Tanya P. Garcia

Contact Information	Texas A&M University Statistics Department 458E Blocker Building College Station, TX 77843-3433	Phone: (979) 436-9396 Email: tpgarcia@stat.tamu.edu Web: http://stat.tamu.edu/∼tpgarcia

Research Interests High-Dimensional Variable Selection, Longitudinal Data Analysis, Neurodegenerative Diseases, Nonparametric Models, Prediction Models, Semiparametric Models, Survival Analysis

Employment

Associate Professor of Statistics (Tenured), Department of Statistics, Texas A&M University	09/2018-
Assistant Professor of Biostatistics, Department of Epidemiology and Biostatistics, Texas A&M School of Public Health	01/2013- 08/2018
Research Assistant Professor of Statistics, Department of Statistics, Texas A&M University	07/2011-12/2012
Visiting Scholar, The University of Sydney, Australia *Fully funded ($7,200 AUS) four-week invitation by Prof. Samuel Müller and Prof. Alan Welsh.*	11/2012
Research Assistant, Oak Ridge National Lab, Oak Ridge, TN	06/2010-08/2010
Research Assistant, MD Anderson Cancer Center, Houston, TX	07/2008-08/2008
Teaching Assistant, University of Neuchâtel, Neuchâtel, Switzerland	09/2006-06/2008
Teaching Assistant, University of Western Ontario, London, ON, Canada	09/2005-06/2006
Research Assistant, RWTH Institute of Operations Research and Logistics, Aachen, Germany	06/2004-08/2004
Research Assistant, University of California, Irvine, Irvine, CA	09/2002-06/2003
Teaching Assistant, University of California, Irvine, Irvine, CA	09/2001-06/2003

Education

Ph.D., Statistics, Texas A&M University, College Station, TX *Adviser: Prof. Yanyuan Ma.* GPA: 4.00/4.00.	08/2011
M.Sc., Statistics, University of Western Ontario, London, ON, Canada *Adviser: Prof. John Braun.* GPA: 4.00/4.00.	08/2006
M.S., Industrial Engineering and Operations Research, University of California, Berkeley, Berkeley, CA GPA: 3.67/4.00.	05/2005
B.S., Mathematics, University of California, Irvine, Irvine, CA GPA: 3.939/4.00	06/2003

Grants and Fellowships (Total: $938,406)	10. **Principal Investigator**, "Innovative statistical models for development of first Huntington's disease progression risk assessment tool." K01, NIH NINDS, K01NS099343, $557,406.	12/2016-11/2019
	9. **Statistics Mentor**, "Nutrition, Biostatistics and Bioinformatics." T32 DHHS-NIH-National Cancer Institute. PI: Raymond J. Carroll.	08/2017-08/2021
	8. **Co-Investigator**, "Leveraging motor vehicle crash data for injury surveillance and research in AFF." Centers for Agricultural Safety and Health, U54 OH007541-16. PI: Eva Shipp.	12/2016-11/2019
	7. **Principal Investigator**, "Identifying high-dimensional neuroimaging biomarkers associated with Huntington's disease motor onset." Texas A&M School of Public Health Research Enhancement and Development Initiative (REDI) Grant, $25,000.	06/2015-08/2016
	6. **Principal Investigator**, "Improved definition and prediction of Huntington's disease motor-onset using advanced statistical models." Huntington's Disease Society of America (HDSA) Research Fellowship, $150,000.	11/2013-11/2015
	5. National Consortium for Graduate Degrees for Minorities in Engineering and Science (GEM) PhD Fellowship, $30,000.	2010-2011
	4. Philanthropic Educational Organization (P.E.O.) Scholar Award, $15,000.	2010-2011
	3. Ford Foundation Predoctoral Fellowship Honorable Mention	2010
	2. National Science Foundation's Texas A&M University System Louis Stokes Alliance for Minority Participation Bridge to the Doctorate Fellowship, $94,000.	2008-2010
	1. Chancellor's Opportunity Predoctoral Fellowship, University of California, Berkeley, $67,000.	2003-2005

Publications   (* denotes equal contribution; † denotes student or postdoctoral researcher author)

Under Review

25. Lee, U.†, **Garcia, T.P.**, Carroll, R.J., Gilbreath, K. and Wu, G. Analysis of repeated measures data: application to research on amino acid nutrition in animals.

