CURRICULUM VITAE

FERNANDO ANDRES QUINTANA

EDUCATION

Mathematical Civil Engineer	Universidad de Chile	1987
Ph.D. Statistics	University of Wisconsin-Madison	1994

ACADEMIC POSITIONS

1989–1990	Lecturer, Departamento de Estadística, Pontificia Universidad Católica de Chile.
1994–1999	Assistant Professor, Departamento de Estadística, Pontificia Universidad Católica de Chile.
2000–present	Associate Professor, Departamento de Estadística, Pontificia Universidad Católica de Chile.

PUBLICATIONS

1. del Pino, G., Quintana, F., and Rodríguez, W. (1991). "Parametrization in Factorial Generalized Linear Models". *Brazilian Journal of Statistics*, **5(2)**, 103–134.

2. Martínez, S. and Quintana, F. (1991). "On a test for generalized upper truncated Weibull distributions". *Statistics and Probability Letters*, **12(4)**, 273–279.

3. De Smet, A.A., Norris, M.A., Yandow, D.R., Quintana, F.A., Graf, B.K, and Keene, J.S. (1993). "MR Diagnosis of Meniscal Tears of the Knee: Importance of High Signal in the Meniscus That Extends to the Surface". *American Journal of Radiology*, **161**, 101–107.

4. Tuite, M.J., Yandow, D.R., De Smet, A.A., Orwin, J.S. and Quintana, F.A. (1994). "Diagnosis of Partial and Complete Rotator Cuff Tears Using Combined Gradient Echo and Spin Echo Imaging". *Skeletal Radiology*, **23**, 541–545.

5. Quintana, F.A. (1994). "Algunos avances recientes en Computación Estadística". *Journal of the Chilean Statistical Society* **11 (1,2)**, 29–62.

6. Tuite M.J., Yandow D.R,, De Smet A.A., Orwin J.F. and Quintana F.A. (1995) "Effect of field of view on MR diagnosis of rotator cuff tears". *Skeletal Radiology*, **24(7)**, 495–498.

7. Bianco, J.A., Pyzalski, R.W., Pyzalska, D.M., Sebree, L.A., Hegge, J. and Quintana, F.A. (1996). "Blood Flow Distribution in Necrotic versus Nonnecrotic Rabbit Hearts". *General Cardiology*, **87**, 294-299.

8. Quintana, F. and Tam, W. (1996). "Bayesian estimation of Beta-binomial models by simulating posterior densities". Also as Technical Report PUC/FM-96/1. *Revista de la Sociedad Chilena de Estadística*, **13 (1,2)**, 43–56.

9. Quintana, F. and Newton, M.A. (1998). "Assessing the order of dependence for partially exchangeable binary sequences". *Journal of the American Statistical Association*, **93(441)**, 194–202.

10. Quintana, F.A. (1998). "Nonparametric Bayesian analysis for assessing homogeneity in $k \times l$ contingency tables with fixed right margin totals". Also as Technical Report PUC/FM-96/7. *Journal of the American Statistical Association*, **93(443)**, 1140–1149.

11. Newton, M. A., Quintana, F. A., and Zhang, Y. (1998). "Nonparametric Bayes Methods Using Predictive Updating", in *Practical Nonparametric and Semiparametric Bayesian Statistics*, Dey, D., Müller, P., and Sinha, D. (eds.), Springer-Verlag, New York, pp. 45–61.

12. Quintana, F.A., Liu, J.S. and del Pino, G.E. (1999). "Monte Carlo EM with Importance Reweighting and its Applications to Random Effects Models". Also as Technical Report PUC/FM-97/2. *Computational Statistics and Data Analysis*, **29**, 429–444.

13. Iglesias, P.I. and Quintana, F.A. (1999). Discussion on "Old and Recent Results on the Relationship Between Predictive Inference and Statistical Modelling Either in Nonparametric or Parametric form" by E. Regazzini. In *Bayesian Statistics 6*, Proceedings of the Sixth Valencia International Meeting. Bernardo, J.M., Berger, J.O., Dawid, A.P. and Smith, A.F.M. (eds), 581–582.

