. February - April 2002: Visiting Faculty  
Department of Statistics  
University of Connecticut
2. March and July 2001: Visiting Research Fellow  
Department of Statistics and Operation Research  
University of Lisbon
3. October 2000: Visiting Lecturer  
Department of Statistics  
Universidade Federal de Minas Gerais, Brazil
4. February 1997: Visiting Lecturer  
Department of Mathematics  
Universidade de Brasília, Brazil
5. May 1996: Visiting Research Fellow  
Institute of Statistics  
University of Munich, Germany
6. February 1996: Visiting Research Fellow  
Department of Mathematics  
Imperial College London, UK
7. January - February 1995: Visiting Lecturer  
Department of Statistics  
Universidade Federal de Pernambuco, Brazil
8. January - March 1994: Visiting Lecturer  
Department of Statistical Science  
University College London, UK
9. January - March 1992: Visiting Lecturer  
Institute of Statistics and Decision Sciences  
Duke University, USA
10. February - July 1990: Visiting Research Fellow  
Department of Mathematics  
University of Rome II, Italy

11. August - November 1989: Visiting Lecturer  
Instituto de Matemática Pura e Aplicada (IMPA)  
Rio de Janeiro, Brazil
12. January - February 1989: Visiting Lecturer  
Institute of Mathematics and Statistics  
Universidade de São Paulo, Brazil

## 4 Grants

1. UNAM (México), 2003, support to attend the 23rd. International Symposium on Forecasting
2. German Science Foundation (Germany), 2002, support to attend the 17th International Workshop on Statistical Modeling.
3. CNPq (Brazil), 2002, support to visit University of Connecticut
4. FAPERJ (Brazil), 2001, acquisition of equipment
5. CAPES (Brazil) and FAPERJ, 2000, support to attend the First European Conference on Spatial and Computational Statistics
6. FAPERJ, 2000, acquisition of computing equipment
7. FAPERJ, 2000, support for attendance of researchers from State of Rio de Janeiro to the 14th National Symposium on Probability and Statistics
8. CNPq, 1999, support to attend Second European Conference on Highly Structured Stochastic Systems
9. German Science Foundation (Germany), 1999, support for scientific visit to the University of Munich
10. FAPERJ, 1998, support for attendance of researchers from State of Rio de Janeiro to the 13th National Symposium on Probability and Statistics
11. CAPES, 1998, support to attend Sixth Valencia International Meeting of Bayesian Statistics.
12. FAPERJ, 1997, acquisition of computing equipment
13. FAPERJ, 1997, support for attendance of researchers from State of Rio de Janeiro to the 5th. School on Regression Models

14. Ministry of Science and Technology (Brazil), 1996, support for research on "Growth, Economic Fluctuations and Public Policies"
15. German Science Foundation (Germany), 1996, support for scientific visit to the University of Munich
16. EPSRC (UK), 1996, support for scientific visit to Imperial College London, UK
17. CNPq, 1995, support to attend 50<sup>th</sup> Session of the International Statistical Institute
18. State of Valencia (Spain), 1994, support to attend Fifth Valencia International Meeting of Bayesian Statistics.
19. CAPES, 1994, support for a one-year visit to Imperial College.
20. CNPq, FINEP (Brazil), FUJB (Brazil) and The British Council (UK), 1993, support to organize the International Workshop on Hierarchical Modelling
21. UFRJ, CNPq and University of Basel (Switzerland), 1993, support to attend 1<sup>st</sup> Riverboat Conference on Bayesian Statistics and Econometrics, Switzerland/Germany.
22. UFRJ and USB (Venezuela), 1992, support to attend Latin America-U.S. Course and Workshop on Recent Advances on Bayesian Statistics and Econometrics, Venezuela.
23. IBM Brazil and Thames Water (UK), 1992, support to attend Third International Conference on Practical Bayesian Statistics, UK.
24. CNPq and FUJB, 1992, support for a research visit to Duke University, USA.
25. State of Valencia (Spain) and CAPES, 1991, support to attend Fourth Valencia International Meeting of Bayesian Statistics.
26. CNR (Italy), 1990, living expenses for a research visit to University of Rome II, Italy.
27. CNPq, 1989, travel grant to attend IX International Symposium on Forecasting.
28. FAPERJ, 1989, acquisition of computing equipment.

29. CNPq, 1988, travel grant to attend XIV International Biometric Conference.
30. CNPq, 1987- present, research grant.
31. CAPES, 1983-1987, Ph.D. studies.

