

Edray Herber Goins

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West Lafayette, IN 47906

EDUCATION **Stanford University**, Stanford, California USA
Ph.D., Mathematics, September 1999
Dissertation Topic: “Elliptic Curves and Icosahedral Galois Representations”
Advisors: Daniel W. Bump, Karl C. Rubin

California Institute of Technology, Pasadena, California USA
B.S., Mathematics and Physics, June 1994
Advisors: Dinakar Ramakrishnan, Steven C. Frautschi

RESEARCH INTERESTS Algebraic Geometry, Automorphic Forms, Class Field Theory, Commutative Algebra, Elliptic Curves, Galois Representations, Number Theory, Representation Theory

APPOINTMENTS **Pomona College**, Claremont, California USA
Professor of Mathematics **July 2018**

Purdue University, West Lafayette, Indiana USA
Professor of Mathematics **August 2017 – May 2018**
Associate Professor of Mathematics **August 2010 – August 2017**
Assistant Professor of Mathematics **August 2004 – August 2010**
Visiting Scholar **October 2000**

Inst. for Comp. and Exp. Research in Math (ICERM), Providence, Rhode Island USA
Computational Aspects of the Langlands Program **September 2015 – December 2015**

California Institute of Technology, Pasadena, California USA
Taussky-Todd Instructor of Mathematics **September 2003 – August 2004**
Irvine Foundation Instructor of Mathematics **August 2001 – August 2003**

Harvard University, Cambridge, Massachusetts USA
Visiting Scholar **November 2007 – December 2007**
Visiting Scholar **September 2001 – June 2002**
Visiting Scholar **April 2000**

Max Planck Institut für Mathematik (MPIM), Bonn, Germany
Postdoctoral Fellow **January 2001 – June 2001**

Mathematical Sciences Research Institute (MSRI), Berkeley, California USA
Postdoctoral Fellow **August 2000 – December 2000**
Postdoctoral Fellow **August 1999 – September 1999**

Institute for Advanced Study (IAS), Princeton, New Jersey USA

Member, School of Mathematics

September 1999 – August 2000

National Security Agency (NSA), Ft. George Meade, Maryland USA

Summer Internship

June 1996 – August 1996

Summer Internship

June 1995 – August 1995

EXTERNAL GRANTS 2016 Field of Dreams Conference

Co-Principal Investigator

David Goldberg, PI

September 2017 – August 2018

This \$49 500.00 National Science Foundation award (DMS-1664256) will partially support the Field of Dreams Conference, to be held at the Renaissance St. Louis Airport Hotel, in St. Louis, MO, from November 4-6, 2016. The Field of Dreams conference is organized by the National Alliance for Doctoral Students in the Mathematical Sciences (the Alliance), an organization whose goal is to increase the number of students from backgrounds underrepresented in the mathematical sciences who earn doctorates in those fields. Approximately 200 students will attend the conference, and about 75% of those will be underrepresented minorities. The conference coordinates with the Alliance's Facilitated Graduate Admissions Process (F-GAP), which has helped place approximately 70 Alliance Scholars in graduate programs each of the last three years with almost 100% retention to this point. So, the conference is an essential part of a program to produce a more diverse professional mathematical workforce. In addition, there are events at the conference which assist faculty in mentoring practices and help academic departments transform their cultures to be more supportive of student success.

2016 Field of Dreams Conference

Co-Principal Investigator

David Goldberg, PI

December 2016 – November 2017

This \$50 000.00 National Science Foundation award (DMS-1664256) will partially support the Field of Dreams Conference, to be held at the Renaissance St. Louis Airport Hotel, in St. Louis, MO, from November 4-6, 2016. The Field of Dreams conference is organized by the National Alliance for Doctoral Students in the Mathematical Sciences (the Alliance), an organization whose goal is to increase the number of students from backgrounds underrepresented in the mathematical sciences who earn doctorates in those fields. Approximately 200 students will attend the conference, and about 75% of those will be underrepresented minorities. The conference coordinates with the Alliance's Facilitated Graduate Admissions Process (F-GAP), which has helped place approximately 70 Alliance Scholars in graduate programs each of the last three years with almost 100% retention to this point. So, the conference is an essential part of a program to produce a more diverse professional mathematical workforce. In addition, there are events at the conference which assist faculty in mentoring practices and help academic departments transform their cultures to be more supportive of student success.

REU Site: Purdue Research in Mathematics Experience (PRiME)

Principal Investigator

Jonathon Peterson, CO-PI

June 2016 – May 2019

This \$76 282.00 National Science Foundation grant (DMS-1560394) will provide three years of support for Purdue University to offer an eight week summer residential program for undergraduate students to conduct research in pure mathematics. The program, entitled Purdue Research in Mathematics Experience (PRiME) will host eight undergraduates each summer. The main goals of the program are (1) to provide undergraduate students with a research experience in algebraic geometry, number theory, or probability with the aim of producing new results worthy of publication or presentation at a national mathematics meeting, and (2) to prepare undergraduates for

a post-baccalaureate degree in mathematics. The program will also work to increase the diversity of mathematicians both at Purdue University and more broadly. The program directors will place a high importance on recruiting participants from groups traditionally underrepresented in mathematics. Additionally, the directors of the program will invite mathematicians from underrepresented groups speak in a Summer REU Colloquium series in which they will discuss with the PRiME participants their professional journey.

Infinite Possibilities Conference (IPC)

Principal Investigator

Alejandra Alvarado,

Lily Khadjavi, and Tanya Moore, CO-PIs

October 2014 – September 2015

The \$25 000.00 National Security Agency grant provided funding for a conference to be held at Purdue University from March 26–28, 2015. The 5th Infinite Possibilities Conference (IPC), which is the only such national meeting to focus on issues related to educating, encouraging and supporting minority women interested in mathematics and statistics, was to be jointly sponsored by Purdue and the non-profit organization Building Diversity in Science. The conference provides students at the undergraduate and graduate levels, as well as junior faculty, an opportunity to interact with peers and more established women mathematicians in a supportive and collegial atmosphere that is unique for a professional conference. One of the main goals of IPC is to establish connections between mentors and mentees and to provide role models for junior women mathematicians seeking to enter the field but concerned about the differences they see between themselves and traditional mathematicians.

The grant was transferred to Tanya Moore and Sastry Pantula, and the conference was held March 1-3, 2015 at Oregon State University.

Underrepresented Students in Topology and Algebra Research Symposium (USTARS)

Principal Investigator

Alejandra Alvarado, Syvillia Averett, Pamela Harris,

Candice Price, and Shannon Talbott, CO-PIs

January 2013 – January 2014

The \$25 000.00 National Science Foundation grant (DMS-1317928) provided funding for a conference to be held at Purdue University from April 19–21, 2013. This was the third such meeting; the first two were held in April 2011 and 2012. The program consisted of a 18 research talks by underrepresented speakers, 75% given by graduate students, in addition to a keynote faculty speaker and two distinguished graduate student speakers. The meeting also included a research poster session for undergraduate students. A goal of the conference was to bring together young researchers in algebra and topology from diverse backgrounds and to expose undergraduate students to research opportunities.

INTERNAL GRANTS **ADVANCE Purdue Research in Mathematics Experience (PRiME)** through the ADVANCE at Purdue University

Subcontract Principal Investigator

June 2013 – August 2013

The \$10 000.00 grant was funded by an NSF grant awarded to ADVANCE Center for Faculty Success at Purdue University. The PI organized an eight-week summer program called “ADVANCE PRiME” which sought to form a community of mathematical research during the summer of 2013. The PI brought in seven outside speakers, women of color in the mathematical sciences, to discuss their professional journey from being an undergraduate student to being a member of the professoriate.

ADVANCE Purdue Research in Mathematics Experience (PRiME) through the ADVANCE at Purdue University

Subcontract Principal Investigator

June 2012 – August 2012

The \$10 000.00 grant was funded by an NSF grant awarded to ADVANCE Center for Faculty Suc-

cess at Purdue University. The PI organized an eight-week summer program called “ADVANCE PRiME” which sought to form a community of mathematical research during the summer of 2012. The PI brought in five outside speakers, women of color in the mathematical sciences, to discuss their professional journey from being an undergraduate student to being a member of the professoriate.

Squares and Cubes in Arithmetic Progressions through the Purdue Summer Research Opportunity Program (SROP)

Co-Principal Investigator

Sergio García Currás, Co-PI

June 2012 – July 2012

The \$1 000.00 grant was funded by the Purdue Summer Research Opportunities Program (SROP) as hosted by the Graduate School. The PI conducted research with Sergio García Currás, an undergraduate student at the University of Puerto Rico – Rio Piedras involved with SROP, on a project entitled “Squares and Cubes in Arithmetic Progressions.”

AGEP Purdue Research in Mathematics Experience (PRiME) through the Midwest Crossroads Alliance for Graduate Education and the Professoriate (AGEP) at Purdue University

Principal Investigator

June 2011 – August 2011

The \$45 067.00 grant was funded by an NSF grant awarded to the Midwest Crossroads AGEPEP at Purdue University. The PI organized an eight-week summer program called “AGEP PRiME” which sought to form a community of mathematical research during the summer of 2011. The PI brought in five outside speakers to discuss their professional journey from being an undergraduate student to being a member of the professoriate.

Rational Distance Sets on Conic Sections through the Louis Stokes Alliance for Minority Participation (LSAMP) in Indiana

Co-Principal Investigator

Jonathan Blair, Co-PI

June 2011 – July 2011

The \$816.00 grant was funded by an NSF grant awarded to LSAMP Indiana at Purdue University. The PI conducted research with Jonathan D. Blair, an undergraduate student involved with LSAMP, on a project entitled “Rational Distance Sets on Conic Sections.”

Summer Support through the Center for Faculty Success

Principal Investigator

June 2010 – August 2010

The internal grant was for designing a course entitled “Great Issues in Mathematics.”

Summer Faculty Grant through the Purdue Research Foundation

Principal Investigator

June 2006 – August 2006

The internal grant was summer support for the PI. This grant was declined.

AWARDS AND
HONORS

2015 Claude B. "Pop" Dansby Lecture, Morehouse College
 2015 Marjorie Lee Browne Colloquium, University of Michigan
 2011 Ruth and Joel Spira Teaching Award, Purdue University
 2011 Claytor-Woodard Lecture, Joint Mathematics Meetings
 2009 David Blackwell Lecture, Mathematical Association of America (MAA) MathFest
 2006 Bharucha-Reid Lecture, NAM Faculty Conference on Research and Teaching
 2004 Emerging Scholar of the Year, Black Issues in Higher Education
 2003 ASCIT Teaching Award Nomination, California Institute of Technology
 1999 James W. Lyons Award for Service, Stanford University
 1999 Graduate Service Award, Graduate Student Council, Stanford University
 1999 Outstanding Graduate Student, Chicano/Latino Graduate Student Association, Stanford University
 1996 Outstanding Graduate Student, Black Community Services Center, Stanford University
 1994 Rodman W. Paul History Prize, California Institute of Technology
 1993 Doris S. Perpall Speaking Award for best presentation in the Humanities, Summer Undergraduate Research Fellowship, California Institute of Technology
 1993 Dean's Cup for Service, California Institute of Technology
 1989 Bronze Medal in Mathematics, Los Angeles Academic Decathlon

FELLOWSHIPS AND SCHOLARSHIPS

2008 Teaching for Tomorrow Fellowship Award, Purdue University
 1994 – 1999 National Physical Science Consortium Graduate Fellowship
 1994 National Science Foundation Graduate Research Fellowship (Honorable Mention)
 1993 Los Angeles Philanthropic Foundation Scholarship
 1992, 1993 American Physical Society Scholarship
 1991, 1992 Morgan Ward Mathematics Prize, California Institute of Technology
 1990 Robert A. Millikan Physics Scholarship, California Institute of Technology
 1990 Sigma Pi Phi Scholarship
 1990 NAACP Roy A. Wilkins Scholarship
 1990 National Achievement Scholarship
 1989 National Merit Scholarship Honorable Mention

REFEREED PUBLICATIONS

1. With Mel Currie, On the Distribution of Fractional Parts. Internal publication of the National Security Agency. (1997).
2. With Mel Currie, The Fractional Parts of $\frac{n}{k}$. Council for African-American Researchers in the Mathematical Sciences, Vol. III; Contemp. Math. 275 (2001), pgs. 13 - 31.
3. Artin's Conjecture and Elliptic Curves. Council for African-American Researchers in the Mathematical Sciences, Vol. III; Contemp. Math. 275 (2001), pgs. 39 - 51.
4. A Ternary Algebra with Applications to Binary Quadratic Forms. Council for African-American Researchers in the Mathematical Sciences, Vol. IV; Contemp. Math. 284 (2001), pgs. 7 - 12.
5. Icosahedral \mathbb{Q} -curve Extensions. Math Research Letters 10 (2003), no. 2-3, pgs. 205-217.
6. With Davin Maddox, Heron Triangles via Elliptic Curves. Rocky Mountain Journal of Mathematics, Vol. 36; (2005), no. 5, pgs. 1511 - 1526.
7. With Alain Togbe, On Pythagorean Quadruplets. International Journal of Pure and Applied Mathematics, Vol. 35 (2007), no. 3, pgs. 363 - 372.
8. With Florian Luca and Alain Togbe, On the Diophantine Equation $x^2 + 2^{\alpha}5^{\beta}13^{\gamma} = y^n$. Algorithmic Number Theory Seminar (ANTS-VIII); LCNS 5011 (2008), pgs. 430-442.
9. Palindromes in Different Bases: A Conjecture of J. Ernest Wilkins. INTEGERS: The Electronic Journal of Combinatorial Number Theory, Vol. 9 (2009), pgs. 725-734.
10. With Talitha Washington, A Tasty Combination: Multivariable Calculus and Differential Forms. The Pentagon: The Journal of Kappa Mu Epsilon, Fall 2009, pgs. 11-28.

