

CURRICULUM VITAE

Carlos C. Rodríguez

Birth

6/19/56

Marital Status

Married, two sons.

Address

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Education

Ph.D. SUNY at Stony Brook (Mathematical Statistics), 1984

M.S. SUNY at Stony Brook (Applied Mathematics), 1982

B.S. University of Chile. Santiago, Chile (Applied Math and Physics), 1980

Academic Experience

1/7/90–present Associate Professor
Department of Mathematics and Statistics
SUNY at Albany

1/1/84–1/7/90 Assistant Professor
Department of Mathematics and Statistics
SUNY at Albany

1/1/85–6/30/85 Consultant of Maximum Entropy Methods
Department of Applied Mathematics
Brookhaven National Laboratory

6/82–6/84 Instructor
Department of Applied Mathematics and Statistics
SUNY at Stony Brook

Research Interests

Maximum Entropy in Inference
Bayesian Statistics
Information Geometry
Nonparametric Density Estimation
Foundations of Probability
Inference in Physics
Clifford Algebra Valued Measures
Learning in Virtual Environments

Awards

ASA Travel Aid Grant to participate in the 47th Session of the International Statistical Institute. Paris, August 1989.

Research Foundation of State University of New York Support and Development Award. Summer, 1988. *Asymptotic optimality and Empirical Bayes Estimates*

NIH Grant 1-R01-CA41171-01 A1. Awarded by the National Cancer Institute, DHHS. July 1988–January 1991. *Maximum Entropy Densities*

Research Foundation of State University of New York Support and Development Award. Summer, 1986. *Fractals and Statistical Ignorance*

Research Foundation of State University of New York Support and Development Award. Summer, 1985. *Maximum Entropy Density Estimates*

UUP Junior Faculty Grant. May, 1985. *Towards a Unified Theory of Density Estimation*

ASA Grant Travel-Aid to participate in the Centenary Session of the International Statistical Institute. Amsterdam August, 1985. *On the Estimation of the Bandwidth Parameter Using a Noninformative Prior*

Publications

- [1] Rodríguez , C. (2009). Beyond Bayes. To appear In *Bayesian Inference and Maximum Entropy in Science and Engineering: 29th International Workshop. Oxford Mississippi. July 5-9, 2009. AIP Conference Proceedings*. Available at: <http://proceedings.aip.org/> , <http://omega.albany.edu:8008/me09/me09X.pdf>
- [2] Rodríguez , C. (2007). Wrong Priors. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 27th International Workshop. Saratoga Springs, New York. July 8-13, 2007. AIP Conference Proceedings 954. pp. 47-55. Edited by Knuth, Caticha, Center, Giffin and Rodríguez* . Available at: <http://proceedings.aip.org/> (volume954), <http://omega.albany.edu:8008/me07/>
- [3] Knuth, Caticha, Center, Giffin and Rodríguez . (2007). *Bayesian Inference and Maximum Entropy Methods in Science and Engineering. AIP Conference Proceedings 954.*
- [4] Rodríguez , C. (2006). Raping the Likelihood Principle. At: <http://omega.albany.edu:8008/lp.pdf>
- [5] Rodríguez , C. (2006). Skilling's Nests. At: <http://omega.albany.edu:8008/eggs.pdf>
- [6] Rodríguez , C. (2006). Antidata. To appear in *Bayesian Inference and Maximum Entropy in Science and Engineering: 26th International Workshop in Paris, France. AIP Conference Proceedings 872. pp. 161-178. Edited by Ali Mohammad Djafari*. Available at: <http://proceedings.aip.org/> (volume872), <http://omega.albany.edu:8008/antidata.pdf>
- [7] Rodríguez , C. (2005). The ABC of Model Selection: AIC, BIC and the New CIC. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 25th International Workshop at San Jose, California. August 7-12, 2005. AIP Conference Proceedings 803. pp. 80-87. Edited by Kevin Knuth*. Available at: <http://proceedings.aip.org/> (volume803), <http://omega.albany.edu:8008/CIC/>
- [8] Rodríguez , C. (2004). The Volume of Bitnets. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 23th International Workshop at Max-Planck-Institut Garching/Munich/Germany 2004, July 25-28, 2004. AIP Conference Proceedings 735. pp. 555-569. Edited by R. Fischer, R. Preuss and U. von Toussaint*. Available at: <http://proceedings.aip.org/> (volume735), <http://omega.albany.edu:8008/bitnets/>
- [9] Rodríguez , C. (2003). A Geometric Theory of Ignorance. Available at: <http://omega.albany.edu:8008/ignorance/>
- [10] Rodríguez , C. (2002). Entropic Priors for Discrete Probabilistic Networks and for Mixtures of Gaussians Models. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 21th International Workshop at Johns Hopkins University, Baltimore MD (USA). August 4-9, 2001. AIP Conference Proceedings 617. May 2002. pp. 410-432. Edited*