24. Lee, U.†, Carroll, R.J., Marder, K., Wang, Y., and **Garcia, T.P.** Estimating disease onset from change points of markers measured with error.

23. **Garcia, T.P.** and Parast, L. Dynamic landmark prediction for genetic mixture models.

Refereed Papers

22. Shipp, E., Vasudeo, S.†, Trueblood, A. and **Garcia, T.P.** (2019). Single Logging Vehicle Crashes and Variables Associated with Injury in Louisiana. *Journal of Agromedicine*, in press.

21. **Garcia, T.P.**, Wang, Y., Shoulson, I., Paulsen, J.S., and Marder, K. (2018). Disease progression in Huntington Disease: an analysis of multiple longitudinal outcomes. *Journal of Huntington Disease*, in press.

20. Wei, Y.[†], Ma, Y., **Garcia, T.P.** and Sinha, S. (2018). Consistent estimator for logistic mixed effect models. *The Canadian Journal of Statistics*, in press.

19. **Garcia, T.P.**, Marder, K. and Wang, Y. (2018). Time-varying Proportional Odds Model for Mega-analysis of Clustered Event Times, doi: 10.1093/biostatistics/kxx065.

18. Dutra, J.R.[*], **Garcia, T.P.**[*], Marder, K. (2018). Huntington's Disease. In Oxford Textbook of Neurological and Neuropsychiatric Epidemiology, editors Carol Brayne, Valery Feigin, Lenore Launer, and Giancarlo Logroscino.

17. **Garcia, T.P.** and Ma, Y. (2017). Simultaneous treatment of unspecified heteroskedastic model error distribution and mismeasured covariates for restricted moment models. *The Journal of Econometrics*, **200**, 194-206.

16. **Garcia, T.P.**, Ma, Y., Marder, K. and Wang, Y. (2017). Robust mixed-effects model for clustered failure time data: application to Huntington's disease event measures. *Annals of Applied Statistics*, **11**, 1085-1116.

15. **Garcia, T.P.** and Marder, K. (2017). Statistical Approaches to longitudinal data analysis in neurodegenerative diseases: Huntington's Disease as a model. *Current Neurology and Neuroscience Reports*, **17**:14, doi:10.1007/s11910-017-0723-4.

14. **Garcia, T.P.**, Marder, K. and Wang, Y. (2017). Statistical modeling of Huntington disease onset. In Handbook of Clinical Neurology, vol 144, 3rd Series, editors Andrew Feigin and Karen E. Anderson.

13. **Garcia, T.P.**[*] and Müller, S.[*] (2016). Cox regression with exclusion frequency-based weights to identify neuroimaging markers relevant to Huntington's disease onset. *Annals of Applied Statistics*, **10**, 2130-2156.

12. Kohli, P., **Garcia, T.P.** and Pourahmadi, M. (2016). Linear models for cholesky factors of covariance matrices of multivariate longitudinal data. *Journal of Multivariate Analysis*, **145**, 87-100.

11. **Garcia, T.P.** and Ma, Y. (2015). Optimal estimator for logistic model with distribution-free random intercept. *Scandinavian Journal of Statistics*, **43**, 156-171.

10. Qin, J.[*], **Garcia, T.P.**[*], Ma, Y., Tang, M.X., Marder, K. and Wang, Y. (2014). Combining isotonic regression and EM algorithm to predict genetic risk under monotonicity constraint and unknown genotypes. *Annals of Applied Statistics*, **8**, 1182-1208.

9. **Garcia, T.P.** and Müller, S. (2014). Influence of measures of significance-based weights in the weighted Lasso. *Journal of the Indian Society of Agricultural Statistics* (Invited paper), **68**, 131-144.

