



PEDRO A. TORRES-SAAVEDRA, PHD, MS

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EDUCATION

- PhD** North Carolina State University, Statistics, 2013
Dissertation topic: *Quantile Regression and Measurement Error Models*
Committee: *Daowen Zhang (chair), Judy Wang (co-chair), Marie Davidian, and Leonard Stefanski*
- MS** University of Puerto Rico at Mayaguez (UPRM), Statistics Mathematics, 2007
Thesis topic: *Subject-Specific Models for Binary Longitudinal Data*
Advisor: Raúl E. Macchiavelli
- BS** National University of Colombia, Statistics, 2001
Thesis Topic: *Network Sampling Applied to Hard-to-Reach Populations*
Advisor: David Ospina Botero
Highest Academic Achievement Award and Scholarship for Graduate School

RELEVANT GRADUATE COURSEWORK:

- Analysis of Microarray Data
- Sampling Theory
- Machine Learning
- Statistical Consulting
- Basic and Advanced Statistical Inference I and II
- Measure Theory and Advanced Probability I and II
- Advanced Statistical Computing
- Design of Experiments
- Linear Models and Variance Components
- Applied Longitudinal Data Analysis
- Nonlinear Statistical Models for Univariate and Multivariate Response
- Advanced Analysis of Variance and Mixed Models
- Statistical Principles of Clinical Trials and Epidemiology
- Causal Inference
- Bayesian Inference
- Functional Data Analysis
- Semiparametric Inference
- Categorical Data Analysis

PROFESSIONAL EXPERIENCE

National Cancer Institute (NCI)/National Institutes of Health (NIH), Division of Cancer Treatment and Diagnosis (DCTD), [Biometric Research Program \(BRP\)](#), Biostatistics Branch (BB)

➤ **Mathematical Statistician (1/16/2024-Present)**

- Liaison to the Cancer Imaging Program (CIP).
- Review of imaging-related studies in protocols and proposals.

[NRG Oncology](#) Statistics and Data Management Center, Center for Research and Innovation (CRI), [American College of Radiology \(ACR\)](#), Philadelphia, PA, US

8/20/2018 – 1/12/2024

➤ **Lead Biostatistician at ACR / Senior Statistician for NRG Oncology Head & Neck Committee (8/20/2018 – 11/1/2021)**

➤ **Biostatistics Manager at ACR / Senior Statistician for NRG Oncology Head & Neck Committee (11/2/2021- 1/12/2024)**

- Provided leadership and advice on statistical design and analysis for applying mathematical statistics to cancer research studies.
 - Provided leadership and advice on the statistical design and analysis of the entire NRG Oncology portfolio of H&N cancer clinical trials, which includes about 12-15 national and international trials.
 - Collaborated with scientists from different backgrounds across the US and worldwide, such as medical oncologists, radiation oncologists, surgical oncologists, surgeons, and pathologists, among others, to propose and conduct clinical trials through the NCTN to answer some of the most challenging problems in H&N cancer.
 - Assessed scientific aims, hypotheses, and relevant preliminary data to develop clinical trial concepts for further evaluation by the NRG H&N Core Committee, NRG Research Strategy Committee, NCI Task Forces, and NCI H&N Steering Committee.
 - Designed early phase (I and II) multicenter clinical trials using state-of-the-art statistical methods and designs based on frequentist and Bayesian methods such as the Bayesian Optimal Interval Design (BOIN) and predictive probability design.
 - Designed phase III and seamless phase II/III multicenter clinical trials using state-of-the-art statistical methods and designs such as group sequential designs, biomarker-driven designs, non-inferiority designs, survival methods, and multiple testing procedures.
 - Computed sample size, statistical power, and early stopping probabilities for clinical trials.
 - Prepared statistical analysis plans for clinical trials approved by the NCI/CTEP H&N Steering Committee, which involves using state-of-the-art statistical methods in cancer research and modifying and comparing these methods to answer relevant research questions.
 - Advised on applying or modifying statistical methods in survival, categorical data, longitudinal data, sampling, and non-parametric statistics, among others, to design and analyze data associated with primary, secondary, and exploratory objectives of clinical trials. These sub-studies involve research questions related to health-related quality of life, imaging techniques, diagnostic testing, and molecular and imaging biomarkers.
 - Communicated with NCI/CTEP statisticians regarding statistical issues in developing and ongoing clinical trials.

- Collaborated with scientists to validate prognostic and predictive survival models based on molecular biomarkers and/or radiomic features.
- Provided statistical and scientific expertise and leadership for translational research proposals involving H&N clinical trials, including integral and integrated BQSFP and NCTN Navigator proposals.
- Reviewed scientific background, research hypotheses, and analysis plans of ancillary proposals submitted to NRG Oncology. These proposals aim to answer research questions through secondary analyses using NCTN trial data.
- Provided statistical expertise and advice to the NRG Oncology H&N Core Committee, the Early Phase Trials Oversight Committee, and the Development Therapeutics Radiation Therapy Subcommittee.
- Performed statistical and clinical trial methodology research by developing new methodologies and/or adapting existing ones to address statistical issues in cancer research.
 - Compared statistical methods and designs through mathematics and simulations to propose the most appropriate designs and methods to assess the primary, secondary, and exploratory hypotheses in cancer clinical trials.
 - Developed statistical code in SAS and R to compare statistical methodologies and designs.
 - Conducted research on approaches such as ANCOVA, the paired t-test, and the constrained longitudinal data analysis model for analyzing continuous endpoints in patient-reported outcomes quality of life studies in cancer.
 - Conducted research on limitations of the kappa coefficient to measure inter-rater agreement when ratings exhibit highly concentrated marginal distributions and evaluated alternative measures robust to such limitations.
- Led the NRG Oncology H&N team, which includes around 10 members from different backgrounds: statisticians, dosimetrists, study builders, safety specialists, data managers, protocol associates, and project managers.
 - Oversaw and coordinated activities for the entire NRG Oncology portfolio of H&N cancer clinical trials, which includes about 12-15 clinical trials.
 - Led and coordinated protocol development and related activities: protocol writing, creation of electronic case report forms for data collection in Rave, protocol review by stakeholders, and trial activation.
 - Supervised, trained, and developed junior statisticians.
- Oversaw and participated in preparing biomedical research studies and statistical investigations for publication in scientific journals and presentation in scientific meetings, detailing statistical methodology, analysis results, interpretation of data, and conclusions.
- Appointed a working group leader to propose a sampling framework and create a guidance document to implement sampling of treatment modality reviews in NRG Oncology trials.
- Trained statisticians on the Bayesian Optimal Interval design (BOIN), a design for phase I clinical trials.

Department of Mathematical Sciences, University of Puerto, Mayaguez, PR, US

7/1/2013 - 6/28/2018

- **Assistant and Associate Professor (Tenured)**
- **[Statistical Collaboration Laboratory](#) Director**
- Taught introductory and graduate-level courses in mathematical statistics and advanced topics in statistics.