11. With Talitha Washington, Sphere-of-Influence Graphs. Wolfram Demonstrations Project. (February 4, 2010) <http://demonstrations.wolfram.com/SphereOfInfluenceGraphs/>
12. Semi-Magic Squares and Elliptic Curves. Missouri Journal of Mathematical Sciences, Vol. 22 (2010), no. 2, pgs. 102 - 107.
13. With Kevin Mugo, Points on Hyperbolas at Rational Distance. International Journal of Number Theory, Vol. 8, No. 4 (2012), pgs. 911-922.
14. With Talitha Washington, The Area of the Surface Generated by Revolving a Graph About Any Line. PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Vol. 23, Issue 2 (2013), pgs. 121-132.
15. With Jing Ma, Susan Margulies, and Illya V. Hicks, Branch Decomposition Heuristics for Linear Matroids. Journal of Discrete Optimization. Vol. 10, Issue 2 (May 2013), pgs. 102-119.
16. With Alejandra Alvarado, Arithmetic Progressions on Conic Sections. International Journal of Number Theory. Vol. 9, No. 6 (2013), pgs. 1379-1393.
17. With Talitha Washington, On the Generalized Climbing Stairs Problem. Ars Combinatoria, Vol. CXVII (October 2014), pgs. 183-190.
18. With Asamoah Nkwanta, Riordan Matrix Representations of Euler's Constant γ and Euler's Number e . International Journal of Combinatorics, Volume 2016 (2016), Article ID 8324150, 9 pgs.

PUBLICATIONS
SUBMITTED

19. With Alejandra Alvarado and Luis Melara. Numerical Approximation of Coefficients of Belyi Maps. Submitted 2016.
20. Explicit Descent via 4-Isogeny on an Elliptic Curve, 20 pp. Submitted 2016.

PUBLICATIONS IN
PROGRESS

21. With Lloyd Kilford, Counting Mod ℓ Solutions via Modular Forms.
22. Extending the Serre-Faltings Method for \mathbb{Q} -Curves, 15 pp.
23. With Garikai Campbell, Heron Triangles, Diophantine Problems, and Elliptic Curves, 15 pp.

BOOKS AND
MONOGRAPHS

24. Editor with Donald King, Gaston N'Guérékata, and Alfred Noël. Council for African American Researchers in the Mathematical Sciences, Vol. V; Contemp. Math. 467 (2008), 152 pgs.

INVITED TALKS

1. Toroidal Belyi Pairs, Toroidal Graphs, and their Monodromy Groups
Department of Mathematics Colloquium
University of Washington, Seattle, Washington October 6, 2017
2. Fuchsian Differential Equations with Prescribed Monodromy:
An Introduction to Solving a Quintic Without Using Radicals
Mathematics Colloquium
Spelman College, Atlanta, Georgia September 25, 2017
3. What is a Set?
Bridge to Enter Advanced Mathematics (BEAM)
Union College, Schenectady, New York July 22, 2017
4. Toroidal Belyi Pairs, Toroidal Graphs, and their Monodromy Groups
Geometry, Algebra, Singularities, Combinatorics (GASC) Seminar
Northeastern University, Boston, Massachusetts February 27, 2017
5. Toroidal Belyi Pairs, Toroidal Graphs, and their Monodromy Groups
AMS Special Session on Discrete Structures in Number Theory
Joint Mathematics Meetings, Atlanta, Georgia January 5, 2017

6. Toroidal Belyĭ Pairs, Toroidal Graphs, and their Monodromy Groups
Blackwell-Tapia Conference
National Institute for Mathematical and Biological Synthesis (NIMBioS),
Knoxville, Tennessee October 28, 2016
7. Yes, Even You Can Bend It Like Beckham
Meyerhoff Scholars Program National Security Agency (NSA) Seminar Series
University of Maryland at Baltimore County, Baltimore, Maryland September 27, 2016
8. What is a Set?
Bridge to Enter Advanced Mathematics (BEAM)
Vassar College, Poughkeepsie, New York July 23, 2016
9. Metabelian Galois Representations
Upstate Number Theory Conference
University of Rochester, Rochester, New York April 30, 2016
10. Metabelian Galois Representations
Department of Mathematics Colloquium
Emory University, Atlanta, Georgia March 31, 2016
11. Indiana Poles Forced to Eat Humble Pi: The Curious History of an Irrational Number
Indiana MAA Spring Sectional Meeting
Franklin College, Franklin, Indiana March 19, 2016
12. q -series, Partitions, Generating Functions, Modular Forms, and Applications
3rd Lake Michigan Workshop on Combinatorics and Graph Theory
Purdue University, West Lafayette, Indiana March 5, 2016
13. A Survey of Diophantine Equations
MEC Mathematics Society
Medgar Evers College, Brooklyn, New York December 7, 2015
14. Yes, Even You Can Bend It Like Beckham
Society for Industrial and Applied Mathematics (SIAM) Chapter Meeting
Howard University, Washington, District of Columbia October 29, 2015
15. Fuchsian Differential Equations with Prescribed Monodromy:
An Introduction to Solving a Quintic Without Using Radicals
2015 Modern Math Workshop (MMW)
Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS)
Washington, District of Columbia October 28, 2015
16. Yes, Even You Can Bend It Like Beckham
11th Annual Claude B. "Pop" Dansby Lecture
Morehouse College, Atlanta, Georgia October 22, 2015
17. Belyĭ Maps on Elliptic Curves and Dessin d'Enfants on the Torus
Algebra/Number Theory/Combinatorics Seminar
Pomona College, Claremont, California October 13, 2015
18. Fuchsian Differential Equations with Prescribed Monodromy:
An Introduction to Solving a Quintic Without Using Radicals
Minorities in Mathematics Speaker Series (MIMSS)
United States Military Academy, West Point, New York October 5, 2015
19. Belyĭ Maps on Elliptic Curves and Dessin d'Enfants on the Torus
AMS Sectional Meeting AMS Special Session – Meeting #1112
Special Session on Automorphisms of Riemann Surfaces and Related Topics
Loyola University, Chicago, Illinois October 4, 2015

20. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Mathematics Colloquium
Iowa State University, Ames, Iowa May 7, 2015
21. Applying to Summer Programs, Fellowships, and Graduate School in the Mathematical Sciences
Latinos in the Mathematical Sciences Conference
Institute for Pure and Applied Mathematics, Los Angeles, California April 11, 2015
22. Panel Discussion on The Negotiation Process
Careers in Mathematical Sciences: Workshop for Underrepresented Groups
Institute for Mathematics and its Applications, Minneapolis, Minnesota March 27, 2015
23. Kummer's Conjecture: From Gauss to ENIAC and Beyond
Careers in Mathematical Sciences: Workshop for Underrepresented Groups
Institute for Mathematics and its Applications, Minneapolis, Minnesota March 27, 2015
24. Engaging Students in Extracurricular Math Activities
Indiana Project NExT Panel Discussion
Spring 2015 Meeting of the Indiana Section of the MAA
Taylor University, Upland, Indiana March 14, 2015
25. Radio Interview for Pi Day
Weekend Indiana with Ray Steele
WIBC 93.1 FM, Indianapolis, Indiana March 14, 2015
26. Computing with Elliptic Curves over Number Fields
Group, Lie and Number Theory Seminar
University of Michigan, Ann Arbor, Michigan January 20, 2015
27. From the Diary of a Black Mathematician:
My Journey from South Central to Studying Dessins d'Enfants
Marjorie Lee Browne Colloquium
University of Michigan, Ann Arbor, Michigan January 19, 2015
28. Arithmetic Progressions on Curves
AMS-AWM Special Session on Recent Developments in Algebraic Number Theory #SS 9A
San Antonio, Texas January 13, 2015
29. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Mathematics Colloquium
Tulane University, New Orleans, Louisiana November 20, 2014
30. There exist infinitely many rational Diophantine 6-tuples – almost
Conference on Diophantine m -tuples and Related Problems
Purdue University North Central, Westville, Indiana November 13, 2014
31. On Diophantine n -Tuples (Replacement for Alain Togbe)
Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS)
Los Angeles, California October 18, 2014
32. Kummer's Conjecture: From Gauss to ENIAC and Beyond
Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS)
Los Angeles, California October 16, 2014
33. How to Find Money for Graduate School: A Guide for Mentors
Capstone Institute's NSF Building Connections Project
Howard University, Washington, District of Columbia October 7, 2014

34. Associating Finite Groups with *Dessins d'Enfants*
Palmetto Number Theory Series XXII
South Carolina State University, Orangeburg, South Carolina September 7, 2014
35. A Survey of Diophantine Equations
Palmetto Number Theory Series XXII
South Carolina State University, Orangeburg, South Carolina September 5, 2014
36. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Mathematics Colloquium
Lewis & Clark College, Portland, Oregon July 18, 2014
37. Graduate School Panel
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
Miami University, Oxford, Ohio July 11, 2014
38. Arithmetic Progressions on Curves
AMS Central Sectional Meeting #1100
Texas Tech University, Lubbock, Texas April 13, 2014
39. Indiana Pols Forced to Eat Humble Pi: The Curious History of an Irrational Number
Mathematics Colloquium
Wabash College, Crawfordsville, Indiana April 1, 2014
40. Why Should I Care About Elliptic Curves?
Mathematics Colloquium
Eastern Illinois University, Charleston, Illinois March 28, 2014
41. *ABC* Triples in Families
AMS Special Session on The Ubiquity of Dynamical Systems
Joint Mathematics Meetings, Baltimore, Maryland January 16, 2014
42. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*
Mathematics Colloquium
College of William and Mary, Williamsburg, Virginia November 22, 2013
43. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*
Teichmüller Seminar
Indiana University, Bloomington, Indiana October 24, 2013
44. Indiana Pols Forced to Eat Humble Pi: The Curious History of an Irrational Number
Purdue North Central Mathematics Club
Purdue North Central, Westville, Indiana October 22, 2013
45. Modern Math Workshop Mini-Course 2: A Survey of Diophantine Equations
Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS)
San Antonio, Texas October 2, 2013
46. Graduate School Panel
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
Miami University, Oxford, Ohio July 8, 2013
47. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
PI Mathematics Club
Indiana University – Purdue at Fort Wayne, Fort Wayne, Indiana March 6, 2013
48. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*