8. **Garcia, T.P.**, Müller, S., Carroll, R.J., and Walzem, R.L. (2014). Identification of important regressor groups, subgroups, and individuals via regularization methods: application to gut microbiome data. *Bioinformatics*, doi: 10.1093/bioinformatics/btt608.

7. **Garcia, T.P.**, Müller, S., Carroll, R.J., Dunn, T.N., Thomas, A.P., Adams, S.H., Pillai, S.D., and Walzem, R.L. (2013). Structured variable selection with q-values. *Biostatistics*, DOI: 10.1093/biostatistics/kxt012.

6. Wang, Y., **Garcia, T.P.**, and Ma, Y. (2012). Nonparametric estimation for censored mixture data with application to the Cooperative Huntington's Observational Research Trial. *Journal of the American Statistical Association*, **107**, 1324-1338.

5. **Garcia, T.P.**, Kohli, P., Pourahmadi, M. (2012). Regressograms and mean-covariance models for incomplete longitudinal data. *The American Statistician*, **66**, 85-91.

4. Ye, F., **Garcia, T.P.**, Pourahmadi, M., and Lord, D. (2012). Extension of a negative binomial GARCH model: analyzing the effects of gasoline price and VMT on DUI fatal crashes in Texas. *Transportation Research Record: Journal of the Transportation Research Board*, **2279**, 31-39.

3. **Garcia, T.P.**, Ma, Y., and Yin, G. (2011). Efficiency improvement in a class of survival models through model-free covariate incorporation. *Lifetime Data Analysis*, **17**, 552-565.

2. Barber, J., Bose, C., Bourlioux, A., Braun, J., Brunelle, E., **Garcia, T.**, Hillenk, T., and Ong, B. (2010). Burning issues with PROMETHEUS, the Canada's wildfire growth simulator. *Canadian Applied Mathematics Quarterly*, **16**, 337-378.

1. **Garcia, T.**, Braun, J., Bryce, R., and Tymstra C. (2008). Smoothing and boot-strapping the PROMETHEUS fire growth model. *Environmetrics*, **19**, 1-13.

Presentations

Invited

49. Plenary Speaker at the 39th International Symposium on Forecasting, Thessaloniki, Greece	06/2019
48. 2019 Eastern North American Region (ENAR) Annual Meeting, Philadelphia, PA	03/2019
47. Department of Statistical Science, Southern Methodist University, Dallas, TX	10/2018
46. 2018 Joint Statistical Meeting, Vancouver, Canada	08/2018
45. International Society for Non-Parametric Statistics (ISNPS) Meeting, Salerno, Italy	06/2018
44. Institute for Mathematics and its Applications "Frontiers in Forecasting", Minneapolis, MN	02/2018
43. 10th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of London, UK	12/2017
42. Texas A&M University, Department of Statistics, College Station, TX	12/2017
41. 2017 Joint Statistical Meeting, Baltimore, MD	08/2017
40. 32nd Annual Huntington's Disease Society of America Annual Convention, Schaumberg, IL	06/2017
39. International Conference on Econometrics and Statistics, Hong Kong University of Science and Technology, Hong Kong	06/2017
38. 2017 Conference on Lifetime Data Science, Storrs, CT	05/2017
37. Baylor University, Department of Statistical Science, Waco, TX	02/2017
36. Huntington Study Group, 10th Annual HD Clinical Research Symposium, Nashville, TN	11/2016
35. Newest Developments and Urgent Issues in Measurement Error and Latent Variable Problems, Banff, Canada	08/2016
34. 2016 International Biometrics Conference, Victoria, Canada	07/2016

