

Enrique Treviño

Curriculum Vitae

555 N Sheridan
Lake Forest College
Lake Forest, IL, 60045
Citizenship: U.S.A and Mexico

Phone: 603.359.6077
E-Mail: trevino@lakeforest.edu
URL: <http://campus.lakeforest.edu/trevino/>

POSITIONS HELD

Lake Forest College Associate Professor of Mathematics	August 2018-Present
Universidad Autónoma de Santo Domingo Visiting Professor of Mathematics on a Fulbright grant	January 2022-June 2022
Lake Forest College Assistant Professor of Mathematics	August 2013-2018
I2M Math Laboratory at Aix-Marseille Université Visiting Researcher	March 2017- May 2017
Swarthmore College Visiting Assistant Professor of Mathematics	August 2011–August 2013

EDUCATION

Dartmouth College Ph. D., Mathematics Thesis Title: Numerically explicit estimates for character sums Thesis Advisor: Carl Pomerance, Ph. D. Master of Arts, Mathematics	September 2006–June 2011 June 2011 June 2008
University of Texas at El Paso Bachelor of Science, Mathematics with a minor in Computer Science.	August 2003–May 2006 May 2006
The Technical University of Budapest	August 2004–December 2004
Southwestern University	August 2002–May 2003

TEACHING EXPERIENCE

Instructor, Lake Forest College

<i>Math 160: Math Methods and Applications (two sections)</i>	Fall 2013
<i>Math 230: Abstract and Discrete Mathematics</i>	Fall 2013
<i>Math 150: Introduction to Statistics (two sections)</i>	Spring 2014
<i>Math 230: Abstract and Discrete Mathematics</i>	Spring 2014
<i>Math 160: Math Methods and Applications</i>	Summer 2014
<i>FIYS 169: Recreational Mathematics</i>	Fall 2014
<i>Math 330: Modern Algebra I</i>	Fall 2014
<i>Math 150: Introduction to Statistics (two sections)</i>	Spring 2015
<i>Math 214: Differential Equations</i>	Spring 2015
<i>Math 230: Abstract and Discrete Mathematics</i>	Spring 2015
<i>Math 110: Calculus I</i>	Summer 2015
<i>Math 160: Math Methods and Applications</i>	Summer 2015
<i>FIYS 169: Recreational Mathematics</i>	Fall 2015
<i>Math 210: Multivariable Calculus</i>	Fall 2015
<i>Math 230: Abstract and Discrete Mathematics</i>	Fall 2015
<i>Math 150: Introduction to Statistics (two sections)</i>	Spring 2016
<i>Math 330: Modern Algebra I: Group Theory</i>	Spring 2016
<i>Math 411: Real Analysis II: Measure Theory</i>	Spring 2016
<i>Math 110: Calculus I</i>	Summer 2016
<i>Math 210: Multivariable Calculus</i>	Fall 2016
<i>Math 340: Geometry</i>	Fall 2016
<i>Math 499: Great Theorems in Mathematics</i>	Fall 2016
<i>Math 494: Tutorial on Topology</i>	Fall 2016
<i>CS 112: Computer Science I</i>	Fall 2017
<i>Math 311: Introduction to Real Analysis</i>	Fall 2017
<i>Math 499: Great Theorems in Mathematics</i>	Fall 2017
<i>CS 112: Computer Science I</i>	Spring 2018
<i>Math 230: Abstract and Discrete Mathematics</i>	Spring 2018
<i>Math 329: Number Theory</i>	Spring 2018
<i>Math 110: Calculus I</i>	Summer 2018
<i>Math 108: Calculus 1a</i>	Fall 2018
<i>Math 110: Calculus I</i>	Fall 2018
<i>Math 330: Modern Algebra I</i>	Fall 2018
<i>Math 499: Great Theorems in Mathematics</i>	Fall 2018
<i>Math 109: Calculus 1b</i>	Spring 2019
<i>Math 331: Modern Algebra II</i>	Spring 2019
<i>Math 375: Combinatorics</i>	Spring 2019
<i>Math 110: Calculus I</i>	Summer 2019
<i>Math 115: Honors Calculus I</i>	Summer 2019
<i>Math 108: Calculus 1a</i>	Fall 2019
<i>Math 230: Abstract and Discrete Mathematics</i>	Fall 2019
<i>Math/CS 323: Cryptography</i>	Fall 2019
<i>Math 109: Calculus 1b</i>	Spring 2020
<i>Math 231: Linear Algebra</i>	Spring 2020
<i>Math 330: Abstract Algebra</i>	Spring 2020
<i>Math 391: Tutorial on Number Theory</i>	Spring 2020
<i>Math 110: Calculus I</i>	Summer 2020
<i>Math 110: Calculus I</i>	J-term 2021
<i>Math 108: Calculus 1a</i>	Fall 2021
<i>Math 230: Abstract and Discrete Mathematics</i>	Fall 2021
<i>Math/CS 323: Cryptography</i>	Fall 2021
<i>Math 110: Calculus I</i>	Summer 2022

