Antonio R. Linero
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Education

- **2010 – 2015, PhD, Statistics** *University of Florida*
- **2005 – 2009, BS, Finance** *University of Florida*

Professional Experience

- **August 2019 – Present, Assistant Professor,** *University of Texas at Austin,* Department of Statistics and Data Sciences
- **August 2015 – July 2019, Assistant Professor,** *Florida State University,* Department of Statistics

Title of Dissertation

Nonparametric Bayes: Inference Under Nonignorable Missingness and Model Selection

Dissertation Advisor

Michael J. Daniels and Hani Doss

Current Research Interests

Bayesian machine learning, tree-based methods, and causal inference.

Professional Societies

- International Society of Bayesian Analysis (ISBA): Member
- American Statistical Association (ASA): Member

Research Funding

1. Sponsored Research Funding
    a. Previous Funding
        i. **Sponsor:** National Science Foundation. **Account Number:** 26101540 **Name/Affiliation of PI:** Antonio Linero, University of Texas at Austin. **Project Title:** Leveraging Structural Information in Regression Tree Ensembles. **Funding Period:** 09/01/2019 – 08/31/2020. **Funding Amounts by Year:** Year 1: $25,854 **Note:** *Transfer of $100,000 grant awarded while at Florida State University.*
        ii. **Sponsor:** Florida State University. **Account Number:** 26351367 **Name/Affiliation of PI:** Antonio Linero, University of Texas at Austin. **Project Title:** The Science of Test: Advanced Test and Evaluation in Support of the DOD Test and Evaluation Enterprise. **Funding Period:** 04/01/2020 – 12/01/2020. **Funding Amounts by Year:** Year 1: $6,296 **Note:** *Subcontract of grant awarded to PI Eric Chicken at Florida State University, funded by the Office of the Secretary of Defense, Directorate of Operational Test and Evaluation, and the Test Resource Management Center under the Science of Test research program.*
    b. Current Funding

Publications
[1]Refereed, [2]Invited

Publications while in rank of Assistant Professor

- [1]**Linero, A.R.** and Zhang, Q. (2022) Mediation Analysis using Bayesian Tree Ensembles. *Psychological Methods.* Advance online publication. https://doi.org/10.1037/met0000504
- [2]**Linero, A.R.** and Antonelli, J.L. (2022) The How and Why of Bayesian Nonparametric Causal Inference. *WIRES: Computational Statistics.* Advance online publication. https://doi.org/10.1002/wics.1583
- [1]Li, Y., **Linero, A.R.,** and Murray, J.S. (2022) Adaptive Conditional Distribution estimation with Bayesian Decision Tree Ensembles. *Journal of the American Statistical Association.* Advance online publication. https://doi.org/10.1080/01621459.2022.2037431
- [1]Shamp, W., **Linero, A.R.,** and Chicken, E. (2022) Bayesian sequential monitoring of density estimates. *Quality and Reliability Engineering International,* **38**(4), 1826–1849.
- [1]**Linero, A.R.**, Basak, P., Li, Y., and Sinha, D. (2021) Bayesian Survival Tree Ensembles with Submodel Shrinkage. *Bayesian Analysis.* Advance online publication. https://doi.org/10.1214/21-BA1285
- [1]**Linero, A.R.** (2021) Simulation-Based Estimators of Analytically Intractable Causal Effects. *Biometrics.* Advance online publication. https://doi.org/10.1111/biom.13499
- [1]Basak, P., **Linero, A.R.**, Sinha, D., Lipsitz, S.R. (2021) Semiparametric analysis of clustered interval-censored survival data using soft Bayesian additive regression trees (SBART). *Biometrics*. Advance online publication. https://doi.org/10.1111/biom.13478
- [1]Shamp, W., Varbanov, R., Chicken, E, **Linero, A.R.**, Yang, Y. (2020) Computationally Efficient Bayesian Sequential Function Monitoring. *Journal of Quality Technology,* **54**(1) 1 - 19.
- [1]**Linero, A.R.**, Sinha, D., and Lipsitz, S.R. (2020) Semiparametric Mixed-Scale Models Using Shared Bayesian Forests. *Biometrics*, **76**(1), 131–144.
- [2]Hill, J., **Linero, A.R.**, and Murray, J. (2020) Bayesian Additive Regression Trees: A Review and Look Forward. *Annual Review of Statistics and Its Application*, 7(1), 251–278.
- [1]Varbanov, R., Chicken, E., **Linero, A.R.**, and Yang, Y. (2019) A Bayesian Approach to Sequential Monitoring of Nonlinear Profiles Using Wavelets. *Quality and Reliability Engineering International*, **35**(3), 761–775.
- [1]**Linero, A.R.** and Yang, Y. (2018) Bayesian Regression Tree Ensembles that Adapt to Smoothness and Sparsity. *Journal of the Royal Statistical Society*, Series B, **80**(5), 1087–1110.

