

# **Luis Raúl Pericchi**

## CURRICULUM VITÆ

### **Address**

Full Professor Department of Mathematics, University of Puerto Rico, Rio Piedras Campus, PO Box 23355, San Juan, PR 00931-3355, USA. Phone: 1-787-764-0000 ext 4690/2204, or direct: 1-787-528-1235; Fax: 1-787-281-0651. e mail: lrpericchi@uprrp.edu and lu-arpr@gmail.com. Citizenship: Venezuelan. USA-Permanent Resident. Birth date: March 11, 1952.

### **Education**

B.A. Universidad Simón Bolívar (Licenciado en Matemáticas) 1975

M.A. University of California, Berkeley (Statistics) 1978

Ph.D. University of London, Imperial College, Department of Mathematics (Mathematical Statistics) 1981. Tutor Professor A.C. Atkinson, External Professor A.F.M. Smith. “The assessment of prior distributions for competing linear models and transformations”.

Ph.D. Thesis.

### **Positions and Professional Experience**

- Full Professor Department of Mathematics and Computer Science, University of Puerto Rico, Rio Piedras. School of Natural Sciences. August 2001-Present. Tenured August 2003. Director of the Department of Mathematics August 2001-August 2006
- Assistant, Associate and Professor Dept. de Matemáticas, Dept. Cómputo Científico y Estadística 1993-2001, Universidad Simón Bolívar. Early Retirement: since November, 2000.
- Associate Professor Departamento de Matemáticas 1988-1993 Universidad Simón Bolívar
- Assistant Professor Departamento de Matemáticas 1981-1988 Universidad Simón Bolívar
- Founder and Director of the Statistical Lab. USB 1984 - 1985 and 1986 - 1992
- Vice-Director Centro de Estadística y Software Matemático.(CESMa-USB) 1992-2000

- Founder Coordinator of the Graduate Studies in Statistics at USB, 1997-2000.
- Organizer of the Biostatistics and Bioinformatics Core of the University of Puerto Rico Comprehensive Cancer Center, August 2007-present.
- Director of the Centro de Bioestadística y Bioinformática, College of Natural Sciences, UPR RIo Piedras. Nov. 2009-present.

### Visiting and Temporary Positions

Assistant Professor (**Lecturer**), Universidad de Sao Paulo, Brasil, Aug.-Dec. 1985  
 Temporary Lecturer (**Lecturer**), Imperial College, London Jan.- Dec. 1986  
 Science and Engineering Research Council Fellow University of Nottingham, U.K. June - Sept. 1988  
 Science and Engineering Research Council Fellow University of Liverpool, U.K. Jan.- April 1989  
 Science and Engineering Research Council Fellow University of Liverpool, U.K. Jan. 1991  
 Associate Professor (**Lecturer**), Purdue University, July 1991-Jan. 1992  
 Visiting Professor University of Western Australia Jan-Feb. 1993  
 Science and Engineering Research Council Fellow, University of Liverpool and Imperial College, July-Sept. 1993  
 Visiting Professor (**Lecturer**), Departamento de Estadística y Econometría, Universidad Carlos III de Madrid, Oct. 1993-Feb. 1994.  
 Visiting Professor, Univ. Autónoma de Madrid, April-June 1997  
 Visiting Professor, Institute of Statistical Decision Sciences, Duke University, September 2000- June 2001.  
 Engineering and Physical Sciences Research Council Fellow, University of Bristol, England, June-September 2001, and June 2002.  
 Statistics and Applied Mathematics Institute (SAMSI), Research Triangle, North Carolina, USA. Visiting Researcher: September 2006; January 2007.

### Editorial Activities

Associate Editor, International Statistical Review 1988 - 1991  
 Associate Editor, Revista Brasileira de Probabilidade e Estatística 1987 - present  
 Member of the Editorial Board, Estadística Española 1989 - 1995  
 Associate Editor, Trabajos de Estadística (TEST) 1990 - 1997  
 Field Editor, Acta Científica Venezolana 1990 - 1998  
 Editorial Board, Latin American Chapter, Bernoulli Society-1995-2000  
 Associate Editor, Estadística-1997-2000  
 Associate Editor, Bayesian Analysis, 2006-2009.

