

# Victoria Treviño Kala

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## Education

<b>University of California, Santa Barbara</b> <i>M.A. Applied Mathematics, Ph.D. Track</i>	<b>Santa Barbara, CA</b> 2014–present
<b>Utah Valley University</b> <i>B.S. Mathematics, cum laude</i> <i>B.S. Physics, cum laude</i>	<b>Orem, UT</b> 2009–2014
<b>Utah Valley University</b> <i>A.S. Mathematics, concurrent with high school</i>	<b>Orem, UT</b> 2006–2009

## Experience

### Research.....

**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–present  
Duties include holding weekly discussion sections, tutoring in the Math Lab, holding office hours, grading 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.

**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.

## Other Program Participation.....

<b>Nebraska IMMERSE</b> <i>University of Nebraska, Lincoln</i> 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.	<b>Lincoln, NE</b> 2014
<b>IAS Women and Mathematics Program</b> <i>Institute of Advanced Study</i> Topic: Random Matrix Theory	<b>Princeton, NJ</b> 2014
<b>Math Girls Rock! Mentor</b> <i>Utah Valley University</i> Math Girls Rock! is a math club program aimed towards a group of approximately fifteen 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.	<b>Orem, UT</b> 2011–2012
<b>Math Club President</b> <i>Utah Valley University</i>	<b>Orem, UT</b> 2011–2012
<b>Student Association Physics Department Representative</b> <i>Utah Valley University</i>	<b>Orem, UT</b> 2011–2012

## Publications

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- 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

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- 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

## Selected Awards and Honors

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- 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

## Computer Skills

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