- Taught undergraduate introductory statistics courses averaging 30 students (ESMA 3015, 3101, and 3102), advanced undergraduate statistics courses averaging 10 students (Mathematical Statistics – ESMA 4001 and 4002; Sampling Methods – ESMA 4038; Research Seminar MATE 4050), and graduate-level courses averaging ten students (Probability Theory ESMA 6600, Statistical Inference ESMA 6601, Linear Models ESMA 6616, Statistical Consulting ESMA 6835, Applications of Generalized Linear Models MATE 6995, Advanced Statistical Modeling ESMA 6836, Research Seminar ESMA 6991).
- Implemented active learning and flipped classroom methodologies in some undergraduate introductory statistics courses (ESMA3015 and 3101).
- Designed animated videos using Vyond/GoAnimate to implement flipped classroom using funds from the American Statistical Association and institutional seed-grant funds.
- Designed, proposed, and taught three graduate-level courses in mathematical statistics: Applications of Generalized Linear Models (MATE 6995), Advanced Statistical Modeling (ESMA6836), and Statistical Consulting (MATE 6835).
- Proposed and implemented changes to the curriculum and qualifying exams of the MS program.
- Chaired the departmental curriculum committee and was a member of the faculty curriculum committee.
- Implemented undergraduate and graduate courses in Learning Management Systems (Moodle and Edu 2.0).
- Designed and proposed a minor concentration in Actuarial Sciences, including courses on statistical inference and finance, among others.
- Trained math-talented students from schools around the island on combinatorics and probability to participate in national and international mathematics competitions.
- Taught over 15 workshops on teaching statistics and probability in Puerto Rico high schools. Some of the topics were Teaching Probability Through Games, How to Use Excel in Classroom, Understanding Benford's Law, Probability and Expected Value in Decision Making, Combinatorics and Pascal's Triangle, Use of CODAP and R for Data Analysis, Fractals and Combinatorics, and Normal Distribution and its Applications.
- Coached elementary, middle, and high school teachers on best practices and methodologies to teach probability and statistics.
- Supervised theses of seven graduate (MS) students.
- Developed new mathematical and applied statistical methodologies applicable to the design and analysis of biomedical research studies.
 - Developed a semiparametric Bayesian mixed beta regression model in R and WinBUGS to analyze correlated data on a (0,1) scale with applications in biomedical research studies such as health-related quality of life.
 - Performed simulations in R to compare the performance of Markov Chain Monte Carlo (MCMC) and Integrated Laplace (INLA) to estimate parameters in logistic and Poisson regressions.
 - Developed a functional mixed model framework to analyze data from driving simulators. These models could have applications in biomedical research studies involving real-time data collection devices such as electrocardiograms, MRIs, etc.
 - Applied quantile regression models to evaluate factors associated with newborn weights in Puerto Rico.

- Evaluated the performance of several copula-based regression models to analyze bivariate count data through simulations and applied these models to analyze the number of fatal and non-fatal crashes in Puerto Rico.
- Evaluated the performance of negative-binomial-Lindley distribution for count data with an excess of zeroes and applied it to the study of vehicle fatalities in Puerto Rico.
- Applied geospatial clustering algorithms and point processes methods to analyze crime data in Puerto Rico and created heat maps with hot crime spots using R.
- Adapted the clustering HDBSCAN algorithm to the clustering of covariance matrices and applied it to temporal series.
- Designed an experiment to evaluate the benefits of implementing flipped classroom in introductory statistics courses.
- Developed statistical models to determine factors associated with students' performance in introductory mathematics courses in the first years of college.
- Designed and created a virtual repository of lessons to teach statistics and probability in high schools in Puerto Rico, sponsored by the American Statistical Association.
- **Statistical Leadership, Collaboration, and Consulting: Collaborate with scientists from various fields on research projects.**
 - Founded and directed the Statistical Collaboration Laboratory at the Department of Mathematics Sciences at the UPRM.
 - Participated in designing and analyzing over 30 research projects using statistical methods for designing experiments, sampling, and statistical modeling in diverse areas such as marine sciences, biology, civil and transportation engineering, food, and animal science.
 - Supervised and trained graduate students on best consulting practices.
 - Analyzed data of queen conch stock in western Puerto Rico using negative binomial regression models.
 - Proposed linear mixed models for the strategic highway safety planning process with emphasis on predicting fatal and non-fatal crashes by region, type of road, and road segment.
 - Provided statistical expertise as a member of the thesis and dissertation committees of eight master students and four doctoral students.
 - Founded the [Puerto Rico Chapter of the American Statistical Association](#) and was the treasurer for two years.

National University of Buenos Aires, Argentina

8/10/2018 – 8/17/2018

➤ **Visiting Professor at the Latin-American Center for Interdisciplinary Training (CELF in Spanish)**

- Designed and taught the short summer course "*Health and Environment: Integrating Spatio-Temporal Phenomena Using a Frequentist and Bayesian Approach*," a course with 60 students from South America, covering these topics: design of experiments, linear and generalized mixed models (linear mixed models, mixed logistic, Poisson, and negative binomial regression models), Bayesian models, spatio-temporal models, and the use of R and R-INLA for data analysis.
- Designed and created interactive class notes for this course using R, Markdown, and Bookdown.

Mayaguez Medical Center (MMC), Mayaguez, PR, US

1/12/2015 - 1/26/2018

➤ **Statistical Consultant**

- Provided statistical expertise for biomedical research projects in the Internal Medicine program. I was awarded several recognitions as a co-author of these research projects presented at local conferences.
- Analyzed data from several biomedical research studies, including depression in patients receiving renal dialysis, estimation of the rate of in-patient accidents and factors associated with them, compliance of protocols to manage sepsis and hand washing, estimation of cost of misprescribing and overprescribing antibiotics in primary care, the association between abnormal glycemic levels and rate of hospital readmission, and prevalence of infectious at the ICU, among others.

**Center for Impaired Driving, Pacific Institute for Research and Evaluation (PIRE),
Calverton, MD, US**

8/4/2008 - 6/30/2014

➤ **Statistical Consultant**

- Provided statistical expertise to traffic safety, public health, and epidemiology research projects.
- Collaborated with epidemiologists, psychologists, and economists to study the association of alcohol and drug consumption with the risk of fatal and non-fatal crashes in the US.
- Analyzed data from epidemiology research studies using logistic and linear regression models, sampling, missing data imputation, and categorical data analysis methods.
- Prepared manuscripts for publication in scientific journals and presentations in scientific meetings, which included detailing statistical methodology, analysis results, interpretation of data, and conclusions.

**GlaxoSmithKline (GSK) Research and Development, Quantitative Sciences, Statistical
Platforms and Technologies, RTP, Durham, NC, US**

7/5/2011 - 12/21/2012

➤ **Graduate Industrial Trainee**

- Provided statistical support for drug discovery and development and non-clinical studies.
- Collaborated with researchers from other disciplines to design pre-clinical trials (in vivo and in vitro experiments) using techniques of design of experiments, sampling, and statistical modeling.
- Analyzed data from non-clinical studies using ANOVA, and linear and non-linear mixed models and SAS and R.
- Assisted in the creation of drug discovery and development regulatory reports.
- Evaluated different methods to compute tolerance intervals for drug discovery and development using SAS macros and statistical mathematics.
- Compared several statistical and machine learning approaches to determine the effect of initial purity on the stability of solutions in storage.
- Proposed and implemented non-linear mixed models to analyze non-clinical data on insulin, Metformin, and drug shelf life.

**Center for Impaired Driving, Pacific Institute for Research and Evaluation ([PIRE](#)),
Calverton, MD, US**

10/9/2007 - 8/1/2008

➤ **Research Assistant/Analyst**

- Analyzed data from a national survey on driving, drinking, and drugs ([2007 National Roadside Survey](#)) using linear and logistic models, categorical data analysis methods, sampling methods, and missing data imputation techniques, and wrote SAS and Stata codes.
- Collaborated with epidemiologists, psychologists, and economists to study the association of alcohol and drug consumption with the risk of fatal and non-fatal crashes in the US.
- Prepared manuscripts for publication in scientific journals and presentations in scientific meetings, which included detailing statistical methodology, analysis results, interpretation of data, and conclusions.
- Participated in writing national reports about drinking, drugging, and driving in the US.
- Provided statistical expertise and participated in the writing of NIH/NIAA grant proposals.
- Examined the potential utility of delta 9-tetrahydrocannabinol (THC) measures from oral samples in traffic safety using data from the 2007 and 2013-2014 National Roadside Survey (NRS) of Alcohol and Drug Use and diagnostic testing methodology and hurdle models.
- Awarded second place in 2012-13 top downloads of original research/review manuscripts by the Journal of Studies on Alcohol and Drugs ([JSAD](#)).

