

## CONTACT INFORMATION

Associate Professor of Mathematics

Director of Mathematics

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Blogs: <http://mbtmath.wordpress.com>

[southwestchicagomathcircle.wordpress.com/](http://southwestchicagomathcircle.wordpress.com/)

## EDUCATION

**Ph.D in Mathematics**, IUPUI, Indianapolis, IN; May 2014

Dissertation: Locally Compact Property A Groups

Advisor: Dr. Ronghui Ji

**M.S. in Mathematics**, IUPUI, Indianapolis, IN; December 2011

Thesis Title: Amenable Groups

**M.A. in Mathematics**, University of Kentucky, Lexington, KY; May 2009

Thesis Title: Sylow P Groups of  $S_n$

Advisor: Dr. Edgar Enochs

**B.A. in Mathematics, Coaching Certificate**, Taylor University, Upland, IN; May 2007

Honors: Magna Cum Laude

## EMPLOYMENT

**Associate Professor of Mathematics**, Lewis University, Romeoville, IL, 2014-Present

**Director of Mathematics**, Lewis University, Romeoville, IL, 2016-Present

**Summer@ICERM Faculty Organizer**, Brown University, Providence, RI, 2023

**Adjunct Instructor of Mathematics**, Butler University, Indianapolis, IN, 2013-2014

**Online Instructor of Mathematics**, IU-East, Richmond, IN, 2012-2014

**Graduate Student Instructor of Mathematics**, IUPUI, Indianapolis, IN, 2010-2014

**Graduate Student Instructor**, The University of Kentucky, Lexington, KY, 2007-2009

## PUBLICATIONS &amp; MANUSCRIPTS

Redmon, E\*, Mena, M\*, Vesta, M\*, Renzyl Cortes, A., Gernes, L\*, Merheb, S\*, Soto, N\*, Stimpert, C\*, & Harsy, A. (2023). Optimal Tilings of Bipartite Graphs Using Self-Assembling DNA. *The PUMP Journal of Undergraduate Research*, 6, 124-150. Retrieved from <https://journals.calstate.edu/pump/article/view/2427>

Harsy, A., Buente, A.\* Koronkiewicz, M.\* Shultz, H.\*(2022) Does the Dropped Score Matter? Analyzing NCAA Division II Men's Golf Using the Massey Method. *The PME Journal*. Vol. 15, No. 7. 385-392

Campos-Chavez, H\*, deBolt, W\*, Mena, M\*. Prince, J\*, Alramahi, A\*, Dudzinski, R\*, Thrawl, S\*, DeLegge, A, Harsy, A. Predictive Modeling and Analysis of Hockey Using Markov Chains. *Mathematics and Sports*, v. 4, n. 1, 2022. Retrieved from <http://libjournals.unca.edu/OJS/index.php/mas/article/view/24/15>

(Accepted) Harsy, A. (2023) "Using Oral Exams to Assess Conceptual Understanding in Proof Writing Courses" Book Chapter *Effective Alternative Assessment Practices in Higher Education*. Information Age Publishing

(Accepted) Harsy, A., Smith, M. "Get in the Game with Linear Algebra," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*. Classroom Resources Series, Volume: TBD. American Mathematical Society

(Accepted) Harsy, A., Wielgos, C. "Solving with Sherlock," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*. Classroom Resources Series, Volume: TBD. American Mathematical Society

(Accepted) Almodóvar, L., Harsy, A., Johnson, C., Sorrells, J. "Graph Theoretical Modeling of Tile-Based DNA Self-Assembly," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*. Classroom Resources Series, Volume: TBD. American Mathematical Society

Harsy, A. (2022) [\*Graph Theoretical Modeling of DNA as a Vehicle for a Course-Based Undergraduate Research Experience\*](#). *Special Issue of The Mathematics Enthusiast* vol. 19, no.3

Harsy, A., Holmes, K., Kaschner, S. Meyer, M. (2021) "Teaching Probability Using Dice and Risk" Book Chapter [\*Teaching Mathematics Through Games\*](#) Classroom Resources Series, Volume: 65. American Mathematical Society