### Awards, Distinctions and Grants

- National Prize in Hydrology (Venezuela) for the book # 1 in the list of publications, 1974.
- Prize to the best article (Publication # 5) of the year (1987). Area of Engineering. Venezuelan Council for Scientific and Technological Research.
- Elected Ordinary Member of the International Statistical Institute, 1989.
- Annual prize 1991 in the area of Mathematics, for the Publication # 25. Granada Academy of Sciences, Spain.
- Classified Researcher Level II (maximum level is III) in 1990 (renewed in 1993, 1996 and 1999) by the Venezuelan System for the promotion of research.
- Prize to the best article (Publication # 18) of the year (1992). Area of Mathematics. Venezuelan Council for Scientific and Technological Research.
- Named "External Full Professor" of the International Institute of Advanced Studies, Caracas, Venezuela, in 1992.
- Named External Professor of the Ph.D. in Statistics of the *Pontificia Universidad Católica de Chile*, 1996.
- Jose Francisco Torrealba Award (1997), to the best research record of the Universidad Simon Bolivar.
- President of the Latin American Chapter of the Bernoulli Society for Probability and Mathematical Statistics. (1997-2000).
- Guggenheim Fellowship (Jul.1997-Jun.1998) "Bayes Factors for Model Selection and Prediction".
- Program Secretary of the International Society for Bayesian Analysis (ISBA), 2002.
- Principal Investigator of the grant: "Group Travel to the 7th meeting on Bayesian Statistics". National Science Foundation, \$20,000. 2002-2003.
- Principal Investigator of a research grant: "A Synthesis of Objective Bayes Factors for Model Selection and Hypothesis Testing". National Science Foundation. \$75,000. 2006-2008.
- Principal Investigator of the grant: "Accelerating Puerto Rican students into the National Research Effort in Mathematics and Computer Science". National Science Foundation. \$500,000. 2006-2011.
- "Premio Luis A. Ferré Aguayo" (2009) Category: Education. Alcaldía de San Juan.

- Principal Investigator of grant by the pharmaceutical MERCK: \$100,000: To foster the development of the Centro de Bioestadística y Bioinformática. 2009-2012.

### Graduate Students Tutored

Rafael Seoane, Magister Hydraulic Resources (honors), USB, 1984.  
 María Egleé Pérez, Magister in Mathematics, (honors), USB, 1987.  
 Neidha Nadal, Magister in Mathematics, (honors), USB, 1992.  
 Bruno Sansó, Ph.D. in Mathematics, Univ. Central de Venezuela, 1992.  
 María Egleé Pérez, Ph.D. in Mathematics, Univ. Central de Venezuela, 1994.  
 José Miguel Pérez, Magister in Mathematics, (honors), USB, 1994.  
 José Félix Aponte, Magister in Mathematics, USB, 1998.  
 María del Cristo Pérez, Diploma in Computational Statistics, 1999.  
 Neidha Nadal, Ph.D in Mathematics, (honors), USB, 2000.  
 Evaristo Diz, Diploma in Computational Statistics, USB, 2000.  
 Abel Rodríguez, (Honors) Magister in Statistics, USB, 2000.  
 Kahela Bastidas, Diploma in Computational Statistics, USB, 2000.  
 Chunseng Yang, Master in Applied Mathematics, University of Puerto Rico, 2003.  
 David Torres, Master in Applied Mathematics, University of Puerto Rico, 2004.  
 Lihai Song, Master in Applied Mathematics, 2007.  
 Juan Romero, Master in Applied Mathematics, 2007.  
 Jairo Fúquene, Master in Applied Mathematics, 2008.

### Publications

1. Córdova J.R., Pericchi L.R. and Silvestre H. (1974) Optimización de la Altura de la Presa y Area de Desarrollo. Publicaciones del Ministerio de Obras Públicas, Venezuela.
2. Pericchi L.R. (1981) A Bayesian approach to transformations to Normality. **Biometrika** 68(1), p. 35-43.
3. Pericchi L.R. and Rodriguez-Iturbe I. (1983) On some problems in Bayesian model choice in hydrology. **The Statistician** 32, p. 273-278.
4. Pericchi L.R. (1984) An alternative to the standard Bayesian procedure for discrimination between normal linear models. **Biometrika** 71(3), p. 575-586.
5. Pericchi L.R. and Rodriguez-Iturbe I. (1985) On the statistical analysis of floods, in "A Celebration of Statistics." (1985). Eds. A.C. Atkinson and S. Fienberg, Chapter 23, p. 511-541. **Springer-Verlag**.

