

Jesus Epifanio Vazquez

BIostatistician · Data Scientist · Avid Learner

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Education

University of North Carolina

PH.D. CANDIDATE - BIOSTATISTICS

- Advisor: Dr. Tanya P. Garcia
- Dissertation Topic: Randomly right-censored covariates in longitudinal studies

Chapel Hill, NC

August 2019 - Present

University of New Mexico

B.S. IN STATISTICS, MINORING IN MATHEMATICS (WITH HIGH DISTINCTION)

B.A. ECONOMICS, MINORING IN STATISTICS (WITH HIGH DISTINCTION)

- Advisors: Dr. Fares Qeadan and Dr. Alok Bohara
- Honors Thesis: Household Waste Management Effects on Health, and Behavior: A Case Study of Siddharthanagar

Albuquerque, NM

August 2015 - May 2019

Professional Experience

Google

DATA SCIENTIST INTERN

- Proposed an Inter-Platform-Reliability metric to assess data-quality beyond randomness. Robustness of the metric in capturing data-quality beyond randomness was proved with theory and tested with simulations.
- Provided a technical report with step-by-step instructions on how to generate values and results, and highly documented website with code/examples, and internship presentations.
- Recommended safe-hypothesis testing practices for categorical data analysis under small sample-sizes.

San Francisco, CA

May 2019 - August 2020

Research Experience

The North Carolina Translational and Clinical Sciences Institute

GRADUATE RESEARCH ASSISTANT

- Provided statistical consulting for medical related projects.
- **Mentor:** Dr. Bahjat Qaqish

Chapel Hill, NC

May 2022 - Present

Collaborative Studies Coordinating Center- Study of Latinos

GRADUATE STUDENT RESEARCH ASSISTANT

- Assisted project manager on identifying inconsistencies on nested survey responses using SAS & R.
- Investigated the reliability of the Global Physical Activity Questionnaire in capturing the true level of physical activity among Hispanics/Latinos in the US.
- **Mentor:** Dr. Daniela Sotres-Alvarez

Chapel Hill, NC

May 2019 - August 2020

Albuquerque Area Southwest Tribal Epidemiology Center

DATA ANALYST

- Responsible for the creation of disease-prevalence reports using SAS.
- Investigated the effect of the change in ICD-9 to ICD-10 in the prevalence of diseases.
- Helped write a bioinformatics grant aimed to promote the reuse of immunology data found in ImmPort.
- **Mentor:** Dr. Fares Qeadan

Albuquerque, NM

January 2018 - June 2019

Nepal Study Abroad

UNIVERSITY OF NEW MEXICO, DEPARTMENT OF ECONOMICS

- Presented behavioral and health directed research to the prime minister of health, the mayor, and community about the importance of good waste management practices.
- Helped set up river and weather monitoring systems at the Lumbini Center for Sustainability at the Pratiman-Neema Memorial Health Institute (PNMHI), Nepal
- **Mentor:** Dr. Alok Bohara

Bhairahawa, Rupandehi, Nepal

May 2018 - July 2018

SUMMER RESEARCH EXPERIENCES FOR UNDERGRADUATES

Advanced Computational Research Experience for Students

East Lansing, MI

MICHIGAN STATE UNIVERSITY - DEPARTMENT OF COMPUTATIONAL MATHEMATICS AND ENGINEERING

May 2018 - July 2018

- Explored the use of word-vectors using Machine Learning (ML) methods to glean similarity and semantic relationships between biomedical entities – e.g. genes, cellular functions, diseases, and drugs.
- Evaluated performance of Natural Language Process models by building Receiver Operating Characteristic and Precision Recall Curves using Python and R.
- **Mentor:** Dr. Arjun Krishnan

Life Sciences Summer Undergraduate Research Program

Minneapolis, MN

UNIVERSITY OF MINNESOTA, DEPARTMENT OF HORTICULTURAL SCIENCE

June 2017 - August 2017

- Conducted trials to understand the possibility of using waste water from breweries and creameries to grow plants in hydroponic systems.
- Conducted ANOVA and Kruskal-Wallis tests, as well as assumption diagnostics of the statistical models to understand the effects of sodium chloride in the growth of plants.
- **Mentor:** Dr. Neil Anderson

Extracurricular Activities

Latine Graduate & Professional Student Association (LGPSA)

Chapel Hill, NC

PUBLIC RELATIONS MANAGER & FOUNDING MEMBER

April 2022 - Present

- In our team of 5 we help plan and coordinate cultural and advocacy events for Latine graduate and professional students.
- Responsible for raising awareness and visibility of LGPSA across the UNC-Chapel Hill community. This includes participating in radio interviews and answering university media questions.
- **Advisor:** Yesenia Pedro Vicente

Biostatistics Student Association

Chapel Hill, NC

UNC STOR-BIOSTATISTICS LIASON

August 2021 - May 2022

- Inform the Biostatistics Department about activities hosted by the Statistic & Operations Research Department.