33. 2016 Eastern North American Region (ENAR) Annual Meeting, Austin, TX — 03/2016
32. 2015 Joint Statistical Meeting, Seattle, WA — 08/2015
31. International Society for Non-Parametric Statistics (ISNPS) Meeting, Biosciences, Medicine, and Novel Non-Parametric Methods, Graz, Austria — 07/2015
30. International Chinese Statistical Association Applied Symposium, Fort Collins, CO — 06/2015
29. University of California, Riverside, Riverside, CA — 06/2015
28. University of North Carolina, Department of Biostatistics, Chapel Hill, NC — 04/2015
27. University of California, San Diego, Department of Family Medicine and Public Health, San Diego, CA — 04/2015
26. Manhattan College, Department of Mathematics, New York, NY — 03/2015
25. University of California, Berkeley, Department of Biostatistics, Berkeley, CA — 01/2015
24. University of California, Davis, Department of Statistics, Davis, CA — 01/2015
23. RAND Corporation, Santa Monica, CA — 11/2014
22. University of South Carolina, Department of Statistics, Columbia, SC — 10/2014
21. 2014 Joint Statistical Meeting, Boston, MA — 08/2014
20. Australian Statistical Conference/Institute of Mathematical Statistics Annual Meeting, Australian Technology Park Sydney, Australia — 07/2014
19. The Ninth International Chinese Statistical Association (ICSA) International Conference: Challenges of Statistical Methods for Interdisciplinary Research and Big Data, Hong Kong Baptist University, Hong Kong — 12/2013
18. Columbia University, Department of Biostatistics, New York, NY — 09/2013
17. 2013 Joint Statistical Meeting, Montréal, Québec, Canada — 08/2013
16. Western North American Region (WNAR) Conference, Los Angeles, CA — 06/2013
15. Sam Houston State University, Department of Mathematics and Statistics, Huntsville, TX — 02/2013
14. The Australian National University, Mathematical Sciences Institute, Canberra, New South Whales, Australia — 11/2012
13. The University of Melbourne, School of Mathematics and Statistics, Melbourne, Victoria, Australia — 11/2012
12. The University of Sydney, School of Mathematics and Statistics, Sydney, New South Whales, Australia — 11/2012
11. International Chinese Statistical Association (ICSA) Applied Symposium, Boston, MA — 06/2012
10. 8th Annual Texas A&M University System (TAMUS) Louis Stokes Alliance for Minority Participation (LSAMP) Symposium, Corpus Christi, TX — 02/2012

9. Statistical Inverse Problems Workshop, College Station, TX   05/2012

<u>**Contributed**</u>

8. Huntington Study Group, 9th Annual HD Clinical Research Symposium, Tampa Bay, Fl   10/2015

7. Huntington Study Group, 8th Annual HD Clinical Research Symposium, Minneapolis, MN   11/2014

6. Western North American Region Conference, Honolulu, HI   06/2014

5. University of Florida Winter Workshop: Dimension Reduction and High Dimensional Inference, Gainesville, Fl   01/2014

4. Huntington Study Group, 7th Annual HD Clinical Research Symposium, Charlotte, NC   11/2013

3. Eastern Northern American Region (ENAR) Annual Meeting, Miami, FL   03/2011

2. Emerging Researchers National Conference in Science, Technology, Engineering and Mathematics, Washington, DC   02/2011

1. The National GEM Consortium Annual Meeting, Vienna, VA   08/2010

Teaching

Texas A&M Health Science Center, College Station, TX

Instructor, Biostatistics II Online (Spring Semester)   2014-2018

Instructor, Biostatistics II In-Person (Spring Semester)   2013-2015

Instructor, Statistics II, College of Medicine (one day course)   01/2013

University of Neuchâtel, Neuchâtel, Switzerland

Teaching Assistant, Calculus and Linear Models (taught in French)   Spring 2007, 2008

Teaching Assistant, Linear Models (Graduate Level)   Fall 2007

Teaching Assistant, Econometrics   Fall 2006

University of Western Ontario, London, ON, Canada

Teaching Assistant, Operations Research   Spring 2006

Teaching Assistant[*], Applied Probability   Fall 2005

[*]Awarded Teaching Assistant of the Year in the Sciences

University of California, Irvine, Irvine, CA

Teaching Assistant, Statistics, Summer Bridge   Summer 2002

Tutor, Mathematics, Learning and Academic Resource Center   09/2001-06/2003

Honors and Awards

20. **Mentoring Institute for Neuroscience Diversity Scholars (MINDS) Fellow**   2017-2018

NIH NINDS funded program that promotes the advancement of underrepresented independent researchers in neuroscience.