6. Seoane R. and Pericchi L.R.(1986) Some new statistical methods for model choice and parameter estimation in statistical hydrology. Actas del sexto Symposium Brasileiro de Probalidade e Estatistica. (Invited Conference).
7. Achcar J.A., Bolfarine H. and Pericchi L.R. (1987) Transformations of survival data to an extreme value distribution. **The Statistician** 36, p. 229-234.
8. Pericchi L.R. and Nazaret W. (1988) On being imprecise at the higher levels of a hierarchical linear model (invited discussion by Dr. A. Skene, University of Nottingham, U.K.). *Bayesian Statistics 3*, p. 361-375. Bernardo, J.M., De Groot M., Lindley D., Smith A.F.M. Editors. **Oxford University Press**. (Invited Conference).
9. Pérez-Shael I., Pericchi L.R. et al.( 1989) Statistical analysis of a Rhesus Rotavirus vaccine trial to assess protective effect against diarrhea in Venezuelan children of 2-4 months of age. **Interciencia**, 14(4), p. 199-202.
10. Pericchi L.R. (1989) Sobre la inferencia y teoría de decisión subjetivista-Bayesiana bajo probabilidades a priori imprecisas. **Acta Científica Venezolana** 40, p. 5-18.
11. Pericchi L.R. (1989) TEORIA ESTADISTICA DE DECISION Y ANALISIS BAYESIANO. Publications of the Instituto Venezolano de Investigaciones Científicas (IVIC), ISBN 980-261-007-0, 145 pgs. (Invited Graduate Course, given in the Second National School of Mathematics, Venezuela (1989) 1st ed., in the Fourth Latin American Congress of Probability and Statistics, México (1990) 2nd ed.), and "Avances Recientes en Estadística Bayesiana y Econometría", Caracas, (1992, 3rd ed.).
12. Achcar J.A., Bolfarine H. and Pericchi L.R.(1989) Some applications of Bayesian methods in analysis of life data. Revista Brasileira de Probabilidade e Estatistica **REBRAPE** 3, p. 125-148.
13. Pereira C.A.B. and Pericchi L.R. (1990) Analysis of Diagnosability. **Journal of the Royal Statistical Society Series C, Applied Statistics** 39(2), p. 189-204.
14. Walley P. and Pericchi L.R. (1990) One sided hypothesis testing with near-ignorant priors. Revista Brasileira de Probabilidade e Estatistica **REBRAPE** 4, p. 69-82
15. Moreno E. and Pericchi L.R. (1990) Sensitivity of the Bayesian analysis to the prior: structural contaminations with specified quantiles of parametric families. Actas III Congreso Latinoamericano de Prob. y Estad. Mat., **Publicaciones de la Soc. Bernoulli Latinoamericana**, p. 143-158.
16. Atkinson A.C., Smith R.L. and Pericchi L.R. (1991) Grouped likelihood for the shifted power transformation. **Journal of the Royal Statistical Society Series B (methodological)**, 53(2), p. 473-482.

17. Espinosa R.A., Pericchi L.R. et al. (1991) Prognostic indicators of chronic Chagasic cardiopathy. (1991). **International Journal of Cardiology** 30, p. 195-202.
18. Pericchi L.R. and Walley P. (1991) Robust Bayesian credible intervals and prior ignorance. **International Statistical Review** 59(1), p. 1-23.
19. Moreno E. and Pericchi L.R. (1991) Robust Bayesian analysis for epsilon-contaminations with shape and quantile constraints. Proc. Fifth Intern. Symp. App. Stoch. Model and Data Anal., p. 454-470, **World Scientific Pub.**
20. Pérez M.E. and Pericchi L.R. (1992) A Bayesian Approach to Analysis of Multistage Survey. Actas IV Congreso Latinoamericano de Prob. y Estad. Mat., **Publicaciones de la Soc. Bernoulli Latinoamericana** , p. 189-207.
21. Sansó B. and Pericchi L.R. (1992) Imprecise Bayesian Inference for Location Models. Actas IV Congreso Latinoamericano de Prob. y Estad. Mat., **Publicaciones de la Soc. Bernoulli Latinoamericana** , p. 221-227.
22. Moreno E. and Pericchi L.R. (1992) Análisis empírico Bayes en bandas de medidas de probabilidad. Actas IV Congreso Latinoamericano de Prob. y Estad. Mat., **Publicaciones de la Soc. Bernoulli Latinoamericana** , p. 154-171.
23. Moreno E. and Pericchi L.R. (1992) Bands of Probability Measures. A Robust Bayesian Analysis. *Bayesian Statistics 4*, Berger, J., Bernardo, J.M., Dawid, P. and Smith, A.F.M. Editors. **Oxford University Press**, p. 707 - 713.
24. Pérez M.E. and Pericchi L.R. (1992) Analysis of Multistage Survey as a Bayesian Hierarchical Model. *Bayesian Statistics 4*, Berger, J., Bernardo, J.M., Dawid, P. and Smith, A.F.M. Editors. **Oxford University Press**, p. 723 - 730.
25. Moreno E. and Pericchi L.R. (1992) Subjetivismo sin Dogmatismo: Inferencia Bayesiana Robusta. (with discussion). *Estadística Española* , 34 (129), p. 1-60.
26. Pericchi L.R. and Smith A.F.M. (1992) Exact and Approximate Posterior Moments for a Normal Location Parameter. **J. Roy. Statist. Soc. Series B (methodological)**, 54 (3), p. 793 - 804.
27. Sansó B. and Pericchi L.R. (1992) Near Ignorance Classes of Log-Concave priors for the Location Model. **Test**, 1(1), p. 27-32.
28. Campos A. and Pericchi L.R. (1992) Statistical Assessment of Total Heat Losses from Externally Finned Tubes using various Spatially-Weighted Mean Biot Numbers. **International Journal of Heat and Fluid Flow**. Vol. 13, N 4, p. 399-407.