Department of Statistics, North Carolina State University, Raleigh, NC, US

8/1/2007 - 6/1/2013

➤ **PhD Student (Chairs: Drs. Daowen Zhang and Judy Wang)**

- Mathematically and statistically established methods to estimate conditional quantiles for responses measured with error using quantile regression and measurement error theory.
 - Proposed a location-scale shift model coupled with a semi-nonparametric distribution to analyze outcome data measured with error, derived a mathematical formula to estimate the variance and established asymptotic properties of these estimators.
 - Assessed the performance of the proposed methods using simulation studies in SAS and compared it to the naïve approach.
 - Applied the proposed methods to grip strength data in humans and mice, and nutrient intake using data from the National Health and Nutrition Examination Survey (NHANES).
 - Completed coursework in statistical topics such as Bayesian statistics, longitudinal data analysis, mixed models, causal inference, functional data analysis, and semiparametric inference.

➤ **Teaching Assistant**

1/9/2012 - 7/27/2013

- Assisted in teaching graduate-level courses in applied and mathematical statistics: Statistics in Plant Science (ST524), Theory of Sampling Applied to Survey Design (ST715), and Analysis of Survival Data (ST745).

Department of Mathematical Sciences, University of Puerto Rico, Mayaguez, PR, US

7/1/2006 - 6/30/2007

➤ **Lecturer**

- Taught introductory undergraduate statistics courses.
- Designed and taught workshops on how to teach probability and statistics to high school teachers.

Department of Mathematical Sciences, University of Puerto Rico, Mayaguez, PR, US

8/3/2003 - 5/30/2006

➤ **Graduate Student/Teaching Assistant/Research Assistant**

- Taught undergraduate introductory mathematics courses.
- Modeled longitudinal binary data using mixed logistic regression models and proposed a marginal interpretation of subject-specific curves.
- Applied mixed logistic regression models to rot disease in garlic using data from an experimental design from Puerto Rico.
- Compared several estimation methods to compute the likelihood function of mixed logistic models based on Laplace approximation, Gaussian-Hermite polynomials and Gaussian quadrature, and Markov Chain Monte Carlo methods.
- Applied mathematical statistics and design of experiment methods to design and analyze experiments in agriculture and environmental sciences.

YanHaaS, Bogota, D.C., Colombia

1/7/2002 - 6/30/2003

➤ **Statistician**

- Provided statistical leadership and supervised about five SPSS programmers.
- Designed and implemented several marketing methodologies to evaluate brand equity, customer loyalty and satisfaction, and price decision with conjoint analysis based on mathematical statistics.
- Analyzed data from marketing studies using SPSS and statistical methods such as logistic regression, linear regression, clustering algorithms, and categorical data analysis methods, among others.
- Designed marketing studies using sampling techniques such as stratified and clustering sampling, multi-stage sampling, etc.

Cecchi and Co. Consulting, Bogota, D.C., Colombia

1/7/2002 - 6/28/2002

➤ **Statistical Consultant (Part-Time)**

- Designed sampling plans to assess different components of the “Administration of Justice Program,” a USAID-funded program.
- Contributed to the writing of the final analysis report.

Department of Mathematics, National University of Colombia, Bogota, D.C., Colombia

1/8/1996 - 12/14/2001

➤ **Undergraduate Student/Research Assistant**

- Mathematically and statistically formulated the estimators and variance to estimate the size of a population based on cluster sampling with multiplicity (i.e., network sampling).
- Performed simulations in SAS to compare the proposed estimator for the population size based on cluster sampling with multiplicity with the traditional cluster sampling estimator and applied the proposed method to estimate the number of people with vision impairment in Colombia.
- Evaluated the performance of Lilliefors’s test to assess the goodness of fit of distributions and compared it to existing approaches using simulation studies.
- Mathematically determined rules to uniformly control the error margin of approximation of the normal distribution to the binomial distribution that improved traditional rules.

- Designed a sampling plan for a research project involving a hard-to-reach population based on multiplicity or network sampling.

Pfizer, Bogota, D.C., Colombia

1/10/2000 - 6/30/2000 (*Part-Time*)

➤ **SAS Programmer**

- Created SAS programs and macros to validate databases of clinical trials from Latin American region.

HONORS AND AWARDS


- “We One Team” Hive-Five Award (2023). American College of Radiology, Philadelphia, US.
- “We Are Curious” Hive-Five Award (2020) and Honorable Mention (2021) for adapting to change, embracing new ideas and methods, developing and applying innovative solutions, and taking risks that lead to learning and professional growth. American College of Radiology, Philadelphia, US.
- Grant Writing Initiative, Proposal Development Unit, Center of Research and Development, UPRM, PR, US, 2017.
- Excellence in Productivity Award from the Department of Mathematical Sciences at UPRM, PR, US, 2014.
- NSF Travel Fellowships (2012-14):
 - 8th World Congress in Probability and Statistics, Istanbul, Turkey, 2012-14.
 - Latin-American Congress on Probability and Mathematical Statistics, Cartagena, Colombia, 2012-14.
 - Pan-American Advanced Study Institute on Spatio-Temporal Statistics, Rio de Janeiro, Brazil.
- Francis G. Giesbrecht Award for Consulting. Department of Statistics, North Carolina State University, Raleigh, NC, US, 2011.
- Paige Plagge Graduate Award for Citizenship. Department of Statistics, North Carolina State University, Raleigh, NC, US, 2011.
- Summer School Award. Summer School in Spatial Statistics, SAMSI, RTP, NC, US, 2011.
- Bridge to the Doctorate, NSF Fellowship. Department of Statistics, North Carolina State University, Raleigh, NC, US, 2009-10.
- Member of Mu Sigma Rho: The National Statistics Honorary Society. Department of Statistics, North Carolina State University, Raleigh, NC, US, 2009.
- Biometrics Travel Award. ENAR Conference, San Antonio, TX, 2009.
- Minority Fellowship. Short Course “Introduction to Survey Estimation,” The Joint Program in Survey Methodology, College Park, MD, US, 2008.
- SAS Student Ambassador. SAS Global Forum (SUGI), Orlando, FL, US, 2007.
- Best Poster Award. 23rd International Biometric Conference, Montreal, Quebec, Canada, 2006.
- Undergraduate and Graduate Scholarships. Program “Outstanding Students from Small Municipalities,” National University of Colombia, Bogota, DC; Best Academic Achievement of 2001 Class, 1996-2002.

GRANT PROPOSALS


- “Proteomic Profiling as a predictive biomarker in NRG/RTOG 0522 from Pre-Treatment Plasma Samples,” CSC0219 Navigator Request #3540, Co-PI, 2023.

- “Tumor-derived plasma EBV DNA-guided optimal maintenance immunotherapy for recurrent and/or metastatic nasopharyngeal carcinoma,” Integrated Biomarker BIQSFP, Co-PI, ~\$300K, 2022.
- NRG Oncology MP2PRT Project: “PI3K Pathway Activation and Its Associated Genomic Profile as Predictive Biomarkers of HPV-Related Oropharyngeal Cancer: Evaluation of NRG-HN002 and NRG/RTOG 1016,” Co-PI, ~400K, 2021.
- “Chromosomal instability as a potential mechanism and marker of radiation sensitivity in laryngeal carcinoma patients treated with definitive radiation in NRG/RTOG 9512 (Navigator #2501),” Co-PI, 2021.
- “Association of Oxidative Stress Pathway Alterations with Risk of Treatment Failure in RTOG9512: A Randomized Trial of Hyperfractionation Versus Conventional Fractionation in T2 Squamous Cell Carcinoma of the Vocal Cord (# CSC0118, NR #1622),” Co-PI, 2019.
- “Quantitative Histomorphometric Based Image Risk Classifier (QuHbIC) to Predict Risk of Progression in p16+ OP-SCC Patients to be Validated on RTOG 0522 and RTOG 0129 (Navigator #641),” Co-PI, 2019.
- “Determining Negative Predictive Value of FDG PET/CT for N0 Neck in T1-T2 Oral cavity SCC Patients,” Integral Imaging Biomarker BIQSFP, Co-PI, 2019.
- Alliance for Strengthening Mathematics Learning (AFAMaC-Mathematics). Professional development for high-school teachers in PR, Department of Education (Co-PI; ~\$300,000/year), 2015-17.
- “Animated Videos in Flipped Classroom for Introductory Statistics Courses.” Subaward for designing animated videos to teach introductory undergraduate courses at the UPRM, Department of Education, Title V (PI; \$3,000), 2017.
- “Alcohol and Other Drugs: Crash Risk for Different Groups of Drivers.” NIH sub-award from Pacific Institute for Research and Evaluation (PI; \$89,000), 2016.
- “Improving the Usefulness to the Community of Open Data Portals.” Members Initiative Grant, American Statistical Association (Co-PI; \$8,500), 2015.
- ASA Biometrics Section-Strategic Initiatives Grant. Promotion of Biostatistics Career in PR, American Statistical Association (PI; \$1,500), 2015.
- A Virtual Repository to Improve Statistics Teaching in High Schools in Puerto Rico. Members Initiative Grant, American Statistical Association (PI; \$14,500), 2015.
- “Developing Generalized Linear Mixed Models for the Strategic Highway Safety Planning Process.” University Transportation Research Center II (UTRC-II) Grant (Co-PI; \$85,000), 2014.