Instructor, Universidad Autónoma de Santo Domingo

<i>Algebraic Number Theory</i>	Fall 2022
<i>Analytic Number Theory II</i>	Fall 2022
<i>Computational Number Theory</i>	Fall 2022

Instructor, Swarthmore College

<i>Math 27: Linear Algebra (two sections)</i>	Fall 2011
<i>Math 25: Further Topics in Single Variable Calculus (two sections)</i>	Spring 2012
<i>Math 77: Advanced Topics in Algebra (Algebraic Number Theory)</i>	Spring 2012
<i>Math 28: Honors Linear Algebra</i>	Fall 2012
<i>Math 58: Introduction to Number Theory</i>	Fall 2012
<i>Math 25: Further Topics in Single Variable Calculus (two sections)</i>	Spring 2013
<i>Math 53: Topics in Analysis (Analytic Number Theory)</i>	Spring 2013

Instructor, Dartmouth College

<i>Math 20: Discrete Probability</i>	Summer 2009
<i>Math 2: Calculus with Algebra and Trigonometry</i>	Winter 2009

Designed and implemented courses. Responsibilities included syllabus preparation, textbook choice, website development, planning and delivering of lectures, as well as office hours, exam creation, homework assignment, and grade assessment.

Teaching Assistant, Dartmouth College

<i>Math 13: Calculus of Vector-Valued Functions</i>	Winter 2008
<i>Math 23: Integrated Mathematics and Physical Science</i>	Fall 2007
<i>Math 13: Calculus of Vector-Valued Functions</i>	Winter 2007
<i>Math 3: Introduction to Calculus</i>	Fall 2006

Monitored three tutorial sessions weekly, assisting students with homeworks and projects. Also graded exams, and provided additional assistance as requested.

Teaching Seminar, Dartmouth College

Summer 2008

An intensive summer course in preparation for teaching, focusing on how students learn and the interaction between instructors and students. Course participants were responsible for designing and delivering two mathematics workshops for middle school students, each one week long.

Graduate Assistant to Undergraduates, Trinity University

Summer 2007

Assisted faculty members with mentoring two groups of undergraduates on research projects. One of these projects yielded a paper published in a number theory journal.

PUBLICATIONS

-
- | | |
|---|-----------|
| 31. Introducción a la Teoría de Números Probabilística | Submitted |
| Preprint can be found at my website. | |
| 30. Partitioning powers into sets of equal sum | Submitted |
| joint with P. Pollack. Preprint can be found at my website. | |