14. Quintana, F.A. Discussion on "SORE Modeling for Clinical Trials: A Bayesian Perspective" by A. Bouckaert and M. Mouchart. *Revista de la Sociedad Chilena de Estadística*. To appear.

15. Newton, M.A. and Quintana, F.A. (1999). Discussion on "Bayesian Nonparametric Inference for Random Distributions and Related Functions" by Walker, S.G., Damien, P., Laud, P.W. and Smith, A.F.M. *Journal of the Royal Statistical Society, B*, **61**, 522.

16. Quintana, F.A. and Newton, M.A. (1999). "Parametric partially exchangeable models for multiple binary sequences". Also as Technical Report PUC/FM-96/9. *Brazilian Journal of Probability and Statistics*, **13(1)**, 55–76.

17. Quintana, F.A. and Newton, M.A. (2000). "Computational aspects of Nonparametric Bayesian analysis with applications to the modeling of multiple binary sequences". Also as Technical Report PUC/FM-98/24. *Journal of Computational and Graphical Statistics*, **9(4)**, 711–737.

18. San Martín, E. and Quintana, F. (2002). " Consistency and Identifiability Revisited". Also as Technical Report PUC/FM-07/2001. *Brazilian Journal of Probability and Statistics*, **16(1)**, 99 – 106.

19. Iglesias, P.L. and Quintana, F.A. (2003). Discussion on "Bayesian Clustering with Variable and Transformation Selections" by Jun S. Liu, Junni L. Zhang, Michael J. Palumbo and Charles E. Lawrence. In *Bayesian Statistics 7*, Proceedings of the Seventh Valencia International Meeting. Bernardo, J.M., Bayarri, M.J. Berger, J.O., Dawid, A.P., Heckerman, D., Smith, A.F.M., and West. M. (eds), Oxford Univ. Press, New York, pp. 249–275.

20. Quintana, F.A. and Iglesias, P.L. (2003). "Bayesian Clustering and Product Partition Models". Also as Technical Report PUC/FM-06/2000. *Journal of the Royal Statistical Society Series B*, **65(2)**, 557 – 574.

21. Kottas, A., and Müller, P. and Quintana, F. (2003). "A Nonparametric Bayesian Model for Multivariate Ordinal Data" in *Proceedings of the Joint Statistical Meetings, San Francisco, California, August 3-7*, 2253–2257.

22. Magnussen, S., Quintana, F. A., Nealis, V. and Hopkin, A. A. (2003). "Testing for Temporal Dependence of Pollen Cone Production in Jack Pine (Pinus banksiana Lamb.)" in *Modelling Forest Systems*, Amaro, A., Reed, D. and Soares, P. (eds.), San Diego Technical Books, San Diego, pp. 123–130.

23. Quintana, F. and Müller, P. (2004). "Nonparametric Bayesian Assessment of the Order of Dependence for Binary Sequences". *Journal of Computational and Graphical Statistics*, **13 (1)**, 213 – 231. Also as Technical Report PUC/FM-06/2001.

24. Quintana, F. and Müller, P. (2004). "Optimal Sampling for Repeated Binary Measurements". *Canadian Journal of Statistics*, **32(1)**, 73–84.

25. Arellano-Valle, R. and Gómez, H. and Quintana, F. (2004). "A New Class of Skew-Normal Distributions". *Communications in Statistics, Series A*, **33(7)**, 1465–1480.

26. Müller, P., Quintana, F. and Rosner, G. (2004). "A method for combining inference across related nonparametric Bayesian models." *Journal of the Royal Statistical Society, Series B*, **66(3)**, 735–749. Also as Technical Report PUC/FM-99/6.

27. Müller, P. and Quintana, F.A. (2004). "Nonparametric Bayesian Data Analysis". *Statistical Science*, **19(1)**, 95–110.

28. Iglesias, P. and Orellana, Y. and Quintana, F. (2004). "Nonparametric Bayesian Modeling Using Skewed Dirichlet Process" *Proceedings of the Joint Statistical Meetings, Toronto, Canada, August 8-12*, 92–96.

29. Gómez, H. and Arellano-Valle, R. and Quintana, F. (2005). "Statistical Inference for A General Class of Asymmetric Univariate Distributions". *Journal of Statistical Planning and Inference*, **128 (2)**, 427–443.