PUBLICATIONS

 = This author contributed equally as the second author.

Journal Publications

1. Wong S., **Torres-Saavedra, P.**, et al. TRYHARD (RTOG Foundation 3501): A Randomized Phase II Clinical Trial of Concurrent Radiation plus Cisplatin with or without Lapatinib for Stage III- IV Non-HPV Head and Neck Carcinoma. JAMA Oncology, Published online September 28, 2023. doi:10.1001/jamaoncol.2023.3809
2. Lee N., Harris J.,..., **Torres-Saavedra, P.**, Quynh-Thu L. Long-term Results of Bevacizumab and Chemoradiation for Loco-regionally Advanced Nasopharyngeal Carcinoma: An Update of NRG Oncology RTOG 0615. JAMA Network Open.
3. A.S. Garden, J. Harris, A. Eisbruch, K.S.C. Chao, W.H. Morrison, P.M. Harari, T.A. Swanson, C.U. Jones, S.S. Yom, S.A. Spencer, R.A. Scrimger, G. Shenouda, M.E. Shukla, H. Lau, M.L. Mierzwa, **P. Torres-Saavedra** () , Q.T. Le, Final Report of NRG

Oncology RTOG 0022: A Phase I/II Study of Conformal and Intensity Modulated Radiation for Oropharyngeal Cancer, *International Journal of Radiation Oncology*Biology*Physics*, Volume 111, Issue 3, Supplement, 2021, Page S143, ISSN 0360-3016, <https://doi.org/10.1016/j.ijrobp.2021.07.322>

4. J.J. Caudell, **P. Torres-Saavedra**, D.I. Rosenthal, R. Axelrod, P.F. Nguyen-Tan, E. Sherman, R.S. Weber, J.M. Galvin, A.K. El-Naggar, A.A. Konski, A. Trotti, N.E. Dunlap, G. Shenouda, A.K. Singh, J.J. Beitler, A.A. Garsa, M. Birrer, A.S. Garden, T.S. Herman, Q.T. Le, Long-Term Update of NRG Oncology RTOG 0522: A Randomized Phase III Trial of Concurrent Radiation and Cisplatin with or without Cetuximab in Locoregionally Advanced Head and Neck Cancer, *International Journal of Radiation Oncology*Biology*Physics*, Volume 106, Issue 5, 2020, Pages 1116-1117, ISSN 0360-3016, <https://doi.org/10.1016/j.ijrobp.2019.11.393>
5. Eric J Sherman, Jonathan Harris, Keith C Bible, Ping Xia, Ronald A Ghossein, Christine H Chung, Nadeem Riaz, G Brandon Gunn, Robert L Foote, Sue S Yom, Stuart J Wong, Shlomo A Koyfman, Michael F Dzeda, David A Clump, Saad A Khan, Manisha H Shah, Kevin Redmond, **Pedro A Torres-Saavedra** (✉), Quynh-Thu Le, Nancy Y Lee, Radiotherapy and paclitaxel plus pazopanib or placebo in anaplastic thyroid cancer (NRG/RTOG 0912): a randomised, double-blind, placebo-controlled, multicentre, phase 2 trial, *The Lancet Oncology*, Volume 24, Issue 2, 2023, Pages 175-186, [https://doi.org/10.1016/S1470-2045\(22\)00763-X](https://doi.org/10.1016/S1470-2045(22)00763-X)
6. Dian Wang, MD,..., **Pedro Torres-Saavedra** (✉), PhD, David R. Lucas, MD. Pathologic Complete Response and Clinical Outcomes in Localized Soft Tissue Sarcoma Treated with Neoadjuvant Chemoradiotherapy or Radiotherapy in NRG/RTOG 9514 and 0630. Accepted. *JAMA Oncology*.
7. Gillison ML, Ferris RL, Harris J, Colevas AD, Mell LK, Kong C, Jordan RC, Moore KL, Truong MT, Kirsch C, Chakravarti A, Blakaj DM, Clump DA, Ohr JP, Deeken JF, Gensheimer MF, Saba NF, Dorth JA, Rosenthal DI, Leidner RS, Kimple RJ, Machtay M, Curran WJ Jr, **Torres-Saavedra P** (✉), Le QT. Safety of Nivolumab Added to Chemoradiation Therapy Platforms for Intermediate and High-Risk Locoregionally Advanced Head and Neck Squamous Cell Carcinoma: RTOG Foundation 3504. *Int J Radiat Oncol Biol Phys*. 2023 Mar 15;115(4):847-860. doi: 10.1016/j.ijrobp.2022.10.008 Epub 2022 Oct 11. PMID: 36228746.
8. Chieko M., **Torres-Saavedra P.**, Silver N.L., Harari PM, Kies M.S., Rosenthal D.I., Le Q., Jordan R.C., Duose D.Y., Mallampati S., Trivedi S., Luthra R., Wistuba I.I., Osman A.A., Lichtarge O., Foote R.L., Parvathaneni U., Hayes D.N., Pickering C.R., Myers J.N. (2022), Evolutionary Action Score of TP53 Analysis in Pathologically High-Risk HPV-Negative Head and Neck Cancer from a Phase II Clinical Trial: NRG Oncology RTOG 0234, *Advances in Radiation Oncology*, 100989, <https://doi.org/10.1016/j.adro.2022.100989>
9. Lu D., Luu M., Gay C., Nguyen A.T., Anderson E.M., Bernier J., Cooper J.S., Harari P.M., **Torres-Saavedra P.A.**, Le Q., Chen M., Mallen-St. Clair J., Ho A., Zumsteg Z. (2022). Nodal Metastasis Count and Oncologic Outcomes in Head and Neck Cancer: A Secondary Analysis of NRG/RTOG 9501, NRG/RTOG 0234, and EORTC 22931, *International Journal of Radiation Oncology*Biology*Physics*, <https://doi.org/10.1016/j.ijrobp.2022.03.033>
10. **Torres-Saavedra, P.**, Winter K.A. (2021) An Overview of Phase 2 Clinical Trial Designs. *International Journal of Radiation Oncology-Biology-Physics (IJROBP)*, 112:1, 22-29. DOI:<https://doi.org/10.1016/j.ijrobp.2021.07.1700>