29. **Generalizing parking functions with randomness** To Appear
 joint with M. Tian. To appear in the Electronic Journal of Combinatorics.
28. **On the sum of k -th powers in terms of earlier sums** 2022
 joint with S. J. Miller. Published in The College Mathematics Journal, Vol. 53 (2022), no. 3, pp. 220-225.
27. **The least quadratic non-residue** 2021
 joint with K. McGown.
 Published in Mexican Mathematicians in the World: Trends and recent contributions published by Contemporary Mathematics of the AMS, pp. 205-232.
26. **On a sequence related to the factoradic representation of an integer** 2021
 joint with Maximiliano Sánchez Garza.
 Published in the Journal of Integer Sequences, Vol. 24 (2021), Article 21.8.5, 13 pages (electronic)
25. **On sets whose subsets have integer mean** 2021
 Published in Integers 21 (2021), article A79, 11 pages (electronic).
24. **On Egyptian fractions of length 3** 2021
 joint with C. Banderier, C. A. Gómez Ruiz, F. Luca, F. Pappalardi.
 Published in Revista de la Unión Matemática Argentina, Vol. 62, no. 1 (2021), pp. 257-274.
23. **An unusual recursive formula to answer a question regarding fixed points in permutations** 2021
 joint with M. Tian.
 Published in The College Mathematics Journal vol. 52 (2021), no. 3, pp. 219-220.
22. **A writing-intensive FYS course on Recreational Mathematics** 2021
 Published as Chapter 30 in the book “Mathematical themes in a first-year seminar” (2021), pp. 301-306.
21. **Sums of proper powers** 2021
 joint with Paul Pollack.
 Published in the American Mathematical Monthly vol. 128 (2021), no. 1, p. 40.
20. **On sums of consecutive triangular numbers** 2020
 joint with P. Pollack and D. Subramaniam.
 Published in Integers 20A (2020), article A15, 10 pages (electronic).
19. **Expected number of dice rolls for the sum to reach n** 2020
 Published in the American Mathematical Monthly vol. 127 (2020), no. 3, p. 257.
18. **On generalizing happy numbers to fractional base number systems** 2019
 joint with M. Zhyllinski.
 Published in Involve vol. 12 (2019), no. 7, pp. 1143-1151.

17. **Probabilistic proof that $1 + 2 + \cdots + n = \frac{n(n+1)}{2}$.** 2019
 Published in the American Mathematical Monthly vol. 126 (2019), no. 9, p. 840.
16. **A birthday in St. Petersburg** 2019
 Published in The College Mathematics Journal vol. 50 (2019), no. 1, pp. 36–40.
15. **An Inclusion-Exclusion proof of Wilson’s Theorem** 2018
 Published in The College Mathematics Journal vol. 49 (2018), no. 5, pp. 367–368.
14. **Walking on rational numbers and a self-referential formula** 2018
 joint with M. Fortman, K. Kupiec, and M. Rawlings.
 Published in Elemente der Mathematik vol 73 (2018), no. 4, 161–169.
13. **A short proof of a sum of powers formula** 2018
 Published in American Mathematical Monthly vol. 125 (2018), no. 7, pp. 659.
12. **Finding the four squares in Lagrange’s Theorem** 2018
 joint with P. Pollack.
 Published in Integers 18A (2018), article A15, 16 pages (electronic).
11. **Counting perfect polynomials** 2017
 joint with U. C. Cengiz and P. Pollack.
 Published in Finite Fields and Their Applications 47C (2017) pp. 242-255.
10. **Resolving Grosswald’s conjecture on GRH** 2016
 joint with K. McGown and T. Trudgian.
 Published in Functiones et Approximatio, Commentarii Mathematici 55.2 (2016), pp. 215-225.
9. **The Burgess inequality and the least k -th power non-residue** 2015
 Published in the International Journal of Number Theory Vol. 11, No. 5, pp. 1-26.
8. **The smoothed Pólya–Vinogradov** 2015
 joint with K. Adamczewski.
 Published in Integers, vol. 15 (2015), article A20, 11 pages (electronic).
7. **The least k -th power non-residue** 2015
 Published in the Journal of Number Theory, vol. 149 (2015), pp. 201-224.
6. **The primes that Euclid forgot** 2014
 joint with P. Pollack.
 Published in the American Mathematical Monthly, vol. 121 (2014), no. 5, pp. 433-437.
5. **Sets of monotonicity for Euler’s totient function** 2013
 joint with P. Pollack and C. Pomerance.
 Published in The Ramanujan Journal, vol. 30 (2013), pp. 379-398

- 4. On the maximum number of consecutive integers on which a character is constant**

Published in *Moscow Journal of Combinatorics and Number Theory*, vol.2 (2012), iss. 1, pp. 56-72.
A corrigendum appeared in 2017, vol. 7, iss. 3.