Harsy, A., Holmes, K., Kaschner, S. Meyer, M. (2021) "Counting Your Winnings at the Casino" Book Chapter [\*Teaching Mathematics Through Games\*](#) Classroom Resources Series, Volume: 65. American Mathematical Society

Antonou, Angela; Patel, Rita M.; and Harsy, Amanda (2021) "The Impact of Math Teachers' Circles on Teacher Dispositions toward Inquiry-based Learning: A Comparison between a Three-day and a One-day Summer Workshop," *Journal of Math Circles*: Vol. 2 : Iss. 1 , Article 6. Available at: <https://digitalcommons.cwu.edu/mathcirclesjournal/vol2/iss1/6>

Harsy, Amanda and Hoofnagle, Alyssa (2020) [\*Comparing Mastery-based Testing with Traditional Testing in Calculus II\*](#), *International Journal for the Scholarship of Teaching and Learning*: Vol. 14: No. 2, Article 10.

Available at: <https://doi.org/10.20429/ijstl.2020.140210>

Harsy, A., Laschober, J\*. (2020) [Analysis of Passing Networks in Soccer](#). *Mathematics and Sports*, v. 1, n. 1, 2020.

Harsy, A., Carlson, C\*, Klamerus, L\*. (2020) [An Analysis of the Impact of Mastery-based Testing in Mathematics Courses](#). *PRIMUS*.

Harsy, A. (2020) [Variations in Mastery-based Testing](#), *PRIMUS*.  
DOI: 10.1080/10511970.2019.1709588

Collins, J. Harsy, A. Hart, J., Haymaker, K., Hoofnagel, A., Janssen, M. , Kelly, J., Mohr, A., OShaughnessy, J. (2019) [Mastery-Based Testing in Undergraduate Mathematics Courses](#), *PRIMUS*, 29:5, 441-460, DOI: 10.1080/10511970.2018.1488317

Harsy, A., Klanderman, S., Meyer, M, Smith, M., Stephenson, B., Sulyok, C. (2023, May) [Surviving a Pandemic Using Alternate Assessments](#) *Association of Christians in the Mathematical Sciences 2022 Conference Proceedings*

Harsy, A., Meyer, M, Smith, M., Stephenson, B., (2020, May) [Analyzing the Impact of Active Learning in General Education Mathematics Courses](#). *Association of Christians in the Mathematical Sciences 2019 Conference Proceedings*

Armstrong, A. & Harsy Ramsay, A. (2016, April). Using Mastery-Based Testing in Undergraduate Mathematics, Science, and Other Courses. Lilly Conferences on College Teaching. *Proceedings of the 36<sup>th</sup> Original Lilly Conference*. Original Lilly Conference: Oxford, OH (45-47). Oxford, OH. Original Lilly Conference.

Clark, T. Harsy, A. Janssen, M. Klanderman, D. Maxwell, M. Robbert, S. (2018, April). [Start a Math Teacher Circle: Connect K-12 Teachers with Engaging, Approachable, and Meaningful Mathematical Problems](#). *Association of Christians in the Mathematical Sciences 2017 Conference Proceedings*.

Book Review: Amanda Harsy (2022) [X-Games in Mathematics Sports: Training That Counts!](#), *Math Horizons*, 29:4, 29, DOI: 10.1080/10724117.2022.2028525

**Under Review:** L. Almodóvar, J. Ellis-Monaghan, A. Harsy, C. Johnson, and J. Sorrells. [“Computational complexity and pragmatic solutions for flexible tile based DNA self-assembly”](#)

**Under Review:** A. Harsy, M. Smith, “An Application Approach to Teaching Linear Algebra,”

\*Denotes undergraduate student co-author

## AWARDS, FELLOWSHIPS, & GRANTS

*Awards:*

Lewis University Project Completion Award: 2023

[Illinois Section of the MAA’s Early Career Teaching Award](#): 2018

MAA SIGMAA on Mathematics and Sports Outstanding Achievement in Advising and Promoting Research in Mathematics and Sports, 2018

Lewis University Rewards and Recognitions Nominee 2015  
IUPUI School of Science Teaching Assistant Award: 2014, (Nominee in 2013)  
IUPUI Outstanding Graduate Student Teaching Award Mathematics: 2014, 2013  
IUPUI Outstanding Advanced Graduate Student Award Mathematics: 2012

