

RANTHONY A.C. EDMONDS

Department of Mathematics
The Ohio State University
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EDUCATION

Ph.D. Mathematics: University of Iowa, Iowa City, IA
Thesis: *Factorization in Polynomial Rings with Zero Divisors*
Advisor: Dr. Daniel D. Anderson
Completion Date: August 2018

M.S. Mathematics: University of Iowa, Iowa City, IA
Completion Date: May 2015

M.S. Mathematical Sciences: Eastern Kentucky University, Richmond, KY
Thesis: *Amicable Pairs in the Gaussian Integers*
Advisor: Dr. Patrick Costello
Completion Date: May 2013

B.S. Mathematics: University of Kentucky, Lexington, KY
Completion Date: May 2011

B.A. English: University of Kentucky, Lexington, KY
Minor: African-American Studies
Completion Date: May 2011

CERTIFICATIONS

Graduate Certificate in College Teaching: University of Iowa, Iowa City, IA
Office of Graduate Teaching Excellence
Completion Date: December 2017

Graduate Certificate in Online Teaching: University of Iowa, Iowa City, IA
Department of Psychological & Quantitative Foundations
Completion Date: December 2017

CIRTL Scholar: University of Iowa, Iowa City, IA
Center for the Integration of Research, Teaching and Learning at Iowa
Anticipated Date of Completion: May 2019

CIRTL Practitioner: University of Iowa, Iowa City, IA
Center for the Integration of Research, Teaching and Learning at Iowa
Anticipated Date of Completion Date: May 2019

CIRTL Associate: University of Iowa, Iowa City, IA
Center for the Integration of Research, Teaching and Learning at Iowa
Completion Date: June 2016

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EMPLOYMENT

Ross Assistant Professor: The Ohio State University, Columbus, OH
August 2018 – present

RESEARCH INTERESTS

- Commutative Ring Theory
 - Factorization Theory
- Mathematics Education
 - Online Teaching
 - Diversity, Equity, and Inclusion

GRANTS AND FELLOWSHIPS

- [submitted] 2019 Arts and Sciences Service Learning Course Proposal Grant
- 2019 Service-Learning Course Grant, The Ohio State University Office of Service-Learning
\$4000 award to implement course *Intersection of Mathematics and Society: Hidden Figures*
- Professional Advancement Initiative (PAI) Fellow – Fall 2018 to present
NSF program for underrepresented postdoctoral fellows in STEM at Big Ten schools
- Sloan Mini-Grant Recipient – Spring 2018
\$500 award for Commutative Algebra textbooks
- Teaching as Research (TAR) Fellow, CIRTL at Iowa, University of Iowa – 2017
\$1000 award to support the implementation of a partially flipped classroom
- Sloan Mini-Grant Recipient – Fall 2017
\$500 Travel funding for 2018 Joint Mathematics Meetings in San Diego, CA
- Graduate Teaching Fellowship, University of Iowa Center for Teaching – 2016 to 2017
Selected as 1 of 4 graduate students campus-wide for the inaugural cohort.
- Sloan Mini-Grant Recipient – Summer 2017
\$500 Travel funding for mini-sabbatical to Eastern Kentucky University.
- Sloan Mini-Grant Recipient – Spring 2017
\$500 Travel funding for 2017 MAA MathFest in Chicago, IL
- Sloan Mini-Grant Recipient – Fall 2016
\$500 towards an iPad Pro
- Sloan Mini-Grant Recipient – Spring 2016
\$500 Travel funding for 2016 MAA MathFest in Columbus, Ohio
Selected as 1 of 31 from approximately 1400 teaching assistants across all disciplines.
- Iowa Section NeXT Fellow – 2016, 2017
- Dean's Graduate Research Fellowship, University of Iowa – 2013 to 2018
- GAANN Fellowship, University of Iowa – 2014 to 2015

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AWARDS AND HONORS

- Project NExT (peach '18 dot), Mathematical Association of America – 2018 to present
Accepted into national program for new mathematics teaching faculty.
- Outstanding Teaching Assistant Award, University of Iowa Council on Teaching – 2017
- Selected for the EDGE Program, New College – Summer 2013
- Presidential Scholar, University of Kentucky – 2006-2010
- William C. Parker Scholar, University of Kentucky – 2006-2010

TEACHING EXPERIENCE

THE OHIO STATE UNIVERSITY

Instructor:

- Intersections of Mathematics and Society: Hidden Figures – Fall 2019
- Calculus 1 Lecture – Spring 2019

Recitation Leader:

- Math 6111, qualifying level graduate algebra course – Fall 2019
- Calculus 1 Flipped and Flexible – Fall 2018, Spring 2019

UNIVERSITY OF IOWA

Instructor:

Responsible for all course-related duties

- Trigonometry (partially flipped classroom) – Spring 2017
- Basic Algebra – Fall 2016

Teaching Assistant:

- Math for Business (head TA) – Spring 2016
- Calculus and Matrix Algebra for Business (head TA) – Fall 2015

Teaching Practica:

Completed for Graduate Certificate in College Teaching. Responsibilities included weekly meetings with the professor and a session of observed teaching.

