

CONTACT INFORMATION Department of Mathematics & Computer Science Eastern Illinois University Charleston, IL 61920 *Office:* (217) 581 - 5902 *E-mail:* aalvarado2@eiu.edu *URL:* castle.eiu.edu/aalvarado2

RESEARCH INTERESTS Diophantine Equations, Elliptic Curves, Automated Change Detection

EDUCATION **Arizona State University**, Tempe, AZ

Ph.D. Mathematics May 2009

- *Arithmetic Progressions on Curves*
- Advisor: Professor Andrew Bremner

**University of Arizona**, Tucson, AZ

M.S. Mathematics December 2004

- *A Brief Introduction to Some Elliptic Curve Cryptography*
- Advisor: Professor Kirti Joshi

**San José State University**, San José, CA

B.S. Applied and Computational Mathematics May 2000

- Minor: Physics
- Advisor: Professor Daniel Goldston

REFEREED PUBLICATIONS *A Robust Implementation for Solving the S-unit Equation and Several Applications*, with Angelos Koutsianas, Beth Malmskog, Chris Rasmussen, Christelle Vincent, and McKenzie West, Simons Symposia series (Arithmetic Geometry, Number Theory, and Computation), Springer (2021), <https://arxiv.org/pdf/1903.00977.pdf>.

*Academic Preparation for Business, Industry, and Government Positions*, with Candice Price, Association for Women in Mathematics Series, Springer, **18** (2019), pp. 79 - 87.

*Difficult Dialogues in the Midwest: A Retrospective on the Impact of EDGE at Purdue University*, with Rachel Davis, Donatella Danielli, Zenephia Evans, Edray H. Goins, Association for Women in Mathematics Series, Springer, **18** (2019), pp.55 - 65.

*A Mathematician's Journey From Mentee to Mentor: Reflections on the EDGE Program*, with Sarah Bryant, Journal of Humanistic Mathematics, **7** Issue 2 (2017), pp. 394 - 400, <https://scholarship.claremont.edu/jhm/vol17/iss2/21/>.

*On the Diophantine Equation  $x^4 + y^4 + z^4 + t^4 = w^2$* , with Jean-Joël Delorme, Journal of Integer Sequences, **17** (2014), Article 14.11.5, <https://cs.uwaterloo.ca/journals/JIS/VOL17/Alvarado/alva3.pdf>.

*Arithmetic Progressions on Conic Sections*, with Edray H. Goins, International Journal of Number Theory, **9** no. 6 (2013), pp. 1379 - 1393, <http://arxiv.org/abs/1210.6612>.

*Arithmetic Progressions in the y-coordinates on Certain Elliptic Curves*, Aportaciones Matemáticas, Investigación **20** (2011), pp. 1 - 9.

*Arithmetic Progressions on Quartic Elliptic Curves*, Annales Mathematicae et Informaticae, **37** (2010), pp. 3 - 6, [http://ami.ektf.hu/uploads/papers/finalpdf/AMI\\_37\\_from3to6.pdf](http://ami.ektf.hu/uploads/papers/finalpdf/AMI_37_from3to6.pdf).

*An Arithmetic Progression on Quintic Curves*, Journal of Integer Sequences, **6** (2009), Article 09.7.3, <https://cs.uwaterloo.ca/journals/JIS/VOL12/Alvarado/alvarado2.pdf>.

EXPOSITORY  
PUBLICATIONS

*The Struggle of Qualifying Exams*, Living Proof: Stories of Resilience Along the Mathematical Journey, AMS-MAA Press (2019), pp. 32 - 34, <https://www.ams.org/about-us/LivingProof.pdf>.

*An Exposition of Schoof's Algorithm*, Sonoran Journal of Graduate Mathematics, Arizona State University, (2005), [http://mathpost.asu.edu/~sjgm/issues/2005\\_spring/SJGM\\_alvarado.pdf](http://mathpost.asu.edu/~sjgm/issues/2005_spring/SJGM_alvarado.pdf).