UNC Gillings School of Public Health Student Government Association

Chapel Hill, NC

BIOSTATISTICS STUDENT REPRESENTATIVE

August 2020 - May 2022

- Discuss issues affecting the Biostatistics students.
- In charge of organizing fundraising events used to pay for student activities at the public health school level.

Papers & Presentations

PEER-REVIEWED MANUSCRIPTS

1. Rahman, M.M.; A. Bohara, Ph.D.; **Vazquez, J.E.**. Geospatial analysis of health risks and solid waste management behaviour. Department of Economics at The University of New Mexico. Journal of Environmental Economics and Policy. 2021

MANUSCRIPTS IN PROGRESS

1. **J. Vazquez**; S. Lotspeich, Ph.D.; Tanya Garcia, Ph.D. Longitudinal linear regression with a randomly right censored predictor: a simulation approach. Biostatistics
2. **Vazquez, J.E.**; Sotres-Alvarez, D. ; Buelna, C; Castaneda, S; Evenson, K; Gallo, L; Gonzalez, P; Hankinson, A; Marshall, S; Moncrieff, A; Talavera, G; Evenson, K. Validity of the Global Physical Activity Questionnaire (GPAQ) in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). Annals of Epidemiology.
3. F. Qeadan, Ph.D.; **J. Vazquez**; L. Layne, Ph.D.; K. English, Ph.D. Changes in Contact Prevalence of Health Conditions from Electronic Health Records after Implementation of ICD-10-CM. Albuquerque Area Southwest Tribal Epidemiology Center.
4. **Vazquez, J.E.**, F. Qeadan, Ph.D.; A. Carlson, MD. Autosomal Dominant Polycystic Kidney Disease (ADPKD) and Cerebral Aneurysms. Albuquerque Area Southwest Tribal Epidemiology Center.

TECHNICAL MANUSCRIPTS COMPLETED / NOT PUBLISHED

1. **Vazquez, J.E.**; A. Yannakopoulos; K. Johnson; C. Mancuso, Ph.D.; A. Krishnan, Ph.D. Learning Numerical Representations of Biomedical Concepts from 28 Million Abstracts. Department of Computational Mathematics Science & Engineering at Michigan State University.

POSTER PRESENTATIONS

1. **Vazquez, J.E.**; Sotres-Alvarez, D. ; Buelna, C; Castaneda, S; Evenson, K; Gallo, L; Gonzalez, P; Hankinson, A; Marshall, S; Moncrieff, A; Talavera, G; Evenson, K. Validity of the Global Physical Activity Questionnaire (GPAQ) in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). The University of North Carolina Chapel Hill, Department of Biostatistics. November 2019
2. **Vazquez, J.E.**, Collman, B, Morris, R.M. Biased Childhood Asthma Mortality Rates in the US: A Vector Autoregressive Approach. Science & Mathematics Learning Center, The University of New Mexico, Albuquerque, NM. May 2019
3. **Vazquez, J.E.**, F. Qeadan, Ph.D.; A. Carlson, MD. Autosomal Dominant Polycystic Kidney Disease (ADPKD) and Cerebral Aneurysms. Domenici Center for Health Sciences Education at the New Mexico School of Medicine, Albuquerque, NM. May 2018
4. **Vazquez, J.E.**, A. Bohara, Ph.D. Household Waste Management Effects on Health, and Behavior: A Case Study of Siddharthanagar. Undergraduate Research Opportunity Conference (UROC), Student Union Building, The University of New Mexico, Albuquerque, NM. April 2017

5. **Vazquez, J.E.**, N. Riera Villa, MS; N. Anderson, Ph.D. NaCl effects on hydroponically grown Kale and Mustard Greens. McNamara Alumni Center, The University of Minnesota, Minneapolis, MN. December 2017
6. **Vazquez, J.E.**, A. Bohara, Ph.D. Is Arsenic Contamination The Real Problem, Or Is It Just One Of The Factors?. Science & Mathematics Learning Center, The University of NM, Albuquerque, NM. May 2017

ORAL PRESENTATIONS

1. **Vazquez, J.E.**, F. Qeadan, Ph.D.; A. Carlson, MD. Autosomal Dominant Polycystic Kidney Disease (ADPKD) and Cerebral Aneurysms. Clinical & Translational Investigators Program Seminar, UNM School of Medicine, Albuquerque, NM. February 2019.
2. **Vazquez, J.E.**; A. Yannakopoulos; K. Johnson; C. Mancuso, Ph.D.; A. Krishnan, Ph.D. Learning Numerical Representations of Biomedical Concepts from 28 Million Abstracts.