*Fellowships:*

National Project NExT Fellow (Gold14 dot): 2014-2015  
Illinois Section NExT Fellow: 2015-present  
Indiana Section NExT Fellow: 2015-present  
Project Kaleidoscope Fellow: 2017  
REUF (Research Experience for Undergraduate Faculty) Fellow: 2017  
IUPUI School of Science Fellowship: 2009-2010  
University of Kentucky Daniel R. Reedy Quality Achievement Fellowship: 2007-2009  
Taylor University's President's Select Scholarship: 2003-2007  
Taylor University Athletic Scholarship: 2003-2007

*Grants:*

[Summer@ICERM](#) 2023, Funding to run summer REU at Brown University  
ICERM Collaborate 2022, Funding to work on research at ICERM  
CURM Mini-Grant, 2021, Funding for undergraduate student researchers and a course release  
Lasallian Scholars Grant, 2022, Funding for undergraduate student researcher and travel funds  
Doherty Grant, 2019, Funding for undergraduate student researchers and research software  
Caterpillar Grant, 2017 (\$6,000 to use for undergraduate research and establishment of a mathematical modeling lab)  
Ingredion Grant 2018, \$5,000 to run a summer mathematics camp for middle schoolers  
PIC Math Data Analytics Travel Grant 2017  
REUF Travel Grant 2017  
REUF Continuation Grant 2018, 2019  
PPG Grant for Summer Math Camp, 2016  
IBL Workshop Travel Grant, 2016  
AIM Math Teachers Circle Seed Grant, 2016  
AIM Math Teachers Circle Workshop Grant, 2016  
2016 Mentoring and Partnerships for Women in RUME (MPWR) Seminar Travel Grant  
Lewis Scholarship of Teaching and Learning Grant, 2016, 2017, 2018, 2022  
Lewis Discover Grant, Fall 2015

SURE (Summer Undergraduate Research Experience), Summer 2015, '16, '17, '18, '19, '20, '21 '22  
Lewis Faculty Development Grant, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023  
PUMA STEM Research Mentor Grant: 2021, 2022

## TEACHING EXPERIENCE

### **Associate Professor of Mathematics, Lewis University:**

Win, Lose or Draw: Spring 2023

Calculus I: Fall 2014

Calculus II: Fall '22, '20 '19 '18, '17, '16, '15; Spring '21, '18, '17 (2 sections), '16 (2 sections), '15 (2 sections)

Calculus III: Fall '22 (2 sections), '21 '20 '19, '18, '17 (2 sections), '16 (2 sections), '15, '14; Spring '23, '21, '15

Foundations of Advanced Mathematics: Fall 2014

Applied Linear Algebra: Spring '20, '19, '18 (2 sections), '17 (2 sections), '16 (2 sections)

Linear Algebra: Spring '23, '21

Real Analysis I: Fall 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014

Real Analysis II: Spring 2020, 2018

Senior Seminar: Fall '22, '15, '14; Spring '23, '19 (2 sections), '17, '16, '15

Graph Theoretical Design Strategies for Modeling Self-Assembling DNA: Fall 2018

Applied Combinatorics and Graph Theory (Special Topics): Spring 2019

Solving with Sherlock: Fall 2020, Spring 2020

### **Primary Instructor, Butler University:**

Win, Lose, or Draw: Spring 2014 (2 sections), Fall 2013 (2 sections)

Calculus & Analytic Geometry 2: Summer 2013

### **Primary Online Instructor, Indiana University East:**

Calculus III: Spring 2014, Fall 2013

Calculus I: Summer 2013, Summer 2012

College Algebra: Fall 2012

### **Primary Instructor, IUPUI:**

Calculus I: Fall 2013, Fall 2012

Calculus II: Spring 2013

Calculus for Technology I: Spring 2012

Business Calculus: Spring 2012, Fall 2011

Algebra: Spring 2011

Fundamentals of Algebra: Fall 2010

**Primary Instructor, University of Kentucky:**

Intermediate Algebra: Spring 2009, Fall 2008, Summer 2008

**INVITED PRESENTATIONS**

*Wouldn't It Be Nice*

Invited Plenary Keynote Speaker at the 2020 Indiana Section of the MAA Section Meeting.