- [1]**Linero, A.R.**, Bradley, J.R, and Desai, A.S. (2018) Multi-rubric Models for Ordinal Spatial Data with Application to Online Ratings. *Annals of Applied Statistics*, **12**(4), 2054–2074.
- [2]**Linero, A.R.** and Daniels, M.J. (2018) Bayesian Approaches for Missing Not at Random Outcome Data: The Role of Identifying Restrictions. *Statistical Science*, **33**(2), 198–213.
- [1]**Linero, A.R.** (2018) Bayesian regression trees for high dimensional prediction and variable selection. *Journal of the American Statistical Association*, **113**(522), 626–636
- [2]**Linero, A.R.** (2017) A Review of Tree-Based Bayesian Methods. *Communications for Statistical Applications and Methods*, **24**(6), 543–559.
- [1]**Linero, A.R.** (2017) Bayesian Nonparametric Analysis of Longitudinal Studies in the Presence of Informative Missingness. *Biometrika*, **104**(2), 371–341
- [1]Piekarewicz, J., **Linero, A.R.**, Giuliani, P., and Chicken, E. (2016) The power of two: Assessing the impact of a second measurement of the weak-charge form factor of 208Pb. *Physical Reviews C*, 94(3), 034316.

Publications as graduate student
- [1]**Linero, A.R.** and Daniels, M.J. (2015) A flexible Bayesian approach to mono- tone missing data in longitudinal studies with nonignorable missingness with application to an acute schizophrenia clinical trial. *Journal of the American Statistical Association*, **110**(509), 45–55.
- [1]**Linero, A.R.** and Rosalsky, A. (2013) On the Toeplitz lemma, convergence in probability, and mean convergence. *Stochastic Analysis and Applications*, **31**(4), 684-694.

Papers Submitted for Publication

- [1]**Linero, A.R.** (2022+) Prior and Posterior Checking of Implicit Causal Assumptions. *Major Revision at Biometrics.* **Submission date:** 5/19/2022
- **Linero, A.R.** and Du, J. (2022+) Gibbs Priors for Bayesian Nonparametric Variable Selection with Weak Learners. *Major Revision at Journal of Computational and Graphical Statistics.* **Submission date:** 2/24/2022
- [1]**Linero, A.R.** (2022+) Generalized Bayesian Additive Regression Trees: Beyond Conditional Conjugacy. *Submitted to Journal of the American Statistical Association.* **Submission date:** 1/25/2022
- [1]Orlandi, V., Murray, J., **Linero, A.R.**, and Volfovsky, A. (2021+) Density Regression with Bayesian Additive Regression Trees. *Submitted to Journal of the American Statistical Association.* **Submission date:** 12/20/2021
- [1]**Linero, A.R.** (2021+) In Nonparametric and High-Dimensional Models, Bayesian Ignorability is an Informative Prior. *Reject and Resubmit at Journal of the American Statistical Association.* **Submission date:** 9/17/2021
- [1]Rene, L., **Linero, A.R.**, and Slate, E. (2021+) Causal Mediation and Sensitivity Analysis for Mixed Scale Data. *Major Revision at Statistical Methods in Medical Research.* **Submission date:** 11/10/2021
- [1]Li, Y., **Linero, A.R.**, and Walker, S.G. (2021+) A Latent Slice Sampler on Multivariate Binary Spaces. *Reject and Resubmit at Journal of Computational and Graphical Statistics.* **Submission date:** 2021