PUBLICATIONS IN  
PROGRESS

*Component Analysis-based Change Detection for Ocean Floor Multi-temporal Imagery of Synthetic Aperture Sonar*, with Tesfaye G-Michael, Jeannine Abiva, Rodney G. Roberts, Richard A. Nelson, submitted, IEEE Journal of Oceanic Engineering.

*Investigation of the Collatz Function in the Gaussian and Eisenstein Integers*, with Jason Torchinsky, Erik Knutsen, and Rafael Ceja Ayala, submitted, Minnesota Journal of Undergraduate Mathematics.

*Numerical Approximation of Coefficients of Shabat Polynomials*, with Edray H. Goins and Luis Melara, in preparation.

EMPLOYMENT

**Professor**

Eastern Illinois University Fall 2024 - present  
Department of Mathematics and Computer Science

**Associate Professor**

Eastern Illinois University Spring 2021 - Spring 2024  
Department of Mathematics and Computer Science Fall 2017

**Undergraduate courses taught; Danville Correctional Center**

MAT 1160 Mathematics: A Human Endeavor Fall 2023

**Undergraduate courses taught (EIU)**

MAT 1160 Mathematics: A Human Endeavor  
 MAT 1330 Analytical Trigonometry  
 MAT 1441 Calculus and Analytic Geometry I  
 MAT 2250 Elementary Statistics  
 MAT 2550 Introduction to Linear Algebra  
 MAT 3530 Abstract Algebra  
 MAT 3701 Probability and Statistics I  
 MAT 3702 Probability and Statistics II  
 MAT 4700 Seminar in Mathematics; Diophantine Equations  
 MAT 4810 Calculus for K-12 Math Educators  
 MAT 4910 Number Theory

**Graduate courses taught (EIU)**

MAT 5000 Mathematics Graduate Seminar  
 MAT 5100 Abstract Algebra  
 MAT 5810 Math Content Course for K-12 Math Educators  
 MAT 5335 Introduction to Data Science  
 MAT 5335 Introduction to Elliptic Curves  
 MAT 5990 Independent Study in Quadratic Integers

**ETS Advanced Placement Statistics Reader**

Scored AP Statistics exams for one week.

(virtual) Summer 2023  
(in-person) Summer 2024

**Scientist**

Naval Surface Warfare Center, Panama City, FL

Spring 2018 - Fall 2020

Worked on automated change detection for sonar imagery; presented results in internal, national, and international conferences.

**REU Faculty Mentor**

California State University, Channel Islands

Summer 2017

I directed an eight week summer research project with three undergraduate students on the Gaussian and Eisenstein integers. I also ran workshops on LaTeX and applying for graduate schools.

**Assistant Professor**

Eastern Illinois University  
Department of Mathematics and Computer Science

Fall 2013 - Spring 2017

**Local Co-coordinator, Enhancing Diversity in Graduate Education (EDGE) Program**

Purdue University, West Lafayette, IN

Summer 2016

The mission of the four week program is to strengthen the abilities of women to successfully complete graduate programs in the mathematical sciences. The program consists of mini-courses in vital areas of mathematical research in pure and applied mathematics, short-term

visitors from academia and industry, guest lectures, graduate student mentors, and problem sessions. In addition, a follow-up mentoring program and support network is established with the participants' respective graduate programs.

**ACT Preparation Instructor, Minority Teacher Identification and Enrichment Program**

Eastern Illinois University

Summer 2014

The mission of the one week program is to recruit and retain underserved high school students who have an interest in becoming teachers. I taught the mathematics portion of the ACT.

**Abstract Algebra Instructor, EDGE Program**

New College of Florida, Sarasota

June 2013

**Visiting Assistant Professor**

Purdue University, Department of Mathematics

Fall 2011 - Spring 2013

MA 173 Calculus with Analytic Geometry II  
MA 174 Multivariable Calculus  
MA 265 Linear Algebra  
MA 511 Graduate Linear Algebra with Applications

**Adjunct Faculty**

University of Arizona, Department of Mathematics

Fall 2009 - Spring 2011

Math 120 Precalculus  
Math 263 Introduction to Statistics  
Math 302A Understanding Elementary Mathematics  
(Required content course for pre-service elementary teachers.)