29. Pericchi L.R., Sansó B. and Smith A.F.M. (1993) Posterior Cumulant relationships in Bayesian inference involving the Exponential Family. **Journal of the American Statistical Association** Vol. 88 , pp. 1419-1426.
30. Moreno E. and Pericchi L.R. (1993) A Hierarchical Epsilon - Contaminated Model. **Journal of Statistical Planning and Inference**, 37, p. 159-167.
31. Moreno E. and Pericchi L.R. (1993) On Epsilon - Contaminated Priors with Quantile and Piece-Wise Unimodality Constraints. **Communications in Statistics. Theory and Methods**, 22(7), pp. 1963-1978.
32. Moreno E. and Pericchi L.R. (1993) Prior Assessment for Bands of Probability measures: Empirical Bayes Analysis. **TEST**, 2, p.101-110.
33. Pericchi L.R. and Nadal N. (1993) Analysis of Irregular Likelihoods by Grouping the Likelihood and Bayesian Marginalization. *Proceedings of the Conference on Statistical Inference and Biostatistics*, Sprott D. Editor, p. 201-213.
34. Pericchi L.R. and Pérez M.E. (1994) Bayesian Robustness with more than one Sampling Model (with discussion). **Journal of Statistical Planning and Inference**, Vol. 40, 2-3, p. 279-294.
35. Sansó B. and Pericchi L.R. (1994) Large Classes of Proper Priors for Linear Models. **Communications in Statistics, Theory and Methods**. Vol. 23 (9), p. 2493-2501.
36. Sansó B. and Pericchi L.R. (1994) On Near Ignorance Classes. **REBRAPE**, 2, p.119-126.
37. Pérez M.E. and Pericchi L.R. (1994) A case study on the Bayesian Analysis of 2x2 tables with two fixed margins. **REBRAPE** , 1, p. 27-37.
38. Pericchi L.R. (1994) El Efecto PPI en Venezuela: 1990-1994. *Acta Científica Venezolana*, 45, p. 264-267.
39. Pericchi, L.R. (1994) Invited discussion of "An overview of robust Bayesian analysis" by J.O. Berger. **Test** 3, pp. 67-69.
40. Pericchi L.R. and Sansó B. (1995) A note on Bounded Influence in Bayesian Analysis. **Biometrika**, 82, 1, p.223-5.
41. Pericchi, L.R.(1995) Invited Discussion of "The relation between theory and application in statistics" by Sir David R. Cox, **Test**, 4, pp. 245-248.