- The Oliver Club Seminar
Cornell University, Ithaca, New York February 28, 2013
49. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*
Automorphic Forms, Representations, and Combinatorics:
A Conference in Honor of Daniel Bump
Stanford University, Palo Alto, California August 14, 2012
50. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
REU: Computational Algebraic Geometry, Combinatorics and Number Theory
Clemson University, Clemson, South Carolina June 26, 2012
51. An Introduction to the Sato-Tate Conjecture
REU: Computational Algebraic Geometry, Combinatorics and Number Theory
Clemson University, Clemson, South Carolina June 25, 2012
52. Ellipses and Pendulums and Groups, Oh My! From Elliptic Integrals to Elliptic Curves
REU: Computational Algebraic Geometry, Combinatorics and Number Theory
Clemson University, Clemson, South Carolina June 25, 2012
53. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
Atkin Memorial Lecture and Workshop Elliptic Curves over $\mathbb{Q}(\sqrt{5})$
University of Illinois at Chicago, Chicago, Illinois April 28, 2012
54. Riordan Matrix Representations of Euler's Constant γ and Euler's Number e
National Association of Mathematicians (NAM) Faculty Research Conference
Morgan State University, Baltimore, Maryland April 21, 2012
55. Riordan Matrix Representations of Euler's Constant γ and Euler's Number e
Underrepresented Students in Topology and Algebra Research Symposium (USTARS)
University of Iowa, Iowa City, Iowa April 14, 2012
56. Arithmetic Progressions on Curves
Algebra/Combinatorics Seminar
Texas A&M University, College Station, Texas March 22, 2012
57. Ellipses and Pendulums and Groups, Oh My! From Elliptic Integrals to Elliptic Curves
Mathematics Graduate Student Organization
Texas A&M University, College Station, Texas March 21, 2012
58. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Mathematics Club
Texas A&M University, College Station, Texas March 20, 2012
59. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Mathematics Colloquium
Howard University, Washington, District of Columbia January 13, 2012
60. Themes on the Undergraduate Preparation of Contemporary Mathematics Graduate Students
NAM Panel Discussion
Joint Mathematics Meetings, Boston, Massachusetts January 7, 2012
61. Graduate School Panel
National Association of Mathematicians (NAM) MATHFest XXI
Dillard University, New Orleans, Louisiana November 4, 2011
62. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry

- SACNAS National Conference
San Jose, California October 30, 2011
63. Graduate School Panel
Young Mathematicians Conference
Ohio State University, Columbus, Ohio August 21, 2011
64. Transforming Undergraduates into Researchers:
Best Practices from an Afrocentric Perspective
Cultural and Philosophic Underpinnings of Western Science, MAA MathFest
Lexington, Kentucky August 6, 2011
65. Graduate School Panel
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
Miami University, Oxford, Ohio July 13, 2011
66. *ABC* Triples in Families
Underrepresented Students in Topology and Algebra Research Symposium (USTARS)
University of Iowa, Iowa City, Iowa April 2, 2011
67. *ABC* Triples in Families
Purdue Mathematics Club
Purdue University, West Lafayette, Indiana February 8, 2011
68. Galois Representations and L -Series: A Tour Through Mathematics
NAM Claytor-Woodard Lecture
Joint Mathematics Meetings, New Orleans, Louisiana January 9, 2011
69. Yes, Even You Can Bend It Like Beckham
Blackwell-Tapia Conference
Mathematical Biosciences Institute (MBI), Columbus, Ohio November 5, 2010
70. *ABC* Triples in Families
Center for Communications Research, La Jolla, California September 30, 2010
71. Why Should I Care About Elliptic Curves?
David Blackwell Lecture, Mathematical Association of America (MAA) MathFest
Portland, Oregon August 7, 2009
72. Graduate School Panel
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
Miami University, Oxford, Ohio July 1, 2009
73. Four-Covering Maps for Elliptic Curves
Conference for African-American Researchers in the Mathematical Sciences (CAARMS) 15
Rice University, Houston, Texas June 25, 2009
74. Why Should I Care About Elliptic Curves?
National Security Agency (NSA) 5th Invitational Mathematics Meeting
Baltimore, Maryland November 23, 2008
75. Using Parallel Computing to Search for High Rank Elliptic Curves
Blackwell-Tapia Conference
SAMSI, Research Triangle Park, North Carolina November 14, 2008
76. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
Mathematics Colloquium
Morehouse College, Atlanta, Georgia November 11, 2008
77. Panelist for "A Tale of Two Cultures"
Promoting Diversity at the Graduate Level in Mathematics: A National Forum
Mathematical Sciences Research Institute (MSRI), Berkeley, California October 17, 2008

78. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
 Mathematics and Statistics Colloquium
 Swarthmore College, Swarthmore, Pennsylvania September 30, 2008
79. On Finding Large Rational Solutions to $u^3 - dv^3 = 1$
 Summer Mathematics Institute (SMI) Seminar
 Cornell University, Ithaca, New York June 27, 2008
80. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
 Algebraic Geometry Seminar
 University of Bristol, England, United Kingdom May 14, 2008
81. What Good is Mathematics Anyway?
 High School Mathematics Achievement Banquet
 University of Evansville, Evansville, Indiana April 23, 2008
82. Fermat's Last Theorem: The E! True Hollywood Story
 Mathematics Colloquium
 University of Evansville, Evansville, Indiana April 23, 2008
83. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
 Number Theory Seminar
 University of Illinois, Urbana-Champaign, Illinois January 15, 2008
84. Introduction to Collaborative Learning
 Upward Bound Math and Science Training
 Simmons College, Boston, Massachusetts June 19, 2007
85. There exist infinitely many rational Diophantine 6-tuples – almost
 Special Session on Arithmetic Geometry
 Joint Meeting of the AMS, New Orleans, Louisiana January 8, 2007
86. Why Should I Care About Lie Groups?
 Mathematics Colloquium
 Howard University, Washington, District of Columbia November 9, 2006
87. Why Should I Care About Lie Groups?
 Blackwell-Tapia Conference
 Institute for Math and its Applications (IMA), Minneapolis, Minnesota November 4, 2006
88. A Year in the Life of a Number Theorist
 Summer Mathematics Institute (SMI) Seminar
 Cornell University, Ithaca, New York July 7, 2006
89. A Year in the Life of a Number Theorist
 Summer Program in Research and Learning (SPIRAL) Seminar
 University of Maryland, College Park, Maryland July 5, 2006
90. Extending the Serre-Faltings Method for \mathbb{Q} -Curves
 Number Theory Seminar
 University of Wisconsin, Madison, Wisconsin April 11, 2006
91. A Year in the Life of a Number Theorist
 Bharucha-Reid Lecture, Nat'l Assoc. of Mathematicians (NAM) Faculty Research Conference
 Albany State University, Albany, Georgia March 11, 2006
92. Prime Numbers, L -Series, and Representations of Galois Groups
 REU Seminar
 Clemson University, Clemson, South Carolina July 8, 2005
93. On the Modularity of Wildly Ramified Galois Representations
 AMS Spring Southeastern Sectional Meeting #1004
 Western Kentucky University, Bowling Green, Kentucky March 19, 2005

94. On Finding Large Rational Solutions to $u^3 - dv^3 = 1$
Automorphic Forms Workshop
University of North Texas, Denton, Texas March 17, 2005
95. On Finding Large Rational Solutions to $u^3 - dv^3 = 1$
Mathematics Colloquium
SUNY Buffalo, Buffalo, New York February 24, 2005
96. On the Modularity of Wildly Ramified Galois Representations
Number Theory Seminar
University of Illinois, Urbana-Champaign, Illinois September 28, 2004
97. On the Modularity of Wildly Ramified Galois Representations
Automorphic Forms Seminar
Purdue University, West Lafayette, Indiana September 9, 2004
98. On the Modularity of Wildly Ramified Galois Representations
Number Theory Seminar
University of California, Santa Barbara, California May 25, 2004
99. Congruent Numbers, Rational Triangles, and Elliptic Curves
Illinois Number Theory Conference
University of Illinois, Urbana-Champaign, Illinois May 22, 2004
100. Congruent Numbers, Rational Triangles, and Elliptic Curves
Mathematics Colloquium
Center for Communications Research, La Jolla, California May 18, 2004
101. On the Modularity of Wildly Ramified Galois Representations
Number Theory Seminar
University of California, San Diego, California April 22, 2004
102. On the Modularity of Wildly Ramified Galois Representations
AMS Spring Western Section Meeting #996
University of Southern California, Los Angeles, California April 3, 2004
103. On the Modularity of Wildly Ramified Galois Representations
Automorphic Forms Workshop
University of California, Santa Barbara, California March 21, 2004
104. Application of Mathematics to Chemistry: A History of Quantum Mechanics
Honors Chemistry Class
Washington Preparatory High School, Los Angeles, California March 8, 2004
105. On the Modularity of Wildly Ramified Galois Representations
Mathematics Colloquium
Rice University, Houston, Texas February 16, 2004
106. On the Modularity of Wildly Ramified Galois Representations
Mathematics Colloquium
Purdue University, West Lafayette, Indiana January 27, 2004
107. On the Modularity of Wildly Ramified Galois Representations
Mathematics Colloquium
University of Massachusetts, Boston, Massachusetts November 24, 2003
108. On the Modularity of Wildly Ramified Galois Representations
Number Theory Seminar
University of California, Los Angeles, California November 10, 2003
109. Congruent Numbers, Rational Triangles, and Elliptic Curves
Mathematics Colloquium
Occidental College, Los Angeles, California October 23, 2003

110. Congruent Numbers, Rational Triangles, and Elliptic Curves
Louis Stokes Alliance for Minority Participation (LSAMP) Regional Conference
Drexel University, Philadelphia, Pennsylvania March 29, 2003
111. Congruent Numbers, Rational Triangles, and Elliptic Curves
Mathematics Colloquium
Wesleyan University, Middletown, Connecticut January 24, 2003
112. Deformations of Galois Representations: An Adventure in Galois Cohomology
Modular Curves Seminar
Harvard University, Cambridge, Massachusetts January 21, 2003
113. Elliptic Curves and Icosahedral Galois Representations, Part II
Beginning Research in Number Theory Seminar
University of California, Los Angeles, California December 3, 2002
114. Elliptic Curves and Icosahedral Galois Representations, Part I
Beginning Research in Number Theory Seminar
University of California, Los Angeles, California November 26, 2002
115. Icosahedral \mathbb{Q} -Curve Extensions
Mathematics Colloquium
California State University, Long Beach, California October 18, 2002
116. Congruent Numbers, Rational Triangles, and Elliptic Curves
Mathematics Colloquium
Claremont Colleges, Claremont, California September 25, 2002
117. Klein's Galois Theory of the Icosahedral Group via Elliptic Curves
AMS Spring Western Section Meeting #972
Portland State University, Portland, Oregon June 22, 2002
118. Icosahedral \mathbb{Q} -Curve Extensions
Number Theory Seminar
University of California, Irvine, California April 2, 2002
119. Icosahedral \mathbb{Q} -Curve Extensions
Number Theory Seminar
University of California, Santa Barbara, California March 15, 2002
120. Icosahedral \mathbb{Q} -Curve Extensions
Number Theory Seminar
California Institute of Technology, Pasadena, California February 14, 2002
121. Icosahedral \mathbb{Q} -Curve Extensions
Number Theory Seminar
Boston University, Boston, Massachusetts December 10, 2001
122. Galois Representations of $PSL(2, 7)$
Number Theory Seminar
University of California, San Diego, California December 7, 2000
123. Galois Representations of $PSL(2, 7)$
Number Theory Seminar
Stanford University, Stanford, California November 28, 2000
124. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Number Theory Seminar
University of California, Berkeley, California November 17, 2000
125. Moving in Academic Circles Outside the University
Minority Alumni Lecture Series
Stanford University, Stanford, California October 30, 2000

126. Introduction to Fourier Analysis
National Council for Minorities in Engineering (NACME) Forum
Convention Center, Long Beach, California October 28, 2000
127. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Automorphic Forms Seminar
Purdue University, West Lafayette, Indiana October 12, 2000
128. On the Multiplicative Properties of the Sums of Squares
Mathematics Colloquium
Vanderbilt University, Nashville, Tennessee July 27, 2000
129. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Conference for African-American Researchers in the Mathematical Sciences (CAARMS) 6
Morgan State University, Baltimore, Maryland June 30, 2000
130. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Number Theory Seminar
Harvard University, Cambridge, Massachusetts April 26, 2000
131. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Granville-Brown-Haynes Session of Presentations by Recent Doctorial Recipients in the Mathematical Sciences
Joint Mathematics Meetings, Washington, District of Columbia January 21, 2000
132. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
Mathematics Seminar
Brigham Young University, Salt Lake City, Utah December 2, 1999
133. On the Distribution of Fractional Parts
National Physical Science Consortium (NPSC) Conference
NPSC, La Jolla, California May 14, 1998