**Adjunct Faculty**

Pima Community College, Mathematics Department, Tucson, AZ

Summer 2009

MAT 173 Mathematics for Business 1: Probability and Simulation

**Graduate Teaching Assistant**

Arizona State University, School of Mathematical and Statistical Sciences

Fall 2007 - Spring 2009

MAT 170 Precalculus  
MAT 270 Calculus with Analytical Geometry I

**Graduate Student Mentor, EDGE Program**

New College of Florida, Sarasota

June 2006

Two mentors and I ran problem sessions for the students in Algebra and Analysis. Mentors helped to coordinate events, as well as share graduate school experiences.

**Graduate Teaching Assistant**Arizona State University, School of Mathematical and  
Statistical Sciences

Spring 2006

I ran a problem session for graduate students in real analysis. The course was intended for students that required extra practice while enrolled in core courses.

**Research Assistant**Arizona State University, School of Mathematical and  
Statistical Sciences

Spring 2005 - Fall 2005

I was involved in a variety of duties, most relevant was researching and analyzing the precalculus concept assessment instrument for the Center for Research on Education in Science, Mathematics, Engineering and Technology.

**Graduate Teaching Assistant**

University of Arizona, Department of Mathematics

Summer 2004

I taught college algebra for the New Start Summer Math Program, a six week program designed to help students transition to college. This intensive summer program has been “effective at serving low-income, racial minority, and first-generation college students.”

**Graduate Teaching Assistant**

University of Arizona, Department of Mathematics

Fall 2001 - Fall 2004

Graduate Assistants in the department had full responsibility for the courses taught. Additionally, senior graduate students assisted with beginning graduate and advanced undergraduate courses by holding office hours and running problem sessions.

Math 110	College Algebra
Math 120	Precalculus
Math 124	Calculus I
Math 415A	Abstract Algebra TA

**Mathematics Teacher**

José Valdés Math Institute, San José, CA

Summer 2001

**GRANTS**AMS-Simons Research Enhancement Grants for  
Primarily Undergraduate Institution (PUI) Faculty, \$3000

Fall 2023 - present

Eastern Illinois University  
College of Liberal Arts and Sciences Travel Award, \$500  
Faculty Development and Innovation Center Partnership Grant, \$1000  
with Andrew Mertz

Fall 2021

Increasing the Visibility of Women’s Research in Mathematics  
through Graduate Student Participation in National Workshops,

Spring 2018

Co-Principal Investigator, \$49966 NSF Grant DMS-1821955  
with Karoline Pershell, Ami Radunskaya

Eastern Illinois University, Achievement and Contribution Award Fall 2017  
Eastern Illinois University, Redden Grant, annual Fall 2013 - Fall 2017  
\$3000, \$1500, \$1500, \$1500

Eastern Illinois University, College of Sciences Fall 2015  
Early Research Support Grant, \$500, \$500, \$500 Fall 2014  
Visiting Scholars Award, \$600, \$300, \$200 Fall 2013

Midwest Women in Mathematics Symposium Fall 2015  
\$224, \$200 Fall 2014

EDGE mini-sabbatical grant, \$400 Summer 2014

Infinite Possibilities Conference Spring 2014  
Co-Principal Investigator \$25000 NSA Grant  
with Edray Goins, Lily Khadjavi, Tanya Moore

Underrepresented Students in Topology and Algebra Research Symposium Fall 2012  
(USTARS) Co-Principal Investigator, \$25000 NSF Grant DMS-1317928  
with Syvillia Averett, Edray Goins, Pamela Harris, Candice Price, Shannon Talbott

AWM-NSF Travel Grant, \$1500, \$710, \$1000 Summer 2018  
Fall 2014  
Spring 2012

FELLOWSHIPS &  
SCHOLARSHIPS

Sloan Fellowship Fall 2006 - Spring 2007

More Graduate Education at Mountain State Fall 2005 - Spring 2009  
Alliance Travel and Research Stipends (MGE@MSA)