## 5 Papers

1. MIGON, H. S., GAMERMAN, D., LOPES, H. F. and FERREIRA, M. A. R. (2004). Dynamic models. To appear in *Handbook of Statistics, vol. 24* (eds.: Rao, C. R. and Dey, D. K.).
2. PAEZ, M. S., GAMERMAN, D. and de OLIVEIRA, V. (2004). Interpolation Performance of a Spatio-temporal Model with Spatially Varying Coefficients: Application to PM10 Concentrations in Rio de Janeiro. To appear in *Environmental and Ecological Statistics*.
3. CEPEDA, E. and GAMERMAN, D. (2004). Bayesian methodology for modeling parameters in the two parameter exponential family. To appear in *Estadística*.
4. BANERJEE, S., GELFAND, A. E. and GAMERMAN, D. (2004). Spatial process modelling for univariate and multivariate dynamic spatial data. To appear in *Environmetrics*.
5. BEHRENS, C. N., LOPES, H. F. and GAMERMAN, D. (2004). Bayesian analysis of extreme events with threshold estimation. *Statistical Modelling*, **4**, 227-244.
6. CEPEDA, E. and GAMERMAN, D. (2004). Bayesian modeling of joint regressions for the mean and covariance matrix. *Biometrical Journal*, **46**, 430-440.
7. MOREIRA, A. R. B. and GAMERMAN, D. (2004). Multivariate spatial regression models. *Journal of Multivariate Analysis*, **91**, 262-281.
8. PAEZ, M. S. and GAMERMAN, D. (2003). Study of the space-time effects in the concentration of airborne pollutants in the Metropolitan Region of Rio de Janeiro. *Environmetrics*, **14**, 387-408.
9. GAMERMAN, D., MOREIRA, A. R. B. and RUE, H. (2003) Space-varying regression models: specifications and simulation. *Computational Statistics and Data Analysis*, **42**, 513-533.

10. DIAS, R. and GAMERMAN, D. (2002). Bayesian approach to hybrid splines nonparametric regression. *Journal of Statistical Computation and Simulation*, **72**, 285-297.
11. GAMERMAN, D. and MOREIRA, A. R. B. (2002). Bayesian analysis of econometric time series models using hybrid integration rules. *Communications in Statistics - Theory and Methods*, **31**, 49-72.
12. GAMERMAN, D. (2001). Dynamic point processes. In *Encyclopedia of Econometrics, vol. 3* (eds.: El-Shaarawi, A. H. e Piegorsch, W. W.), pp. 1570-1571. Wiley: Chichester.
13. CAMARGO, E. A. and GAMERMAN, D. (2000). Discrete mixture alternatives to dynamic hierarchical models. *Estadística*, **52**, 39-77.
14. CEPEDA, E. C. and GAMERMAN, D. (2000). Bayesian modeling of variance heterogeneity in normal regression models. *Brazilian Journal of Probability and Statistics (REBRAPE)*, **14**, 207-221.
15. LANDIM, F. M. P. F. and GAMERMAN, D. (2000). Dynamic hierarchical models - an extension to matrix-variate observations. *Computational Statistics and Data Analysis*, **35**, 11-47..
16. FERREIRA, M. A. R. and GAMERMAN, D. (2000). Dynamic generalized linear models. In *Generalized linear models: a Bayesian perspective* (eds. D. K. Dey et al.), pp. 57-72. Marcel Dekker: New York.
17. SCHMIDT, A. M., GAMERMAN, D. and MOREIRA, A. R. B. (1999). An adaptive resampling scheme for cycle estimation. *Journal of Applied Statistics*, **26**, 619-641.
18. GAMERMAN, D. (1998). Markov chain Monte Carlo for dynamic generalized linear models. *Biometrika*, **85**, 215-227.
19. FERREIRA, M. A. R., GAMERMAN, D. and MIGON, H. S. (1997). Bayesian dynamic hierarchical models: covariance matrices estimation and non-normality. *Brazilian Journal of Probability and Statistics (REBRAPE)*, **11**, 67-79.
20. SCHMIDT, A. M. and GAMERMAN, D. (1997). Temporal aggregation in dynamic linear models. *Journal of Forecasting*, **16**, 295-310.
21. GAMERMAN, D. (1997). Sampling from the posterior distribution in generalized linear mixed models. *Statistics and Computing*, **7**, 57-68.