*Designing Optimal Strategies for DNA Self-Assembly*

Invited Plenary Keynote Speaker at the 2019 Illinois Section of the MAA Section Meeting.

*An Application Approach to Teaching Linear Algebra*

Invited Co-Presenter for the Linear Algebra Education Mini-symposium, 2022

International Linear Algebra Society Conference, Galway, Ireland, 2022

*Getting Started in Sports Analytics Research*

Invited Speaker for the "MAA Invited Paper Session on Open & Accessible Problems for Undergraduate Research" Session, MathFest 2021

*Using Graph Theoretical Designs of Self Assembling DNA to Motivate Undergraduate Research.*

Invited co-presenter (with C. Johnson and students) at the AMS Special Session on Research in Graph Theory and Combinatorics by Research Experience for Undergraduate Faculty (REUF) Alumni and Their Students at the 2020 Joint Mathematics Meeting, Denver, CO.

*The Quantum Princess's Problem-Solving Adventures*

Invited Facilitator (with Peter Tingley (Loyola) and Karl Liechty (DePaul)) for the National Math Teachers' Circle Virtual Summer Workshop, July 2020

*Introduction to the Scholarship of Teaching and Learning*

Invited presenter and panelist at the 2022 Mastery Grading Conference (online), June 2022

*Mastery Grading in Action and Panel Discussion*

Invited presenter and panelist at the 2020 Mastery Grading Conference (online), June 2020

*New to Mastery Grading*

Invited Co-Workshop Leader at the 2019 National Inquiry-based Learning and Teaching Conference, Denver, CO, 2019.

*Mastery-based Testing in Mathematics*

Invited speaker for the CUNY - LaGuardia Community College Undergraduate mathematics teaching and learning seminar, virtual, 2023

*Grading for Growth*

Invited speaker for Valparaiso University's Faculty Learning Community on unconventional grading, virtual 2023

*Grading for Growth/Mastery Grading Workshop*

Invited Workshop Leader at the 2022 Section NExT Workshop, Rocky Mountain Section of the MAA, virtual 2022.

*The Job Search*

Invited Pre-Conference Workshop Presenter at the 2019 Association of Christians in the Mathematical Sciences 2019 Conference, Marion, IN, 2019.

*Inspired by Real, Fun Math: Practical Outreach for Sharing the Power and Beauty of Mathematics with our Communities.*

Invited Panelist for the 2020 Project NExT panel at the 2020 JMM, Denver Co

*Getting Your Feet Wet in Mathematics Education Research*

Invited Panelist for the 2018 Project NExT panel at the 2019 MAA Mathfest Conference, Cincinnati, OH.

*Graph Theoretical Designs of Self Assembling DNA*

Calvin University's Mathematics Colloquium, 2021.

*Wouldn't It Be Nice*

Invited Keynote Speaker at the 2021 Dominican University KME Induction.

*Designing Optimal Strategies for DNA Self-Assembly*

Elmhurst College's Mathematics Seminar, 2019.

*Incorporating Applications into Linear Algebra Courses*

NSF funded workshop, "National Pedagogical Initiatives on Linear Algebra" University of Oklahoma, OK, Oct. 2018

*Determining Optimal Strategies for Modeling DNA Self-Assembly Using Tile-Based Assembly and Graphs*

Saint Xavier University Math Club Talk, 2018.

*Determining Optimal Strategies for Modeling DNA Self-Assembly Using Tile-Based Assembly and Graphs*

Trinity Christian College's Mathematics Seminar, 2018.

*Predictive Modeling and Analysis of Sports Teams: Who's #1: Using Math to Predict the Future*  
Taylor University's Science Seminar, 2018.

*Determining Optimal Strategies for DNA Self-Assembly Using Tile-Based Assembly and Graphs*  
Butler University's Spring Mathematics Colloquium. 2018.

*Designing and Running a Data Science Program at a Regional Liberal Arts University.*

Harsy, A., Szczurek, P., SIAM Minisymposium on Data Science in the Mathematics  
Curriculum. 2018 Joint Mathematics Meetings, San Diego, CA.

