

Carlos E. Rodríguez

Updated: November 2018

Research Interests

Bayesian statistics, simulation and applied statistics: Bayesian non- and semi-parametric methods, efficient random variate generation, MCMC algorithms and finite population sampling.

Contact Information

Institute: Applied Mathematics and Systems Research Institute (IIMAS by its Spanish acronym) at the National Autonomous University of Mexico (UNAM by its Spanish acronym)

Department: Probability and Statistics, office 103

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Academic Positions

Associate Researcher 2018 (August)– to date

Department of Probability and Statistics, IIMAS-UNAM

Visiting Professor 2016 –2018 (August)

Department of Mathematics, Metropolitan Autonomous University (UAM)

Postdoctoral Fellowship 2013 (January–March)

Department of Genetics, Evolution and Environment

University College London (UCL), UK

Research Assistant 2006–2008

Department of Probability and Statistics, IIMAS-UNAM

Education

PhD in Statistics 2009–2013

University of Kent, UK

Thesis: Contributions to the Bayesian Analysis of Mixture Models

Supervisor: Stephen G. Walker

MSc. in Mathematics and BSc. in Actuarial Sciences 2006 / 2004

UNAM

Non academic employment

External Adviser 2016 (September)- to date

Scientific and Technological Advisory Forum

Adviser for the fast-counting 2015 (Deputies), 2016 (Colima) and 2018 (Presidential)
Mexican Institute for National Elections

Adviser for the fast-counting in the Election for Governor in State of Mexico 2017
State of Mexico Institute for Elections

Strategic Project Manager 2014-2016
Scientific and Technological Advisory Forum

Data Processing Manager 2013-2014
Berumen y Asociados (Marketing Consulting Services)

Publications in peer reviewed journals

[1]: Yang, Z., and Rodríguez, C. E., (2013). Searching for efficient Markov chain Monte Carlo proposal kernels *Proceedings of the National Academy of Sciences of the United States of America*, 110 (48), Ed. National Academy of Sciences U.S.A., pp. 19307-19312, ISSN: 0027-8424, [doi:10.1073/pnas.1311790110](https://doi.org/10.1073/pnas.1311790110).

[2]: Rodríguez, C. E., and Walker, S. G., (2014). Univariate Bayesian nonparametric mixture modeling with unimodal kernels, *Statistics and Computing*, 24 (1), Ed. Springer, pp. 35-49, ISSN: 0960-3174, [doi:10.1007/s11222-012-9351-7](https://doi.org/10.1007/s11222-012-9351-7).

[3]: Rodríguez, C. E., and Walker, S. G., (2014). Label switching in Bayesian mixture models: deterministic relabeling strategies, *Journal of Computational and Graphical Statistics*, 23 (1), Ed. Taylor and Francis, pp. 25-45, ISSN: 1061-8600, [doi:10.1080/10618600.2012.735624](https://doi.org/10.1080/10618600.2012.735624).

[4]: Rodríguez, C. E., Núñez-Antonio, G., and Escarela G. (2018). A Bayesian Mixture Model for Clustering Circular Data, (*submitted to JAS*).

Books (only in spanish)

[1]: Franco, J., Sánchez, M. C., Reynoso, E., Namihira, R., Rodríguez, C. E., Villarreal, E. M., Pavón, C., Morales, A., Macias, P., Peña, R., (2015). Ciencia y tecnología: una mirada ciudadana. En la colección *Los mexicanos vistos por sí mismos. Los grandes temas nacionales*, UNAM, México. ISBN: 978-607-02-6987-5

[2]: Bensusán, G. y Valenti, G. (Coordinadoras), Grass, N., Inclán, D., Rodríguez, C. E., Varela, G. (2018). La evaluación de los académicos: Instituciones y Sistema Nacional de Investigadores, aciertos y controversias, FLACSO-UAM, México. ISBN 978-607-8517-21-3 (Flacso México) y 978-607-28-1263-5 (UAM)

Teaching

Courses at UAM, trimester based programs: Statistical Inference [BSc. in Mathematics] (2016-3), Statistics I [BBA] (2016-3), Regression [BSc. in Mathematics] (2017-1), Statistics III [BBA] (2017-2), Mathematics I [BBA] (2017-2), Statistics III [BSc. Social Psychology] (2018-1), Biostatistics [BSc. in

experimental Biology] (2018-2) and Simulation [MSc. Applied Maths] (2017-3, 2018-2).

Courses at UNAM, semester based programs: Statistical Inference [BSc. in Actuary] (2017-1) and Bayesian Nonparametrics [MSc. in Mathematics] (2018-2)

Awards

PRODEP: Award to support new full time lecturers, 2017

SNI-CONACyT: Mexican Research Assessment System. Level I (2016-to date)

Talks and posters

November, 2016: Symposium on Statistical Inference and Modeling, CIMAT, Guanajuato, Mexico.

Talk "Label Switching in Bayesian Mixture Models: deterministic relabeling strategies"

June, 2011: 8th International conference in Bayesian nonparametrics, Veracruz, Mexico, Talk: "Bayesian nonparametric mixture modeling with unimodal kernels"

August, 2011: The R user conference, University of Warwick, Coventry, UK. Poster "Bayesian nonparametric mixture modeling with unimodal kernels"

June, 2009: 7th International conference in Bayesian non-parametrics, University of Turin, Italy. Poster "Some ideas in trans-dimensional MCMC"