22. GAMERMAN, D. and SMITH, A. F. M. (1996). Bayesian analysis of longitudinal data studies. In *Bayesian Statistics 5* (eds. J. M. Bernardo et al.), pp. 587-598. University Press: Oxford.
23. EHLERS, R. S. and GAMERMAN, D. (1996). Analytic approximations for dynamic non-linear models. *Brazilian Journal of Probability and Statistics (REBRAPE)*, **10**, 87-101.
24. GAMERMAN, D. (1994). Bayes estimation of the piece-wise exponential distribution. *IEEE Transaction on Reliability*, **42**, 128-131.
25. MIGON, H. S. and GAMERMAN, D. (1993). Generalized exponential growth models - a Bayesian approach. *Journal of Forecasting*, **12**, 573-584.
26. GAMERMAN, D. and MIGON, H. S. (1993). Dynamic hierarchical models. *Journal of the Royal Statistical Society, Series B*, **55**, 629-642.
27. GAMERMAN, D. (1992). A dynamic approach to the statistical analysis of point processes. *Biometrika*, **79**, 39-50.
28. GAMERMAN, D. and MIGON, H. S. (1991). Forecasting the number of AIDS cases in Brazil. *The Statistician*, **40**, 427-442.
29. GAMERMAN, D. and MIGON, H. S. (1991). Tractors in Spain: a dynamic reanalysis. *Journal of the Operational Research Society*, **42**, 119-124.
30. GAMERMAN, D. (1991). Dynamic Bayesian models for survival data. *Applied Statistics*, **40**, 63-79.
31. GAMERMAN, D. and WEST, M. (1987). An application of dynamic survival models in unemployment studies. *The Statistician*, **36**, 269-274.
32. GAMERMAN, D. (1987). Dynamic inference for survival functions. *Probability and Bayesian Statistics* (ed. R. Viertl), pp. 183-192. Plenum: New York.

## 6 Books

1. *Statistical Inference: an Integrated Approach*. (with H. S. Migon). Edward Arnold: London. 260 pages. 1999.
2. *Markov Chain Monte Carlo: Stochastic Simulation for Bayesian Inference*. Chapman & Hall: London. 245 pages. 1997.

## 7 Published Discussion

1. GAMERMAN, D. (2000). Discussion to Time series analysis of non-Gaussian observations based on state-space models from both classical and Bayesian perspectives. *Journal of the Royal Statistical Society, Series B*, **62**, 44.
2. GAMERMAN, D. and MOREIRA, A. R. B. (1999). Discussion to Time varying covariances: a factor stochastic volatility approach by Michael Pitt and Neil Shephard. *Bayesian Statistics 6* (eds. J. M. Bernardo et al.) University Press: Oxford.
3. GAMERMAN, D. (1996). Discussion to Some statistical issues in palaeoclimatology by Mike West. In *Bayesian Statistics 5* (eds. J. M. Bernardo et al.), pp. 481-483. University Press: Oxford.
4. GAMERMAN, D. (1993). Discussion to Varying-coefficient models by T. Hastie and R. Tibshirani. *Journal of the Royal Statistical Society, Series B*.

## 8 Technical Reports and National Publications

1. GAMERMAN, D. (2000). MCMC in Econometrics. *Economia*, **1**, 7-37.
2. GAMERMAN, D. and FERREIRA, M. A. R. (1999). Bayesian analysis of epidemiologic count series via dynamic generalized Bayesian models (in Portuguese). *Cadernos de Saúde Coletiva*, **6**, 145-155.
3. ASSUNÇÃO, J. J., GAMERMAN, D. and ASSUNÇÃO, R. M. (1999). Regional differences in factor productivities of Brazilian agriculture: a space varying parameter approach. Proceedings of the XV Latin American Meeting of the Econometric Society, published at the *homepage* <http://www.itam.mx/lames/>.
4. GAMERMAN, D. and MOREIRA, A. R. B. (1998) Bayesian analysis of econometric time series models using hybrid integration rules. Proceedings of the XX Brazilian Econometrics Meeting, vol. II, pp. 94-118.
5. CAMARGO, E. A. and GAMERMAN, D. (1995). Identifying and estimating in the class of normal linear hierarchical models (in Portuguese). *Brazilian Journal of Econometrics*, **16**, 77-100.

6. GAMERMAN, D. (1995). On time reversal in dynamic linear models. Technical report # 90, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
7. CAMARGO, E. A. and GAMERMAN, D. (1993). Cointegration relations in multivariate trend models (in Portuguese). Proceedings of the XV Brazilian Econometrics Meeting, pp. 55-70.
8. GAMERMAN, D. (1993). Multivariate trend models. Technical report # 64, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
9. GAMERMAN, D. (1992). Evaluating academic performance with hierarchical models. Technical report # 65, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
10. GAMERMAN, D. (1992). A Bayesian analysis of point processes on the plane with application to the AIDS epidemic. Technical report # 64, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
11. GAMERMAN, D. (1990). Statistical analysis of the Italian AIDS data. Technical report # 55, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
12. GAMERMAN, D. (1990). On the joint estimation of the infection rate and the incubation distribution of infectious diseases. Technical report # 54, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
13. GAMERMAN, D. (1988). Switching models in survival analysis. Research report # 37, Statistical Laboratory, Universidade Federal do Rio de Janeiro.
14. GAMERMAN, D. and WEST, M. (1987). Dynamic survival models in action. Warwick research report # 111.