*On-Campus Interviews*

Invited Presenter for the Indiana MAA Graduate Student Workshop, West Lafayette, IN 2016

*Applications and Pre-Campus Interviews*

Invited Presenter for the Indiana MAA Graduate Student Workshop, Franklin, IN 2016

*Lewis University's 1<sup>st</sup> Annual Math Careers Panel*, Invited Panelist

Lewis Math Club, Romeoville, IN. April 2015.

*Teaching an Online Class*, Invited Panelist

MAA Indiana Fall Sectional Meeting, Evansville, IN. October 2013

*Living in a Free Group World*

Taylor University Math Club Talk, Upland, IN. February 2014

*Free Groups, Free at Last!*

Butler University Department Colloquium, Indianapolis, IN. November 2013

## PRESENTATIONS

*Analyzing the Impact of Alternate Assessment on Growth Mindset in Mathematics Courses*

Joint presentation with M. Meyer and C. Sulyok. JMM 2023 AMS Special Session on The  
Scholarship of Teaching and Learning: Past, Present, and Future

*Solving with Sherlock*

Joint presentation with C. Sulyok. JMM 2023 AWM Special Session on Women, Art, and  
Mathematics: Mathematics in the Literary Arts and Pedagogy in Creative Settings

*Grading with a Growth Mindset*

Joint presentation with M. Smith and C. Sulyok. Canadian Mathematical Society Winter  
Meeting 2022. Invited Session "Where are we on the mathematics and statistics  
education hype curve?"

*Predictive Hockey Analytics*

Joint presentation with students M. Mena, H. Campos-Chavez. MAA Contributed Paper  
Session on Mathematics and Sports, 2022 MAAMathFest



*Surviving a Pandemic Using Alternate Assessments*

Joint presentation with S. Klanderman and B. Stephenson. Association of Christians in the Mathematical Sciences 2022 Conference, Azusa, CA.

*A Markov Chain Model for Predicting College Basketball*

Joint presentation with M. Vesta. MAA Contributed Paper Session on Mathematics and Sports, 2021 Joint Mathematics Meeting, virtual

*Preliminary Analysis of the Impact of Active Learning in General Education Mathematics Courses.*

Joint presentation with M. Meyer, B. Stephenson. MAA Contributed Paper Session on The Scholarship of Teaching and Learning in Collegiate Mathematics, 2020 Joint Mathematics Meeting, Denver, CO.

*Using inquiry-based learning as a form of professional development to assess teachers' dispositions towards mathematics.*

Joint presentation with R. Patel, MAA Contributed Paper Session on The Scholarship of Teaching and Learning in Collegiate Mathematics, 2020 Joint Mathematics Meeting, Denver, CO.

*Beyond Traditional Grading Schemes: Mastery Based Grading*

Joint minicourse presenter. 2019 MAA Mathfest Conference, Cincinnati, OH.

*Optimal Pots for Modular DNA Self-Assembly*

Joint presentation with L. Almodovar, C. Johnson, J. Williams. PosterFest for Early Career Mathematicians, 2019 MAA MathFest Conference, Cincinnati, OH

*Learning Mathematics through Games in a General Education Mathematics Course*

Joint presentation with M. Meyer, M. Smith, and B. Stephenson. 2019 MAA Mathfest Conference, Cincinnati, OH.

*Analyzing the Impact of Active Learning in General Education Mathematics Courses*

Joint presentation with M. Meyer, M. Smith, and B. Stephenson. Association of Christians in the Mathematical Sciences 2019 Conference, Marion, IN.

*Modeling DNA Self-Assembly Through Graph Theory*

2019 Celebration of Scholarship Faculty Project in Math & Science Caterpillar Scholar Award Presentation, Lewis University, Romeoville, IL.

*Designing Optimal Strategies for DNA Self-Assembly*

2019 Indiana Section of the MAA Meeting, 2019

2019 Wisconsin Section of the MAA Meeting, 2019

*Voting Fairly*

Southwest Chicago Math Teachers' Circle November Meeting, University of St. Francis,  
Joliet, IL. November 2018

Lewis University Math Club Presentation, Romeoville, IL, November 2018

*Does Mastery-based Testing Help with Test Anxiety? Growth Mindset? Confidence? An Analysis  
of the Impact of MBT in Mathematics Courses*

MAA Contributed Paper Session, "Mastery Grading," MathFest 2018, Denver, CO 2018

*Math Teachers' Circles: Professional Development Through Mathematical Problem Solving*

Joint Presenter, MAA IL-IN-MI 2018 Tri-State Sectional Conference, Valparaiso  
University, Valparaiso, IN.