National Science Foundation VIGRE Fellowship Summer 2003

Computer Science, Engineering and Mathematics Scholarship Fall 2002 - Spring 2004

Graduate College Scholarship Fall 2001 - Spring 2002

Ronald E. McNair Post Baccalaureate Achievement Program Summer 2000

SELECTED TALKS

*The Collatz Conjecture over the Gaussian Integers*  
Young Mathematicians Conference, invited Summer 2023

The Ohio State University, Columbus, OH  
Department of Mathematics Colloquium, invited Fall 2022

Shippensburg University, PA  
Department of Mathematics and Computer Science Fall 2017

Colloquium, Eastern Illinois University, Charleston, IL

*Arithmetic Progressions on Curves* Fall 2023  
 Department of Mathematics and Statistics Colloquium, invited  
 Southern Illinois University, Carbondale, IL

GROW Conference, invited, Fall 2023  
 Duke University, Durham, NC

Conference on Strengthening Community in Research Mathematics, invited Spring 2023  
 Pomona College, Claremont, CA

*My Post-Grad Mathematical Journey* Spring 2022  
 Professional Development Seminar (virtual), invited  
 Arizona State University, Tempe, AZ

*Investigation of the Collatz Function in the Gaussian & Eisenstein Integers* Spring 2022  
 AMS Spring Central Virtual Sectional Meeting  
 Purdue University, West Lafayette, IN

*Scattering Wavelet Transform* Spring 2019  
 Department of Mathematics, AWM Student Chapter, invited  
 University of Kentucky, Lexington, KY

*My Mathematical Journey* Fall 2018  
 Hidden No More: Stories of Triumph, Excellence, and Achievement  
 in STEM NSF-INCLUDES Lecture Series, invited  
 Southwestern University, Georgetown, TX

Formal and Informal Internal Presentations, Summer 2018 - Summer 2020  
 approximately one per quarter  
 Naval Surface Warfare Center, Panama City Division, FL

*My Lessons Learned* Summer 2018  
 EDGE Reunion Banquet Speaker, invited  
 Texas Tech University, Lubbock, TX

Latinos in the Mathematical Sciences Conference 2018 Spring 2018  
 Careers in Government Panelist, IPAM, Los Angeles, CA

*Arithmetic Progressions on Conic Sections*  
 Mathematical Congress of the Americas, invited Summer 2017  
 Joint Mathematics Meetings, invited Spring 2017  
 Session on Discrete Structures in Number Theory, Atlanta, GA  
 Colloquium, Eastern Illinois University, Charleston, IL Fall 2016

*Journey to the Ph.D.*  
 Louis Stokes Alliance for Minority Participation, invited Spring 2017  
 California State University, Channel Islands

*NExT Panel: Retaining Students from Underrepresented Groups in STEM*  
Indiana Section MAA Meeting, invited Fall 2016  
Purdue University, West Lafayette, IN

*Brief Introduction to Public Key Cryptography*  
3rd Lake Michigan Workshop on Combinatorics and Graph Theory, invited Spring 2016  
Purdue University, West Lafayette, IN

*Random Bits of Advice*  
Nebraska Conference for Undergraduate Women in Mathematics, invited Spring 2016  
University of Nebraska, Lincoln

*Approximating Coefficients of Shabat Polynomials*  
Rose Hulman Institute of Technology, Terre Haute, IN, invited Spring 2016  
AMS Sectional Meeting, Loyola University, Chicago, IL, invited Fall 2015  
Bradley University Math Seminar, Peoria, IL, invited Fall 2015  
MAA MathFest, Washington, DC Summer 2015

*Dessin d'Enfants and Shabat Polynomials*  
Latinos in the Mathematical Sciences Conference Spring 2015  
IPAM, Los Angeles, CA  
Midwest Women in Mathematics Symposium, Spring 2015  
Dominican University, Chicago, IL