42. Berger J.O. and Pericchi L.R. (1996) The Intrinsic Bayes Factor for Model Selection and Prediction. **Journal of the American Statistical Association**, 91, 433, p. 109-122.
43. Berger J.O. and Pericchi L.R. (1996) The Intrinsic Bayes Factor for Linear Models (invited discussant: Prof. D. Dey, University of Connecticut, USA). *Bayesian Statistics 5*, Bernardo J.M. et al editors. **Oxford University Press**. Invited conference. p. 25-44.
44. Berger J.O. and Pericchi L.R. (1996) On the Justification of Default and Intrinsic Bayes Factor. In *Modeling and Prediction Honoring S. Geisser*, p 276-293. Editors Lee J.C., Johnson W.O. y Zellner A. **Springer Verlag**, NY.
45. Pericchi L.R. (1996) Beyond the effect PPI in the scientific research in Venezuela. **INTERCIENCIA**. Vol. 21, p.94-97.
46. Sansó B., Pericchi L.R. and Moreno E. (1996) On the Robustness of the Intrinsic Bayes Factor for Nested Models. **Lecture Notes of the Institute of Mathematical Statistics, Bayesian Robustness**, p. 155-174.
47. Dominguez-Bello M.G., Pérez M.E. and Pericchi L.R.(et.al) (1997) "Modification of the Christiansen urease test for Detection of Helicobacter Pylori", **Diagnostic Microbiology and Infections Disease**. Vol. 28, pp. 235-244.
48. Nadal N. and Pericchi L.R. (1998) "An automatic Bayesian procedure for likelihoods with shifted origin". **The Statistician** , 47 Part 2, pp. 323-332.
49. Key J. T., Pericchi L.R.and Smith A.F.M. (1998) "Bayesian Model Choice: What and Why?" *Bayesian Statistics 6*, invited conference. Bernardo et al editors. **Oxford University Press**, p. 343-370.
50. Berger J.O. and Pericchi L.R. (1998) "Accurate and Stable Bayesian Model Selection: The Median Intrinsic Bayes Factor". **Sankhyā: The Indian Journal of Statistics Special Issue on Bayesian Analysis**. Vol.60, Serie B, Part.1, p.1-18.
51. Berger J.O. Pericchi L.R. and Varshavsky J.A (1998) "Bayes Factors and Marginal Distributions in Invariant Situations". **Sankhyā: The Indian Journal of Statistics. Special Issue on Bayesian Analysis**. Vol 60, Series A, part.3 , p.307-321.
52. Moreno E., Pericchi L.R. and Kadane J. (1998) " A Robust Bayesian look at the theory of Precise Measurement", in the book: *Decision Research from Bayesian Approaches to Normative Systems*. Editors: Shantan J. et al. **Kluwer Academic Publishers**.

53. Berger J.O and Pericchi L.R. (1998) " On Criticisms and Comparisons of default Bayes Factors for Model Selection and Hypothesis Testing". Special Issue of: **Rasegna di Metodi Statici ed Applicazioni**. p. 1-50.
54. Marini E., Sanna E., Paoli G., Pericchi L.R., Taglioli L. and Floris G. (2000) "Digital dermatoglyphic patterns of the Piaroa and genetic relationships among several South American Indian populations", in *The State of Dermatoglyphics*, Durham, N.M. et al editors **Melles Press**, New York. p. 3-15
55. Perez M.E., Glass R., Alvarez G., Pericchi L.R., Gonzalez R., Kapikian A., and Perez-Schael, I.,(2001) "Rhesus Rotavirus-based quadrivalent vaccine is efficacious despite age, socioeconomic conditions and seasonality in Venezuela", **Vaccine**, Vol.19, No. 7-8, p. 976-981.
56. Pacheco N., Mago V., Gómez I., Gueneau P., Guelrud., Reyes N., Pericchi L.R. and Domínguez-Bello M.G. (2001) "Comparison of PCR and common clinical tests for the diagnosis of *H. pylori* in Dyspeptic patients" **Diagnostic Microbiology and Infectious Disease**, 39, p. 207-10.
57. Berger J.O. and Pericchi L.R. (2001) "Objective Bayesian Model Selection. Introduction and Comparisons", in **Lectures Notes of the Institute of Mathematical Statistics**. "Model Selection", editor: P. Lahiri, pp. 135-207.
58. Rodríguez A. and Pericchi L.R. (2001) "Intrinsic Bayes Factors for Dynamic Models". *Proceedings of the ISBA2000*, VI World Meeting of the International Society for Bayesian Analysis, Crete, Greece, June 2000, E. George and P. Nanopoulos eds., **Official Publications of the European Communities, Luxembourg**, pp.459-468.
59. Kadane J., Moreno E., Pérez M.E. and Pericchi L.R. (2002) "Applying Non-Parametric Robust Bayesian Analysis to Non-Opinionated Judicial Neutrality", **Journal of Statistical Planning and Inference**, 102, p. 425-39.
60. Pericchi L.R. (2002) "Bayes Factors". *Encyclopedia of Environmetrics*. Editors: El-Shaarawi A. and Piegorsh W. **John Wiley and Sons**. Vol.1, pp. 148-150
61. Dominguez-Bello M.G. Beker B. Guelrud M. Vivas J. Peraza S. Perez M.E. and Pericchi L.R. (2002) "Socioeconomic and Seasonal variations of *H. Pylory* infection in patients in Venezuela". **American Journal of Tropical Medicine and Hygiene**, Vol. 66, pp. 49-51.
62. Pericchi L. R. and Coles S. (2003) "¿Pudo haber sido anticipada probabilísticamente la lluvia extrema que causó la tragedia de Vargas?". **Acta Científica Venezolana**, Vol. 54, Suplemento No. 1: 1721, 2003.

