

ROBERTO CARLOS TORO-RODRIGUEZ, PhD

CURRICULUM VITAE

- EDUCATION** **PhD Applied Mathematics and Computational Sciences**, August 2019
The University of Iowa, Iowa City
Dissertation: *Rethinking Meta-Analysis: An Alternative Model For Random-Effects Meta-Analysis Assuming Unknown Within-Study Variance-Covariance Matrix*
Advisor: Dr. Ariel M. Aloe
- Graduate Certificate in College Teaching**, May 2018
The University of Iowa, Iowa City, Iowa
- MS Mathematics**, May 2016
The University of Iowa, Iowa City, Iowa
Qualifying Examinations: Topology, Numerical Analysis and PDEs/ODEs – All three exams passed with PhD level
- MS Applied Mathematics**, May 2014
University of Puerto Rico, Mayaguez,
Thesis Title: *Topological Analysis of Site-Specific Recombination Using the Bracket Polynomial*
Advisor: Dr. Juan A. Ortiz-Navarro
- BS Pure Mathematics**, December 2010
University of Puerto Rico, Mayaguez
Magna Cum Laude (High Honor) Distinction
- AWARDS AND FELLOWSHIPS** **2018 – 2019 Outstanding Teaching Assistant Award**
The University of Iowa, Spring 2019
About the award: Prestigious award granted once a year to the top 1% of all teaching assistants at the university.
- Summer Graduate Fellowship**
The University of Iowa, Summer 2018
About the award: Competitive award granted to support excellent graduate students for one summer to focus on research without teaching duties.

AMCS Summer Merit Fellowship

The University of Iowa, Summer 2017

About the award: Award granted by the AMCS program to support graduate students for one summer, to focus on research

Catharine Wegner Outstanding Mathematics TA Award,

The University of Iowa, Spring 2017

About the award: Award given to the top teaching assistant in the department of mathematics

Alfred P. Sloan Scholarship

The University of Iowa, Fall 2014

About the award: Prestigious award granted to promising minority incoming graduate students providing support without teaching duties for one semester

GAANN Felowship

The University of Iowa, Fall 2014 – Summer 2015

About the award: Highly competitive scholarships given to minority US Citizens students (African American, Hispanic/Latino, Native American or Alaskan Native) to supplement the full support in their doctoral studies

**RESEARCH
INTERESTS**

Research Synthesis and Meta-Analysis
Mathematics and Statistics Education
Numerical Methods
Meteorology Models

**TEACHING
INTERESTS**

Calculus
Ordinary Differential Equations
Dynamical Systems
Partial Differential Equations
Complex Variables
Numerical Analysis
Linear Algebra
Probability and Statistics
Mathematical Statistics
Research Synthesis and Meta-Analysis
Statistical Methods and Inference
Applied Correlation and Regression

UNIVERSITY **Assistant Professor**
TEACHING The University of Alabama, August 2019 - Present
EXPERIENCE Courses Taught

MATH 126 – Calculus II

Semesters

Fall 2019, Spring 2020

Course Coordinator

Fall 2019, Spring 2020

MATH 227 – Calculus III:

Semesters

Fall 2019

MATH 237 – Introduction to Linear Algebra

Semesters

Spring 2020

Teaching/Assessment Techniques

Acadly – Attendance and Polls

WebAssign – Tests and Homework

Blackboard – Delivery of course materials

iPad – Class Notes

Zoom – Virtual Office Hours

MATLAB and Geogebra – Computing Illustrations

Teaching Assistant

University of Iowa, August 2015 - May 2019

Courses: Mathematics for the Biological Sciences

Calculus for the Biological Sciences

Elementary Functions (Pre-Calculus)

College Algebra

University of Puerto Rico, Mayaguez, January 2011 - December 2013

Courses: Pre-College Mathematics (Introductory Mathematics)

Pre-Calculus I

Pre-Calculus II

Teaching/Assessment Techniques

Turning Point Cloud – Attendance and Polls

MyMathLab – Homework

Canvas – Delivery of course materials

iPad – Class Notes

Instructor

University of Puerto Rico, Ponce

Summer: 2014, 2015, 2016, 2018 and 2019

Courses: Pre-Calculus I
Pre-Calculus II
College Algebra
Calculus I
Calculus II
Calculus for the Biological Sciences I
Calculus for the Biological Sciences
Teaching/Assessment Techniques
Socrative – Attendance and Polls
Moodle – Delivery of course materials and homework
iPad – Class Notes

**RELATED
TEACHING
EXPERIENCE**

Tutoring

University of Iowa – Math Lab Tutoring Center
University of Puerto Rico Mayaguez – Math Help Center
University of Puerto Rico, Ponce – Math Tutoring Service

Teaching Assistant

Ohio State University – SAMMS Summer Program
Courses: Topology and Real Analysis
Duties: Help students understand the material taught in the course and help them with their daily homework assignments.

Teaching Practicums

The University of Iowa
Courses: Elementary Statistics and Inference (Spring 2017)
Supervisor: Dr. Ariel M. Aloe

Engineering Math II (Fall 2017)
Supervisor: Dr. Colleen Mitchell

**UNIVERSITY
RESEARCH
EXPERIENCE**

Research Experience for Undergraduates (REU), Iowa State
Iowa State University. Summer 2009.
Comparing Spatial Predictions Between Continuous and Discrete Index Random Fields.
Advisor: Dr. Mark Kaiser

Master's Thesis

Thesis Title: *Topological Analysis of Site-Specific Recombination Using the Bracket Polynomial*
Advisor: Dr. Juan A. Ortiz-Navarro

PhD Dissertation

Dissertation's Title: *Rethinking Meta-Analysis: An Alternative Model For Random-Effects Meta-Analysis Assuming Unknown Within-Study Variance-Covariance Matrix*

Advisor: Dr. Ariel M. Aloe

**PUBLICATIONS/
PRESENTATIONS** Aloe, A. M., Toro-Rodriguez, Roberto. (2018). *Synthesis of Multivariate and Univariate Partial Effect Sizes*. (In Review)

Toro Rodriguez, Roberto C, Aloe, A. M. (2017, December) *Meta-Analysis Models*. CANAM Online Symposium. College of Education, University of Iowa

Toro Rodriguez, Roberto C. (2014, March) *Topological Analysis of Site-Specific Recombination using the Bracket Polynomial*. SIDIM Conference. Pontifical Catholic University of Puerto Rico.

Toro Rodriguez, Roberto C., Kaiser, Mark (2009, August) *Comparing Spatial Predictions Between Continuous and Discrete Index Random Fields*. Final Symposium of the REU. Iowa State University.

TECHNOLOGY SKILLS

Learning Management Systems

MOODLE

CANVAS

BLACKBOARD

Excel, Word and PowerPoint

LaTeX

Programming

Wolfram Mathematica

R

MatLab

Perl

Online Homework Platforms

Connect Math

MyMathLab

WebAssign

LANGUAGES

Spanish – Fluent

English – Fluent

Portuguese – Very Basic