2012
- 3. The least inert prime in a real quadratic field**

Published in *Mathematics of Computation*, vol. 81, no. 279, July 2012, pp. 1777-1797.

2012
- 2. Multi-dimensional Frobenius problem**

joint with J. Amos, I. Pascu, V. Ponomarenko and Y. Zhang

Published in *Involve, a Journal of Mathematics* 4-2 (2011), 187–197

2011
- 1. On the counting function for the generalized Niven numbers**

joint with R. Daileda, J. Jou, R. Lemke-Oliver and E. Rossolimo

Published in *J. Théor. Nombres Bordeaux* **21** (2009), no. 3, 503–515

2009

BOOKS

- Cuban Mathematical Olympiads** 2017
 written by Roberto Bosch. Translated by Enrique Treviño
 Published in XYZ Press. ISBN-13: 978-0-9968745-4-0

INVITED TALKS

- EMALCA República Dominicana** June 3, 2022
 ‘Paradojas matemáticas en probabilidad.’
- Seminario Coloquio GRACIA-Red Matemática** April 1, 2022
 ‘Tres proyectos de investigación con alumnos de licenciatura.’
- Colloquium: Smith College** October 21, 2021
 ‘A trio of research projects with undergraduates.’
- Colloquium: Hofstra University** September 29, 2021
 ‘A trio of research projects with undergraduates.’
- Colloquium: Universidad Estatal a Distancia (Costa Rica)** March 24, 2021
 ‘Avances recientes sobre la distribución de los números primos.’
- AMS Special Session: A Showcase of Number Theory at Undergraduate Institutions** January 6, 2021
 ‘Partitioning powers into sets of equal sum.’
- Seminario Unplugged de Geometría in Universidad de Colima** November 27, 2020
 ‘Cumpleaños en San Petersburgo.’
- Number Theory Down Under 7, UNSW, Sydney** October 3, 2019
 ‘On Egyptian fractions of length 3.’
- Colloquium Talk at the University of Texas at El Paso** February 15, 2019
 ‘Playing with triangular numbers.’

- Colloquium Talk at California State University, Chico** December 13, 2018
 ‘Playing with triangular numbers.’
- 4th Reunion of Mexican Mathematicians around the World at the Casa Matemática** June 11, 2018
 ‘El mnimo no-rediduo cuadrtrico y otros problemas relacionados’
- AMS Special Session on A Showcase of Number Theory at Liberal Arts Colleges** January 11, 2018
 ‘Finding the four squares in Lagrange’s formula.’
- Awesome Math Summer Camp at Cornell University** August 3, 2017
 ‘Walking on numbers and a self-referential formula.’
- Groupe de Travail Théorie Analytique, Probabiliste et Automatique des Suites** April 27, 2017
 ‘Smooth Polya-Vinogradov inequality.’
- Séminaire Dynamique, Arithmétique, Combinatoire, Aix-Marseille Université** March 28, 2017
 ‘The least quadratic non-residue and related problems.’
- AMS Special Session on Open and Accessible Problems for Undergraduate Research** January 7, 2017
 ‘Summer research projects for First Year students.’
- Colloquium Talk at California State University, Chico** October 17, 2016
 ‘Summer research projects for first year students.’
- Colloquium Talk at Elmhurst College** April 20, 2016
 ‘The least quadratic non-residue and related problems’
- Elementary, analytic, and algorithmic number theory:
 Research inspired by the mathematics of Carl Pomerance** June 11, 2015
 ‘Resolving Grosswald’s conjecture on GRH’
- Colloquium Talk at the California State University in Chico** April 17, 2015
 ‘The least quadratic non-residue and related problems’
- Talk at the Instituto de Ciencias Matemáticas in Madrid, Spain** July 21, 2014
 ‘El mínimo no-residuo cuadrático y otros problemas relacionados’
- ENFANT Workshop at the Hausdorff Institute in Bonn, Germany** July 12, 2014
 ‘The Burgess inequality and the least k -th power nonresidue’
- Oberlin Number Theory Seminar** March 10, 2014
 ‘The primes that Euclid forgot’
- Seminario Interuniversitario de Investigación en Ciencias de Matemáticas** March 1, 2014
 ‘Prime gaps: a breakthrough in number theory’
- AMS Special Session on Analytic Number Theory at the Joint Meetings** January 16, 2014
 ‘The primes that Euclid forgot’
- Underrepresented Students in Topology and Algebra Research Symposium** April 20, 2013
 ‘The primes that Euclid forgot’
- Daniel H. Wagner Associates Inc. Talk** February 19, 2013
 ‘Squares and non-squares modulo a prime’