63. Coles S., Pericchi L.R. and Sisson S. (2003) "A fully probabilistic approach to extreme rainfall modeling". **Journal of Hydrology**, 273, pp. 35-50.
64. Pericchi, L.R. (2003) Invited discussion of: "*Could Fisher, Jeffreys and Neyman have agreed on testing?*", by J.O. Berger, **Statistical Science**, Vol. 18, No. 1, pp. 13-15.
65. Coles S. and Pericchi L.R. (2003) "*Anticipating catastrophes through extreme value modeling*". **Journal of the Royal Statistical Society, Series C: Applied Statistics**, 52, 4, p. 405-416.
66. Berger J.O. and Pericchi LR. (2004) "*Training samples in objective Bayesian model selection*". **Annals of Statistics**, 32, 3, p. 841-869.
67. Pericchi L.R. (2005) "*Model Selection and Hypothesis Testing based on Objective Probabilities and Bayes Factors*". Elsevier B.V. **Handbook of Statistics**, vol. 25. p. 115-149.
68. Sisson S.A., Pericchi L.R. and Coles S.G. (2006) "*A case for a reassessment of the risk of extreme hydrological hazards in the Caribbean*". **Stoch. Environ. Res. Risk Assess**, 20, pp. 296-306.
69. 41. Marini E, Maldonado A, Cabras S, Hidalgo G, Buffa R, Marin A, Flores G, Racugno W, Pericchi LR, Castellanos ME, Groeschl M, Blaser MJ, Dominguez-Bello MG. (2007) Helicobacter pylori and intestinal parasites are not detrimental to the nutritional status of Amerindians. **American Journal of Tropical Medicine and Hygiene** 76: pp. 534-540.
70. Godoy-Vitorino F, Ley RE, Gao Z, Pei Z, Ortiz-Zuazaga H, Pericchi LR, Garcia-Amado MA, Michelangeli F, Blaser MJ, Gordon JI, Domnguez-Bello M.G. (2008) The crop bacterial community of the hoatzin, a neotropical folivorous flying bird. **Applied and Environmental Microbiology**. 74(19), pp. 5905-5912.
71. Pericchi L.R. and Liu G. and Torres D. (2008) "Objective Bayes Factors for Informed Hypothesis: *Completing* the Informed Hypothesis and *Splitting* the Bayes Factors". In the book: "*Practical Bayesian Approaches to Testing Behavioral and Social Science Hypotheses*" Chapter 7. Editors: Herbert Hoijtink Irene Klugkist and Paul A. Boelen. Publisher: **Springer**, pp. 131-154.
72. Maria G. Domínguez-Bello, Maria E. Pérez, Maria C. Bortolini, Francisco M. Salzano, Luis R. Pericchi, Orlisbeth Zambrano-Guzmn, Bodo Linz. (2008) "Amerindian Helicobacter pylori strains go extinct, as European strains expand their host range". **Public Library of Science. PLoS ONE** 3(10): e3307 doi:10.1371/journal.pone.0003307

73. Cook J.D. and Pericchi (2008) "Robust Bayesian Priors with applications to Clinical Trials: Information and Cross-Entropic Approaches". In Bayesian Inference and Maximum Entropy Methods in Science and Engineering. De Souza Lauretto et al editors. **American Institute of Physics**, pp. 278-285.
74. Mendez B. and Pericchi L.R. (2009) Assessing Conditional Extremal Risk of Flooding in Puerto Rico. **Stoch. Environ. Res. Risk Assess**,**23**, 3, pp.399-410.
75. Fuquene J.A., Cook J.D. and Pericchi L.R. (2009) "A Case for Robust Bayesian Priors with Applications to Clinical Trials", BAYESIAN ANALYSIS, Vol. 4, Number 4, pp. 817-846. Available electronically in: <http://ba.stat.cmu.edu/vol04is04>.
76. Pericchi L.R. and Torres D. "Quick anomaly detection by the Newcomb-Benford Law, with applications to electoral processes data from the USA, Puerto Rico and Venezuela" **Statistical Science**. (In press).
77. Pericchi, L.R. (2010) How large should be the training sample? In the book: "Frontiers of Decision Making and Bayesian Analysis. In Honor of James O. Berger", Chen MH et al editors. **Springer**. (In press).
78. Pericchi, L.R. (2010) Invited Discussion of: "Integrated Objective Bayesian Estimation and Hypothesis Testing", by Bernardo, J.M. In *Bayesian Statistics 9*, Bernardo et al editors. **Oxford University Press**. (In Press).