11. Pugh SL and **Torres-Saavedra P** (2021). Fundamental Statistical Concepts in Clinical Trials and Diagnostic Testing. *Journal of Nuclear Medicine*, 62(6):757-764.
12. Petit C. et al. (2021). Chemotherapy and radiotherapy in locally advanced head and neck cancer: an individual patient data network meta-analysis. *The Lancet Oncology*, Volume 22, Issue 5. [doi.org/10.1016/S1470-2045\(21\)00076-0](https://doi.org/10.1016/S1470-2045(21)00076-0)
13. Yom SS, **Torres-Saavedra P**, et al. (2021). Reduced-Dose Radiation Therapy for HPV-Associated Oropharyngeal Carcinoma (NRG Oncology HN002). *Journal of Clinical Oncology*, 39(9); [DOI: 10.1200/JCO.20.03128](https://doi.org/10.1200/JCO.20.03128)
14. Rivera R, Marazzi M, and **Torres P** (2019). [Incorporating Open Data into Introductory Courses in Statistics](#). *Journal of Statistics Education*, 1-13.
15. Romano, E., Moore, C., Kelley-Baker, T., and **Torres-Saavedra, P.** (2019). The utility of delta 9-tetrahydrocannabinol (THC) measures obtained from oral fluid samples in traffic safety. *Traffic Injury Prevention*, 29:1-6.
16. Romano, E., **Torres, P.**, Calderon, H., Voas, R. B., and Ramirez, A. (2018). [Alcohol-Related Risk of Driver Fatalities in Motor-Vehicle Crashes: Comparing Data from 2007 and 2013-2014](#). *Journal of Studies on Alcohol and Drugs*, Vol. 79:4, 547-552.
17. Romano, E., **Torres, P.**, Voas, R. B., and Lacey, J.H. (2016). [Marijuana and the Risk of Fatal Car Crashes: What Can We Learn from FARS and NRS Data?](#) *The Journal of Primary Prevention*, Vol. 38 (3), 315-328.
18. Baker, N., Appeldoorn, R. and **Torres-Saavedra, P.** (2016). [Fishery independent surveys of the queen conch stock in western Puerto Rico, with an assessment of historical trends and management effectiveness](#). *Marine and Coastal Fisheries*, Vol. 8, Issue 1.
19. **Torres, P.**, Romano, E. and Lacey, J.H. (2014). [The relative risk of involvement in fatal crashes as a function of race/ethnicity and blood alcohol concentration](#). *Journal of Safety Research*, 48, 95-101.
20. Romano, E., **Torres, P.**, Voas, R. and Lacey, J. (2014). [Drugs and Alcohol: Their Relative Crash Risk](#). *Journal of Studies on Alcohol and Drugs*, 75(1), 56-64.
21. Popa-Burke, I., Lane, C.A., Hogan, R., Novick, S., **Torres-Saavedra, P.**, Hardy, B., Ray, B., Gomez, M., Paulus, I., Miller, L. (2014). [The effect of Initial Purity on the Stability of Solutions in Storage](#). *Journal of Biomolecular Screening*, 19(2), 308-316.
22. **Torres, P.**, Zhang, D. and Wang, H. (2013). [Constructing Conditional Reference Charts for Grip Strength Measured with Error](#). *Topics in Applied Statistics, Springer Proceedings in Mathematics & Statistics*, 55, pp 299-310.
23. Voas, R. B., **Torres, P.**, Romano, E. and Lacey, J.H. (2012). [Alcohol-Related Risk of Driver Fatalities: An Update Using 2007 Data](#). *Journal of Studies on Alcohol and Drugs*, May, 73, 3:341-50 (second place in 2012-2013 top downloads of original research/reviews).
24. Lacey, J.H., Kelley-Baker, T., Voas, R.B., Romano, E., Furr-Holden, C.D., **Torres, P.**, and Berning, A. (2011). [Alcohol- and Drug-Involved Driving in the United States: Methodology for the 2007 National Roadside Survey](#). *Evaluation Review*, Vol. 35, Issue 4, 319-353.
25. **Torres, P.** and Ospina, D. (2001). [Cluster Sampling with Multiplicity: Estimation of the Population Size in Rare Populations](#) (in Spanish). *Revista Colombiana de Estadística*, 24, 2: 121-140.
26. Ortiz J., **Torres, P.**, Neira, T., Castaneda, J., and Castro A. (2000). [Rules to Use the Normal Distribution as an Approximation to the Binomial Distribution](#) (in Spanish). *Revista Colombiana de Estadística*, 23, 1: 65-70.

Conference Papers

Peer-Reviewed

1. **Torres, P.** and Macchiavelli, R. (2007). [Marginal Interpretation of Subject-Specific Curves: Logistic Normal Regression](#). *SAS Global Forum (SUGI) Proceedings*, 182.

Abstract-Reviewed

1. L. Mell, **P. Torres-Saavedra**, et al. *Radiotherapy with Durvalumab versus Cetuximab in Patients with Locoregionally Advanced Head and Neck Cancer and a Contraindication to Cisplatin: Phase II Results of NRG-HN004*. ASTRO Plenary, 2022.
2. J.J. Caudell, **P. Torres-Saavedra**, D.I. Rosenthal, R. Axelrod, P.F. Nguyen-Tan, E. Sherman, R.S. Weber, J.M. Galvin, A.K. El-Naggar, A.A. Konski, A. Trotti, N.E. Dunlap, G. Shenouda, A.K. Singh, J.J. Beitler, A.A. Garsa, M. Birrer, A.S. Garden, T.S. Herman, Q.T. Le. *Long-Term Update of NRG Oncology RTOG 0522: A Randomized Phase III Trial of Concurrent Radiation and Cisplatin with or without Cetuximab in Locoregionally Advanced Head and Neck Cancer*, *International Journal of Radiation Oncology, Biology, Physics*, Vol. 106, Issue 5, 2020.
3. E.J. Sherman, J. Harris, K.C. Bible, P. Xia, R.A. Ghossein, C.H. Chung, N. Riaz, B. Gunn, R.L. Foote, S. Yom, S.J. Wong, S. Koyfman, M.F. Dzeda, D.A. Clump, S. Khan, A. Chakravarti, K. Redmond, **P. Torres-Saavedra**, Q-T. Le, N. Lee, *1914MO Randomized phase II study of radiation therapy and paclitaxel with pazopanib or placebo: NRG-RTOG 0912*, *Annals of Oncology*, Volume 31, Supplement 4, 2020.
4. Caudell J, **Torres-Saavedra P**, Rosenthal D., Axelrod R, Nguyen-Tan PF, Sherman E, Weber RS, Galvin JM, El-Naggar A, Konski A, Trotti A, Dunlap N, Shenouda G, Singh AK, Beitler JJ, Garsa A, Birrer MJ, Garden AS, Herman T, Le Q. *Long-Term Update of NRG Oncology RTOG 0522: A Randomized Phase III Trial of Concurrent Radiation and Cisplatin with or without Cetuximab in Locoregionally Advanced Head and Neck Cancer*, **2020 Multidisciplinary Head and Neck Cancers Symposium**.
5. S.S. Yom, **P. Torres-Saavedra**, J.J. Caudell, J.N. Waldron, M.L. Gillison, M.T. Truong, R. Jordan, R. Subramaniam, M. Yao, C. Chung, J.L. Geiger, J. Chan, B. O'Sullivan, D.M. Blakaj, L.K. Mell, W.L. Thorstad, C.U. Jones, R.N. Banerjee, C.E. Lominska, and Q.T. Le. [NRG-HN002: A Randomized Phase II Trial for Patients With p16-Positive, Non-Smoking-Associated, Locoregionally Advanced Oropharyngeal Cancer](#). Late Breaking Abstract 10, ASTRO, 2019.
6. Michikawa C, **Torres-Saavedra PA**, Silver NL, Harari PM, Kies MS, Rosenthal DL, Le Q, Jordan R, Duose DY, Mallampati D, Trivedi D, Luthra R, Wistuba I, Lichtarge O, Foote RL, Parvathaneni U, Hayes DN, Pickering CR, and Myers JN. *Evolutionary action score of TP53 analysis in pathologically high-risk HPV-negative head and neck cancer from a phase II clinical trial: NRG Oncology RTOG 0234*. ASCO Annual Meeting, 2019.
7. Romano, E., **Torres-Saavedra, P.**, Voas, R. B., and Lacey, J. (2013). Alcohol-Related Fatal Crashes: Risk for Drivers with Previous DWI. *Proceedings of the Transportation Research Board 93rd Annual Meeting*, Washington D.C.
8. Romano, E., Kelley-Baker, T. and **Torres, P.** (2011). Female Involvement in U.S. Fatal Crashes Under a Three-level Hierarchical Crash Model: Mediating and Moderating Factors. *Women's Issues in Transportation, Proceedings of the 4th International Conference*.