LOCAL TALKS

1. An Introduction to Galois Representations
Bridge to Research Seminar
Purdue University, West Lafayette, Indiana November 18, 2016
2. A Survey of Diophantine Equations
Bridge to Research Seminar
Purdue University, West Lafayette, Indiana October 31, 2016
3. Tips for Success is Graduate School: Things to Do and Mistakes to Avoid
Graduate School eMentoring Program
Purdue University, West Lafayette, Indiana October 6, 2016
4. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana October 6, 2016
5. NSF GRFP Writing Studio
Mathematics/Statistics NSF GRFP Seminar
Purdue University, West Lafayette, Indiana September 22, 2016
6. NSF GRFP Information Session
Mathematics/Statistics NSF GRFP Seminar
Purdue University, West Lafayette, Indiana September 8, 2016
7. Introduction to Representation Theory
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 1, 2016

8. Generating Functions, Partitions, and q-series: An Introduction to Classical Modular Forms
Number Theory Seminar
Purdue University, West Lafayette, Indiana June 28, 2016
9. Outreach in Mathematics at Purdue University: Math Club and Summer Activities
Dean's Visit to the Department of Mathematics
Purdue University, West Lafayette, Indiana March 24, 2016
10. Transforming Undergraduates into Researchers:
Best Practices from an Afrocentric Perspective
Purdue SACNAS Chapter "Let's Connect!" Series
Purdue University, West Lafayette, Indiana November 4, 2015
11. NSF GRFP Writing Studio
Mathematics/Statistics NSF GRFP Seminar
Purdue University, West Lafayette, Indiana October 15, 2015
12. NSF GRFP Information Session
Mathematics/Statistics NSF GRFP Seminar
Purdue University, West Lafayette, Indiana October 1, 2015
13. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana October 1, 2015
14. Classical Statement of Riemann-Roch with Applications to Low Genus Curves
Riemann-Roch Seminar
Purdue University, West Lafayette, Indiana July 10, 2015
15. Symbolic Calculator Tutorial
Purdue Mathematics Club
Purdue University, West Lafayette, Indiana February 19, 2015
16. NSF GRFP Mathematical Sciences Prep Workshop
Purdue University, West Lafayette, Indiana October 21, 2014
17. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana October 2, 2014
18. A Survey of Diophantine Equations
Purdue Mathematics Club
Purdue University, West Lafayette, Indiana September 18, 2014
19. An Introduction to Composition of Quadratic Forms and Quadratic Reciprocity
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 18, 2014
20. Ellipses and Pendulums and Groups, Oh My! From Elliptic Integrals to Elliptic Curves
PRiME Virtual Seminar
Purdue University, West Lafayette, Indiana August 1, 2014
21. Yes, Even You Can Bend It Like Beckham
PRiME Virtual Seminar
Purdue University, West Lafayette, Indiana July 25, 2014
22. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
PRiME Virtual Seminar
Purdue University, West Lafayette, Indiana June 27, 2014
23. Outreach in Mathematics at Purdue University: sMath Club and Summer Activities
Dean's Visit to the Department of Mathematics
Purdue University, West Lafayette, Indiana February 26, 2014

24. Ellipses and Pendulums and Groups, Oh My!: From Elliptic Integrals to Elliptic Curves
PHYS 235: Careers in Physics
Purdue University, West Lafayette, Indiana February 18, 2014
25. Computing with Elliptic Curves over Number Fields
Automorphic Forms Seminar
Purdue University, West Lafayette, Indiana February 6, 2014
26. Indiana Pols Forced to Eat Humble Pi: The Curious History of an Irrational Number
Purdue Mathematics Club
Purdue University, West Lafayette, Indiana November 7, 2013
27. Preparing Job Applications and Grant Proposals
Association for Women in Mathematics (AWM) Purdue Chapter Workshop
Purdue University, West Lafayette, Indiana October 16, 2013
28. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana September 17, 2013
29. Elliptic Curves and Equidistributions: From Gauss and Kummer to Sato and Tate
Bridge to Research Seminar
Purdue University, West Lafayette, Indiana September 9, 2013
30. The Weil Pairing on Elliptic Curves, Part II
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 5, 2013
31. The Weil Pairing on Elliptic Curves, Part I
Number Theory Seminar
Purdue University, West Lafayette, Indiana August 29, 2013
32. Why Should I Care About Lie Groups?
Basic Notions Seminar
Purdue University, West Lafayette, Indiana April 12, 2013
33. Ellipses and Pendulums and Groups, Oh My!: From Elliptic Integrals to Elliptic Curves
Graduate Recruitment Weekend
Purdue University, West Lafayette, Indiana March 1, 2013
34. Ranks of Elliptic Curves via Class Groups of Number Fields
Number Theory Seminar
Purdue University, West Lafayette, Indiana November 16, 2012
35. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana October 31, 2012
36. \LaTeX Demystified: Typesetting Mathematics as a Professional
Association for Women in Mathematics (AWM) Purdue Chapter Workshop
Purdue University, West Lafayette, Indiana October 16, 2012
37. Indiana Pols Forced to Eat Humble Pi: The Curious History of an Irrational Number
Basic Notions Seminar
Purdue University, West Lafayette, Indiana September 21, 2012
38. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*, Part II
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 7, 2012

39. From Klein's Platonic Solids to Kepler's Archimedean Solids:
Elliptic Curves and *Dessins d'Enfants*, Part I
Number Theory Seminar
Purdue University, West Lafayette, Indiana August 31, 2012
40. *ABC* Triples in Families
Bridge to Research Seminar
Purdue University, West Lafayette, Indiana August 20, 2012
41. The Control Theorem, Part III
Number Theory Seminar
Purdue University, West Lafayette, Indiana October 6, 2011
42. The Control Theorem, Part II
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 29, 2011
43. Ellipses and Pendulums and Groups, Oh My!: From Elliptic Integrals to Elliptic Curves
Bridge to Research Seminar
Purdue University, West Lafayette, Indiana September 26, 2011
44. The Control Theorem, Part I
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 22, 2011
45. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana September 22, 2011
46. An Introduction to Iwasawa Theory for Elliptic Curves, Part II
Number Theory Seminar
Purdue University, West Lafayette, Indiana September 1, 2011
47. An Introduction to Iwasawa Theory for Elliptic Curves, Part I
Number Theory Seminar
Purdue University, West Lafayette, Indiana August 25, 2011
48. An Introduction to *Dessins d'Enfants*:
The Intersection of Graph Theory, Group Theory, and Differential Geometry
Purdue Mathematics Club
Purdue University, West Lafayette, Indiana September 8, 2011
49. Representations of $\mathfrak{S}_3 \simeq GL_2(\mathbb{F}_2)$
Number Theory Seminar
Purdue University, West Lafayette, Indiana November 30, 2010
50. So You Want to Break Codes: Careers in Government for Mathematicians
MA 10800: Mathematics as a Profession
Purdue University, West Lafayette, Indiana October 28, 2010
51. Fundamental Characters of Level n , Part II
Number Theory Seminar
Purdue University, West Lafayette, Indiana October 26, 2010
52. Fundamental Characters of Level n , Part I
Number Theory Seminar
Purdue University, West Lafayette, Indiana October 19, 2010
53. Galois Groups of Local Fields
Number Theory Seminar
Purdue University, West Lafayette, Indiana May 3, 2010

54. Orders in Number Fields, Part II
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana April 22, 2010
55. Orders in Number Fields, Part I
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana April 15, 2010
56. Computing with Elliptic Curves over Number Fields
 Joint Logic / Number Theory Seminar
 Purdue University, West Lafayette, Indiana April 15, 2010
57. Introduction to Ample Line Bundles
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana March 2, 2010
58. Manipulating Algebraic Integers Using SAGE: A Tutorial, Part II
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana February 4, 2010
59. Elliptic Curves and Equidistributions: From Gauss and Kummer to Sato and Tate
 Purdue Mathematics Club
 Purdue University, West Lafayette, Indiana January 28, 2010
60. Manipulating Algebraic Integers Using SAGE: A Tutorial, Part I
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana January 28, 2010
61. Schemes: The Gluing Construction
 Number Theory Seminar
 Purdue University, West Lafayette, Indiana December 3, 2009
62. An Introduction to the Sato-Tate Conjecture, Part II
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana December 3, 2009
63. An Introduction to the Sato-Tate Conjecture, Part I
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana November 19, 2009
64. Why Should I Care About Elliptic Curves?
 Purdue Mathematics Club
 Purdue University, West Lafayette, Indiana April 16, 2009
65. The Comet thro' the long Elliptic Curve: Why I Love Curves of Genus 1
 Bridge to Research Seminar
 Purdue University, West Lafayette, Indiana February 9, 2009
66. Graduate School Panel
 Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
 Miami University, Oxford, Ohio July 2, 2008
67. Distributions of 2-Selmer Ranks for Elliptic Curves, Part III
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana January 31, 2008
68. Distributions of 2-Selmer Ranks for Elliptic Curves, Part II
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana January 24, 2008
69. Distributions of 2-Selmer Ranks for Elliptic Curves, Part I
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana January 17, 2008

70. Graduate School Panel
 Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI)
 Miami University, Oxford, Ohio July 11, 2007
71. A Year in the Life of a Number Theorist
 MA 108: Mathematics as a Profession
 Purdue University, West Lafayette, Indiana November 2, 2006
72. Ellipses and Pendulums and Groups, Oh My!: From Elliptic Integrals to Elliptic Curves
 SCI 110: Honors Science
 Purdue University, West Lafayette, Indiana October 30, 2006
73. Does There Exist an Elliptic Curve E/\mathbb{Q} with Mordell-Weil Group $Z_2 \times Z_8 \times Z^4$?
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana September 28, 2006
74. From Diophantine Equations to Representations of Galois Groups
 Bridge to Research Seminar
 Purdue University, West Lafayette, Indiana April 24, 2006
75. Towards Artin's Conjecture for Three-Dimensional Galois Representations, Part II
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana November 3, 2005
76. Towards Artin's Conjecture for Three-Dimensional Galois Representations, Part I
 Automorphic Forms Seminar
 Purdue University, West Lafayette, Indiana October 26, 2005
77. Prime Numbers, L -Series, and Representations of Galois Groups
 Summer Undergraduate Mathematical Sciences Institute (SUMSRI) Seminar
 Miami University; Oxford, Ohio June 16, 2005
78. From Moduli Spaces to Modular Curves, Part II
 Working Algebraic Geometry Seminar
 Purdue University, West Lafayette, Indiana September 29, 2004
79. From Moduli Spaces to Modular Curves, Part I
 Working Algebraic Geometry Seminar
 Purdue University, West Lafayette, Indiana September 22, 2004
80. Congruent Numbers, Rational Triangles, and Elliptic Curves
 Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI) Seminar
 Miami University, Oxford, Ohio June 10, 2004
81. On the Modularity of Wildly Ramified Galois Representations
 Number Theory Seminar
 California Institute of Technology, Pasadena, California October 30, 2003
82. Extending the Serre-Faltings Method for \mathbb{Q} -Curves
 Number Theory Seminar
 California Institute of Technology, Pasadena, California March 6, 2003
83. Where Have the Black Students Gone?
 Office of Minority Student Education
 California Institute of Technology, Pasadena, California February 26, 2003
84. Are the Students Learning?
 Teaching Assistant Preparation Keynote Address
 California Institute of Technology, Pasadena, California September 26, 2002
85. Icosahedral \mathbb{Q} -Curve Extensions
 Number Theory Seminar
 Harvard University, Cambridge, Massachusetts December 5, 2001

86. Finding a Modular Form Associated to a $PSL(2, 7)$ -Extension
 Modular Curves Seminar
 Harvard University, Cambridge, Massachusetts October 29, 2001
87. Galois Representations of $PSL(2, 7)$
 Number Theory Seminar
 Max Planck Institute, Bonn, Germany May 16, 2001
88. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
 Number Theory Seminar
 Max Planck Institute, Bonn, Germany January 24, 2001
89. Galois Representations of $PSL(2, 7)$
 Number Theory Seminar
 Mathematical Sciences Research Institute (MSRI), Berkeley, California November 27, 2000
90. Elliptic Curves and Polynomials of Degree 5
 Postdoctoral Fellows Seminar
 Mathematical Sciences Research Institute (MSRI), Berkeley, California November 3, 2000
91. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
 Automorphic Forms Seminar
 Institute for Advanced Study (IAS), Princeton, New Jersey April 4, 2000
92. An Icosahedral Representation Attached at a \mathbb{Q} -Curve
 New Postdocs Seminar
 Institute for Advanced Study (IAS), Princeton, New Jersey September 23, 1999

ACADEMIC
 EXPERIENCE

Purdue University, West Lafayette, Indiana USA

co-PI, PRiME

June 2017 – July 2017

Designed and advised a 8-week research program for 10 undergraduate students as part of an NSF REU Site (DMS-1560394). The program focused on a greater understanding of Dessins d'Enfants on the torus by (1) computing examples of Belyĭ maps $\beta : X \rightarrow \mathbb{P}^1(\mathbb{C})$ for the complex points $X = E(\mathbb{C})$ on an elliptic curve E , and (2) computing the monodromy groups of graphs which can be embedded on the torus without crossings.