30. Quintana, F. and Iglesias, P. and Galea, M. (2005). "Bayesian Robust Estimation of Systematic Risk Using Product Partition Models in the Chilean Stock Markets". *Applied Financial Economic Letters*, **1**, 313–320.

31. Müller, P. and Kottas, A. and Quintana, F. (2005). "Nonparametric Bayesian modeling for multivariate ordinal data". *Journal of Computational and Graphical Statistics*, **14 (3)**, 610–625.

32. Bolfarine, H., Iglesias, P. and Quintana, F. (2005). "Bayesian Identification of Outliers and Change-Points in Measurement Error Models". *Advances in Complex Systems*, **8 (4)**, 433–449.

33. Quintana, F. (2006). "A predictive view of Bayesian clustering". *Journal of Statistical Planning and Inference*, **136**, 2407–2429.

34. Quintana, F. and Silva, A. (2006) "Testing for Differences Among Discrete Distributions: An Application of Model-Based Clustering". *Brazilian Journal of Probability and Statistics*, **20**, 141–152.

35. de la Cruz, R. and Quintana, F.A. and Müller, P. (2007) "Semiparametric Bayesian Classification with Longitudinal Markers". *Applied Statistics* (Journal of the Royal Statitical Society, Series C), **56 (2)**, 119–137.

36. Gómez, H. and Quintana, F. and Torres, F. (2007) "A New Family of Slash-Distributions with Elliptical Contours". *Statistics and Probability Letters* **77**, 717–725.

37. de la Cruz, R. and Quintana, F. (2007) "A model-based approach to Bayesian classification with applications to predicting pregnancy outcomes from longitudinal β-hCG profiles". *Biostatistics*, **8(2)**, 228–238.

38. Müller, P. and Quintana, F. and Rosner, G. (2007) "Semiparametric Bayesian Inference for Multilevel Repeated Measurement Data". *Biometrics*, **63(1)**, 280–289.

39. Newton, M.A. and Quintana, F.A. and den Boon, J.A. and Sengupta, S. and Ahlquist, P. (2007). "Random-set methods identify distinct aspects of the enrichment signal in gene-set analysis". *The Annals of Applied Statistics*, **1(1)**, 85–106. Also as UW Madison Statistics Department Technical Report #1130.

40. De la Cruz-Mesía, R. and Quintana, F. A. and Marshall, G. (2007) "Model Based Clustering for Longitudinal Data". To appear in *Computational Statistics and Data Analysis*.

41. Navarrete, C. and Quintana, F.A., and Müller, P. (2008). "Some Issues on Nonparametric Bayesian Modeling Using Species Sampling Models". To appear in *Statistical Modelling International Journal*.

42. Marshall, G. and De la Cruz-Mesía, R. and Quintana, F. A. and Barón A. E. "Discriminant Analysis for Multivariate Longitudinal Markers with Possibly Missing Data". Conditionally accepted in *Biometrics*.

Work submitted to publication and still under Review

1. Iglesias, P. and Orellana, Y. and Quintana, F. "Nonparametric Bayesian Modeling Using Skewed Dirichlet Process"

2. Quintana, F. and Müller, P. and Rosner. G. "A semiparametric Bayesian model for repeated repeated binary measurements".

3. Jara, A. and Quintana, F. A. "Linear effects mixed models with skew-elliptical distributions: A Bayesian approach".

4. Elal-Olivero, D. and Gómez, H.W. and Quintana, F.A. (2006). "Bayesian Modeling Using a Class of Bimodal Skew-Elliptical Distributions".

5. Quintana, F. A. and Müller, P. and Rosner, G. L. "Semi-parametric Bayesian Inference for Multi-Season Baseball Data".

DELIVERED TALKS Invited Conferences

1. Some recent advances in Statistical Computing (in spanish), *XXII Jornadas Nacionales de la Sociedad Chilena de Estadística, Talca, August 1995*.

2. Advances in Statistical Computing (in Spanish), *Seminario de Informática y Matemática Aplicada, Instituto de Informática, Universidad Austral de Chile, Valdivia, September 1996*.

3. A nonparametric Bayesian model for assessing homogeneity in $k \times l$ contingency tables with fixed right margins (in Spanish), *III Seminario Chileno de Estadística Bayesiana, Valdivia, January 1998*.