*On the Diophantine Equation  $x^4 + y^4 + z^4 + t^4 = w^2$*   
Conference on Diophantine  $m$ -tuples and Related Problems, invited Fall 2014  
Purdue University North Central, Westville, IN  
Midwest Women in Mathematics Symposium, Spring 2014  
University of Notre Dame, Notre Dame, IN

*What's so Special About Mordell Curves?*  
SACNAS National Conference, Los Angeles, CA Fall 2014  
Universidad Autonoma Metropolitana, Mexico, D.F., invited Summer 2014  
Math Club Talk, Purdue University North Central, Westville, IN Spring 2013  
Bridge to Research Seminar, Purdue University, West Lafayette, IN Spring 2013

*Arithmetic Progressions on Curves*  
AWM Research Symposium, Santa Clara University, Santa Clara, CA Spring 2013

*Arithmetic Progressions on Mordell Curves*  
Colloquium, Eastern Illinois University, Charleston, IL Spring 2013

*Questions About Powers of Numbers*  
Number Theory Seminar, Purdue University, West Lafayette, IN Spring 2013

*Journey to the Ph.D.*, invited  
Center for Leadership and Diversity in STEM, Fall 2012  
United States Military Academy, West Point, NY



<i>Arithmetic Progressions on Conic Sections</i>	Automorphic Forms Seminar, Purdue University, West Lafayette, IN	Fall 2012
<i>Belyi's Theorem</i>	Number Theory Seminar, Purdue University, West Lafayette, IN	Fall 2012
<i>On Square Values of Quadratics</i>	Number Theory Seminar, Purdue University, West Lafayette, IN	Spring 2012
<i>Arithmetic Progressions on Mordell Curves</i>	Underrepresented Students in Topology and Algebra Research Symposium University of Iowa, Iowa City, IA	Spring 2012
<i>Arithmetic Progressions in the <math>x</math>-coordinates on Mordell Curves</i> , invited	Joint Mathematics Meeting, Special Session on Arithmetic Geometry, Boston, MA	Spring 2012
<i>My Adventures with Elliptic Curves</i> , invited	AGEP PRiME: Purdue Research in Mathematics Experience, Purdue University, West Lafayette, IN	Summer 2011
<i>Arithmetic Progressions on <math>y^2 = x^3 + k</math></i>	Automorphic Forms and Representation Theory Seminar, Purdue University, West Lafayette, IN	Spring 2011
	Algebra/Combinatorics/Geometry/Topology Seminar, Northern Arizona University, Flagstaff, AZ	Spring 2011
<i>Some Elliptic Curve Cryptography</i> , invited	MSRI - UP: Elliptic Curves and Applications, Mathematical Sciences Research Institute, Berkeley, CA	Summer 2010
<i>Arithmetic Progressions in the <math>y</math>-coordinates of Certain Elliptic Curves</i>	Fourteenth International Conference on Fibonacci Numbers and their Applications, Morelia, Mexico	Summer 2010
<i>Arithmetic Progressions on Curves</i> , invited	Research Experiences in Mathematics for Undergraduates and Teachers, California State University, Chico, CA	Summer 2009
<i><math>y</math>-coordinate Arithmetic Progressions on Elliptic Curves</i>	Number Theory Seminar, Arizona State University, Tempe, AZ	Fall 2008
<i>Integral Arithmetic Progressions on <math>y^2 = x^3 + k</math></i>	International Conference on Statistics and Related Fields, Honolulu, HI	Spring 2008
<i>Cryptography Workshop</i>	Presentation for Sonia Kovalevsky Day (a one day high school mathematics workshop for female students), University of Arizona, Tucson, AZ	Spring 2007