<http://www.math.purdue.edu/people/bio?user=egoins&page=PRIME.html>

Purdue University, West Lafayette, Indiana USA

co-PI, PRiME

June 2016 – August 2016

Designed and advised a 8-week research program for 10 undergraduate students as part of an NSF REU Site (DMS-1560394). The program focused on a greater understanding of Dessins d'Enfants on the torus by (1) computing examples of Belyĭ maps $\beta : X \rightarrow \mathbb{P}^1(\mathbb{C})$ for the complex points $X = E(\mathbb{C})$ on an elliptic curve E , and (2) computing the monodromy groups of graphs which can be embedded on the torus without crossings.

<http://www.math.purdue.edu/~egoins/prime/PRIME%202016.html>

Purdue University, West Lafayette, Indiana USA

Director, PRiME

June 2015 – August 2015

Designed and advised a 8-week research program for 7 undergraduate students. The program focused on a greater understanding of Dessins d'Enfants on the torus by (1) computing examples of Belyĭ maps $\beta : X \rightarrow \mathbb{P}^1(\mathbb{C})$ for the complex points $X = E(\mathbb{C})$ on an elliptic curve E , and (2) drawing the inverse image $\beta^{-1}([0, 1]) \hookrightarrow \mathbb{R}^3$ of the unit interval, viewed as a bipartite graph without edge crossings, on the torus in 3-dimensions via elliptic integrals.

<http://www.math.purdue.edu/~egoins/prime/PRIME%202015.html>

American Institute of Mathematics / Institute for Computational and Experimental Research in Mathematics, Providence, Rhode Island USA

Workshop Leader, REUF

June 2015

Directed a workshop for 5 faculty to conduct research at their home institutions. The Research Experiences for Undergraduate Faculty (REUF) is designed to introduce undergraduate faculty to research opportunities in several fields of mathematics that will equip them with the tools to mentor students in undergraduate research in mathematics.

<http://aimath.org/ARCC/workshops/reuf7.html>

Purdue University, West Lafayette, Indiana USA

Director, PRiME

June 2014 – August 2014

Designed and advised a 8-week research program for 4 undergraduate students. The program focused on a greater understanding of Dessins d'Enfants by (1) determining those planar graphs which can be realized as Dessins d'Enfants of suitable yet explicit Belyi maps $\beta : \mathbb{P}^1(\mathbb{C}) \rightarrow \mathbb{P}^1(\mathbb{C})$; and (2) determining those subgroups of $\text{Aut}(\mathbb{P}^1(\mathbb{C}))$ which can be realized as automorphisms of suitable yet explicit Belyi maps.

<http://www.math.purdue.edu/~egoins/prime/PRiME%202014.html>

American Institute of Mathematics, Palo Alto, California USA

Structured Quartet Research Ensemble (SQuaRE)

March 17 – 21, 2014

As a follow-up to the 2012 REUF project, I lead a week-long research group consisting of 7 young career faculty. The project focused on visualizing Dessins d'Enfants by (1) exhibiting examples of planar graphs which can be generated as Dessins d'Enfants using obvious symmetries from well-known Belyi maps $\beta : \mathbb{P}^1(\mathbb{C}) \rightarrow \mathbb{P}^1(\mathbb{C})$ from the given valencies of a planar graph; and (2) writing code in Sage to explicitly construct Belyi maps

<http://www.aimath.org/research/squares.html>

Purdue University, West Lafayette, Indiana USA

Director, PRiME

June 2013 – August 2013

Designed and advised a 8-week research program for 8 undergraduate students. The program focused on a greater understanding of Dessins d'Enfants by (1) determining those planar graphs which can be realized as Dessins d'Enfants of suitable yet explicit Belyi maps $\beta : \mathbb{P}^1(\mathbb{C}) \rightarrow \mathbb{P}^1(\mathbb{C})$; and (2) determining those subgroups of $\text{Aut}(\mathbb{P}^1(\mathbb{C}))$ which can be realized as automorphisms of suitable yet explicit Belyi maps.

<http://www.math.purdue.edu/~egoins/prime/PRiME%202013.html>

American Institute of Mathematics / Institute for Computational and Experimental Research in Mathematics, Providence, Rhode Island USA

Workshop Leader, REUF

June 2012

Directed a workshop for 5 faculty to conduct research at their home institutions. The Research Experiences for Undergraduate Faculty (REUF) is designed to introduce undergraduate faculty to research opportunities in several fields of mathematics that will equip them with the tools to mentor students in undergraduate research in mathematics.

<http://www.aimath.org/ARCC/workshops/reuf4.html>

Purdue University, West Lafayette, Indiana USA

Research Mentor, PRiME

June 2012 – August 2012

Designed and advised a 8-week research program for 5 undergraduate students. The program focused on determining when there are four squares or three cubes in an arithmetic progression over $\mathbb{Q}(\sqrt{D})$ by determining the ranks of quadratic twists of the elliptic curves $y^2 = x^3 + 5x^2 + 4x$ and $y^2 = x^3 - 27$.

<http://www.math.purdue.edu/~egoins/prime/PRiME%202012.html>
<http://bit.ly/MzvSs7>

Mathematical Sciences Research Institute, Berkeley, California USA

Academic Director, MSRI-UP

June 2010 – July 2010

Designed and advised a 6-week research program for 18 undergraduate students. The program focused six projects: “Searching for Elliptic Curves with Rank 9”, “Squares in Arithmetic Progressions”, “*ABC*-Triples in Families”, “Rational Distance Sets on Conic Sections”, “Encrypting Text Messages via Elliptic Curve Cryptography”, and “Decrypting Text Messages via Elliptic Curve Factorization.”

<http://www.msri.org/web/msri/static-pages/-/node/137>

Miami University, Oxford, Ohio USA

Research Mentor, SUMSRI

June 2008 – July 2008

Designed and advised a 7-week research program for 6 undergraduate students. The program focused on finding elliptic curves of large rank having torsion subgroup $Z_2 \times Z_8$ by using a large-scale computing array.

<http://calico.mth.miamioh.edu/sumsri/sumj/2008/NT08.pdf>

http://www.math.purdue.edu/~egoins/notes/4-Covering_Maps_on_Elliptic_Curves_with_Torsion_Subgroup_Z2xZ8.pdf

Research Mentor, SUMSRI

June 2007 – July 2007

Designed and advised a 7-week research program for 4 undergraduate students. The program focused on finding elliptic curves of large rank having torsion subgroup $Z_2 \times Z_8$ by using a large-scale computing array.

<http://calico.mth.miamioh.edu/sumsri/sumj/2007/2007/SelmerStats07.pdf>

http://www.math.purdue.edu/~egoins/notes/A_Statistical_Analysis_of_2-Selmer_Groups_for_Elliptic_Curves_with_Torsion_Subgroup_Z2xZ8.pdf

Research Mentor, SUMSRI

June 2006 – July 2006

Designed and advised a 7-week research program for 5 undergraduate students. The program focused on finding elliptic curves of large rank having torsion subgroup $Z_2 \times Z_8$ by using a large-scale computing array.

<http://calico.mth.miamioh.edu/sumsri/sumj/2006/NTpaper06.pdf>

http://www.math.purdue.edu/~egoins/notes/Elliptic_Curves_with_Torsion_Subgroup_Z2xZ8.pdf

Research Mentor, SUMSRI

June 2005 – July 2005

Designed and advised a 7-week research program for 5 undergraduate students. The program focused on finding elliptic curves of large rank having torsion subgroup $Z_2 \times Z_4$ by modifying an algorithm due to Nick Rogers.

<http://calico.mth.miamioh.edu/sumsri/sumj/2005/NTpaper.pdf>

http://www.math.purdue.edu/~egoins/notes/In_Search_of_an_8.pdf

Research Mentor, SUMSRI

June 2004 – July 2004

Designed and advised a 7-week research program for 5 undergraduate students. The program focused on finding large rational points on Thue equations by using continued fractions of elliptic integrals.

<http://calico.mth.miamioh.edu/sumsri/sumj/2004/NumberTheory.pdf>

http://www.math.purdue.edu/~egoins/notes/On_Large_Rational_Solutions_of_Cubic_Thue_Equations.pdf

<http://www.rose-hulman.edu/mathjournal/archives/2006/vol7-n2/paper6/v7n2-6pd.pdf>

California Institute of Technology, Pasadena, California USA

Director, Freshman Summer Institute

August 2007

Directed a 4-week program for 8 students entering their first year of college. Responsibilities included coordinating a staff of ten members, assisting two counselors, organizing four field trips, overseeing daily activities, and writing final program report in order to renew funding.

Mathematics Instructor, Freshman Summer Institute

August 2005

Lectured during a 4-week program for 15 students entering their first year of college. Responsibilities included designing the course content, giving five lectures, creating worksheets, creating daily homework assignments, and leading a staff of two workshop leaders. Also gave a series of short lectures on current research in the mathematical sciences.

Mathematics Instructor, Freshman Summer Institute

August 2004

Lectured during a 4-week program for 15 students entering their first year of college. Responsibilities included designing the course content, giving five lectures, creating worksheets, creating daily homework assignments, and leading a staff of two workshop leaders.

Physics Instructor, Freshman Summer Institute

August 2003

Lectured during a 4-week program for 11 students entering their first year of college. Responsibilities included designing the course content, giving five lectures, creating worksheets, creating daily homework assignments, and leading a staff of two workshop leaders.

Lecturer, Sophomore Mathematics Workshop

August 2003

Organized and taught a three-day residential program for 8 students entering their second year of college. Responsibilities included organizing activities for the weekend, securing a location, and lecturing on differential equations, probability theory, and quantum mechanics.

Mathematics Instructor, Freshman Summer Institute

August 2002

Lectured during a 5-day program for 24 students entering their first year of college. Responsibilities included designing the course content, giving daily lectures, creating daily worksheets, creating daily homework assignments, and leading a staff of three workshop leaders.

Lecturer, Sophomore Mathematics Workshop

September 2001

Mathematics / Physics Workshop Leader, Freshman Summer Institute

August 2001

Ran daily workshops in differential calculus and Newtonian mechanics during a ten-day program for 20 students entering their first year of college.

Mathematics Instructor, Freshman Summer Institute

August 2000

Taught a five-day course on logic and mathematical proofs for 15 students entering their first year of college.

Mathematics Instructor, Bridge Program

August 1994 – September 1994

Mathematics Instructor, Bridge Program

August 1993 – September 1993

Art, Research, and Curriculum Associates, Whittier, California USA

Leader, GED Mathematics Workshop

September 2002

Presented a one-day workshop for 10 bilingual tutors preparing adults to take the General Education Development (GED) test.

Leader, GED Mathematics Workshop

April 2002

National Action Council for Minorities in Engineering, Nashville, Tennessee USA

Workshop Leader / Physics Instructor, Summer Immersion Program

July 2000

Taught in a twelve-day residential program for 86 students entering their first year of college. Responsibilities included leading workshops in both math and physics to assist with homework assignments, presenting supplemental material in both math and physics, creating worksheets and solution manuals for the discrete math course, designing the curriculum for the physics course, and giving physics lectures.