- Discrete Mathematics (IBL classroom) – Fall 2017
- Educational Psychology – Summer 2016

Tutoring:

- Mathematics Tutorial Lab – Fall 2015 to May 2017
- Mathematics Tutorial Lab Review Session Leader: Fractions – September 2016
- Mathematics Tutorial Lab Review Session Leader: Functions – September 2016
- Private tutor (High school: Geometry, Algebra 2, AP Calculus BC) – Fall 2015 to Dec 2017

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BLUEGRASS COMMUNITY AND TECHNICAL COLLEGE

Adjunct Faculty:

Responsible for all course-related duties

- Developmental Math – Summer 2013
- Developmental Math (two sections) – Spring 2013

EASTERN KENTUCKY UNIVERSITY

Instructor:

Responsible for all course-related duties

- Developmental Algebra 1 – Spring 2013

Teaching Assistant:

- Developmental Algebra 1 – Fall 2011, Fall 2012
- College Algebra – Fall 2011, Spring 2012

Tutoring:

- Mathematics and Statistics Tutoring Center – Fall 2011 to May 2013

UNIVERSITY OF KENTUCKY

Tutoring:

- Center for Academic Resources and Enrichment Services (Prealgebra through Calculus) – August 2007 to May 2011
- The Study at Academic Enhancement (Statistics) – August 2010 to May 2011
- Freshman Summer Program (College Algebra) – June, July 2008

THE ACADEMY FOR SCHOLASTIC AND PERSONAL SUCCESS – CEDAR RAPIDS, IA

Math and Science Instructor:

Responsible for all course-related duties

- Algebra 2, Geometry, Physics – June, July 2016
- Trigonometry, Algebra 1, Physics – June, July 2015

UPWARD BOUND – BLUEGRASS COMMUNITY AND TECHNICAL COLLEGE

Instructor:

Responsible for all course-related duties for first two weeks of program.

- Algebra 1 (two sections), Pre-Calculus – June 2011

Tutor Counselor:

Assisted primary instructor, tutored students during evening study hours, and served as a mentor.

- Algebra 1, Pre-Calculus – June, July 2010; June, July 2011

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PUBLICATIONS

Patrick Costello and Ranthony A.C. Edmonds. *Gaussian Amicable Pairs*. Missouri J. Math. Sci. 30 (2018), 107-116.

Ranthony A.C. Edmonds. *Factorization in Polynomial Rings with Zero Divisors*. Dissertation. University of Iowa, 2018.

Ranthony A. Clark. *Gaussian Amicable Pairs*. Master's Thesis. Eastern Kentucky University, 2013.

WORKS IN PROGRESS

D.D. Anderson and Ranthony A.C. Edmonds. *Factorization in Polynomial Rings with Zero Divisors*, 2019 [preprint]

Ranthony A.C. Edmonds, Jason Juett, and Michael Rhys. *Factorization in Monoid Rings with Zero Divisors*, 2019 [in preparation]

PRESENTATIONS

“TBD”

- [invited] Special Session on Commutative Algebra, MAA MathFest, Cincinnati, OH – August 3, 2019

“Factorization in Polynomial Rings with Zero Divisors”

- [invited] 7th Midwest Women in Mathematics Symposium – April 13, 2019

“Amicable Pairs: Real and Imaginary Friendly Numbers”

- [invited] Bates College: Lewiston, ME – March 8, 2019

“Let's Break it Down: Factorization in Commutative Rings with Zero Divisors”

- Welcome Seminar, The Ohio State University: Columbus, OH – February 7, 2019

“Factorization in Polynomial Rings with Zero Divisors”

- [invited] Haynes-Granville-Brown Session, Joint Mathematics Meetings: Baltimore, MD – January 18, 2019

“Mathematical Atoms: An Introduction to Factorization Theory”

- [invited] Colloquium: Centre College, Danville, KY – October 29, 2018

“Unique Factorization in Polynomial Rings with Zero Divisors”

- [invited] AMS Sectional Meeting: University of Michigan, Ann Arbor, MI – October 21, 2018

“Inquiry Based Learning in Discrete Mathematics”

- MAA MathFest: Denver, CO – August 2, 2018

“Executing Your TAR Project: Considerations for Implementation”