- [1]Jiang, D., **Linero, A.R.**, and Zhang, X. (2021+) Envelope Methods for Missing Response Data in Multivariate Linear Models. *Submitted to Canadian Journal of Statistics.* **Submission date:** 1/3/2022
- [1]Um, S., **Linero, A.R.**, Sinha, D., and Bandyopadhyay, D. (2021+) Bayesian Additive Regression Trees for Multivariate Skewed Responses. *Accepted Pending Minor Revisions at Statistics in Medicine.* **Submission date:** 4/2021

Chapters in Books

- [2]**Linero, A.R.** and Du, J. (2021) Variable Selection for Bayesian Decision Tree Ensembles. In Tadesse, M. and Vanucci, M. (Eds.) *Handbook of Bayesian Variable Selection.* Chapman and Hall/CRC.
- [2]Daniels, M.J. and **Linero, A.R.** (2015) Bayesian nonparametrics for missing data in longitudinal clinical trials. *In Nonparametric Bayesian Inference in Biostatistics.*

Articles in Conference Proceedings
- [1]Du, J. and **Linero A.R.**, (2019) Incorporating Grouping Information into Bayesian Decision Tree Ensembles. In *Proceedings of the 36th International Conference on Machine Learning (ICML).*
- [1]Du, J. and **Linero A.R.**, (2019) Interaction Detection with Bayesian Decision Tree Ensembles. In *Proceedings of the 22nd International Conference on Artificial Intelligence and Statistics (AISTATS).*
- [1]Varbanov, R., Chicken, E., and **Linero, A.R.** (2017) Wavelet-Based Bayesian Profile Monitoring. *Proceedings of the 2017 Industrial and Systems Engineering Research Conference.*

Awards and Honors

- **CLAS Dissertation Fellowship** (2015), University of Florida.
- **Statistics Faculty Award** (2014) University of Florida.
  Awarded to "the best graduating PhD student" in the Department of Statistics.
- **Laplace Award** (2014), awarded by the International Society for Bayesian Analysis and the Section of Bayesian Statistical Science of the American Statistical Association.
  For best Bayesian student paper.

Service
  Departmental
- Research seminar organizer, 2021 – 2022
- Committee member, undergraduate major curriculum committee 2020 - 2021.
  College
- Committee member, Bioinformatics, computational biology, systems biology curriculum committee 2021 – 2022
Seminars/Lectures –
  Conferences, Colloquia, or talks at other institutions

1. **8/08/2022, Invited,** Joint Statistical Meeting, *Bayesian Survial Tree Ensembles With Submodel Shrinkage.*
2. **6/29/2022, Invited**, ISBA World Meeting, *Mediation Analysis using Bayesian Decision Tree Ensembles.*
3. **1/12/2022, Invited**, ISBA Section on Biostatistics and Pharmaceutical Statistics, *Bayesian Survival Tree Ensembles with Submodel Shrinkage*.
4. **11/30/2021, Invited,** Binghamton University, *BART Methods for Fully-Nonparametric Problems.*
5. **9/17/2021, Invited,** Universidad Miguel Hernández de Elche, *BART Methods for Fully-Nonparametric Problems.*
6. **5/06/2021, Invited,** Bocconi University, *BART Methods for Fully-Nonparametric Problems*
7. **3/15/2021, Invited,** Rice University, *BART Methods for Fully-Nonparametric Problems*
8. **2/12/2021, Invited,** University of Louisville, *BART Methods for Fully-Nonparametric Problems*
9. **12/15/2020, Invited,** ICSA (Online), *BART Methods for Fully-Nonparametric Problems*
10. **3/23/2020, Invited,** ENAR (Online), *BART Methods for Fully-Nonparametric Problems*
11. **6/04/2019, Invited,** Ohio State University, *Bayesian Nonparametric Methods for Longitudinal Outcomes Missing Not at Random*
12. **5/24/2019, Invited,** Virginia Tech, *Finding and Leveraging Structure Using Bayesian Decision Tree Ensembles*
13. **1/24/2019, Invited,** University of Michigan, *Theory and Practice for Bayesian Regression Tree Ensembles*
14. **1/22/2019, Invited,** University of Minnesota, *Theory and Practice for Bayesian Regression Tree Ensembles*
15. **1/11/2019, Invited,** Duke University, *Theory and Practice for Bayesian Regression Tree Ensembles*
16. **1/08/2019, Invited,** University of Florida, *Theory and Practice for Bayesian Regression Tree Ensembles*
17. **12/15/2018, Invited,** CM Statistics, *Finding and Leveraging Structure with Bayesian Decision Tree Ensembles*
18. **7/30/2018, Invited,** JSM, *Finding and Leveraging Structure with Bayesian Decision Tree Ensembles*
19. **6/11/2018, Invited,** ISNPS, *Bayesian Regression Tree Ensembles that Adapt to Smoothness and Sparsity*
20. **5/19/2018, Invited,** IISA, *Bayesian Regression Tree Ensembles that Adapt to Smoothness and Sparsity*
21. **12/17/2017, Invited,** CM Statistics, *Bayesian Regression Tree Ensembles that Adapt to Smoothness and Sparsity*
22. **8/1/2017, Invited,** JSM, *Sensitivity Analysis for Longitudinal Clinical Trials with Nonmonotone Missingness*
23. **7/17/2017, Invited,** EcoSta, *Bayesian regression trees for high-dimensional prediction and variable selection*
24. **12/10/2016, Invited,** CM Statistics, *Bayesian Nonparametric Analysis of Longitudinal Studies with Informative Missingness*