4. A nonparametric Bayesian model for assessing homogeneity in $k \times l$ contingency tables with fixed right margins (in Spanish), *VII CLAPEM, Córdoba, Argentina, September 1998*.

5. Nonparametric Bayesian Clustering and Product Partition Models. *Institute of Statiscal Decision Sciences, Duke University, Durham, NC, USA, July 2001*.

6. Parametric and Nonparametric Approaches to Bayesian Clustering, *Department of Biostatistics, University of Texas M. D. Anderson Cancer Center, Houston, Texas, USA, January 2002*.

7. A Predictive View of of Bayesian Clustering, *ISBA 2004 World Meeting, Viña del Mar, Chile, May 2004*.

8. Optimal Design for Multiple Binary Sequences, *XVI Sinape, Caxambú, MG, Brazil, July 2004*.

9. Some applications of Bayesian predictive clustering, *Department of Biostatistics, University of Texas M. D. Anderson Cancer Center, Houston, Texas, USA, January 2005*.

10. Nonparametric Bayesian modeling using skewed Dirichlet processes, *Universidad de Atacama, Copiapó, Chile, January 2006. Universidad de Atacama, Copiapó, Chile, January 2006*.

11. Un Modelo Bayesiano Semiparamétrico Para Datos Binarios Longitudinales Repetidos, *IV Escuela de Invierno de Análisis Estocástico y Aplicaciones, Valparaíso, July de 2006*.

12. Un Modelo Bayesiano Semiparamétrico Para Datos Binarios Longitudinales Repetidos, *Congreso Anual, Facultad de Matemáticas, Pontificia Universidad Católica de Chile, January 2007*.

13. Semiparametric Bayesian Modelling of Skewness, *Department of Biostatistics, University of Texas M. D. Anderson Cancer Center, Houston, Texas, USA, January 2007*.

14. Aplicaciones de Modelos Bayesianos Semi-Paramétricos al Análisis de Conglomerados, *DCC-Investiga 2007, Departamento de Ciencias de la Computación, Facultad de Ingeniería, Pontificia Universidad Católica de Chile*

Contributed Talks and Posters at Workshops

1. Semiparametric Partially Exchangeable Models for Binary Sequences (in Spanish), *XXI Jornadas Nacionales de la Sociedad Chilena de Estadística, Concepción, November 1994*.

2. Assessing the order of dependence for binary partially exchangeable sequences, *VI CLAPEM, Viña del Mar, November 1995*.

3. Semiparametric Partially Exchangeable Models for Binary Sequences II, *XII SINAPE, Caxambú, MG, Brazil, August 1996.*

4. Semiparametric Partially Exchangeable Models for Binary Sequences II, *III CLATSE, Santiago, October 1996.*

5. Nonparametric Bayesian Models in Contingency Tables, *XXIV SPA, Viña del Mar, June 1997.*

6. Nonparametric Bayesian Analysis for Assessing Homogeneity in $k \times l$ contingency tables with fixed right margins, *Joint Statistical Meetings, Anaheim, California, U.S.A., August 1997*.

7. Monte Carlo EM with Importance Reweighting and it Applications to Random Effects Models (in Spanish), *XXIV Jornadas Nacionales de la Sociedad Chilena de Estadística, Valparaíso, November 1997*.

8. Computational aspects of Nonparametric Bayesian analysis with applications to the modeling of multiple binary sequences, *Joint Statistical Meetings, Baltimore, Maryland, U.S.A., August 1999*.

9. Nonparametric Bayesian Clustering and Product Partition Models. *World Meeting of the International Society for Bayesian Analysis, Creta, Grecia, Mayo de 2000*.

10. Contributions to the Modeling of Multiple Binary Sequences in Parametric or Nonparametric Form, *Joint Statistical Meetings, Indiana, Indianapolis, USA, Agosto de 2000*.

11. Nonparametric Bayesian Assessment of the Order of Dependence for Multiple Binary Sequences, *Joint Statistical Meetings, Atlanta, Georgia, USA, Agosto de 2001*.

