Victoria Treviño Kala

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Education

University of California, Los Angeles	**Los Angeles, CA**
Ph.D. Applied Mathematics	*2017–present*
University of California, Santa Barbara	**Santa Barbara, CA**
M.A. Applied Mathematics	*2014–2017*
Utah Valley University	**Orem, UT**
B.S. Mathematics, cum laude	*2009–2014*
B.S. Physics, cum laude	
Utah Valley University	**Orem, UT**
A.S. Mathematics, concurrent with high school	*2006–2009*

Research Experience

Optics in the City of Light International REU — **Palaiseau, France**
University of Michigan, Ann Arbor; Institut d'Optique Graduate School — *2013*
Simulation and Optimization of Multilayer Mirrors, Adviser: Dr. Franck Delmotte
I performed simulation and optimization procedures on periodic and aperiodic multilayer mirrors using Matlab and IMD. I also assisted with multilayer mirror deposition in a clean room.

CSU Fresno Mathematics REU — **Fresno, CA**
California State University, Fresno — *2012*
A Survival Analysis of the Duration of Olympic Records, Adviser: Dr. Ke Wu
I performed statistical analysis on Olympic data to determine the duration of Olympic records. My research group also made predictions on which Olympic records were at risk of being broken for the 2012 Olympics. Programming languages SAS and R were used to perform the analysis and predictions.

Astrophysics Research Project — **Orem, UT**
Utah Valley University — *2012*
Calibrating the IR Surface Brightness Fluctuation Distance Scale Using HST WFC3, Adviser: Dr. Joseph Jensen
I performed image processing techniques and data analysis on several galaxy images taken by Hubble Telescope WFC3/IR. These techniques were then used to calculate surface brightness fluctuation magnitudes and thus determine distances to galaxies.

Selected Employment

Graduate Teaching Assistant — **Santa Barbara, CA**
University of California, Santa Barbara — *2014–2017*
Held weekly discussion sections and office hours, tutored in the Math Lab, graded homework and exams. I have been a teaching assistant for Integral Calculus, Vector Calculus, Linear Algebra, Differential Equations, Methods of Analysis, and Introduction to Numerical Analysis. I received the Graduate Student Association's campus-wide Excellence in Teaching Award for the 2015–2016 school year.

Teaching Assistant — **Orem, UT**
Utah Valley University — *2013–2014*
Taught workshops and graded exams for a section of College Algebra containing 400+ students.

Grader — **Orem, UT**
Utah Valley University — *2012–2014*
Graded for several lower and upper division mathematics courses, including College Algebra, Trigonometry, Single- and Multi-variable Calculus, Linear Algebra, Ordinary Differential Equations, and Foundations of Abstract Algebra.

Tutor **Orem, UT**
Utah Valley University *2007–2012*
Tutored lower and upper division mathematics and physics courses at the Math Lab, Academic Tutoring Lab, and Multicultural Center. I am a certified "Level III Master Tutor" through the College Reading & Learning Association.

Program Participation

Nebraska IMMERSE **Lincoln, NE**
University of Nebraska, Lincoln *2014*
IMMERSE (Intensive Mathematics: a Mentoring, Education and Research Summer Experience) is a preparation program for students who are about to enter their first year of graduate study in mathematics.

IAS Women and Mathematics Program **Princeton, NJ**
Institute of Advanced Study *2014*
Topic: Random Matrix Theory

Service and Leadership

Graduate Student Association Excellence in Teaching Award Committee **Santa Barbara, CA**
University of California, Santa Barbara *2017*
Designed criteria for determining who should receive the campus wide teaching award in the following three categories: Humanities and Fine Arts, STEM, and Social Sciences. Read through numerous applications and helped determine who should receive the award.

Math Girls Rock! Mentor **Orem, UT**
Utah Valley University *2011–2012*
Math Girls Rock! is a math club program aimed towards a group of high school girls. I attended weekly meetings with professors at my university to plan fun math activities and projects that would spark interest in mathematics of high school students.

Math Club President **Orem, UT**
Utah Valley University *2011–2012*

Student Association Physics Department Representative **Orem, UT**
Utah Valley University *2011–2012*

Selected Awards and Honors

- Eugene V. Cota-Robles Fellowship, UCLA, 2017
- Excellence in Teaching Award, UCSB Graduate Student Association, 2016
- Excellence in Teaching Award Nominee, UCSB Graduate Student Association, 2015
- Outstanding Teaching Assistant Award Nominee, UCSB Academic Senate, 2014
- Outstanding Student of the Year, UVU Mathematics Department, 2012
- Tutor of the Year, UVU Math and Academic Tutoring Lab, 2012
- Astrophysics Research Scholarship, UVU Physics Department, 2012
- Exemplary Merit Scholarship, Utah Valley University, 2009−2014

Publications

- Hollifield, E., **Treviño, V.**, Zarn, A. 2012, "A Survival Analysis of the Duration of Olympic Records," arXiv:1207.6133
- French, B.S., Jensen, J.B., Blakeslee, J.P., Boyer, N., **Treviño, V.** 2012 "Calibrating the IR Surface Brightness Fluctuation Distance Scale Using HST WFC3," *Bulletin of the American Astronomical Society*, 220, 332.02

Selected Presentations

- École Polytechnique, "Simulation and Optimization of Multilayer Mirrors," Palaiseau, France, July 2013
- Joint Mathematics Meeting, "A Survival Analysis of the Duration of Olympic Records," San Diego, CA, January 2013

Computer Skills

- Extensive experience in Matlab, Maple, Microsoft Office, LaTeX
- Proficient experience in Python, C++
- Some experience in C#, Unix, SAS, R, HTML