Lake Forest College Colloquium Talk	February 12, 2013
‘Squares and non-squares modulo a prime’	
AMS Special Session on Arithmetic Statistics at the AMS-MAA Joint Meetings	January 10, 2013
‘The Burgess inequality and the least k -th power nonresidue’	
AMS Special Session on Additive and Combinatorial Number Theory	October 21, 2012
‘A numerically explicit Burgess inequality and an application to quadratic non-residues’	
SACNAS National Conference, Session on Problems in Number Theory	October 12, 2012
‘Character sums and the least quadratic nonresidue’	
Ursinus College Mobius Talk	September 21, 2012
‘A twist on a geometry puzzle’	
Universidad de Colima Colloquium	May 8, 2012
‘El mínimo no-residuo cuadrático y otros problemas relacionados’	
Automorphic Forms Seminar, Purdue University	February 23, 2012
‘The least quadratic non-residue and related problems’	
AMS Special Session on New Perspectives in Multiplicative Number Theory	January 5, 2012
‘On the maximum number of consecutive integers on which a character is constant’	
University of North Texas Millican-Colloquium	October 10, 2011
‘The least quadratic non-residue and related problems’	
Mathematics Research Communities: The Pretentious View of Analytic Number Theory	June 29, 2011
‘The Pólya-Vinogradov inequality ’	
Underrepresented Students in Topology and Algebra Research Symposium	April 2, 2011
‘The least inert prime in a real quadratic field’	
Swarthmore College Department of Mathematics and Statistics Colloquium	March 1st, 2011
‘The least quadratic non-residue and related problems’	
AMS/MAA Joint Meetings AMS/SIAM Special Session on Mathematics of Computation	January 7, 2011
‘The smoothed Pólya-Vinogradov inequality and some applications’	
Palmetto Number Theory Series XIV. (U. South Carolina) Invited plenary talk	December 4, 2010
‘The least inert prime in a real quadratic field’	
Trinity University REU Colloquium	June, 2008
‘The probabilistic method’	
University of Texas at El Paso Mathematics Department Colloquium	September 7, 2007
‘Generalized Niven numbers’	
Trinity University REU Colloquium	July 28, 2006
‘Primes are in P ’	
University of Texas at El Paso Mathematics Department Colloquium	December 2, 2005

‘On the generalization of the Frobenius problem’

Trinity University REU Colloquium

July 21, 2005

‘Mathematical Olympiads’

CONTRIBUTED TALKS

Lake Forest College Faculty Discussion

November 15, 2021

‘Polymath REU: A Program to Encourage Undergraduate Math Research Across the Globe.’

Illinois MAA sectional meeting

March 12, 2021

‘On sets whose subsets have integer mean.’

Lake Forest College Faculty Discussion

January 29, 2020

‘Egyptian equations and modern mathematics.’

West Coast Number Theory

December 19, 2019

‘On Egyptian fractions of length 3.’

West Coast Number Theory

December 16, 2018

‘Playing with triangular numbers.’

Illinois-Indiana-Michigan MAA Trisectional meeting

March 23, 2018

‘Counting Perfect Polynomials.’

West Coast Number Theory

December 18, 2017

‘Counting Perfect Polynomials.’