	<i>Arithmetic Progressions on Curves of Degree Five</i>	
	West Coast Number Theory Conference, Ensenada, Mexico	Fall 2006
	<i>The Mordell Weil Theorem over <math>\mathbb{Q}</math></i>	
	Number Theory Seminar, Arizona State University, Tempe, AZ	Spring 2006
	<i>Schoof's Algorithm</i>	
	MGE@MSA Student Research Conference, Arizona State University,	Spring 2005
	Graduate Colloquium, University of Arizona, Tucson, AZ	Fall 2004
	<i>A Brief Introduction to Some Algorithms in Elliptic Curve Cryptography</i>	
	Master's Thesis Defense, University of Arizona, Tucson, AZ	Fall 2004
	<i>Ideals Defined by Matrices</i>	
	Graduate Math Colloquium, University of Arizona, Tucson, AZ	Spring 2004
POSTER PRESENTATIONS	<i>Mohanty's Conjectures</i>	
	SACNAS National Conference, San José, CA	Fall 2011
	AWM Anniversary Conference, Providence, RI	Fall 2011
	<i>Arithmetic Progressions on Elliptic Curves</i>	
	Career Options for Women in Mathematical Sciences, Minneapolis, MN	Spring 2009
	Joint Mathematics Meetings, San Francisco, CA	Spring 2009
	<i>Arithmetic Progressions on Curves of Degree Five</i>	
	International Conference on Statistics and Related Fields, Honolulu, HI	Spring 2008
	Infinite Possibilities Conference, Raleigh, NC	Fall 2007
	MGE@MSA Student Research Conference, Arizona State University,	Spring 2007
	Tempe, AZ (First Place in Mathematics Category)	
PROFESSIONAL WORKSHOPS & CONFERENCES	Institute for Computational and Experimental Research in Mathematics (ICERM), Collaborate@ICERM, Providence, RI	Spring 2022
	<ul style="list-style-type: none"> <li>The goal of the weeklong workshop was to work on updates for the project "Solving <math>S</math>-unit Equations" with same members from Collaborate@ICERM 2017.</li> </ul>	
	American Institute of Mathematics (AIM)	
	Latinx Mathematicians Network, San Jose, CA	Fall 2019
	<ul style="list-style-type: none"> <li>The goal of the workshop is to build a network of Latinx mathematicians, which will encourage and promote the advancement of Latinx to pursue careers in the mathematical sciences, and showcase their mathematical contributions.</li> </ul>	
	Linton-Poodry SACNAS Leadership Institute	
	AAAS Headquarters, Washington, DC	Summer 2018
	<ul style="list-style-type: none"> <li>The goal of the intensive five day course is to lay the foundation for motivated scientists to lead institutional transformation.</li> </ul>	

USTARS Early Career Faculty Workshop Spring 2017  
Amherst College, MA

- The goal of the workshop and conference is to further the success of underrepresented students and faculty in algebra and topology.

Institute for Computational and Experimental Research in  
Mathematics (ICERM), Collaborate@ICERM, Providence, RI Spring 2017

- The goal of the weeklong workshop was to continue collaborating with the same members from Sage Days 62 on “Solving  $S$ -unit Equations”.

re:boot Number Theory Spring 2016  
Duke University, Durham, NC

- The goal of the four day workshop is to develop long-term research trajectories including overview of the grant writing process.

USTARS Spring 2016  
Sam Houston State University, Huntsville, TX

- The goal of the workshop was to find, develop, and implement research opportunities for underrepresented students in topology and algebra.

Nebraska Conference for Undergraduate Women in Mathematics Spring 2016  
University of Nebraska, Lincoln Spring 2015

- The goal of NCUWM is to encourage and mentor undergraduate women to pursue graduate study in mathematics and seek mathematical careers by providing role models, insider knowledge, and an opportunity to present original research. I took a student in 2015 and another student in 2016.

Sage Days 62: Women in Sage 5 Summer 2014  
Portland, OR

- The goal of the 4 day workshop was to work on a number theoretical group project developing Sage code, as well as increasing the number of women in the community of Sage developers.

Structured Quartet Research Ensembles (SQuaREs) Spring 2014  
American Institute of Mathematics (AIM), Palo Alto, CA

- The goal of the week long workshop was to continue collaborating with the same members from REUF4 on the project, “Visualizing Dessins d’Enfants”.

Research Experience for Undergraduate Faculty (REUF4) Summer 2012  
ICERM, Providence, RI

- The goal of the week long workshop is to introduce undergraduate faculty to potential research projects and to equip them with the tools to mentor students in undergraduate research in mathematics.