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- [invited] CIRTTL Summer Series: University of Iowa, Iowa City, IA – July 11, 2018
- “Atoms in Mathematics: A Brief Introduction to Factorization Theory”**
- [invited] Colloquium: Reed College, Portland, OR – April 26, 2018
- “Factorization in Polynomial Rings with Zero Divisors”**
- [invited] Ring Theory Seminar: The Ohio State University, Columbus, OH – April 16, 2018
- “Unique Factorization in Polynomial Rings with Zero Divisors”**
- Joint Mathematics Meetings: San Diego, CA – January 12, 2018
- “A Case for a Partial Flip: A Blended Model for a College Trigonometry Course”**
- Joint Mathematics Meetings: San Diego, CA – January 10, 2018
 - MAA Iowa Section Meeting: Loras College, Dubuque, IA – October 21, 2017
- “Some Remarks on Uniqueness: Polynomial Rings and My Journey in Pure Mathematics”**
- [invited] Seminar: William Penn University, Oskaloosa, IA – November 30, 2017
- “The Hilbert Series of the Stanley Reisner Ring”**
- Commutative Ring Theory Seminar: University of Iowa, Iowa City, IA – October 18, 2017
- “Characterizing Stanley Reisner Ideals using Simplicial Complexes”**
- Commutative Ring Theory Seminar: University of Iowa, Iowa City, IA – October 11, 2017
- “A Partially Flipped Model for a College Trigonometry Course”**
- MathFest: Chicago, IL – July 28, 2017
 - CIRTTL at UIOWA TAR Presentation: University of Iowa, Iowa City, IA – June 28, 2017
- “Enhancing a Partially Flipped Trigonometry Classroom with Inquiry Based Learning”**
- Constructing the Future of IBL Poster Session: Chicago, IL – July 28, 2017
- “Graduate Teaching Fellows: Transforming Teaching at the University of Iowa”**
- Graduate Teaching Fellows Showcase: Center for Teaching, University of Iowa, Iowa City, IA – April 14, 2017
 - 19th Annual Jakobsen Conference: University of Iowa, Iowa City, IA – March 25, 2017
- “Universal Design for Learning (UDL) in the College Classroom”**
- Center for Teaching Workshop Leader: University of Iowa, Iowa City, IA – March 30, 2017
- “Factorization in Commutative Rings with Zero Divisors”**
- Commutative Ring Theory Seminar: University of Iowa, Iowa City, IA – October 19, 2016
- “Gaussian Amicable Pairs: Friendly Imaginary Numbers”**
- AMS Sectional Meeting: Transylvania University, Lexington, KY – April 6, 2013
 - Colloquium: Eastern Kentucky University, Richmond, KY – April 29, 2013

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- 26th Annual EKU Symposium in the Mathematical, Statistical, and Computer Sciences: Eastern Kentucky University, Richmond, KY – March 29, 2013

PROFESSIONAL DEVELOPMENT

Math Education Reading Group

- Biweekly meetings to discuss MAA Instructional Practices Guide – Fall 2018, The Ohio State University Department of Mathematics

Graduate Education Courses:

- Web Based Learning – Fall 2017
- ePortfolio in College Teaching – Fall 2017
- Practicum in College Teaching – Fall 2017
- Tools and Utilities for Online Teaching – Fall 2016
- Practicum in College Teaching – Summer 2016
- Seminar in College Teaching – Spring 2016
- Universal Design & Accessibility Online – Spring 2016
- Design of Instruction – Fall 2015

“Iowa Section NeXT Workshop” - attendee

- MAA Iowa Section Meeting: Loras College, Dubuque, IA – October 2017
- MAA Iowa Section Meeting: Grand View University, Des Moines, IA – October 2016

“Effective Teaching Institute” - attendee

- Center for Teaching, University of Iowa – January 2016

“Teaching Linear Algebra: Learning Concepts Often Difficult to Understand” - attendee

- Mini-Course #3: Part A – MAA MathFest 2016; Columbus, Ohio – August 2016

“Alternatives to Traditional Grading to Enhance Student Learning” - attendee

- Mini-Course #2 – MAA MathFest 2011; Lexington, KY

SERVICE

Academic

Organized Conference Sessions

- Co-organizer: Equity, Diversity, and Inclusion in Mathematics – MathFest 2019
- Co-organizer: Maximizing Student Outcomes in Flipped Classrooms – Joint Mathematics Meetings 2019

Field of Dreams Conference

- Panelist: *Fields of Success* – November 2, 2018; St. Louis, MO
- Panel Moderator: *Doctoral Experiences* – November 6, 2016; St. Louis, MO

Center for the Integration of Research Teaching and Learning (CIRTL) at UIOWA

- Graduate College Orientation CIRTL Sessions 1&2 Panelist: *Teaching as a Transferrable Skill for Your Career* – August 16, 2017