25. **9/29/2016, Invited,** University of Florida Statistics Symposium, *Bayesian Regression Trees for High Dimensional Prediction and Variable Selection*
26. **6/12/2016, Invited,** ICSA Applied Statistics Symposium, *Bayesian Regression Trees for High Dimensional Prediction and Variable Selection*
27. **2/11/2016, Invited,** University of California at Irvine, *Flexible Bayesian Analysis in the Presence of Nonignorable Missingness*
28. **2/9/2015, Invited,** Texas A&M University, *Flexible Bayesian Analysis in the Presence of Nonignorable Missingness*
29. **1/28/2015, Invited,** University of Illinois at Urbana-Champaign, *Flexible Bayesian Analysis in the Presence of Nonignorable Missingness*
30. **1/20/2015, Invited,** Arizona State University, *Flexible Bayesian Analysis in the Presence of Nonignorable Missingness*
31. **1/12/2015, Invited,** Florida State University, *Flexible Bayesian Analysis in the Presence of Nonignorable Missingness*
32. **2014, Contributed,** JSM, *A Flexible Bayesian Approach to Monotone Missing Data in Longitudinal Studies with Informative Dropout with Application to a Schizophrenia Clinical Trial*

Short Courses
1. **6/26/2022**, ISBA World Meeting, *Bayesian Nonparametric Causal Inference*, with Michael Daniels and Jason Roy.
2. **6/27/2022**, ISBA World Meeting, *Advanced Topics in Variable Selection and Model Averaging*, with Joseph Antonelli.

Professional Services

Journal Editing and Editorial Boards
- Associate Editor, Biometrics, 2018 - Present

Conference Chair Positions
- Chair of session *Bayesian Nonparametrics in Causal Inference* at ISBA, 2021
- Chair of session *Bayesian Methods for Dependent Data* at CM Statistics, 2016
- Chair of session *Innovative Bayesian Nonparametrics in Biostatistics* at JSM, 2014

Workshops and Specialized Conference Program Committees
- ISBA 2021, *Advanced Topics in Variable Selection and Model Averaging*

Journal, Conference, and Book Reviewing
- **Referee for:** American Statistician, Annals of Applied Statistics, Annals of Statistics, Bayesian Analysis, Biometrics, Biometrika, Biostatistics, Computational Statistics and Data Analysis, International Journal of Approximate Reasoning, Journal of the American Statistical Association, Journal of Applied Statistics, Journal of Computational and Graphical Statistics, Journal of Epidemiology, Journal of the Korean Statistical Society, Journal of Machine Learning Re- search, Journal of the Royal Statistical Society, Series C., Journal of Statistical Distributions and Applications, Journal of Statistical Software, Operations Research, Philosophical Transactions A, PLOS One, Psychological Methods, Sankhya Series A, Statistica Sinica, Statistical Methods in Medical Research, Statistical Science, Statistics and Computing, Statistics in Medicine, Technometrics.

Grant Proposal Reviewing
- Panel member for NSF-DMS Statistics Panel (2022)