Books

1. Fundamental of Radiation Oncology. Overview of Clinical Trial Design Chapter (work in progress).
2. Cáceres, L., Portnoy, A., **Torres-Saavedra, P.**, Colón, O., Vélez, A. and Chamorro, A. (2017). *Problems and Solutions: Mathematics Olympiads in Puerto Rico: 2016-2017*. AFAMaC Publications.
3. Cáceres, L., Portnoy, A., **Torres-Saavedra, P.**, Colón, O., and Zepeda, M. (2016). *Problems and Solutions: Mathematics Olympiads in Puerto Rico: 2015-2016*. AFAMaC Publications.

Other Publications

1. **Torres-Saavedra, P.** (2018). *The Normal Distribution and Its Role in the Puerto Rican Academic Achievement Tests*. Pedagogical Publication, AFAMaC Publications.
2. Moreno, A. and **Torres-Saavedra, P.** (2018). *Analysis of Newborn Weights in Puerto Rico Using Quantile Regression* (in Spanish). Master Project, UPRM.
3. Valerio, R. and Torres-Saavedra, P. (2018). *Performance of a Novel Algorithm (HDBSCAN) for Clustering Applied to Covariance Matrices*. Master Thesis, UPRM.
4. Román, Y., **Torres-Saavedra, P.**, and Santana-Morant, D. (2017). *Flipped Classroom: An Alternative Teaching Method for Introductory Statistics Courses*. Master Thesis, UPRM.
5. Teran, L. and **Torres-Saavedra, P.** (2017). *Bayesian Semiparametric Mixed Model with Beta Distribution* (in Spanish). Master Thesis, UPRM.
6. Torres-Saavedra, P. (2017). *Class Notes "Advanced Statistical Models,"* Pedagogical Publication, UPRM.
7. **Torres, P.**, Román, Y., Rivera, R. and González, M. (2016). [RePASA: A Virtual Repository for Teaching Statistics in High Schools in Puerto Rico](#) (Website).
8. Torres, P., Zhang, D. and Wang, J. (2013). *Quantile Regression for Repeated Responses Measured with Error*. NCSU Repository (Ph.D. Dissertation). Retrieve at <http://www.lib.ncsu.edu/resolver/1840.16/8693>
9. Lacey, J., Kelley-Baker, T., Furr-Holden, D., Voas, R. Moore, C., Brainard, K., Tippetts, S., Romano, E., **Torres, P.**, and Berning, A. (2009). [2007 National Roadside Survey of Alcohol and Drug Use by Drivers: Methodology](#). DOT HS 811 237.
10. Lacey, J., Kelley-Baker, T., Furr-Holden, D., Voas, R., Romano, E., **Torres, P.**, Tippetts, S., Ramirez, A., Brainard, K., and Berning, A. (2009). [2007 National Roadside Survey of Alcohol and Drug Use by Drivers: Alcohol Results](#). DOT HS 811 248.
11. Lacey, J., Kelley-Baker, T., Furr-Holden, D., Voas, R., Romano, E., Ramirez, A., Brainard, K., Moore, C., **Torres, P.**, and Berning, A. (2009). [2007 National Roadside Survey of Alcohol and Drug Use by Drivers: Drug Results](#). DOT HS 811 249.
12. Torres-Saavedra, P., and Ospina, D. (2001). *Network Sampling: An Alternative to Estimate Population Totals Using Household Surveys* (in Spanish). BS Thesis, National University of Colombia.

PRESENTATIONS AND INVITED LECTURES

Invited Lectures

- “[RePASA: A Virtual Repository for Teaching Statistics in High Schools in Puerto Rico](#),” 3rd Meeting of Mathematics Educators, Department of Mathematics, Arecibo, PR, 2016.
- “Quantile Regression for Repeated Responses Measured with Error,” Joint Statistical Meetings (Contributed Session), Boston, MA, US, 2014.

Paper Presentations

- “Bayesian Semiparametric Mixed Beta Regression with Penalized Splines for Plant Severity,” International Biometric Conference, Barcelona, Spain, 2018.
- “Semiparametric Mixed Beta Regression with Penalized Splines for Plant Severity,” XXX SIDIM, Mayaguez, PR, US, 2014.
- “Semiparametric Mixed Beta Regression with Penalized Splines for Plant Severity,” Latin-American Congress on Probability and Mathematical Statistics, Cartagena, Colombia, 2014.
- “Mixed Beta Regression with Penalized Splines for Plant Severity,” XXVII International Biometric Conference, Florence, Italy, 2014.
- “Quantile Regression for Repeated Responses Measured with Error,” 8th World Congress in Probability and Statistics, Istanbul, Turkey, 2012.
- “Has the Risk of an Alcohol-Related Crash Changed in the Last Decade?” 34th Annual RSA Scientific Meeting, Atlanta, GA, 2011.
- “Marginal Interpretation of Subject-specific Curves: Logistic Normal Regression,” SAS Global Forum (SUGI), Orlando, FL, US, 2007.
- “Alternatives of Analysis for Binary Longitudinal Data: Logistic Model with Random Intercepts,” Symposium of Statistics, Papa, Colombia, 2006.
- “Graphical Analysis of Regression using R-code Program,” Symposium of Statistics, San Andrés, Colombia, 2000.
- “Lilliefors' Technique and Its Use to Test Goodness of Fit,” Symposium of Statistics, Medellín, Colombia.

Poster Presentations

- “Safety of Radiotherapy with Concurrent And Adjuvant MEDI4736 (Durvalumab) in Patients with Locoregionally Advanced Head and Neck Cancer with Contraindication to Cisplatin: NRG-HN004”, ASCO, 2019.
- “The Potential Utility of Cannabis Measures from Oral Fluid Samples in Traffic Safety,” Research for Alcohol Society, San Diego, CA, 2018.
- “What Have We Learned on the Design of a Flipped Classroom in an Introductory Statistics College Course?” College State, PA, USCOTS, 2017.
- “RepASA: A Virtual Repository to Improve Statistics Teaching in High Schools in Puerto Rico,” Joint Statistical Meetings, Chicago, US, 2016.
- “Investigating Crime Data in Puerto Rico through Point Processes,” SIDIM, Ponce, PR, 2016.
- “Semiparametric Mixed Beta Regression with Penalized Splines for Plant Severity,” Joint Statistical Meetings, Seattle, 2015.
- “Negative Binomial-Lindley Distribution for Count Data with Excess of Zeroes,” Mayaguez, PR, 2015.
- “Drugs and Alcohol: Their Relative Crash Risk,” Expoestadísticas, Caguas, PR, US, 2015.
- “Bivariate Copula-Based Regression Models: An Application to Crash Data,” SIDIM, Mayaguez, PR, 2015.
- “Alternative Teaching Methods for Introductory Statistics Courses,” SIDIM, Mayaguez, PR, 2015.

- “Quantile Curves for Repeated Responses Measured with Error with Application to Usual Nutrient Intake,” Spanish Congress of Biometry and Ibero-American Meeting of Biometry, Bilbao, Spain, 2015.
- “Drugs and Alcohol: Their Relative Crash Risk,” 34th Annual Research and Education Forum, Medical Sciences Campus, UPR, San Juan, PR, 2014.
- “Quantile Regression for Repeated Measurements under the Presence of Measurement Error,” SACNAS, San Jose, CA, US, 2011.
- “Quantile Regression for Repeated Responses Measured with Error,” Pan-American Institute of Advanced Studies in Probability and Statistics (PASI), Xalapa, Veracruz, México, 2011.
- “Marginal Interpretation of Subject-Specific Curves: Logistic Normal Regression,” Graduate Student Research Symposium, Raleigh, NC, US, 2008.
- “Orthogonal Gauss-Hermite Polynomials and its Use in Marginalized Models,” SIDIM, PR, US, 2005.