by Robert L. Fry. Available at: <http://proceedings.aip.org/> (volume617), <http://www.jhuapl.edu/maxent2001/>, <http://arxiv.org/abs/physics/0201016> and <http://omega.albany.edu:8008/0201016.pdf>

- [11] Rodríguez , C. (2001). Sampling with Connections. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 20th International Workshop at CNRS, Gif-sur-Yvette, Paris France. July 8-13, 2000. AIP Conference Proceedings 568. May 2001. pp. 280-291. Edited by Ali Mohammad-Djafari.* Available at: <http://proceedings.aip.org/> (volume568), <http://www.supelec.fr/lss/MaxEnt2000/> and <http://omega.albany.edu:8008/connect.ps>
- [12] Rodríguez , C. (2001). Optimal Recovery of Local Truth. In *Bayesian Inference and Maximum Entropy in Science and Engineering: 19th International Workshop at Boise, Idaho(USA). August 2-6. 1999. AIP Conference Proceedings 567. May 2001. pp. 89-115. Edited by Joshua T. Rychter and Gary J. Erickson. Boise Idaho, 1998.* Available at: <http://proceedings.aip.org/> (volume567), <http://arxiv.org/abs/physics/0010063> and <http://omega.albany.edu:8008/ometric.pdf>
- [13] Rodríguez , C. (1999). Unreal Probabilities: Partial Truth with Clifford Numbers. In *W. von der Linden, V. Dose, R. Fisher and R. Preuss (eds.), Maximum Entropy and Bayesian Methods, Max-Planck-Institut Garching/Munich/Germany 1998, 247-270. Kluwer Academic Publishers.* Related URLs: <http://www.ipp.mpg.de/OP/maxent98/me98.html>, <http://arxiv.org/abs/phys/physics/9808010>, <http://omega.albany.edu:8008/Unreal.ppt>
- [14] Rodríguez , C. (1999). Are We Cruising a Hypothesis Space? In *W. von der Linden, V. Dose, R. Fisher and R. Preuss (eds.), Maximum Entropy and Bayesian Methods, Max-Planck-Institut Garching/Munich/Germany 1998, 131-140. Kluwer Academic Publishers.* Related URLs: <http://www.ipp.mpg.de/OP/maxent98/me98.html>, <http://arxiv.org/abs/physics/9808009>, <http://omega.albany.edu:8008/MaxEnt98.ppt>
- [15] Rodríguez , C. (1998). CV-NP Bayesianism by MCMC. physics/9712041. In *G. Erickson, J. Rychter and C. Ray Smith (eds.), Maximum Entropy and Bayesian Methods, Boise Idaho 1997, 15-24. Kluwer Academic Publishers.* Related URLs: <http://arxiv.org/abs/physics/9712041>, <http://omega.albany.edu:8008/cv-np.html>
- [16] Rodríguez , C. (1996). Confidence intervals from one observation. bayes-an/9504001. In *J. Skilling and S. Sibisi (eds.), Maximum Entropy and Bayesian Methods, St. John's College, Cambridge 1994, 175-182. Kluwer Academic Publishers.* Related URLs: <http://arxiv.org/abs/bayes-an/9504001>, <http://omega.albany.edu:8008/confint.html>
- [17] Rodríguez , C. (1996). Bayesian Robustness: A New Look from Geometry. In *G. R. Heidbreder (ed.), Maximum Entropy and Bayesian Methods, UC Santa Barbara 1993, 87-96. Kluwer Academic Publishers.* Related URLs: <http://omega.albany.edu:8008/robust.ps>