October 2018 **Ronald McNair Research Scholars Conference**, The University of Maryland *Baltimore, MD*
October 2018 **Ronald McNair Research Scholars Conference**, The University of New Mexico *Albuquerque, NM*
July 2018 **iCER Symposium**, Michigan State University *East Lansing, MI*
3. **Vazquez, J.E.**, A. Bohara, Ph.D. Household Waste Management Effects on Health, and Behavior: A Case Study of Siddharthanagar. Pratiman-Neema Memorial Health Institute, Bhairahawa, Rupandehi, Nepal. December 2017

Teaching Experience

BIOS 664 Applied Survey Data Analysis

Chapel Hill, NC

GRADER- THE UNIVERSITY OF NORTH CAROLINA, BIOSTATISTICS DEPARTMENT

Spring 2022

- Fundamental principles and methods of sampling populations, with emphasis on simple random, stratified, and cluster sampling.

BIOS 667 Applied Longitudinal Data Analysis

Chapel Hill, NC

TEACHER ASSISTANT- THE UNIVERSITY OF NORTH CAROLINA, BIOSTATISTICS DEPARTMENT

Fall 2021

- Guided students to help understand linear and generalized linear models marginal and mixed effects models, methods of estimation (MLE, REML, GEE), variance components, hypothesis testing and confidence intervals, prediction of random effects, regression diagnostics, sample size calculation.

BIOS 663 Intermediate Linear Models

Chapel Hill, NC

TEACHER ASSISTANT- THE UNIVERSITY OF NORTH CAROLINA, BIOSTATISTICS DEPARTMENT

Spring 2021

- Guided students to help understand matrix-based treatment of regression, one-way and two-way ANOVA, and ANCOVA, with applications in the health sciences.
- Planned recitations to help students with HW, and as well as provide techniques to become better R and SAS programmers.

BIOM 505 Biostatistics 1 & 2

Albuquerque, NM

TEACHER ASSISTANT- THE UNIVERSITY OF NEW MEXICO SCHOOL OF MEDICINE

Fall 2018 & Spring 2019

- Communicated effective ways to conduct data cleaning and manipulation in SAS.
- This course covered regression (linear and logistic), ANOVA, Survival Analysis, sample size calculations and power analysis.
- Taught students how to use SAS and how to apply it to their end of semester research project.
- This course covered graphical and numerical descriptive statistics, probability calculations and distributions, inferential statistics, non-parametric statistical methods, and sample size calculation.

Econ 395 Economic Issues

Albuquerque, NM

CLASS FACILITATOR- THE UNIVERSITY OF NEW MEXICO, ECONOMICS DEPARTMENT

Fall 2017

- Helped students understand how to use STATA and its applications to data analysis and visualization in public health. This includes theory and practice of multiple linear regression and probability concepts.
- Clarified concepts of survey design and how they were applied to their data.

Training Grants & Fellowships

T32 Environmental Sciences Training Grant

Chapel Hill, NC

UNIVERSITY OF NORTH CAROLINA, DEPARTMENT OF BIOSTATISTICS

August 2022 - Present

- Generate research in biostatistics aimed to help solve problems in public health and environmental sciences.

Ronald E. McNair Scholars Program

Albuquerque, NM

UNIVERSITY OF NEW MEXICO, DEPARTMENT OF ECONOMICS

August 2017 - May 2019

- Investigated the importance of pollution and waste management practices in the health of community members of Bhairahawa, Rupandehi, Nepal.
- **Mentor: Dr. Alok Bohara**

El Puente Undergraduate Research Fellowship

Albuquerque, NM

UNIVERSITY OF NEW MEXICO, DEPARTMENT OF ECONOMICS

August 2016 - April 2017

- Formulated research proposal to investigate how Corporate Social Performance (CSP) affects financial and market performance of companies in the southwest.
- **Mentor: Dr. Claudia Diaz Fuentes**

Honors & Awards

HONORS

Gary Koch Biostatistics Poster Award

UNIVERSITY OF NORTH CAROLINA, DEPARTMENT OF BIOSTATISTICS

Chapel Hill, NC

Fall 2019

- Award given to the top two graduate student poster presentations based on impact, intellectual merit, and delivery during the 70th-UNC Biostatistics Departmental Anniversary.