19. **Southeastern Conference (SEC) Travel Grant Program Award, Texas A&M University**[*]   2016-2017

[*]*Awarded but then unable to be used due to collaborator moving to non-SEC university.*

18. **Participant in 14th Meeting of New Researchers in Statistics and Probability**, University of California, San Diego   2012
    Travel award to attend workshop which promotes interaction and networking among new researchers in statistics and probability.

17. **SACNAS National Conference Travel Award**, Seattle, WA   2012

16. **Participant in Roadmap for a Successful Academic Career Workshop**, Texas A&M University   2012
    Designed for internal and external women postdoctoral researchers and assistant professors (2 years or less) in STEM fields.

15. **American Statistical Association Gertrude M. Cox Award** ($2,000)   2011
    Awarded to 2 out of 1200 female applicants from throughout the US and Canada.

14. **Phi Kappa Phi Member**, Texas A&M Chapter   2011
    Awarded to top 10% of seniors and graduate students at Texas A&M University.

13. **Emerging Researchers National Conference in Science, Technology, Engineering and Mathematics Travel Award**   2011
    Awarded to 100 applicants.

12. **William S. Connor Award**, Texas A&M University   2010
    Awarded to the student whom the faculty deems the most outstanding among those students passing the preliminary examinations during the 2008-2009 academic year.

11. **Participant in Building Future Faculty**, North Carolina State University   2010
    Awarded to 12 out of 100 applicants from graduate programs throughout the US.

10. **Participant in Negotiating the Ideal Faculty Position**, Rice University   2010
    Awarded to 65 out of 1100 applicants from graduate programs throughout the US.

9. **Teaching Assistant of the Year in the Sciences**, University of Western Ontario   2006

8. **Summa Cum Laude, School of Physical Sciences**, University of California, Irvine   2003

7. **Ronald E. McNair Scholar**, University of California, Irvine   2002-2003

6. **Mathematics Departmental Service/Undergraduate Service Award**, University of California, Irvine   2003

5. **Outstanding Senior in Mathematics**, University of California, Irvine   2003

4. **Leadership Scholarship**, University of California, Irvine   2000-2002

3. **The National Dean's List**, University of California, Irvine   2000-2003

2. **National Society of Collegiate Scholars Member**, University of California, Irvine   2001

	1. **National Hispanic Scholar Finalist**, University of California, Irvine	2000

Research Supervision	**Rakheon Kim**, PhD, *Texas A&M University, Department of Statistics*	May 2018-
	Weixi Zhu, MS, *Texas A&M University, Department of Statistics*	Jan 2018-
	Unkyung Lee, Postdoctoral Trainee of DHHS-NIH National Cancer Institute T32, *Texas A&M University, Department of Statistics*	June 2017-
	Timothy Gibson, Honours (equivalent of Undergraduate Senior Diploma), *The University of Sydney, Department of Statistics*	Feb-Oct 2017
	Satwik Acharyya, PhD, *Texas A&M University, Department of Statistics*	Fall 2015
	Sage Lane, MPH, *Texas A&M Health Science Center, Department of Epidemiology and Biostatistics*	Summer 2014

PhD Committee Member	**Texas A&M School of Public Health, Department of Epidemiology and Biostatistics**	
	(Students are DrPH Candidates in Epidemiology)	
	Ibraheem Karaye (Chair: Jennifer Horney)	2017-
	Shubhangi Vasudeo (Chair: Eva Shipp)	2017-
	Leigh Ellyn Preston (Chair: Jennifer Horney)	2015-
	Texas A&M University, Statistics Department	
	Lei Wang (Chair: Michael Longnecker)	2017-
	Mandal Soutrik (Chair: Samiran Sinha)	2015-
	DongHyuk Lee (Chair: Samiran Sinha and Raymond J. Carroll)	2015-
	Shuai Chen (Chair: Hongwei Zhao and Lan Zhou)	2014-2015

MS Committee Member	**Timothy Erickson**, Epidemiology and Biostatistics, Texas A&M Health Science Center, College Station, TX	2014-2015