*Liar's Bingo.*

Invited guest speaker for the Chicago Math Teachers' Circle, Loyola University,  
Chicago, IL. Feb 2018

*Predictive Modeling and Analysis of Golf and Softball Teams Using Linear Algebra.*

Joint Presentation with student researchers. Harsy, A., Koronkiewicz, M., and Maupin,  
C., MAA Contributed Paper Session. 2018 Joint Mathematics Meetings, San Diego, CA.

*Comparing Mastery-Based and Traditional Assessment in Calculus II Courses.* Joint

Presentation with student researchers. Harsy, A., Carlson, C., and Klamerus L., MAA  
Contributed Paper Session. 2018 Joint Mathematics Meetings, San Diego, CA.

*The Impact of Math Teachers' Circles on Persistence, Confidence, and Implementation of  
Inquiry-based Learning for K-12 Teachers.*

Joint Presenter, MAA General Contributed Paper Session, 2018 Joint Mathematics  
Meetings, San Diego, CA.

*Comparing Mastery-Based and Traditional Assessment in Calculus II Courses*

ACCA Pedagogy Symposium 2017, University of St. Francis, Joliet, IL 2017

*Modeling DNA Self-Assembly Using Graphs.*

Lewis University Math Club Presentation, Romeoville, IL. October 2017

*Comparing Mastery-based and Traditional Assessment in Calculus II Courses*

MAA Contributed Paper Session, "Encouraging Effective Teaching Innovation,"  
MathFest 2017, Chicago, IL 2017

*Freeing the Clones*

Southwest Chicago Math Teachers' Circle August Workshop, University of St. Francis,  
Joliet, IL. August 2017

*Hexaflexagons and Hyperbolic Footballs*

Southwest Chicago Math Teachers' Circle August Workshop, University of St. Francis,  
Joliet, IL. August 2017

*Math Teachers' Circles: Inquiry-Oriented Activities Used to Investigate Rich Math Problems*

Contributed Paper Session, Illinois MAA Sectional Meeting, Glen Ellyn, IL. March 2017

*Liar's Bingo.*

Lewis University Math Club Presentation, Romeoville, IL. March 2017

*Inspiring Linear Algebra with Problems in Image Analysis*

Joint Presenter, Joint Mathematics Meetings 2017, Atlanta, GA 2017

*Using Mastery-Based Testing in Undergraduate Mathematics, Science, and Other Courses*

Joint Presenter, 2016 Original Lilly Conference on College Teaching, Oxford, OH 2016

*Exploding Dots Part II.*

Southwest Chicago Math Teachers' Circle September Meeting, Saint Xavier University,  
Chicago IL. Sept. 2016.

Southwest Chicago Math Teachers' Circle August Workshop, University of St. Francis,  
Joliet, IL. August 2017

*Exploding Dots Part I.*

Southwest Chicago Math Teachers' Circle Immersion Workshop, Trinity Christian  
College, Palos Heights, IL. August 2016

*Teaching Scenarios.*

Southwest Chicago Math Teachers' Circle Immersion Workshop, Trinity Christian  
College, Palos Heights, IL. August 2016

*Comparing Mastery-Based and Traditional Assessment in Calculus II Courses*

MAA Contributed Paper Session, "Formative Assessment Techniques for  
Undergraduate Math Courses," MathFest 2016, Columbus, OH 2016

*Encouraging a Growth Mindset Approach to Learning through Oral and Mastery-Based Testing.*

MAA Contributed Paper Session, "Assessing Student Learning: Alternate  
Approaches," Joint Mathematical Meetings, Seattle, WA. January 2016

*Oral and Mastery-Based Testing in a Real Analysis Course.*

General Contributed Paper Session, Joint Mathematical Meetings, San Antonio, TX.  
January 2015