Eastside College Preparatory High School, East Palo Alto, California USA

Pre-Calculus Teacher / Calculus Teacher

August 1998 – June 1999

Stanford University, Palo Alto, California USA

Director, Carlmont-Stanford Tutoring Program

January 1996 – June 1998

National Security Agency (NSA), Ft. Meade, Maryland USA

Leader, Analytic Number Theory Problem Solving Group

June 1996 – August 1996

Lectured five hours a week for an introductory seminar on number theory.

COURSES TAUGHT **Purdue University**, West Lafayette, Indiana USA

MA 26500: Linear Algebra	January 2012 – May 2012 August 2011 – December 2011 January 2008 – May 2008
MA 26600: Ordinary Differential Equations	January 2016 – May 2016 January 2011 – May 2011
MA 30300: Differential Equations and Partial Differential Equations for Engineering and the Sciences	January 2013 – May 2013 August 2012 – December 2012 August 2010 – December 2010
MA 35100: Elementary Linear Algebra	January 2010 – May 2010 January 2006 – May 2006 January 2005 – May 2005
MA 35300: Linear Algebra II With Applications	August 2016 – December 2016 January 2015 – May 2015
MA 36600: Ordinary Differential Equations	January 2009 – May 2009 August 2008 – December 2008 January 2007 – May 2007 August 2004 – December 2004
MA 39000: Great Issues in Mathematics	January 2012 – May 2012
MA 45300: Elements of Algebra I	August 2014 – December 2014 January 2014 – May 2014
MA 49000: Foundations of Analysis	August 2011 – December 2011
MA 49000: Zeroes of Polynomials	August 2011 – December 2011
MA 49000: Honors Thesis	January 2012 – May 2012 January 2008 – May 2008
MA 49000: Galois Theory	August 2016 – December 2016
MA 49000: Modular Forms	August 2005 – December 2005
MA 49000: Dessins d'Enfants	August 2009 – December 2009

MA 51000: Vector Calculus	August 2013 – December 2013 August 2008 – December 2008
MA 55300: Introduction to Abstract Algebra	January 2008 – May 2008 August 2006 – December 2006
MA 59800: Algebraic Geometry	June 2013 – July 2013 August 2012 – December 2012 January 2008 – May 2008 August 2005 – December 2005
MA 58400: Algebraic Number Theory	January 2013 – May 2013
MA 59800: Introduction to Dessins d’Enfants	August 2013 – December 2013
MA 59800: Introduction to Sheaves	June 2009 – July 2009
MA 59800: Introduction to Galois Representations	June 2016 – August 2016
MA 59800: Riemann-Roch Theorem	January 2009 – May 2009
MA 59800: Elliptic Curves	June 2013 – July 2013 August 2006 – December 2006 January 2005 – May 2005
MA 59800: Elliptic Curves and Cryptography	August 2011 – December 2011
MA 59800: Classical Modular Forms	June 2016 – August 2016
MA 59800: Modularity of Elliptic Curves	August 2011 – December 2011
MA 59800: Selmer Groups and Galois Representations	August 2009 – December 2009
MA 68400: Class Field Theory	January 2016 – May 2016

California Institute of Technology, Pasadena, California USA

Ma 5a: Introduction to Abstract Algebra	September 2002 – December 2002
Ma 7: Introduction to Number Theory	April 2004 – June 2004
Ma 105: Elliptic Curves	September 2002 – December 2002
Ma 160b: Algebraic Number Theory	January 2002 – March 2002
Ma 160c: Class Field Theory	April 2003 – June 2003 April 2002 – June 2002
Ma 162b: Galois Representations	January 2004 – March 2004
Reading Course on Arithmetic of Elliptic Curves	April 2004 – June 2004 September 2003 – December 2003

SERVICE

Conferences/Workshops Organized:

- 2017 Indiana Undergraduate Mathematics Research Conference
Purdue University July 25, 2017
- 2016 Field of Dreams Conference
Renaissance St. Louis Airport Hotel November 4–6, 2016
- MAA Indiana Fall 2016 Sectional Meeting
Purdue University October 8, 2016
- SQaRE: Visualizing Dessins d’Enfants
American Institute of Mathematics March 17 – 21, 2014
- Underrepresented Students in Topology and Algebra Research Symposium (USTARS)
Purdue University April 19 – 21, 2013
- Blackwell-Tapia Conference
Institute for Computational and Experimental Research in Mathematics
Brown University November 9 – 10, 2012
- Blackwell Memorial Conference
Howard University April 19 – 20, 2012
- Interactive Parallel Computation
in Support of Research in Algebra, Geometry and Number Theory
Mathematical Sciences Research Institute January 29 – February 2, 2007
- Undergraduate Mathematical Sciences Symposium

Conference Sessions Organized:

- At the Crossroads Between Number Theory and Representation Theory
with Luis Alberto Lomelí
SACNAS National Conference, Long Beach, California October 13, 2016
- What Do I Do with My Bachelor's?
with Fabio Milnor
SACNAS National Conference, Long Beach, California October 13, 2016
- Solving the Unsolvable Through Scientific Computing:
Explorations in the Best Uses of Popular Mathematics Software
with Alejandra Alvarado, Luis Melara, and Talitha Washington
ACM Richard Tapia Celebration of Diversity in Computing September 16, 2016
- Chicanos and Native Americans in the Mathematics Sciences
with Alejandra Alvarado
SACNAS National Conference, Washington, District of Columbia October 31, 2015
- Problems in Algebra and Diophantine Equations
with Alejandra Alvarado
SACNAS National Conference, Los Angeles, California October 18, 2014
- Seminario Interuniversitario de Investigación en Ciencias Matemáticas
with Carlos de la Mora
Pontifical Catholic University, Ponce, Puerto Rico March 1, 2014
- AMS Special Session on The Ubiquity of Dynamical Systems
with Talitha Washington
Joint Mathematics Meetings, Baltimore, Maryland January 16–17, 2014
- Problems in Number Theory
with Alejandra Alvarado
SACNAS National Conference, San Antonio, Texas October 12, 2012
- Sage Software Mini-Course
with Alejandra Alvarado and William Stein
Modern Math Workshop at SACNAS, Seattle, Washington October 10, 2012

Seminars Organized:

- AGEP PRiME Seminar, Purdue University July 2011 – August 2011
<http://www.purdue.edu/discoverypark/advance/cfs/2011%20AGEP%20PRiME.php>
- 2012 ADVANCE PRiME Seminar, Purdue University June 2012 – August 2012
<http://www.purdue.edu/discoverypark/advance/cfs/2012%20ADVANCE%20PRiME.php>
- 2013 ADVANCE PRiME Seminar, Purdue University June 2013 – August 2013
<http://www.purdue.edu/discoverypark/advance/cfs/2013%20ADVANCE%20PRiME.php>
- Automorphic Forms Seminar, Purdue University August 2011 – present
<http://bit.ly/tBb286>
- Department of Mathematics Colloquium, Purdue University August 2017 – May 2018
- Number Theory Seminar, Purdue University March 2006 – present
<http://www.math.purdue.edu/people/bio?user=egoins&page=Number+Theory+Seminar.html>
- Number Theory Seminar, Caltech September 2001 – August 2004

Grant Proposals Reviewed:

- American Mathematical Society (AMS) – National Security Agency (NSA) 2008
- Ford Foundation Fellowship Programs Physical Sciences
Review Panelist 2014, 2015, 2016
- National Science Foundation (NSF) Algebra and Number Theory
Panelist 2011, 2012
- National Science Foundation (NSF) Division of Undergraduate Education
Mail/Ad-Hoc Merit Reviewer 2017

- National Science Foundation (NSF) HBCU-UP
Mail/Ad-Hoc Merit Reviewer 2016
- National Science Foundation (NSF) Graduate Research Fellowship Program
Panelist 2013, 2015, 2016

Journals Refereed:

- Commentarii Mathematici Helvetici 2011
- American Mathematical Monthly 2012, 2010
- American Journal of Mathematics 2004, 2014
- Contemporary Mathematics Series 2007
- Glasgow Mathematical Journal 2009, 2008
- International Journal of Number Theory 2011
- Journal of Integer Sequences 2013
- Journal of Number Theory 2012
- Journal of the London Mathematical Society (LMS) 2006
- Mathematical and Computer Modelling 2007
- Mathematics of Computation 2008
- Monatshefte für Mathematik 2008
- Notes on Number Theory and Discrete Mathematics 2014
- Proceedings of the American Mathematical Society (AMS) 2006
- Rose-Hulman Undergraduate Mathematics Journal 2012
- Transactions of the American Mathematical Society (AMS) 2012

Committees Served:

- American Institute of Mathematics (AIM)
Human Resources (HR) Board 2016 – 2019
- American Mathematical Society (AMS)
Central Section Program Committee February 1, 2015 – January 31, 2017
Program Committee Chair February 1, 2016 – January 31, 2017
Committee on Meetings and Conferences 2017 – present
e-Mentoring Network in the Mathematical Sciences Blog 2012 – 2016
Inclusion/Exclusion Blog 2017 – present
- Mathematicians of the African Diaspora (MAD)
Editorial Board 2011 – present
- Mathematical Association of America (MAA)
Council on Programs and Students in the Mathematical Sciences:
Committee on Graduate Students January 1, 2016 – December 31, 2016
Committee on Graduate Students, Chair January 1, 2017 – January 31, 2020
Council on the Profession:
Committee on Minority Participation in Mathematics January 1, 2016 – January 31, 2019
Social Media Task Force January 1, 2016 – January 31, 2017
Invited Address Committee for MathFest 2018 2017
- Mathematical Sciences Research Institute (MSRI)
Human Resources Advisory Committee (HRAC) 2013 – 2016
- Park City Mathematics Institute (PCMI)
Diversity Sub-Committee 2010 – present
- Research Experiences for Undergraduate Faculty (REUF)
Advisory Board 2015 – present
- Purdue University
College of Science Working Group: Science as an Undergrad Destination 2015 – 2016
MLK Planning Committee 2015 – 2017
Department of Mathematics Computer Committee 2012 – present
Department of Mathematics Graduate Committee 2012 – 2016
Department of Mathematics Recruitment Committee 2010 – 2016

	<ul style="list-style-type: none"> Western Algebraic Geometry Symposium (WAGS) Diversity Committee 	2015 – present
	Student Organizations Advised:	
	<ul style="list-style-type: none"> Caltech Undergraduate Mathematics Club Purdue Mathematics Society 	2001 – 2004 2011 – present
POSTDOCTORAL FELLOWS ADVISED	Alejandra Alvarado Assistant Professor of Mathematics, Eastern Illinois University	2011 – 2013
	Rachel Davis Golomb Visiting Assistant Professor of Mathematics, Purdue University	2013 – 2016
	Pamela Harris Assistant Professor of Mathematics, United States Military Academy (West Point)	2013 – 2016
	Carlos de la Mora Visiting Assistant Professor, Purdue University	2012 – 2013
	Lois Simon Assistant Professor of Mathematics, Sungkyunkwan University	2012 – 2015
GRADUATE STUDENTS ADVISED	Alexander J. Barrios	2012 – present
	Tyler Billingsley	2016 – present
	Jacob Bond	2015 – present
	Frankie Chan	2016 – present
	Jeremy T. Fuller	2009 – present
	Amitava Ghosh	2012 – 2013
	Kevin M. Mugo	2006 – 2014
	Maria Salcedo Stadnik	2005 – 2007
	James Emmanuel Weigandt	2008 – 2015
PHD DEFENSE COMMITTEES SERVED	Matthew Toeniskoetter	
	<ul style="list-style-type: none"> TBA Purdue University 	2017
	Partha Solapurkar	
	<ul style="list-style-type: none"> The Geodesic Geometry of Arithmetic Orbifolds Purdue University 	2017
	Nicholas Michael Berman Miller	
	<ul style="list-style-type: none"> The Geodesic Geometry of Arithmetic Orbifolds Purdue University 	2017
	Jacob Aaron Boswell	
	<ul style="list-style-type: none"> Prime Saturations and Rees Algebras of Almost Linearly Presented Ideals Purdue University 	2015
	Jonathan Montaña	
	<ul style="list-style-type: none"> Generalized Multiplicities, Reductions of Ideals, and Depth of Blowup Algebras Purdue University 	2015
	Rodney Neal Lynch	
	<ul style="list-style-type: none"> Arithmetic on Normal Forms of Elliptic Curves Indiana University – Purdue University at Indianapolis 	2015
	James Emmanuel Weigandt	
	<ul style="list-style-type: none"> Ranks of Elliptic Curves and Selmer Groups Purdue University 	2015
	Gabriel Sosa	
	<ul style="list-style-type: none"> On Monomial Orders, Koszul Algebras and Toric Rings Purdue University 	2015
	Kevin Mugo	