Service to the Profession	**Program Committees**	
	Eastern Northern American Region/International Biometric Society (ENAR) Regional Advisory Board	2019-2021
	International Symposium on Forecasting Early Career Researcher Speaker	06/2019
	Biometrics Eastern Northern American Region/International Biometric Society (ENAR) 2018 Program Representative, Atlanta, GA	2017-2018
	Co-Chair, American Statistical Association Biometrics Section Strategic Initiative, "Developing the next Generation of Biostatisticians"	2016-Present

Conference Co-Organizer, "Measurement Error and Complex Data Workshop," Texas A&M University, College Station, TX	04/2016
Eastern Northern American Region/International Biometric Society (ENAR) Junior Researchers Workshop, Miami, FL	03/2015
Judge, Student Paper Competition, Western Northern American Region/Institute of Mathematical Sciences, Boise, ID	06/2015

Invited Session Organizer

"New directions for nonparametric methods in data science," International Society for Non-Parametric Statistics (ISNPS), Salerno, Italy	06/2018
"Rich data visualizations for informative health care decisions," Eastern Northern American Region/International Biometric Society (ENAR), Atlanta, GA	03/2018
"Dynamic modeling for timely health care decisions," Joint Statistical Meeting (JSM), Baltimore, MD	07/2017
"Innovative Techniques Towards More Precise Modeling," 61st Brazilian Regional Meeting, Salvador, Brazil*	05/2016
*Cancelled due to Zika virus.	
"Innovative Techniques Towards Solving the Complexities of Biomarker Discovery," 2016 ENAR, Austin, TX	03/2016
"Navigating Your Career for Success at the NSF Career Award," 2015 SACNAS National Conference, National Harbor, MD	10/2015
"Recent Advances in Spatial Statistics Techniques and their Applications to Public Health and Biological Sciences," Western Northern American Region/Institute of Mathematical Sciences, Boise, ID	06/2015

External Reviewer

Associate Editor, *Biostatistics*	1/2019-
Grant Reviewer for Natural Sciences and Engineering Research Council of Canada (NSERC) Mathematics and Statistics Discovery Program	12/2018
Doctoral dissertation of Jinqing Li, Macquarie University, Statistics Department, Australia	2014

Journal Referee

Annals of Statistics, Australia New Zealand Journal of Statistics, Bioinformatics, Biometrics, BMC Bioninformatics, The Canadian Journal of Statistics, Computational Statistics and Data Analysis, Hacettepe Journal of Mathematics and Statistics, Journal of the American Statistical Association, Journal of Multivariate Analysis, PLOS One, Science Reports, Statistica Sinica, Statistics, Statistics and Probability Letters, Statistics in Medicine, The American Statistician, The Canadian Journal of Statistics, Transportation Research Part A: Policy and Practice

Service to the University	**Department of Epidemiology and Biostatistics**	
	Seminar Organizer	
	Amanda Hering (Baylor University)	03/2017
	Rubin Wei (Eli Lilly and Company)	10/2016
	Amy Herring (University of North Carolina at Chapel Hill)	04/2016
	Layla Parast (RAND)	04/2015
	Samuel Müller (University of Sydney)	11/2014
	Guosheng Yin (University of Hong Kong)	09/2013
	Faculty Search Committee	2014-2015
	Admissions Committee	01/2013-Present

School of Public Health

Judge, Student Research Poster Competition at Public Health Week	2014-2018
Research Committee	09/2013-07/2018

Texas A&M University

Panel Speaker, "Why I Chose the Post-Doc Route," Alliance for Graduate Education and the Professoriate (TAMUS AGEP) Program	11/2017
Association of Former Students' College-Level Teaching Awards Committee	06/2010-05/2011
Panel Speaker, Advice on Graduate School Admittance, 5th Annual TAMUS LSAMP Symposium	02/2009

Memberships

American Statistical Association, ENAR, Institute of Mathematical Statistics, National Society of Collegiate Scholars, Phi Beta Kappa, Phi Kappa Phi, Society for Neuroscience

Skills

C++, Fortran 77/90, LaTeX, Linux, MATLAB, R, Ruby, Stata.