Panel “Transition from a minority undergraduate institution to a majority research institution,” SAMSI, RTP, NC, US, 2014.

Other Presentations

- “Approached for Analyzing Continuous Endpoints in PRO/QOL Studies,” NRG Oncology Statistical and Data Management Center, Philadelphia, PA, 2021.
- “Bayesian Optimal Interval Design (BOIN),” NRG Oncology Statistical and Data Management Center, Philadelphia, PA, 2021.
- “Kappa Coefficient Paradoxes: NRG-HN002 PET/CT Study,” NRG Oncology Statistical and Data Management Center, Philadelphia, PA, 2021.

PROFESSIONAL TRAINING

- Statisticians in the Pharmaceutical Industry (PSI) Webinar(s): Causal Inference in Clinical Trials, December 2023.
- CIRS/ASA Webinar: An Overview of Some Methods for Statistical Analysis of Missing Data, September 2023.
- Biopharmaceutical Section Webinar Series: Diversity in Clinical Trials, April 2023
- SCT Webinar: Design and Analysis Considerations in Immuno-Oncology Trials under Delayed Treatment Effect, November 2022.
- SCT Virtual Workshop: Design Clinical Trials with Non-Inferiority Hypothesis: Methods and Applications, June 2022.
- Virtual Symposium on Risks and Opportunities of AI in Clinical Drug Development, Northeastern University/ASA/Columbia University, June 2022.
- 2022 Society for Clinical Trials Conference, San Diego, CA. Workshop: “Improving Precision and Power in Randomized Trials by Leveraging Baseline Variables”, May 2022
- Webinar on non-concurrent controls in platform trials, EU-Patient-Centric Clinical Trial Platforms (PEARL), Feb. 2022.
- How to Have Fewer, Better Meetings, LinkedIn Training, Feb. 2022
- SCT Webinar: The PROTEUS Consortium: An Interdisciplinary Collaboration Promoting Quality Patient Reported Outcomes in Clinical Trials, SCT, Feb. 2022
- 77th Annual Deming Conference on Applied Statistics Virtual Conference, Dec. 2021.
- Response Adaptive Randomization: Pitfalls and Opportunities. DIA Bayesian Scientific Working Group (BSWG). Nov. 2021.

- Clinical Trial Endpoint Development for Locally Advanced Head and Neck Squamous Cell Carcinoma (HNSCC) Workshop. FDA Oncology Center of Excellence, Nov. 2021
- Dartmouth Area SAS Users Group Webinar: “Causal Analysis Using SAS Statistics Procedures,” Aug. 2021.
- Statistics and Machine Learning: Computational Science in Immuno-Oncology. SITC-NCI Computational Immuno-Oncology Webinar Series, May 2021.
- 42nd Virtual Annual Meeting, Society for Clinical Trials, May 2021.
Workshop: How the estimand addendum to the ICH E9 guideline helps structure clinical objectives, analyses, and conclusions – a series of oncology case studies.
- ACR Leadership Training – Getting Your Team on the Same Page, April 2021.
- 13th University of Pennsylvania Conference on Statistical Issues in Clinical Trials: “Cluster Randomized Clinical Trials: Challenges and Opportunities.” Department of Biostatistics and Epidemiology Informatics (DBEI), April 2021.
- ASCO-Friends Virtual Meeting: Modernizing Eligibility Criteria in Clinical Trials, April 2021.
- Webinars: “Statistical Challenges in Designing Combination-Therapy Trials in Oncology” and “Statistical Considerations for Development of Novel Combination Designs for Immuno-Oncology Development,” ASA NJ Webinar Series, Oct. 2020
- Webinar: “Web-based applications for early-phase trials designs,” Society for Clinical Trials, Oct. 2020
- CDISC/CDASH/SDTM Training, Essex, Aug. 2020
- 2020 Joint Statistical Meetings – ASA, Virtual Conference, Aug. 2-6, 2020
- 30th International Biometric Virtual Conference, July 2020.
- ASA Princeton-Trenton Chapter - Annual symposium (the 3rd webinar): “Toward improving everyday practice of survival data analysis in oncology randomized clinical trials,” Aug., 2020
- nQuery Sample Size Certified Online Training Program, June 2020
- 41st Virtual Annual Meeting, Society for Clinical Trials, May 2020.
- Cytel (East) Webinars:
 - Master Protocols: Trends in Bayesian Basket Studies, October 2021
 - Leveraging External Control Data for a Clinical Trial with Time-to-Event Endpoints, June 2021
 - Review of Adaptive Phase II Basket Trial Designs in East Bayes, June 2021
 - Utilizing Bayesian Analysis to Make Go/No-Go Decisions in a Platform Trial, May 2021
 - Early Phase Oncology Decision Making Using East Bayes, May 2021
 - A New Hybrid Phase I-II-III Clinical Trial Paradigm, May 2021
 - Synthetic Control Mythbusters, March 2021
 - U.S. Regulatory Aspects of Digital and Wearable Medical Devices, March 2021
 - Bayesian Models for Precision Oncology Clinical Trials, Dec. 2020
 - Case study on the value of detailed clinical trial simulations for rare diseases, Oct. 2020
 - Bayesian Dose-Finding Designs for Modern Drug Development, Oct. 2020
 - Head to Head Comparisons Using Real World Data – Study Design Considerations and an Update on the Pilot Investigation in Cancer, Sep. 2020
 - Head to Head Comparisons using Real World Data: Design and Data Source Considerations from Pilot Investigations in CVD, July 2020
 - Introduction to Population Enrichment Trial Designs, July 2020

- Practical Model-based Approaches for Phase I Oncology Trials, June, 2020
- Oncology and Estimands, May, 2020
- Conducting Sample Size Reassessment with Time-to-Event Endpoints, May 2020
- A Clinician's Perspective on Oncology Development, April 2020
- Phase 1 Dose Escalation Trials with ESCALATE, April 2020
- Transparent Machine Learning in Oncology, April 2020
- Key Design Considerations for Basket and Umbrella Trials, April 2020
- Adaptive Umbrella Trials Using MAMS Module, April 2020
- Ongoing Trials During COVID-19: Quantitative Strategies and Methodological Aspects, April 2020
- WebENAR: "Collaboration: Applications of RWE in drug development and methodologies for confounding control *and* A Statistical roadmap for journey from real-world data to real-world evidence," March 13, 2020.
- StatSolutions (nQuery) Webinars:
 - GoToWebinar: Trial Design Issues for Phase II Trials, Nov. 2023
 - GoToWebinar: Powering Survival Analysis Clinical Trials, July 2023
 - GoToWebinar: Sample Size for Categorical Endpoints, March 2023
 - GoToWebinar: Sample Size for Non-inferiority Studies, Sep. 2022
 - Advanced Sample Size Determination for Counts and Rates, May 2022
 - Clinical Trial Design Trends for 2022, Jan. 2022.
 - Challenges in Survival Analysis: Methods for non-proportional hazards, stratification effects & prediction models, Nov. 2021
 - Sample Size & Prediction Calculation Interactions. Milestone Prediction and Sample Size for Prediction Models, Oct. 2021
 - How to predict key events in survival analysis trials | Using simulation to project event targets, August 2021
 - Phase II Oncology Trial Designs: Their unique issues and the adaptive solutions, March 2021
 - The Impact of COVID-19 in Clinical Trials, Nov. 2020
 - Study Design for Non-inferiority and Equivalence Trials, Oct. 2020
 - Adaptive Designs for Phase II Trials, Aug. 2020
 - MCP-Mod: Optimizing Phase II Dose Selection for Continuous and Non-Continuous Endpoints, June 2020
 - Optimizing Trial Design: From Early Phase to Confirmatory Trials, 2020.
 - How to Reduce Sample Size Ethically and Responsibly, 2019
 - Innovative Strategies for Successful Trial Design, 2019
 - Alternatives to p-value and power, 2019
 - Why to Include Bayesian Statistics when Planning your Frequentist Trial, 2019
 - Advantages and Disadvantages of Adaptive Sample Size Re-estimation, 2019
- 40th Annual Meeting, Society for Clinical Trials. "Clinical Trials: A Catalyst for Societal Advancement through Innovation." New Orleans, US, May 18-22, 2019.
- 12th Annual Conference on Statistical Issues in Clinical Trials: Electronic Health Records (HER) in Randomized Clinical Trials: Challenges and Opportunities. Perelman School of Medicine, University of Pennsylvania, PA, US, April 17, 2019.
- Semi-Annual NRG Oncology Meeting. Phoenix, AZ, US, February 6-9, 2019.
- E-training "Medidata Classic Rave EDC Essentials for Read-Only Users," "Rave Reporter," Medidata Academy, 2019.