AWM Women in Mathematics Symposium Spring 2011  
 Institute for Pure and Applied Mathematics, Los Angeles, CA

- The goal of the two day symposium was to provide new female mathematicians with career information and networks as they prepare for postgraduate careers.

The National Summer Institute, Denver, CO Summer 2010

- The goal of the four day institute was to provide participants with the necessary training to prepare them for faculty positions in academia.

Promoting Diversity at the Graduate Level in Mathematics Fall 2008  
 Mathematical Sciences Research Institute, Berkeley, CA

- I was invited to be on the panel, *The Students' Perspective*. The objectives of the three day workshop was to identify and discuss successful models that improve retention of underrepresented groups in graduate mathematics.

The Ninth Workshop on Elliptic Curve Cryptography Conference Fall 2005  
 and Summer School, Copenhagen, Denmark

- The weeklong summer school provided background for the conference which was held the following week. Some topics included  $p$ -adic numbers, pairing, Weil descent, and an introduction to MAGMA.

Anogia Summer School, Number Fields and Curves over Summer 2005  
 Finite Fields, Crete, Greece

- The weeklong school consisted of lectures which included Arakelov theory, curves over finite fields and modular forms. There were also guest lectures by fellow students.

EDGE Program, Summer 2002  
 Bryn Mawr College, PA

- The aim of the program was to prepare female students for graduate school in the mathematical sciences. The program was four weeks long and covered core courses in algebra and analysis, including minicourses in different areas of mathematics.

SERVICE &  
 OUTREACH

AMS Central Section Program, Committee chair Spring 2023 - present  
 Committee member Spring 2022 - Fall 2022

MAA Representative-at-Large for Interests of Summer 2023 - present  
 Minoritized/Marginalized Communities in Mathematics

MAA Representative on the MAA-SIAM-AMS Spring 2023 - present  
 Hrabowski-Gates-Tapia-McBay Lecture Selection Committee

LatMath Conference 2022 Summer 2022  
 Session co-organizer "Tips for Effective Mentoring"  
 with Cindy Wyels

AWM Executive Committee Clerk	Spring 2022 - present
MathFest Committee Chair	Spring 2018 - Spring 2019
Organizing Committee	Spring 2016 - Fall 2017
MathFest 2018 Town Hall: Shaping and Fostering an Equitable Community in our Departments	
Infinite Possibilities Conference	Summer 2024 - present
Organizing committee	Fall 2017 - Spring 2018
	Fall 2013 - Spring 2015
Student poster judge	Spring 2012
EIU Department of Mathematics and Computer Science	
Colloquium Committee	Fall 2022 - present
Social & Good of the Order Committee	Fall 2022 - present
iSTEM Advisory Committee	Fall 2021 - present
Graduate Committee	Fall 2021 - Spring 2022
Scholarship Committee	Spring 2021 - Spring 2022
	Spring 2014
Hiring Committee	Spring 2021
	Fall 2013 - Spring 2014
Undergraduate, and Graduate Semi-annual Open House	Fall 2014 - Fall 2017
Publicity and Outreach Committee	Fall 2016 - Fall 2017
Graduate Coordinator	Fall 2014 - Spring 2017
Kappa Mu Epsilon/Math club advisor	Fall 2013 - Spring 2015
Illinois Council of Teachers of Mathematics (ICTM)	Spring 2015
Math Contest Volunteer	Spring 2014
All About Her Podcast, interview, “of influential women in STEM to learn more about their experiences in high school, college, and their current careers”, <a href="https://www.youtube.com/watch?v=B7DkKqICJBY">https://www.youtube.com/watch?v=B7DkKqICJBY</a>	Summer 2021
Change the Path Program; Q&A with 7th grades on my path through mathematics, Rancho Milpitas Middle School, CA.	Spring 2021
Graduate Research Opportunities for Women, invited panelist	Fall 2020
Took student who was accepted to participate	Fall 2017
Northwestern University, Evanston, IL	Fall 2016
NSF INCLUDES Stakeholders Meeting participant	Summer 2017
University of Nebraska, Lincoln	
re:boot Number Theory 2017 organizing committee	Fall 2016 - Spring 2017
Duke University, Durham, NC	
NSF Site Visit, Statistics Living-Learning Community	Spring 2017
Purdue University, West Lafayette, IN	