#### **Recent Thesis Supervised**

1. Chungseung Yang: Thesis Title: "Objective Bayesian Training Sample Based Model Selection Methodologies with Applications to Microarray Data Analysis". November, 2003.
2. David A. Torres Núñez: Thesis Title: "Newcomb Benford's Law Applications to Electoral Processes, Bioinformatics, and the Stock Index". May, 2006.
3. Lihai Song: Thesis Title: "Application Of Power Priors to Bayesian Analysis of Clinical Trials". June, 2007.
4. Juan Daniel Romero Chong: Thesis Title: "Estudio de Datos de Microarreglos de Genes con Señales Asimétricas Sobre- y Sub Expresadas Usando el Modelo Jerárquico Bayesiano". Julio, 2007.
5. Jairo Fúquene: Thesis Title: "A Robust Bayesian Approach for Binary Data in Clinical Trials". Julio, 2008.

#### **Pre-Prints and Abstracts**

1. Pericchi L.R. and Cook J. (2007) "Robust and Convenient Bayesian Statistical Analysis of Clinical Trials", Abstract presented to the NIH-U54 joint grant University of Puerto Rico-MDAnderson Cancer Center. (Submitted)
2. Fúquene J. Cook J. and Pericchi L.R. (2008) "Bayesian Robustness with respect to the Prior Distributions in Clinical Trials".  
<http://www.bepress.com/mdandersonbiostat/paper44>

### **Invited Conferences**

- VI Symposium Brasileiro de Probabilidade e Estatística, Rio de Janeiro, 1986.
- III International Meeting of Bayesian Statistics, Valencia, España, 1988.
- VIII Symposium Brasileiro de Probabilidade e Estatística, São Paulo, 1990.
- International Workshop on Bayesian Robustness, Milán, 1992.
- IX Symposium Brasileiro de Probabilidade e Estatística, Rio de Janeiro, 1992.
- First Congreso Iberoamericano de Estadística e Investigación Operativa, Cáceres, España (1992).
- VI Purdue Symposium on Decision Theory and Related Fields, Purdue University, West Lafayette, IN, (1992).
- International Conference on Statistical Inference and Biometrics, CIMAT, Guanajuato, Mexico, (1993).
- V International Meeting of Bayesian Statistics, Valencia, España, (1994).
- First Workshop on Intrinsic Bayes Factors and Bayesian Model Selection. Purdue University, West Lafayette, IN, (1995).
- Third World Meeting of the International Society for Bayesian Analysis. Oaxaca, México, (1995).
- VI Latin-American Congress on Probability and Mathematical Statistics. Valparaíso, Chile, (1995).
- II Workshop on Intrinsic Bayes Factors and Bayesian Model Selection. Universidad Simón Bolívar, Caracas, (1995).
- International Workshop on Model Selection. Cagliari, Italia, (1997).

- 59th Biannual Session of the International Statistical Institute, Istanbul, Turkey, (1997).
- Workshop on *Objective Bayesian Methods*, Valencia, España, 1999.
- Sixth World Meeting of the International Society for Bayesian Analysis, Crete, Greece, May 2000.
- American Mathematical Society Summer Research Conference, *Bayes, Frequentist and Likelihood Inference: A synthesis*. Sponsored by AMS, IMS and SIAM. Massachusetts, July, 2000.
- Brazilian National Symposium of Probability and Statistics, 14th SINAPE, Caxambú, Minas Gerais, Brazil. July, 2000.
- III International Workshop in *Objective Bayes Methods*, Ixtapa, México, 2000.
- VIII Congreso Latinoamericano de Probabilidad y Estadística Matemática CLAPEM La Habana, Cuba (2001)
- First Latinamerican Congress of Bayesian Statistics. Ubatuba, Brasil, (2002)
- VII International Valencia Meeting of Bayesian Statistics, Tenerife, España, (2002).
- "Fourth International Meeting on Objective Statistical methods". Granada, Spain. December, 2002.
- Invited Conference: in the Workshop: "Multiplicity and Reproducibility of Scientific Studies", Summer 2006, SAMSI. Title: "Adaptive Hypothesis Testing Intervals (AHTI) by  $\alpha(n, p)$ ." Collaborator: Dr. Maria Eglee Perez, University of Puerto Rico. Financial Support: Statistics and Applied Mathematics Institute, SAMSI, The Research Triangle. North Carolina.
- Intensive research interaction with James O. Berger and Susie Bayarri, on Generalizations and Extensions of the Bayesian Information Criterion BIC September 01-10, 2006. Financial Support: Statistics and Applied Mathematics Institute, SAMSI, The Research Triangle. North Carolina.
- Invited Discussant on "Models of Granular Materials" in Computer Models for Workshop Development, Assessment and Utilization of Computer Models, September 10-14, 2006. SAMSI.
- Visit and Seminar on the University of New South Wales, Sydney, Australia. Title: *New Orthogonal Parametrization of the Extreme Value Distributions: The Generalized Extreme Value and The Generalized Pareto Distributions*. Collaborators: Dr.