- On Mod 4 Galois Representations From Elliptic Curves and a Certain Brauer Type Embedding Problem
Purdue University 2014
- Vivek Mukundan
 - Rees Algebras and Iterated Jacobian Duals
Purdue University 2016
- Youngsu Kim
 - Quasi-Gorensteinness of Extended Rees Algebras
Purdue University 2014
- Lan Nguyen
 - Rees Algebras of Linearly Presented Ideals
Purdue University 2013
- YeanSu Kim
 - L -Functions From Langlands-Shahidi Method for $GSpin$ Groups and the Generic Arthur L -Packet Conjecture
Purdue University 2013
- Hui Gao
 - Breuil's Conjecture on Strongly Divisible Lattices in the $r = p - 1$ Unipotent Case
Purdue University 2013
- Dustin Belt
 - On the Holomorphy of Exterior-Square L -functions
Purdue University 2012
- Kwangho Choiy
 - Transfer of Plancherel Measures between p -adic Inner Forms
Purdue University 2012
- Tung-Lin Tsai
 - Stability of Gamma Factors for $GL(r) \times GL(r)$
Purdue University 2011
- Sangil Nahm
 - Several Problems in Number Theory
Purdue University 2011
- Bogume Jang
 - Transfer from $GSO(4)$ to $GL(4)$ and L -Functions
Purdue University 2010
- Lance Bryant
 - Filtered numerical semigroups and applications to one-dimensional rings
Purdue University 2009
- Ning Shang
 - Low Genus Algebraic Curves in Cryptography
Purdue University 2009
- Vadakkumkoor Sandeep Varma
 - Descent and the Generic Packet Conjecture
Purdue University 2009
- Yu Xie
 - Formulas for the Multiplicity of Graded Algebras
Purdue University 2009
- Qingwu Yu
 - Image of Transfer from $GL(2) \times GL(3)$ to $GL(6)$
Purdue University 2008
- Luis Alberto Lomelí
 - Functoriality for the classical groups over function fields
Purdue University 2007
- Wook Kim
 - Standard module conjecture for $GSpin$ groups

Purdue University	2005
Kimball Martin	
• Four-dimensional Galois representations of solvable type and automorphic forms California Institute of Technology	2004
Jason Colwell	
• The Conjecture of Birch and Swinnerton-Dyer for elliptic curves with complex multiplication by a nonmaximal order California Institute of Technology	2003
Qiang Lin	
• Bloch-Kato conjecture for the adjoint of $H_1(X_0(N))$ with integral Hecke algebra California Institute of Technology	2003
Song Wang	
• An effective version of the Grunwald-Wang theorem” California Institute of Technology	2001

UNDERGRADUATE
PROJECTS ADVISED

1. Kathleen P. Ansaldi	
• Assistant Professor of Mathematics, Kalamazoo College	Present
• Doctorate of Philosophy (PhD) in Mathematics, University of Notre Dame	2016
• Masters of Science (MS) in Mathematics, University of Nebraska at Lincoln	2008
• Bachelor of Science (BS) in Mathematics, Loyola University Maryland	2006
• In Search of an 8: Rank Computations on a Family of Quartic Curves Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami Uni- versity	2005
2. Jose Ayala	
• Teach for America	Present
• Master of Arts (MA) in Mathematics, University of Southern California	2013
• Bachelor of Science (BS) in Mathematics, California State Polytechnic University at Pomona 2011	
• Decrypting Text Messages via Elliptic Curve Factorization Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI	2010
3. Ronald Archer	
• Bachelor of Science (BS) in Mathematics, Purdue University	2014
• The Fermat Equation of Exponent Three over Quadratic Extensions Purdue Research in Mathematics Experience (PRiME), Purdue University	2012
4. Leonardo Azopardo	
• Software Engineer at FactSet	Present
• Bachelor of Science (BS) in Mathematics, Purdue University	2016
• Visualizing Dessins d’Enfants on the Torus Purdue Research in Mathematics Experience (PRiME), Purdue University	2015
5. Edwin Baeza	
• Doctoral Student in Mathematics, University of Wisconsin at Madison	Present
• Bachelor of Science (BS) in Mathematics, Purdue University	2016
• Michael Golomb Mathematics Award	2016
• Associating Finite Groups with Dessins d’Enfants Purdue Research in Mathematics Experience (PRiME), Purdue University	2014
6. Luis Armando Baeza	
• Bachelor of Science (BS) in Mathematics, Purdue University	2017
• Arthur Rosenthal Mathematics Scholarship	2016
• Associating Finite Groups with Dessins d’Enfants Purdue Research in Mathematics Experience (PRiME), Purdue University	2014
7. Alexander J. Barrios	

- Doctoral Student in Mathematics, Purdue University Present
 - Bachelor of Science (BS) in Mathematics, Brown University 2011
 - MAA Undergraduate Poster Session Awardee 2011
 - *ABC*-Triples in Families
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
 - SACNAS National Conference Undergraduate Poster Awardee 2010
8. Jonathan D. Blair
- Market Research Project Manager, Texas Instruments Present
 - Master of Science (MS) in Business Analytics, University of Tennessee at Knoxville 2014
 - Bachelor of Science (BS) in Mathematical Statistics, Purdue University 2013
 - Rational Distance Sets on Conic Sections
Louis Stokes Alliance for Minority Participation (LSAMP), Purdue University 2011
9. Katrina Elizabeth Eidolon Biele
- Doctoral Student in Mathematics, University of California at Berkeley Present
 - Bachelor of Arts (BA) in Mathematics, University of Colorado at Colorado Springs 2014
 - Associating Finite Groups with Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
10. Kevin Bowman
- Recovery Specialist, Macy's Present
 - Bachelor of Science (BS) in Mathematics, Morehouse College 2014
 - Drawing Planar Graphs via Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
11. Renee Brady
- Doctoral Student in Applied Mathematics, North Carolina State University Present
 - Master of Science (MS) in Applied Mathematics, North Carolina State University 2014
 - Bachelor of Science (BS) in Mathematics, Florida A&M University 2011
 - Encrypting Text Messages via Elliptic Curve Cryptography
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
12. Terris D. Brooks
- 10th grade Geometry Teacher, University of Chicago Charter School: Woodlawn Campus (UCW) Present
 - Bachelor of Science (BS) in Mathematics, Central State University 2007
 - Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$: Does a Rank 4 Curve Exist?
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2006
13. Juan Cervantes
- Doctoral Student in Statistics and Actuarial Science, University of Iowa Present
 - MAster's of Science (MS) in Statistics, University of Iowa 2013
 - Bachelor of Science (BS) in Mathematics, Lewis and Clark 2011
 - Searching for Elliptic Curves with Rank 9
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
14. Sheena Chandrasekharan
- Social Marketing Analyst, Scientific Games Present
 - Bachelor of Science (BS) in Applied Statistics, Purdue University 2015
 - Drawing Planar Graphs via Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
15. Jarrod A. Cunningham
- Bachelor of Science in Mathematics and Physics, University of South Alabama 2014
 - On Large Rational Solutions of Cubic Thue Equations: What Thue Did to Pell
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2004

16. Sergio García Currás
 - Bachelor of Science in Mathematics, University of Puerto Rico at Rio Piedras 2015
 - The Fermat Equation of Exponent Three over Quadratic Extensions with Jamie Weigandt
Summer Research Opportunity Program (SROP) / Purdue University 2012
17. Naleceia Davis
 - Lead Generation Specialist, DataPath Inc. Present
 - Master of Business Administration (MBA), University of Arkansas at Little Rock 2015
 - Graduate Student in Operations Research, North Carolina State University 2012
 - Bachelor of Science (BS) in Mathematics, Spelman College 2011
 - Encrypting Text Messages via Elliptic Curve Cryptography
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
18. Alexander Diaz-Lopez
 - Visiting Assistant Professor of Mathematics and Statistics, Swarthmore College Present
 - Doctorate in Mathematics, Notre Dame 2016
 - Heidelberg Laureate Forum (HLF) Attendee 2015
 - Bachelor of Arts (BA) in Mathematics, University of Puerto Rico at Mayagüez 2011
 - Poster Award, Joint Mathematics Meeting 2011
 - Poster Award, SACNAS National Conference 2010
 - Squares in Arithmetic Progressions
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
19. Yuan Feng
 - Technology Analyst, Morgan Stanley Present
 - Master of Science (MS) in Data Science, New York University 2016
 - Bachelor of Science (BS) in Math & Econ, University of Illinois at Urbana-Champaign 2014
 - Associating Finite Groups with Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
20. Jessica Flores
 - IT Specialist, Tri-Lin Integrated Services Inc. Present
 - ?? in Mathematics, University of Puerto Rico at Humacao ??
 - A Statistical Analysis of 2-Selmer Groups for Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2007
21. Zachary Flores
 - Graduate Student in Mathematics, University of Kansas Present
 - Master of Science (MS) in Mathematics, Colorado State University 2014
 - Bachelor of Science (BS) in Mathematics, Michigan State University 2011
 - Squares in Arithmetic Progressions
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
22. Allison R. Ford
 - Mary Baldwin College ??
 - In Search of an 8: Rank Computations on a Family of Quartic Curves
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2005
23. Elizabeth A. Fowler
 - Maryville College ??
 - Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$: Does a Rank 4 Curve Exist?
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2006
24. Jennifer L. George
 - Miami University ??

- In Search of an 8: Rank Computations on a Family of Quartic Curves
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2005
- 25. Kaibo Gong
 - Bachelor of Science (BS) in Mathematics, Purdue University 2012
 - Zeroes of Iterated Polynomials
Purdue University 2011
- 26. Ivan Gonzalez
 - Bachelor of Science (BS) in Mathematics, Florida International University 2017
 - Toroidal Belyĭ Pairs and their Monodromy Groups
Purdue Research in Mathematics Experience (PRiME), Purdue University 2016
- 27. Shweta Rajiv Vaidya Gupte
 - Master of Science (MS) in Computer Engineering, Purdue University 2014
 - Bachelor of Science (BS) in Mathematics and Computer Science, Purdue University 2009
 - Using Parallel Computing to Search for High Rank Elliptic Curves
Purdue University 2008
 - Presented at the Grace Hopper Celebration for Women in Computing 2008
- 28. Katherine C. Hastings
 - Baldwin Wallace College ??
 - Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$: Does a Rank 4 Curve Exist?
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2006
- 29. David Heras
 - Bachelor of Science (BS) in Mathematics, College of William and Mary 2014
 - Associating Finite Groups with Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
- 30. Danielle L. Hiance
 - Campbellsville University ??
 - Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$: Does a Rank 4 Curve Exist?
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2006
- 31. Nancy Ho
 - Mills College ??
 - On Large Rational Solutions of Cubic Thue Equations: What Thue Did to Pell
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2004
- 32. Samuel Ivy
 - United States Military Academy ??
 - North Carolina State University ??
 - Dissertation Fellowship, Ford Foundation 2014
 - Morehouse College ??
 - 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
- 33. Dionel Jaime
 - Bachelor of Science (BS) in Mathematics, University of Rochester 2018
 - Toroidal Belyĭ Pairs and their Monodromy Groups
Purdue Research in Mathematics Experience (PRiME), Purdue University 2016
- 34. Brett Jefferson
 - Graduate Student in Philosophy, Indiana University ??
 - Morgan State University ??