12. Optimal Sampling for Repeated Binary Measurements, *Joint Statistical Meetings, New York, USA, Agosto de 2002*.

13. Nonparametric Bayesian Analysis for Multivariate Ordinal Responses, *Joint Statistical Meetings, San Francisco, USA, Agosto de 2003*.

14. Nonparametric Bayesian Modelling for Multivariate Ordinal Responses, *International Workshop on Bayesian Data Analysis, Santa Cruz, CA, USA, 7-10 August 2003*.

15. Nonparametric Bayesian modeling using skewed Dirichlet processes, *Jointstical Meetings, Toronto, Canada, August 2004*.

16. Some applications of Bayesian predictive clustering, *Joint Annual Meeting of the Interface and the Classification Society of North America, Washington University School of Medicine, St. Louis, Missouri, June 8-12, 2005*

17. Nonparametric Bayesian modeling using skewed Dirichlet process, *Valencia (8) International Meeting on Bayesian Statistics, Benidorm (Alicante, Spain), June 1-6th, 2006*.

18. A Semiparametric Bayesian model for repeated binary outcomes, *Valencia (8) International Meeting on Bayesian Statistics, Benidorm (Alicante, Spain), June 1-6th, 2006*.

19. Bayesian Clustering with Regression, *Construction and Properties of Bayesian Nonparametric Regression Models, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, August 6-10, 2007.*

Statistics Department Seminar (in Spanish)

1. Goodness-of-fit Tests for Binary Partially Exchangeable Sequences, Spring 94.

2. Partially exchangeable models for multiple binary sequences, Fall 95.

3. Advances in Statistical Computing, Spring 95.

4. Nonparametric Bayesian Analysis for Assessing Homogeneity in $k \times l$ contingency tables with fixed right margins, Fall 97.

5. Nonparametric Bayesian Assessment of the Order of Dependence for Multiple Binary Sequences, Spring 2000.

6. Nonparametric Bayesian Modelling for Multivariate Ordinal Responses, Spring 2003.

STUDENTS

From 1995–present: Committee member for 4 B.Sc. students.

Committee member for the following M.Sc. students: Ana María Araneda (1995, Statistics); Lorena Correa Arratia (1998, Statistics); Wilson Rodríguez Pavez (2002, Statistics); Héctor Rojas Quintanilla (2002, Statistics); Mariela Silva Rojas (2002, Engineering),

Supervision of the following Statistics M.Sc. student: Andrés Silva Carmona (2004).

Committee member for the following Ph.D. students: Mauricio Zevallos Herencia (2002, Statistics); Ignacio Vidal García (2003, Statistics); María Paz Casanova Laudien (2005, Statistics).

Supervision of the following Ph.D. students: Héctor Gómez Geraldo (2004, Statistics, co-tutored with Reinaldo Arellano Valle); Rolando de la Cruz Mesías (2005, Statistics); Paula Fariña (Statistics, co-tutored with Ernesto San Martín, undergoing); Carlos Navarrete (Statistics, undergoing).

COURSES TAUGHT

Probability for Engineers; Bayesian Methods, Statistical Methods, Statistics and Probability I and II, Linear Models, Stochastic Processes, and Stochastic Simulation for B.Sc. students majoring in Statistics; Statistical Computing and Probability Theory for graduate students;

GRANTS

Major Grants

- "Bayesian Analysis in Elliptical Measurement Error Models: Robustness, Calibration and Change Point Problems," with Pilar Iglesias (P.I.) and Reinaldo Arellano, FONDECYT 1971128, 1997–1999.
- "Nonparametric Bayesian Methods and Clustering Algorithms: Theoretical and Applied Aspects," P.I., FONDECYT 1990430, 1999–2001.
- "Parametric and Nonparametric Approaches to Bayesian Clustering," P.I., FONDECYT 1020712, 2002–2005.
- "Parametric and Nonparametric Hierarchical Bayesian Models: New Developments, Clustering Algorithms, and Applications." P.I. FONDECYT 1060729, 2006-2009.
- "Missing data strategies" Associate Researcher, Bilateral Chile-KUL (Belgium) Grant BIL05/03.
- "Stochastic Analysis Laboratory", Associate Researcher, CONICYT.

Minor Grants

- "Lecture Notes: Probability for Engineers", PUC, 1994.
- "Lecture Notes: Simulation", PUC, 1998.