Faculty Discussion Group in Lake Forest College

October 26, 2017

‘Gerrymandering and Math’

West Coast Number Theory

December 17, 2016

‘Resolving Grosswald’s conjecture assuming GRH.’

Faculty Discussion Group in Lake Forest College

September 16, 2014

‘Prime gaps: a breakthrough in number theory’

Midwest Number Theory Conference for Graduate Students and Recent PhDs, X

June 3, 2014

‘The least quadratic non-residue modulo a prime and related problems’

INTEGERS: Erdős Centennial Conference (University of West Georgia)

October 26, 2013

‘Bounds on graphs with high girth and high chromatic number’

MAA Sectional (Dickinson College)

April 6, 2013

‘The primes that Euclid forgot’

Temple Modular Forms & Number Theory Seminar

December 5, 2012

‘The Smoothed Pólya–Vinogradov Inequality’

Bryn Mawr/Temple Modular Forms & Number Theory Seminar

June 7, 2012

‘The least quadratic non-residue and related problems’

INTEGERS Conference (University of West Georgia)

October 28, 2011

‘The Smoothed Pólya–Vinogradov Inequality’

Dartmouth College Number Theory Seminar	November 18, 2010
‘The least inert prime in a real quadratic field’	
Québec–Maine Number Theory Conference	October 3, 2010
‘A smoothed version of the Pólya–Vinogradov inequality and some applications’	
INTEGERS Conference (University of West Georgia)	October 16, 2009
‘Explicit bounds for the Burgess bound for character sums’	
Maine–Québec Number Theory Conference	October 4, 2009
‘Explicit bounds for the Burgess bound for character sums’	
Dartmouth College Number Theory Seminar	November 6, 2008
‘Twin Niven numbers’	
Québec–Maine Number Theory Conference	October 5, 2008
‘On the counting function for the generalized Niven numbers’	
Dartmouth College Number Theory Seminar	February 28, 2008
‘Brun’s theorem’	
Dartmouth College Number Theory Seminar	October 11, 2007
‘Generalized Niven numbers’	
West Coast Number Theory Conference	December 19, 2006
‘On the generalization of the Frobenius problem’	
Young Mathematicians Conference (Ohio State University)	August 12, 2005
‘On the generalization of the Frobenius problem’	
MAA Southwestern Sectional Conference (University of Texas at El Paso)	April 1, 2005
‘Dirichlet’s theorem: revolutionizing number theory’	

WORKSHOPS

Number Theory in the Americas: a BIRS-CMO Workshop in Oaxaca	August 11–16, 2019
ENFANT-ELEFANT Workshop at the Hausdorff Institute	July 11–18, 2014
Introduction to Using Randomization Methods in Introductory Statistics	May 30–31, 2014
PCMI 2013: Workshop for mentors	July 7–July 13, 2013
Mathematics Research Communities (MRC): Arithmetic Statistics	June 24–30, 2012
MRC: The Pretentious View of Analytic Number Theory	June 26–July 2, 2011
MSRI: Introductory Workshop: Arithmetic Statistics (Berkeley, CA)	January 31–February 4, 2011
PCMI: Harmonic Analysis and Partial Differential Equations	June 29–July 19, 2003

CONFERENCES

Mathematical Congress of the Americas 2013	August 4–August 9, 2013
The Erdős Centennial Conference in Budapest	July 1–July 5, 2013

EDITORIAL POSITIONS

Associate Editor of The College Mathematics Journal	2018–Present
--	--------------

Associate Editor of Tzaloa (Mexican magazine aimed at Olympiad students and teachers)	2021-Present
Associate Editor of Boletín de la Sociedad Matemática Mexicana	2022-Present
Co-editor in chief of the United States Mathematical Olympiad Editorial Board	2021-2025

SERVICE

Putnam Training Sessions, Swarthmore College and Lake Forest College 2011-present

In charge of preparing students to participate in the William Lowell Putnam Mathematical Competition. I meet with students weekly in the Fall and Spring.