- 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
- 35. Erin Jones
 - Carlton College ??
 - Decrypting Text Messages via Elliptic Curve Factorization
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 36. Kimberly Jones
 - Savannah State University ??
 - A Statistical Analysis of 2-Selmer Groups for Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2007
- 37. Michele Josey
 - North Carolina Central University ??
 - 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
- 38. Harlan Mark Kadish
 - Doctor of Philosophy (PhD) in Mathematics, University of Michigan 2011
 - Bachelor of Science (BS) in Mathematics, California Institute of Technology 2006
 - On the Torsion Subgroups of \mathbb{Q} -Curves
Summer Undergraduate Research Fellowship (SURF), Caltech 2004
 - A Generalization of a Theorem of Gauss for Fermat Curves of Exponent 7
Summer Undergraduate Research Fellowship (SURF), Caltech 2003
- 39. Kelsy Kinderknecht
 - University of Kansas ??
 - Searching for Elliptic Curves with Rank 9
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 40. Connor Lawrence
 - Jean Rubin Mathematics Scholarship 2016
 - Associating Finite Groups with Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2014
- 41. Anji Li
 - Purdue University ??
 - Drawing Planar Graphs via Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
- 42. Hongshan Li
 - Bachelor of Science (BS) in Mathematics, Purdue University 2013
 - Rings of Invariants inside $\mathbb{Q}[x_1, \dots, x_7]$ Corresponding to Subgroups of S_7
with David Goldberg
Summer Research Project, Purdue University 2011
- 43. Caitlin Lienkaemper
 - Bachelor of Science (BS) in Mathematics, Harvey Mudd College 2017
 - Toroidal Belyı Pairs and their Monodromy Groups
Purdue Research in Mathematics Experience (PRiME), Purdue University 2016
- 44. Han Liu
 - Bachelor of Science (BS) in Mathematics, Purdue University 2013
 - The Fermat Equation of Exponent Three over Quadratic Extensions
Purdue Research in Mathematics Experience (PRiME), Purdue University 2012
- 45. Karen Lostritto

- Doctorate (PhD) in Bioinformatics, Yale University ??
 - Brown University ??
 - On Large Rational Solutions of Cubic Thue Equations: What Thue Did to Pell
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2004
46. Megan Ly
- Loyola Marymount University ??
 - Rational Distance Sets on Conic Sections
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
47. Amanda Llewellyn
- Bachelor of Science (BS) in Mathematics, Harvey Mudd College 2014
 - Drawing Planar Graphs via Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
48. Davin B. Maddox
- On the Ranks of Elliptic Curves
Summer Undergraduate Research Fellowship (SURF), Caltech 2003
 - Heron Triangles and Elliptic Curves
Summer Undergraduate Research Fellowship (SURF), Caltech 2002
49. Benito Martinez
- The Fermat Equation of Exponent Three over Quadratic Extensions
Purdue Research in Mathematics Experience (PRiME), Purdue University 2012
50. Charles McBrearty
- Master of Science (MS) in Computer Science, Harvard University 2008
 - Bachelor of Science (BS) in Mathematics, California Institute of Technology 2006
 - Representations of $GL_3(\mathbb{F}_2)$
Summer Undergraduate Research Fellowship (SURF), Caltech 2004
51. Bronz D. McDaniels
- Examples of Belyĭ Maps for Elliptic Curves
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
52. Jon A. Middleton
- Doctorate (PhD) in Mathematics, University of California at San Diego ??
 - SUNY Buffalo ??
 - On Large Rational Solutions of Cubic Thue Equations: What Thue Did to Pell
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2004
53. Maxim Millan
- Visualizing Dessins d'Enfants on the Torus
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
54. Kevin M. Mugo
- Doctorate (PhD) in Mathematics, Purdue University ??
 - Otterbein College ??
 - In Search of an 8: Rank Computations on a Family of Quartic Curves
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2005
55. Steve Mussmann
- Doctoral Student in Computer Science, Stanford University Present
 - Heidelberg Laureate Forum (HLF) Attendee 2016
 - National Science Foundation (NSF) Graduate Research Fellowship Awardee 2016
 - Hertz Foundation Fellowship Finalist 2016
 - Bachelor of Science (BS) in Computer Science/Mathematics/Statistics, Purdue University 2015

- G. A. Ross Award (Outstanding Senior Man), Purdue University 2015
 - Churchill Scholarship Finalist 2015
 - Bruce Halpert Award (Outstanding Math Junior), Purdue University College of Science 2014
 - Outstanding Junior, Purdue University Department of Mathematics 2014
 - Outstanding Junior, Purdue University Department of Statistics 2014
 - V. L. Andersen Award, Purdue University Department of Statistics 2013
 - Baxter Award, Purdue University Department of Mathematics 2013
 - The Fermat Equation of Exponent Three over Quadratic Extensions
Purdue Research in Mathematics Experience (PRiME), Purdue University 2012
 - Outstanding Freshman, Purdue University Department of Mathematics 2012
56. Keatra Nesbitt
- University of Northern Colorado ??
 - Searching for Elliptic Curves with Rank 9
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
57. Shane Nicklas
- Constructing Groups with Prescribed Sylow Subgroups
Personal Research Project, Purdue University 2014-15
58. Gabriel Ngwe
- Bachelor of Science (BS) in Mathematics, Williams College 2017
 - Toroidal Belyı Pairs and their Monodromy Groups
Purdue Research in Mathematics Experience (PRiME), Purdue University 2016
59. Cheryl Outing
- Spelman College ??
 - 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
60. Charles E. Phifer
- Morehouse College ??
 - In Search of an 8: Rank Computations on a Family of Quartic Curves
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2005
61. Baiming Qiao
- Bachelor of Science (BS) in Mathematics, Purdue University 2017
 - Toroidal Belyı Pairs and their Monodromy Groups
Purdue Research in Mathematics Experience (PRiME), Purdue University 2016
62. Yao Qiu
- Dessins d'Enfants on the Torus
Purdue University 2013
63. Brad Rodgers
- Postdoctoral Fellow, University of Michigan Present
 - Postdoctoral Fellow, Institut für Mathematik/Universität Zürich 2013
 - Doctorate of Philosophy (PhD) in Mathematics, University of California at Los Angeles 2013
 - Bachelor of Science (BS) in Mathematics, Purdue University 2008
 - Budapest Semesters in Mathematics 2007
 - Ramanujan-Type Identities
Personal Research Project, Purdue University 2005
64. Anne Rollick
- John Carroll University ??

- A Statistical Analysis of 2-Selmer Groups for Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2007
65. Anika Alexandra Rounds
- Master of Science (MS) in Applied Mathematics, Tufts University 2014
 - Bachelor of Science (BS) in Mathematics, Purdue University 2012
 - Topics in Real Analysis
Senior Thesis, Purdue University 2012
 - Dessins d'Enfants
Purdue University 2011
 - 3rd Place, NAM MATHFest XXI Speaking Competition 2011
66. Yesid Alberto Sánchez Arias
- Examples of Belyĭ Maps for Elliptic Curves
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
67. Tanya Singh
- Bachelor of Engineering (BEng) in Comp Sci and Eng, College of Engineering Guindy 2012
 - Finding High Rank Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Personal Research Project, Purdue University 2011
68. Toya Skeete
- Spelman College ??
 - Decrypting Text Messages via Elliptic Curve Factorization
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
69. Sofia Sorokina Lyrintzis
- Examples of Belyĭ Maps for Elliptic Curves
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
70. Alan Stephenson
- Senior Program Manager at Microsoft Present
 - Bachelor of Science (BS) in Computer Systems Technology, Purdue University 2008
 - Computing the number of 6×6 magic squares
Personal Research Project, Purdue University 2005
71. Danny Edward Sweeney
- Examples of Belyĭ Maps for Elliptic Curves
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
72. Ahmed Tadde
- Associating Finite Groups with Dessins d'Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2013
73. Clifford Taylor
- Grand Valley State University ??
 - 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
74. Nikia T. Thomas
- Morgan State University ??
 - On Large Rational Solutions of Cubic Thue Equations: What Thue Did to Pell
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2004
75. Sarah Thomaz
- Doctoral Student in Economics, University of California at Irvine Present
 - Bachelor of Science (BS) in Mathematics, Purdue University 2016
 - Featured in the Purdue Exponent 2016

- Visualizing Dessins d’Enfants on the Torus
Purdue Research in Mathematics Experience (PRiME), Purdue University 2015
- 76. Caleb Tillman
 - Reed College ??
 - *ABC*-Triples in Families
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 77. Anna Tracy
 - Sewanee: the University of the South ??
 - Encrypting Text Messages via Elliptic Curve Cryptography
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 78. Shawn Tsosie
 - University of Massachusetts at Amherst ??
 - Rational Distance Sets on Conic Sections
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 79. Pam Urresta
 - Union College ??
 - Rational Distance Sets on Conic Sections
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 80. Markus Vasquez
 - Doctoral Student in Mathematics, University of California at Berkeley Present
 - Bachelor of Science (BS) in Mathematics, Oklahoma State University 2010
 - Squares in Arithmetic Progressions
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 81. Chenkai Wang
 - Bachelor of Science (BS) in Mathematics, Purdue University 2015
 - Associating Finite Groups with Dessins d’Enfants
Purdue Research in Mathematics Experience (PRiME), Purdue University 2014
- 82. Charles Watts
 - Morehouse College ??
 - *ABC*-Triples in Families
Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP), MSRI 2010
- 83. James Emmanuel “Jamie” Weigandt
 - Doctorate of Philosophy (PhD) in Mathematics, Purdue University 2015
 - National Science Foundation (NSF) Graduate Research Fellowship Awardee 2009
 - Purdue University ??
 - 2-Selmer Groups of Elliptic Curves
Senior Thesis, Purdue University 2008
 - A Statistical Analysis of 2-Selmer Groups for Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2007
- 84. Staci White
 - Shawnee State University ??
 - 4-Covering Maps on Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2008
- 85. Andrew Yang
 - Determining the Isogeny Class of Elliptic Curves from mod ℓ Representations
Senior Thesis, California Institute of Technology 2004
- 86. Lirong “Meg” Yuan

- The Fermat Equation of Exponent Three over Quadratic Extensions
Purdue Research in Mathematics Experience (PRiME), Purdue University 2012
87. Matthew A. Zimmerman
- Central State University ??
 - Elliptic Curves with Torsion Subgroup $Z_2 \times Z_8$: Does a Rank 4 Curve Exist?
Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), Miami University 2006

AFFILIATIONS

- American Mathematical Society (AMS)
- <http://www.ams.org/mathscinet/search/author.html?mrauthid=677806>
- AMS Blog: “E-Mentoring Network in the Mathematical Sciences”
- Editor/Contributor 2012 – 2016
- AMS Blog “Inclusion/Exclusion”
- Editor 2017 – present
- Association for Women in Mathematics (AWM)
- Benjamin Banneker Association, Inc.
- Member 2017 – present
- Black Graduate Students Association (BGSA), California Institute of Technology
- Secretary 2002 – 2004
- Black Graduate Students Association (BGSA), Stanford University
- Vice-President 1998 – 1999
 - President 1996 – 1997
 - Treasurer 1995 – 1996
- Chicano/Latino Graduate Students Association (CLGSA), Stanford University
- Co-Chair 1998 – 1999
 - Treasurer 1997 – 1998
- Conference of African-American Researchers in the Mathematical Sciences (CAARMS)
- Graduate Student Mathematics Association, Stanford University
- President 1995 – 1996
- Mathematical Association of America (MAA)
- Mathematics Society, Purdue University
- Advisor 2011 – present
- National Alliance for Doctoral Studies in the Mathematical Sciences
- Mentor 2009 – present
 - <http://www.pathwaystoscience.org/Profiles.asp?student=FAC-GoinsEdray>
- National Association for the Advancement of Colored People (NAACP)
- National Association of Mathematicians (NAM)
- Lifetime Member 2011 – present
 - President 2015 – present
- National Conference of Black Physics Students (NCBPS)
- National Society of Black Physicists (NSBP)
- NSF INCLUDES: WATCH US
(Women Achieving through Community Hubs in the United States)
- Advisory Board Member 2016 – present
- Park City Mathematics Institute (PCMI) Diversity Sub-Committee
- Member 2010 – present
- Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS)
- Lifetime Member 2005 – present
- Undergraduate Mathematics Club, California Institute of Technology
- Advisor 2002 – 2004
- Wolfram Faculty Program
- Username: `edraygoins` 2010 – present