Scott Sisson and Dr. Yanan Fan, Dept. of Statistics, Univ of New South Wales. Financial Support: University of New South Wales and Government of Australia. November 2006.

- Invited Conference on the "Brazilian School of Regression": *Conditional Extreme Dependence: Flooding in Puerto Rico*. Collaborator: Dr. Beatriz Mendes, Federal University of Rio de Janeiro (UFRJ). Financial Support: Brazilian Government and UFRJ.
- Invited Conference to: "The Bayesian Approach to Statistics: Fundament and Applications" Title of the Conference:" Akaike Information Criterion and Bayesian Information Criterion thirty years later, Can we Improve upon them?" Sao Paulo, 14-15 June, 2007. Collaborator: Prof. Carlos Pereira, University of Sao Paulo. Financial Support: University of Puerto Rico and University of Sao Paulo.
- Workshop in the University of Utrecht, "Bayesian Statistical Analysis of Informed Hypotheses", invited conference and invited chapter of a book to be published by Springer-Verlag. Title: "Objective Bayes factors for Informed Hypothesis". Collaborator David Torres, research PhD student. July 2007. Financial support: University of Utrecht, Holland.
- Invited Talk: Joint Statistical Conferences, Salt Lake City, Utah, July-August, 2007. Financial Support UPR.
- Chair Wald Lecture II, by Prof. James O. Berger. Salt Lake City, Utah, July-August, 2007.
- Coauthor of the talk: GBIC, Salt Lake City
- Invited Panel Discussant: SAMSI, Extremes, Risk Financial Support: SAMSI
- Invited Discussion: Congress celebrating Professor AC Atkinson 70 years. Invited Discussion of Prof. Dennis Cook. Financial Support: Organizing Committee and NSF.
- Invited Talk: Workshop on Statistical Extremes. SAMSI. January, 2008. Financial Support: SAMSI
- On Approximations to Bayes Factors. Three days research session with James O Berger, SAMSI, January, 2008.
- Poster Presentation on the Workshop on Bayesian Clinical Trials, joint with student: Mr Jairo Fuquene. Financial Support: MD Anderson Cancer Center of the University of Texas, University of Puerto Rico Comprehensive Cancer Center and U54 National Institute of Health NIH. 30, 31 January 2008, Feb. 01, 02

- Two days session of Research in Clinical Trial for Cancer Research with Dr. John Cook from the MD Anderson University of Texas Cancer Center. Jan. 29 and Feb. 01, 2008.
- Bayesian Biostatistics Conference, MDAnderson Cancer Center, invited Chair Jan 30-Feb 1, 2008.
- Ninth Objective Bayes Conference "O'Bayes 09", Wharton School of Business, University of Pennsylvania. Invited Conference. June, 2009.

### **Research Interests**

Statistical Decision Theory and Bayesian Statistical Analyses  
 Biostatistics, Bioinformatics and Clinical Trials  
 Subjective and Objective Bayesian Statistics  
 Foundations of Statistical Inference  
 Extreme Value Theory  
 Statistical Applications to Antropology, Biomedicine, Economics, Engineering and Genetics.  
 Econometrics  
 Statistical Computing

### **Current Topics of Interest**

Robust analyses and design of Clinical Trials  
 Analyses of Microarrays Data with applications to Bioinformatics.  
 Bayesian sensitivity analysis, Robust Bayes and prior ignorance  
 Bayesian Model Comparison, Bayesian Objective Hypothesis Testing and Prediction  
 Hierarchical models  
 Bayesian Analysis of Extreme Values.  
 Bayesian ANOVA  
 Statistical Analysis of Microarrays data.  
 Times Series and Dynamical Models  
 Bayesian analysis for the exponential family  
 Bayesian analysis of regressions with errors in all variables  
 Data transformations and Data analysis  
 Bayesian analysis of multiple sampling surveys and census  
 Analysis of Diagnosability in medical statistics and expert systems  
 Statistical analysis under irregular likelihoods  
 Statistical modeling of hydrological floods  
 Bayesian forecasting and prediction, and their applications to Econometrics

Bayesian methods for quality and reliability  
Applications of Simulations to Statistical Computations  
Decision analyses with non-standard loss functions  
Official Statistics