- [18] Rodríguez , C. (1992). Deconvolution of Neutron Depth Profiling Spectra with Entropic Priors. <http://omega.albany.edu:8008/ndp.ps>
- [19] Rodríguez , C. (1991). Entropic Priors. <http://omega.albany.edu:8008/entpriors.ps>
- [20] Rodríguez , C. (1991). From Euclid to Entropy. In *W.T. Grandy and L.H. Schick (eds.), Maximum Entropy and Bayesian Methods, Laramie Wyoming 1990, 343-348. Kluwer Academic Publishers.* <http://omega.albany.edu:8008/euclid.ps>
- [21] Rodríguez , C. (1989). The metrics induced by the Kullback number. In *J. Skilling (ed.), Maximum Entropy and Bayesian Methods, St. John's College, Cambridge 1990, 415-422. Kluwer Academic Publishers.*
- [22] Rodríguez , C. (1988). The Riemannian manifold induced by a density estimator.
- [23] Rodríguez , C. (1988). Understanding ignorance. In *G.J. Erickson and C.R. Smith (eds.), Maximum Entropy and Bayesian Methods in Science and Engineering, vol. 1, 189-204. Kluwer Academic Publishers.*
- [24] Rodríguez , C. (1988). On the efficiency of a class of maximum entropy estimators. In *G.J. Erickson and C.R. Smith (eds.), Maximum Entropy and Bayesian Methods in Science and Engineering, vol. 2, 33-49. Kluwer Academic Publishers.*
- [25] Rodríguez , C. (1987). Weak Convergence of Multivariate k-nn.
- [26] Rodríguez , C. (1986). On a new class of multivariate density estimators.
- [27] Rodríguez , C. (1986). Book review of: Exploiting Continuity: Maximum Entropy Estimation of Continuous Distributions by Henri Theil and Denzil G. Fiebig, Ballinger, 1984. *JASA*, 81, 866-867.
- [28] Rodríguez , C. and Van Ryzin, J. (1986). Large sample properties of maximum entropy histograms. *IEEE Trans. on Information Theory*. 32.6, 751-759.
- [29] Rodríguez , C. (1986). Maximum entropy smoothing.
- [30] Rodríguez , C. and Van Ryzin, J. (1985). Maximum entropy histograms. *Statistics and Probability Letters*, 3 117-120.
- [31] Rodríguez , C. (1985). On the estimation of the bandwidth parameter using a noninformative prior. *Proceedings of the 45th Session of the International Statistical Institute*. Amsterdam, Book 1, 207-208.
- [32] Rodríguez , C. (1985). Book review of *E.T. Jaynes: Papers on Probability Statistics and Statistical Physics*, R.D. Rosenkrantz (ed.). *JASA*, 80, 771-772.

Internet Software

calculus3 <http://omega.albany.edu:8008/calculus3>

Estats <http://omega.albany.edu:8008/Estats>

maple2html <http://omega.albany.edu:8008/maple2html>

candymail <http://omega.albany.edu:8008/candymail.el>

mapleman <http://omega.albany.edu:8008/mapleman> and <http://omega.albany.edu:8008/Moomaple/maplemflow.html>

exams <http://omega.albany.edu:8008/exams>

courses with webpages

Elem. Stats. <http://omega.albany.edu:8008/mat108>

Calculus I <http://omega.albany.edu:8008/mat112>

Calculus III <http://omega.albany.edu:8008/mat214>

Linear Algebra <http://omega.albany.edu:8008/mat220>

ProfRod <http://moo.du.org:8000/>. @join ProfRod.