- Webinar “Advantages and Disadvantages of Adaptive Sample Size Re-Estimation,” Stat Solutions (nQuery), 2019.
- E-course “Preventing Workplace Harassment for Employees,” American College of Radiology, 2018.
- E-Training “Protecting Human Research Participants,” Office of Extramural Research, National Institutes of Health, 08/24/2018.
- Basic Course “Good Clinical Practice,” CITI Program, 2018 (Expires: 08/22/2020).
- Basic Mini-course “Conflict of Interest,” CITI Program, 2018 (Expires: 08/21/2020).
- Basic Course “Information Privacy and Security (IPS),” CITI Program, 2018 (Expires: 08/22/2020).
- Webinar “Innovative Sample Size Methods for Adaptive Clinical Trials”, Stat Solutions (nQuery), 2018.
- “High-Performance Computing Monthly Workshop: Big Data”, XSEDE-Pittsburgh Supercomputing Center, University of Pittsburgh, PA, 2016.
- Workshop “Big Data Analysis Methods for Health Research,” Medical Sciences Campus, PR Clinical and Translational Research Consortium, UPR, San Juan, PR, US, 2015.
- Symposium “Health Informatics in Latin American and the Caribbean (SHILAC),” University of Puerto Rico, Rio Piedras, PR, US, 2015.
- Seminar “Grant Writing: Budget Basics,” Research and Development Center, UPRM, 2015.
- Seminar “How to structure a flipped classroom?” Professional Development Center, UPRM, 2015.
- Seminar “Tablet: Its Applications and Effect Teaching Mathematics,” Department of Mathematical Sciences, UPRM, 2015.
- Workshop “Data Analytics/Big Data,” Department of Mathematical Sciences, UPRM, 2014.
- Workshop “IRB: Human Subjects Research, IRB Requirements,” Research and Development Center, UPRM, 2014.
- Workshop “FCOI Online Tutorial,” National Institutes of Health, 2014.
- Workshop “Social Networks,” Program on Computational Methods in Social Sciences (CMSS), SAMSI, 2014.
- Workshop “Tools for Monitoring and Identifying Research Funds with InfoEdSPIN,” Research and Development Center, UPRM, 2013.
- Workshop “Geographic Information Systems,” Research and Development Center, UPRM, 2013.
- Conference “Population Studies in PR,” PR Institute of Statistics, 2014.
- Webinar “Updating the Guidelines for Undergraduate Programs in Statistics (Webinar),” CAUSE Consortium, 2013.
- Forum “How to Improve Research Culture at the UPRM?” Professional Development Center, UPRM, 2013.
- Workshop “Effective Time Management as a Researcher,” Professional Development Center, UPRM, 2013.
- Workshop “Fostering Diversity in Biostatistics,” ENAR, Miami, FL, 2009; ENAR, San Antonio, TX, U.S, 2011.
- Summer School on Spatial Statistics, SAMSI, RTP, NC, US, 2009.
- Workshop “The Compact for Faculty Diversity,” Institute on Teaching and Mentoring, AGEP-NSF Alliance, Tampa, FL, US, 2008.

- Workshop “Introduction to Survey Estimation,” The Joint Program in Survey Methodology, College Park, MD, US, 2008.
- Symposium on Statistics Applied to Health Sciences, National University of Colombia, Bogotá, DC, Colombia, 2003.
- Symposium on Statistics Applied to Environmental Sciences, National University of Colombia, Bogotá DC, Colombia, 2002.
- Symposium on Census and Surveys, National University of Colombia, San Andrés, Colombia, 2000.
- Symposium on Quality Control, National University of Colombia, Medellín, Colombia, 1999.

PROFESSIONAL AFFILIATIONS

- Society of Clinical Trials (SCT): Member, 2018-Present.
- American Statistical Association, 2006-2018, Founding Member and Treasurer of the PR Chapter.
- International Biometric Society, 2005-Present, Member of Central American and Caribbean Region.
- Institute of Mathematical Statistics (IMS), 2005-Present, Member.
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS), 2009-Present, Founding Member of NCSU Chapter.
- National Alliance for Doctoral Studies in the Mathematical Sciences (Math Alliance), 2014-Present, Undergraduate Mentor.

PROFESSIONAL SERVICE

- Participated in the survey to design the SPIRIT and CONSORT guidelines extensions for early-phase dose-finding trials.
- Member of the Society for Clinical Trials Education Committee, 2021-
- Member of the Society for Clinical Trials Communications Committee, 2022-
- Journal Reviewer
 - Statistics in Medicine, 2023-
 - JAMA Oncology, 2023-
 - Clinical and Translational Radiation Oncology, 2022-
 - Journal of Clinical Oncology, 2022-
 - Journal of Clinical Oncology (JCO) Precision, 2022-
 - JCO Oncology Practice, 2021-
 - Nature Communications, 2022-
 - Neuro-Oncology Practice, 2020-
 - Cancer Medicine, 2020-
 - Accident Analysis and Prevention (AAP), 2016-19
 - Journal of Educational and Behavioral Sciences (JEBS), 2016
- Interuniversity Seminar for Research in Mathematical Sciences ([SIDIM](#)), Secretary, Mayaguez, PR, US, 2014-18
- Puerto Rico Chapter of the American Statistical Association ([CAAEP](#)), Founder and Treasurer, PR, US, 2016-18.
- North Carolina State University Chapter of SACNAS, Founder and Secretary, Raleigh, NC, US, 2009-12.
- Puerto Rico Math Olympiads ([OMPR](#)), Member of the Organizer Committee and Trainer, PR, US, 2013-18.

- Conference Abstract Reviewer
 - 34th Annual Research and Education Forum, Medical Sciences Campus, UPR, San Juan, PR.
 - *XXIX SIDIM*, Ponce, PR, US, 2014.
 - *7th NEA Science Day*, UPRM, Mayaguez, PR, US, 2014.
 - Technology and Science Symposium, SACNAS-UPRM, Mayaguez, PR, US, 2014.
- Symposium Co-Organizer, 1st Symposium on Undergraduate and Graduate Research, Department of Mathematical Sciences, UPRM, Mayaguez, PR, US, 2015.
- Conference Co-Organizer, Undergraduate Mathematics Research Conference ([UMaRch](#)) Puerto Rico, Department of Mathematical Sciences, UPRM, Mayaguez, PR, US, 2015.
- High-School Poster Competition Coordinator. The American Statistical Association (ASA) Poster Competition, UPRM, Mayaguez, PR, US, 2015.
- Symposium Co-Organizer, Interuniversity Seminar for Research in Mathematical Sciences ([SIDIM](#)), Mayaguez, PR, US, 2014.
- Summer School Co-Organizer, [PR Math Olympiads](#), Department of Mathematical Sciences, UPRM, Mayaguez, PR, US, 2013-17

LANGUAGE PROFICIENCY

English and Spanish (Native)

COMPUTER SKILLS

- Programming / Statistical Software: R/RStudio (R Markdown, Bookdown), SAS/SAS Studio (STAT, data management, graphics, macros, IML, etc.), JMP, SPSS, JAGS, Design Expert, Minitab, LaTeX.
- Clinical Trials Design: East, nQuery (Sample Size Certified Online Training Program), R (rpact, gsDesign, and nph libraries)

REFERENCES

References are available upon request.