180-second Oral Presentation Competition Finalist

UNIVERSITY OF NEW MEXICO

Albuquerque, NM

Spring 2019

Top 10 in competition judged on the ability to effectively communicate importance and impact of current research project in under 180-seconds.

AWARDS

Biostatistics Annual Award

UNC GILLING'S SCHOOL OF PUBLIC HEALTH

Chapel Hill, NC

Fall 2019 - Spring 2020

- Selected by department to receive funding in recognition of strong academic ability and potential to contribute to finding and implementing public health solutions.

UNC Doctoral Merit Assistantship for study in Biostatistics

UNC GRADUATE SCHOOL

Chapel Hill, NC

Fall 2019 - Spring 2020

- Nominated by academic program and selected through a university-wide competition of the most promising future scholars, policymakers, and innovators.

Hobart Scholarship

UNIVERSITY OF NEW MEXICO, SCHOOL OF MEDICINE

Albuquerque, NM

Fall 2018

- University of New Mexico School of Medicine stipend given to teacher assistants in biostatistics.

Regents' Study Abroad Scholarship

UNIVERSITY OF NEW MEXICO

Albuquerque, NM

Fall 2017

- University of New Mexico scholarship given to students with academic excellence with the intention to promote non-traditional languages and cultural diversity.

El Centro Professional Development Scholarship

UNIVERSITY OF NEW MEXICO, EL CENTRO DE LA RAZA

Albuquerque, NM

Fall 2016, Fall 2017

- University of New Mexico scholarship given to students with the intention of helping their community after using the funds to help them travel to conferences and/or help them pay for training fees.

Hispanic Scholarship Foundation Scholarship

HISPANIC SCHOLARSHIP FOUNDATION

Albuquerque, NM

Fall 2017

- The HSF Scholarship aims to assist competitive and academically talented students of Hispanic heritage obtain a university degree.

Kia-Motors America Scholarship

KIA-MOTORS

Albuquerque, NM

Fall 2018

- The Kia-Motors America scholarship aims to help academically inclined students in the areas of Mathematics, Statistics, and other STEM fields obtain a university degree.

TRAVEL SUPPORT AWARDED

Fall 2018 **7th Conference to Increase Diversity in Mathematical Modeling & Public Health**, Harvard University

Boston, MA

Training

SAS Programming

THE UNIVERSITY OF NORTH CAROLINA, DEPARTMENT OF BIOSTATISTICS

Chapel Hill, NC

Jan. 2015 - PRESENT

- SAS Programming Certification 1 & 2

Clinical & Translational Investigators Program Seminar

THE UNIVERSITY OF NEW MEXICO SCHOOL OF MEDICINE

Albuquerque, NM

January 2018 - May 2018

- Engaged in scholarly dialogue with other Clinical/Translational researchers to understand the role that basic science, clinical and community-based research each play in addressing the health problems of our communities.
- Received and incorporated valuable feedback on research design and execution through discussion and critique

Introduction to Sensitivity & Specificity Analysis

THE UNIVERSITY OF NEW MEXICO SCHOOL OF MEDICINE

Albuquerque, NM

November 2018

- Studied various components of Specificity-Sensitivity and applications to public health.

Institute for Cyber-Enabled Research (iCER)

MICHIGAN STATE UNIVERSITY, DEPARTMENT OF COMPUTATIONAL MATHEMATICS & ENGINEERING

- Introduction to Bash, Github, Parallel Computing, and data visualization.

East Lansing, MI

May 2018 - July 2018

Introduction to the R-Tidyverse

THE ALBUQUERQUE CHAPTER OF THE AMERICAN STATISTICAL ASSOCIATION

- Reviewed 18 packages in R Tidyverse used for steps of importing, wrangling, and visualizing data.

East Lansing, MI

February 16, 2018

Program Committees

2020 **Graduate Student Representative**, Search Committee for Chair of UNC Biostatistics

Chapel Hill, NC

Volunteering

2022 **Codepath**, Resume reviewer to help increase minority representation in tech

Chapel Hill, NC

Skills

Programming R, SAS, STATA, Shiny, Python, Docker, LaTeX
Languages Spanish, English