## 9 International conference papers

1. *Dynamic spatial models*. Invited talk for Opening Lecture of the World Meeting of International Society for Bayesian Analysis. Viña del Mar, Chile, 2004.
2. *Forecasting with latent space-time models*. Invited talk at the Bayesian Forecasting session of the 23rd. International Symposium on Forecasting. Mérida, México, 2003.

3. *A latent approach to the statistical analysis of space-time data.* Invited talk at the 17th International Workshop on Statistical Modeling. Chania, Grécia. 2002. Published on the Proceedings of the Meeting, pp. 1-15.
4. *Study of the space-time effects in the concentration of airborne pollutants in the Metropolitan Region of Rio de Janeiro.* Advanced Workshop on Environmental Sampling and Monitoring. Lisbon, Portugal. 2001 (with M. S. Paez).
5. *Space-varying regression models: specifications and simulation.* First European Conference on Spatial and Computational Statistics. Ambleside, UK. 2000 (with A. R. B. Moreira e H. Rue).
6. *Regional differences in factor productivities of Brazilian agriculture: a space varying parameter approach.* Second European Conference on Highly Structured Stochastic Systems. Pavia, Italy. 1999. (with J. J. Assunção and R. M. Assunção)
7. *An adaptive resampling scheme for cycle estimation.* VI Valencia International Meeting on Bayesian Statistics. Valencia, Spain. 1998 (with A. M. Schmidt e A. R. B. Moreira).
8. *Doubly dynamic models.* Seminar on Simulation-based Likelihood Inference for Time Dependence Models in Econometrics and Other Fields. Oxford, UK. 1996.
9. *Efficient sampling from the posterior distribution in generalized linear mixed models.* 50th Session of the International Statistical Institute. Beijing, China. 1995.
10. *Bayesian analysis of longitudinal data studies.* Fifth Valencia International Meeting on Bayesian Statistics. Valencia, Spain. 1994 (with A. F. M. Smith).
11. *Hierarchical modeling in matrix-variate settings.* International Workshop on Hierarchical Modeling. Rio de Janeiro. 1993 (with F. M. P. F. Landim).
12. *An application of dynamic hierarchical models to forecasting exports.* 1<sup>st</sup> Riverboat Conference on Bayesian Statistics and Econometrics. Switzerland/Germany. 1993.
13. *Multivariate trend models.* Latin America-U.S. Course and Workshop on Recent Advances on Bayesian Statistics and Econometrics. Caracas, Venezuela. 1992.

14. *Evaluating academic performance with hierarchical models*. Third International Conference on Practical Bayesian Statistics. Nottingham, UK. 1992.
15. *Dynamic hierarchical models*. Fourth Valencia International Meeting on Bayesian Statistics. Valencia, Spain. 1991 (with H. S. Migon).
16. *Bayesian forecasting with non-linear models*. Brazil-U.S. Workshop on Bayesian Statistics and Econometrics. Rio de Janeiro, Brazil. 1990 (with H. S. Migon).
17. *A dynamic approach to the statistical analysis of point processes*. Brazil-U.S. Workshop on Bayesian Statistics and Econometrics. Rio de Janeiro, Brazil. 1990.
18. *Forecasting the number of AIDS cases in Brazil*. IX International Symposium on Forecasting. Vancouver, Canada. 1989 (with H. S. Migon).
19. *Switching models in survival analysis*. XIV International Biometric Conference, Namur, Belgium. 1988.
20. *Dynamic survival models in action*. Third Valencia International Meeting on Bayesian Statistics. Valencia, Spain. 1987 (with M. West).
21. *Dynamic inference on survival functions*. International Symposium on Probability and Bayesian Statistics. Innsbruck, Austria. 1986.
22. *Non-proportionality of hazards: a time series application to unemployment studies*. International Conference on Practical Bayesian Statistics. Cambridge, UK. 1986 (with M. West).