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- CIRTLL Ambassador: Introduced the CIRTLL program to campus through presentations and workshops – 2016-2017
- CIRTLL Steering Committee: Group of select faculty and students who provide input on CIRTLL programming throughout the school year – 2016-2017

University of Iowa Graduate College

- Graduate College Orientation: Panelist for session with current graduate students. Shared my experiences in graduate school with a focus on finding funding for travel and balancing research with teaching – August 16, 2017
- New TA Orientation: Facilitated session “TA Troubleshooting Case Studies” to discuss how to handle difficult situations that can arise in the classroom – August 19, 2016

Sonia Kovalevsky Day

- Event Organizer 2016 to 2017 – University of Iowa
- T-Shirt Designer 2017 – University of Iowa
- Career Panel Coordinator – April 2015; University of Iowa
- Volunteer: assisted with jeopardy game, helped with origami station, served lunch, and helped set up and take down rooms – October 2011; University of Kentucky

Iowa STEM Pre-Service Teacher Conference

- Networking Reception Participant: Discussed techniques and experiences teaching in higher education with pre-service teachers – March 3, 2017; Kirkwood at University of Iowa

University of Iowa Department of Mathematics

- New TA Seminar Panelist “*Teaching Experience in Graduate School*” – December 4, 2017
- Post Qual/Pre-Comp Panelist – November 16, 2017
- New TA Seminar Panelist “*Balancing Teaching and Research*” – December 5, 2016
- Prospective Student Weekend Panelist “*Being a Teaching Assistant*” – April 2016
- First Year Buddy: Served as mentor to first year graduate student – 2016

Community

Adler Planetarium and DuSable Museum of African American History

- Hidden Figures Revealed: Panelist – March 23, 2017; Chicago, IL

The Academy for Scholastic and Personal Success

- University of Iowa Black Math PhDs: Panelist – June 23, 2017; Cedar Rapids, IA
- University of Iowa Black Math PhDs: Organizer/Moderator – June 2016; Cedar Rapids, IA

YMCA Black Achievers

- ACT Workshop Leader – January 21, January 28, February 4 2012; Lexington, KY

Black Males Working (BMW) Academy

- Volunteer: led 1-2 hour sessions on Saturday mornings over ACT math, algebra review, final exam preparation, and college readiness – Fall 2011; Lexington, KY

Alpha Kappa Alpha Sorority, Incorporated

Tau Psi Omega Chapter, Iowa City, IA

- MLK Day of Service Organizer: Ronald McDonald House, Iowa City, IA – January 2016

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- Corresponding Secretary, 2016
- March of Dimes Grant Proposal Coauthor, 2015
- Ivy Leaf Reporter, 2014

Beta Gamma Omega Chapter, Lexington, KY

- Scholarship Committee

Iota Sigma Chapter, University of Kentucky, Lexington, KY

- Sergeant of Arms, 2011
- Financial Secretary, 2011
- HOOP-for-a-CAUSE Program Committee – October 2010
(3 on 3 basketball tournament which raised \$500 to buy wigs for donation to the American Cancer Society)

CONFERENCES ATTENDED

- [to attend] MAA MathFest, Cincinnati, OH – July 2019
- [to attend] USTARS: *Underrepresented Students in Algebra and Topology Research Symposium*, Iowa State University, Ames, IA – April 2019
- [to attend] 7th Midwest Women in Mathematics Symposium, University of Iowa, Iowa City, IA – April 2019
- Joint Mathematics Meetings, Baltimore, MD – January 2019
- Field of Dreams, St. Louis, MO – November 2018
- AMS Sectional Meeting, University of Michigan, Ann Arbor, MI – October 2018
- MAA MathFest, Denver, CO – July 2018
- Joint Mathematics Meetings, San Diego, CA – January 2018
- Field of Dreams, St. Louis, MO – November 2017
- MAA Iowa Section Meeting, Loras College, Dubuque, IA – October 2017
- MAA MathFest, Chicago, IL – July 2017
- Constructing the Future of IBL, Chicago, IL – July 2017
- 19th Annual Jakobsen Conference, Iowa City, IA – March 2017
- Field of Dreams, St. Louis, MO – November 2016
- MAA Iowa Section Meeting, Grandview University, Des Moines, IA – October 2016
- MAA MathFest, Columbus, OH – August 2016
- USTARS: *Underrepresented Students in Algebra and Topology Research Symposium*, Berkeley, CA – April 2014
- Field of Dreams, Phoenix, AZ – November 2014
- AMS Sectional Meeting, Transylvania University, Lexington, KY – April 2013
- Joint Mathematics Meetings, Boston, MA – January 2012
- MAA MathFest, Lexington, KY – August 2011

PROFESSIONAL MEMBERSHIPS

- Association for Women in Mathematics

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- Mathematical Association of America
- American Mathematical Society

REFERENCES

Available upon request.