Referee 2012-present

I have reviewed articles for Mathematics of Computation, The American Mathematical Monthly, International Journal of Number Theory, Michigan Mathematical Journal, Journal of Number Theory, Turkish Mathematics Journal, Mathematics Magazine, Integers Electronic Journal of Combinatorial Number Theory, Journal of Integer Sequences, The College Mathematics Journal, the Rocky Mountain Journal of Mathematics, The PUMP Journal of Undergraduate Research, La Matematica, Semigroup Forum.

Richter Scholar mentor at Lake Forest College 2014-2016, 2018-2019

Mentored 2 students in a 3-week project in “Experimental Mathematics” in 2014. Mentored one student on a 10-week research project on “Odd perfect polynomials” in 2014. In 2015, I mentored 1 student in a 4-week project on Tupper’s self-referential formula and I mentored another student in a 10-week project regarding placement of students in first year-studies classes depending on their interest. In 2016, I mentored one student on Beatty sequences. In 2018, I mentored one student on triangular numbers. In 2019, I mentored a student on stable matching algorithms (Gale-Shapley) and another student on the mathematics of consociational democracy.

Member undergraduate thesis committees at Lake Forest College 2014, 2015, and 2018

I was a committee member of the undergraduate thesis committee of William Forcier’s Mathematics thesis defense titled ‘Fermat’s Last Theorem’ in 2014. I was a member of Turner Pepper’s Mathematics thesis defense ‘Finitely Generated Abelian Groups’ in 2015. I was a member of Katherine Beall’s Economics thesis defense “Defined Contribution Plans and the 2008 Financial Crisis” in 2018. I was a member of Finnian Bunta’s Political Science thesis defense “The Bosnian Paradox” in 2018. I was a member of Margaret Fortman’s Physics thesis defense “Parameters Influencing Electromagnetically Induced Transparency” in 2018. I was a member of Junya Li’s Biology thesis defense “The Localization Mechanism of the Telomerase in *Aspergillus nidulans*” in 2018. I was a member of Robert Mecham’s Physics thesis defense “Langevin Transducer Analysis and Acoustic Levitation” in 2018.

Research Mentor for Undergraduates at Swarthmore College Summers of 2012 and 2013

I worked on a graph theory research project with a Swarthmore student in the summer of 2012, this project was continued by a different student in the summer of 2013. In the summer of 2013 I also worked on a computational number theory project with two students who were funded to work with me for 10 weeks.

Member of an undergraduate thesis committee at CIMAT (Guanajuato) April 18, 2012

I was the president of the undergraduate thesis committee of Juan Ramón Camacho Cordero’s thesis defense titled ‘Saltos Pequeños Entre Primos’ (‘Small Jumps Between Primes’).

Undergraduate thesis advisor 2016

In the year 2015-2016, I advised Jacob Juillerat on his thesis on “Transcendental numbers”. In 2016, I advised William Braubach on his thesis “The fundamental theorem of algebra”.

HONORS AND AWARDS

Fulbright grant to teach at Universidad Autónoma de Santo Domingo	Jan. 2022-June 2022
Lehmer Prize for favorite talk at the West Coast Number Theory Conference	2017
Lake Forest College Summer Research Grant	2014, 2015, . . . , 2019
AMS Grant to attend the Mathematical Congress of the Americas	August 2013

Swarthmore College Research Award	2012–2013
Swarthmore College Research Award	2011–2012
Dartmouth College Graduate Fellowship	2007 – 2011
GAANN Fellowship	Sept. 2006 – Sept. 2007
Outstanding Senior Mathematics student at University of Texas at El Paso	May 2006
Top 200 (rank 128.5) at the 66th William Lowell Putnam Mathematical Competition 2005	March 2006
Poster session award at the AMS/MAA Joint Meetings	January 2006
Best undergraduate talk at MAA Southwestern Sectional Conference	April 2005
C.H. Gladman Scholarship for Mathematical Excellence, UTEP	Spring 2003 and Fall 2004
Merit Scholarship, Southwestern University	Fall 2002 and Spring 2003
Scholarship to attend the Dr. Bessie F. Lawrence International Summer Science Institute program at the Weizmann Institute of Science, Rehovot Israel	Summer 2002
First place Mexican Mathematical Olympiad	November 2001

OUTREACH

I like teaching mathematics to young students. In this section I list some of my efforts in this regard.