## 10 Invited Seminars

- Seminars on dynamic models for survival data at University of Rome I and University of Rome II (April 1987), Institute Marie Curie, Paris (May 1993) and many research institutions in Brazil (1988 to 1990).
- Conferences on dynamic models and applications at many Statistics and Econometrics meetings in Brazil (1988 to 1989).
- Seminars on dynamic models for point processes at University of Rome I (April 1990) and Duke University (January 1992).

- Seminars on dynamic hierarchical models and applications at a Washington Statistical Society meeting (February 1992), University of London seminar (February 1994) and University of Oxford (May 1994).
- Seminars on generalized linear models at University of Bath (October 1994) and Imperial College (October 1994).
- Seminars on simulation for dynamic models  
Munich (May 1996), Lancaster (January 2000), Trondheim (February 2000) and many research institutions in Brazil (1996 to 1997).
- Seminars on epidemiologic time series  
Johns Hopkins (Jan 1999), Munich (May 1999), Lisbon (March 2001) and many research institutions in Brazil (1998 to 1999).
- Seminars on space-time models  
UNAM (June 2003), Bogotá (September 2004)

## 11 Supervision of graduate students

**Ph.D. students:** Marina S. Paez (2004), Cibele N. B. Assunção (2004), Teresa Cristina M. Dias (2002), Edilberto C. Cepeda (2001), Flavia M. P. F. Landim (1998) and Eliane A. Camargo (1998).

**M.Sc. students:** Gustavo S. Ferreira (2004), Leonardo S. Bastos (2003), Alexandre R. Santos (2002), Marina S. Paez (2000), Lilia C. C Costa (2000), Mariane B. Alves (1999), Alcione M. Santos (1996), Alexandra Mello Schmidt (1996), Adriana Barbosa da Silva (1996), Ricardo S. Ehlers (1993), Monica M. F. Magnanini (1993), Nilo K. Chagas (1991) and Neli M. C. Matos (1991).

## 12 Documented computer software

1. GAMERMAN, D., WEST, M. and POLE, A. (1987). A guide to SURVIVAL. Warwick research report # 121. (Also Duke's ISDS Discussion Paper 90-5.)

## 13 Research Interests

Current research interests focus on development of dynamic models by enlarging their scope and areas of application. The main areas are time series modelling and survival data analysis.

Time series modelling involves work on non-linear models with emphasis on applications and simple approximations to inferential procedures. Also work on normal dynamic models with hierarchical parametric structure where properties specific to the models and model characterization are being studied. Extension towards general theory including non-normal observations and general unknown covariance matrix.

Analysis of survival data includes development of practical aspects of dynamic modelling such as discounting, prior specification and residual analysis. This includes development of SURVIVAL, a menu-driven microcomputer programme written in APL for Bayesian analysis of survival data. Also work in the comparison with parametric inference via piecewise parametric hazard specification. Work on the related area of point processes on the line with extensions to more general observation spaces, marked point processes and multiple stages. Applications of hierarchical modelling and Gibbs sampling to non-parametric estimation of the hazard function.

Application of Markov chain Monte Carlo methodology to derivation of efficient inference schemes from generalized linear and dynamic generalized linear models. Extensions towards non-linear models, overdispersed data, spatially structured data and survival models.

## 14 Other activities

1. Associate Editor of Bayesian Analysis. From 2004.
2. Associate Editor of REVSTAT (Portuguese Journal of Statistics). From 2002.
3. Associate Editor of REBRAPE (Brazilian Journal of Probability and Statistics) and Statistical Modelling. From 2000.
4. Elected member of the Board of ISBA (International Society for Bayesian Analysis). From 1999 to 2002.
5. Elected member of the Board of ABE (Brazilian Statistical Association). From 1998 to 2002.
6. Organizer of the International Workshop on Hierarchical Modeling. 1993.
7. Organizer and Member of the Organizing Committee of a number of Brazilian Statistical meetings.
8. Invited discussant for the Fifth and Sixth International Valencia Meetings on Bayesian Statistics. 1994 and 1998.

9. Director of Postgraduate Studies in Statistics at UFRJ. 1995 to 1998 and 1999 until now.
10. Referee for *Biometrika*, *JASA*, *Biometrics*, *Scandinavian Journal of Statistics*, *Applied Statistics*, *IEEE Transactions on Reliability*, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *Journal of Nonparametric Statistics*, *International Statistical Review*, *REBRAPE* (Brazilian Journal of Probability and Statistics) and *REVSOCHÉ* (Chilean Journal of Statistics).
11. Member of the Bernoulli Society, ISBA, ABE (Brazilian Statistical Association) and Royal Statistical Society.

Rio de Janeiro, 26 July 2004.