2017 Joint Mathematics Meetings Session Co-organizer AMS Special Session on An Amicable Combination of Algebra and Number Theory (Dedicated to Dr. Helen G. Grundman)	Fall 2016
AWM Research Symposium 2017 Special Session Co-organizer	Fall 2016 - Spring 2017
10th Annual Field of Dreams Conference, Panelist Washington University, St. Louis, MO	Fall 2016
Graduate Research Opportunities for Women, invited panelist Took student who was accepted to participate Northwestern University, Evanston, IL	Fall 2017 Fall 2016
External Mathematical Referee/MathSciNet Reviewer	Fall 2014 - present
MAA MathFest Undergraduate Paper Session Judge	Summer 2015
Richard Tapia Celebration of Diversity in Computing Conference: Session co-organizer: Solving the Unsolvable through Scientific Computing Travel scholarship reviewer	Fall 2016 Fall 2014
SACNAS National Conference: Scientific Symposium Session, co-organizer and co-chair; Sage Software Workshop; Harshad Numbers and Sage Workshop Undergraduate Student Poster judge; Travel Scholarship Reviewer; judges sub-committee chair;	Fall 2015 Fall 2014 Fall 2013 Fall 2012 Fall 2011
Eastern Illinois University: Annual Gateway Program "Professor's Expectation" panelist Latino Heritage Month planning committee Sigma Xi scientific honor society participant Sigma Xi undergraduate poster judge Building Bridges: Connecting Latino Faculty/Staff with Students (Charlando Con Los Profesores) UPI Diversity Committee Council on Academic Affairs, Learning Goals committee	Fall 2014 - 2017 Fall 2016 - 2017 Spring 2017 Spring 2016 Spring 2016 Fall 2014 Fall 2014 - Spring 2016 Fall 2013 - Spring 2014
EIU College of Sciences: Minority Mentoring in Mathematics and Sciences (M <sup>3</sup> S) chair Women in Science and Mathematics (WiSM) member SURE award selection committee, three year term	Fall 2016 - Spring 2017 Spring 2015 - Fall 2017 Spring 2014 - Spring 2016
Purdue University: Local organizer for USTARS 2013 Course coordinator for MA 265 Linear Algebra Co-organizer for Purdue Research in Mathematics Experience	Fall 2012 - Spring 2013 Spring 2013 Summer 2012

	M.S. defense committee member for three non-thesis students	Spring 2013 Summer 2012
	ADVANCE Purdue Research in Mathematics Experience (PRiME)	Summer 2012
	Graduate School 101 Symposium Faculty Panel, Black Graduate Student Association	Spring 2012
	Chapter reviewer for a proposed textbook in Functional Analysis Springer Publishing	Fall 2012
STUDENTS ADVISED	Sarada Bandara, M.A. <i>An Exposition of the Eisenstein Integers</i>	M.A. May 2016
AFFILIATIONS	American Mathematical Society (AMS) Association for Women in Mathematics (AWM) Mathematical Association of America (MAA) Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS) Lifetime Member	
CONTINUING EDUCATION	EIU Online Course Development Institute; Certificate of Completion Fundamentals, Code Acceleration and Deep Learning in MATLAB; NSWC PCD weeklong course Advanced Programming in C++; NSWC PCD weeklong course Intro to R for Data Science; edX Certificate Programming with R for Data Science; edX Certificate	Fall 2020 Fall 2019 Summer 2018 Spring 2017 Spring 2017
TECHNICAL SKILLS	HTML, $\text{\LaTeX}$ , Magma, Maple, Mathematica, MATLAB, R, Sage	
VOLUNTEER	Panhandle Running Club webmaster, hiking trail maintenance	
LANGUAGES	English, Spanish	
CITIZENSHIP	United States	