Mathematical Olympiad 2001-2003, 2005-present

Prepared gifted mathematics students from the state of Chihuahua for the Mexican Mathematical Olympiad. I also created problems for the Chihuahua Mathematical Olympiad exams from 2002 to 2010 (except for 2004), graded the exams and selected the team to represent the state. Alongside David Cossio, I gave three workshops to high school teachers in Cd. Juárez and Chihuahua about problem solving strategies. I also participated as a problem coordinator in the International Mathematical Olympiad in 2005, the Ibero-American Mathematical Olympiad in 2009 and 2020, the Mexican Mathematical Olympiad from 2015 to 2018 and 2020, and the United States Mathematical Olympiad in 2021. I was also the deputy leader for Mexico at the European Girls Math Olympiad (EGMO) in 2017, and 2019. I was leader of the Mexican team participating in the EGMO in 2018, the Mexican team participating in the Ibero-American Math Olympiad in 2019, the Mexican team participating in the Cyberspace Mathematical Competition in 2020, and the Mexican team participating in the International Mathematical Olympiad in 2022.

Instructor at Ross Program Asia. 2018

I taught the “Probabilistic Method” for five weeks at the Ross Program Asia in Huangshan, China in 2018. The program is aimed at High School students interested in advanced mathematics.

Instructor at Awesome Math Summer Camp. 2015 -2017, 2019

I taught a class for three weeks at the Awesome Math Summer Camp organized in Berkeley in 2015 and I taught a class for three weeks at the camp organized in the University of Puget Sound in 2016. I taught two classes at two different camps organized in Cornell University. I also led a research project in one of the camps. The Awesome Math Summer camp is meant for mathematically-strong middle school or high school students that want to learn mathematics through problem-solving.

Lecture at Lake Forest High School February 9, 2017

I gave a lecture on Hilbert’s infinite hotel at the request of Mark Osing, who is teaching an interdisciplinary course called ‘About Time’.

Talk at MathILy. July 24, 2013

MathILY is a summer program for talented High School students. In the program, the students are taught advanced mathematical subjects. I gave an interactive talk with the purpose of teaching some combinatorial counting techniques.

Odyssey Series, Center for Talented Youth May 1, 2010 and May 7, 2011

Gave three lectures for talented students from grades 7 to 10. Organized by Johns Hopkins University with Dartmouth College.

Mathcounts Instructor (Rivendell Academy)

Winter 2010

Coached the Math Counts team at Rivendell Academy in Orford, NH. I went weekly from December 2009 to March 2010.

Lectures at a local middle school (Tunbridge Central School) November 23, 2009 and March 24, 2010

Gave a couple of lectures to a group of middle school students from Tunbridge Central School. The purpose of the lectures was to encourage students to feel confidence in their math skills. I was invited by the school counselor Elliot Ketay.

Mentor for Senior Project (Stevens High School)

Spring 2007

Mentored Mike Kinshaw from Stevens High School on his senior project. I taught him Game Theory.

Montshire-Dartmouth-Rivendell Science Outreach Program

Winter 2007

Supported by the Howard Hughes Medical Institute, this program was meant to bring fun science activities to elementary school students. Along with a partner I gave five hands-on lectures on different science topics to students in fifth grade.

Abel Project

2003-2006

The Abel Project was a program where the best students of Cd. Juárez were invited to come every Saturday to the local university (in Cd. Juárez) and listen to two lectures in science. Most lectures were given by faculty. I was the main organizer of the event in 2005 and 2006 and I was an assistant organizer in 2003 and 2004. I also gave several lectures in the program.

ADDITIONAL SKILLS

Mathematical Software: \LaTeX , Mathematica, PARI

Computer Skills: Java, Haskell, Perl, Python.

Languages: English, Spanish.

REFERENCES

Available Upon Request.