Invited Lectures and Colloquia

Brookhaven National Laboratory. Department of Applied Mathematics. *The maximum entropy formalism*, Nov. 1984.

SUNY at Binghamton. Department of Mathematics. *Understanding Ignorance*. March 1986.

Columbia University. Department of Statistics. *Maximum entropy histograms*, Jan. 1984. Thesis defense (Robbins and Van Ryzin advisors), March 1984. *Maximum entropy smoothing*, Nov. 1985. *Understanding ignorance*, Oct. 1986. *On a new class of multivariate density estimators*, Jan. 1987. *The riemannian manifold induced by a density estimator*, Oct. 1988. *Objective bayesianism and geometry*, Nov. 1989. *Confidence intervals from one observation*, Nov. 1990.

Universidad de Barcelona. Department of Probability and Statistics. *Understanding ignorance*, Aug. 1988.

Universidad de Chile. Facultad de Ciencias Físicas y Matemáticas. Department of Mathematics. *Lectures on Information Geometry*, July 1988.

Universidad Católica de Chile. Department of Statistics. *Lectures on Empirical Bayes and mathematical statistics*, June 1989.

- CIENES, Santiago de Chile. International Congress of Statistics. *Lectures on nonparametric density estimation*, June 1989.
- University of Montreal. Department of Mathematics and Statistics. *Objective Bayesianism and Geometry*, Dec. 1989.
- NASA, Ames Research Center. Artificial Intelligence Group. *Lectures on Information Geometry*, Dec. 1989.
- St. John's College, Cambridge University. Department of Applied Mathematics and Theoretical Physics. Aug. 1989.
- Cavendish Laboratory, Cambridge University. *Lectures on Information Geometry*, Aug. 1989.
- University of Cincinnati. Department of Mathematical Sciences. Interactive Education Workshop. *Mapleman*. Sept. 1997.
- Boise State University, Boise Idaho. MaxEnt workshop. *CV-NP Bayesianism by MCMC*. Aug. 1997.
- Max Planck Institute, Garching/Munich/Germany. MaxEnt workshop. *Are We Cruising a Hypothesis Space?*. July 1998.
- Pennsylvania State University, University College. Department of Statistics. *Sampling with Connections*. Sept. 1999.
- Pennsylvania State University, University College. Department of Statistics. *Mapleman: Teaching Mathematics and Statistics Online*. Dec. 1999.
- Boise State University, Boise Idaho. MaxEnt workshop. *Optimal Recovery of Local Truth*. July 1999.
- Max Planck Institute, Garching/Munich/Germany. Center for Interdisciplinary Plasma Science (CIPS). *Lectures on Markov Chain Monte Carlo*. July-August 2000.
- CNRS, Gif-sur-Yvette Paris. MaxEnt workshop. *Sampling with Connections*. August 2000.
- Shoresh, Jerusalem/Israel. Multinational Conference on the Foundation of Statistical Inference. December 17-21, 2000. *On Geometry, Inference and Natural Law*.
- Johns Hopkins University. Department of Physics. *A two hour tutorial on Markov Chain Monte Carlo*. July 2001. Available at: <http://www.jhuapl.edu/maxent2001/> and <http://omega.albany.edu:8008/mcmc.ppt>
- Johns Hopkins University. Department of Physics. *Entropic Priors for Bayesian Nets and Mixtures of Gaussians*. July 2001.

Referee for:

Annals of Statistics
Journal of the American Statistical Association
Maximum Entropy and Bayesian Methods
IEEE Transactions on Information Theory