Contributed Paper Session, Indiana MAA Sectional Meeting, Upland, IN. March 2015

Contributed Paper Session, Illinois MAA Sectional Meeting, Dekalb, IL. March 2015

*What Can You Do With A Math Degree?*

Short promotional YouTube video with Kathryn Skonicki, Lewis University,  
 Romeoville, IL, March 2015. [http://youtu.be/c4G\\_r3zy-Is](http://youtu.be/c4G_r3zy-Is)

*Locally Compact Property A Groups*

Dissertation Defense, IUPUI, Indianapolis, IN. April 2014

*How Online Teaching Has Made Me a Better Face To Face Instructor*

Joint Mathematics Meeting 2014, Baltimore, MD. January 2014,  
 MAA Indiana Fall Sectional Meeting, Evansville, IN. October 2013

*Using Programming to Understand Limits in a Calculus II Course*

Mathfest 2013, Hartford, CT. August 2013

*Fourier Transforms for Locally Compact Abelian Groups*

IUPUI Graduate Student Colloquium, Fall 2012

*Cohomology with differential forms*

IUPUI Differential Topology Seminar, Spring 2012

*Amenable Groups*

IUPUI Advance Topic Examination, Fall 2011

*Index of Vector Fields*

IUPUI Graduate Student Colloquium, Spring 2011

*The Four Vertex Theorem*

IUPUI Graduate Student Colloquium, Spring 2010

*Hilbert's Third Problem*

IUPUI Graduate Student Colloquium, Fall 2009

*Sylow  $P$ -Subgroups for  $S_n$* 

University of Kentucky Master's Examination, Spring 2009

*My REU Experience in Hong Kong*

Undergraduate REU Seminar, University of Kentucky, Spring 2009

**UNDERGRADUATE RESEARCH MENTORING****STUDENT RESEARCH AWARDS**

2023 London, J. *Statistical Analysis of High-Pressure Moments in Tennis and CounterStrike: Global Offensive* **ISMAA Outstanding Undergraduate Research Award**

2022 London, J., Leobardo, Rodriguez *Analyzing High-Pressure Moments in Tennis and Competitive Esports* **MAA Outstanding Poster Honorable Mention**

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- 2022 Campos-Chavez, H., deBolt, W., Mena, M., Prince, J. **Finalist for the Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award.**
- 2021 Vesta, M. *A Markov Chain Model for Predicting College Basketball*. **ISMAA Outstanding Undergraduate Research Award**
- 2021 Vesta, M. *A Markov Chain Model for Predicting College Basketball* **Finalist for the Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award.**
- 2020 Redmon, E. *Optimal Tilings of Self-Assembling Bipartite Graphs* **ISMAA Outstanding Undergraduate Research Award**
- 2019 Pettinato, M. *Predictive Modeling and Analysis of Softball Using Linear Algebra-based Ranking Systems* **Pi Mu Epsilon Distinguished Speaker Award**
- 2019 Henson, J. *Design Strategies for Modeling Mongolian Tent Graphs Using DNA Self-Assembly*. **ISMAA Honorable Mention Outstanding Undergraduate Research Award**
- 2019 Redmon, E. *Modeling Crossed-Prism Graphs in Self-Assembling DNA Using Graph Theory and Linear Algebra*. **ISMAA Honorable Mention Outstanding Undergraduate Research Award**
- 2018 Carlson, C. and Klamerus L. *Comparing Mastery-Based and Traditional Assessment in Calculus II Courses*. **JMM Outstanding Poster Award.**
- 2018 Stratton, Q., Dellinger, K., and Merheb, S. *Modeling DNA Self-Assembly Using Graph Theory*. **JMM Outstanding Poster Award.**
- SURE Faculty Mentor** 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022  
 Jakob London (2022), Will deBolt and Austin Schaibley (2021), Megan Vesta and Miles Mena (2020), Marco Pettinato and James Sparks (2019), Kevin Gannon and Chandler Stimpert (2018), Carley Maupin (2017), Matthew Knight (2016), Betsy Larson (2015)  
 Lewis University, Romeoville, IL
- PUMA STEM Faculty Mentor** 2021, 2022  
 Leobardo Rodriguez (2022), Chiara Hurd and Harvey Campos-Chavez (2021)  
 Lewis University, Romeoville, IL
- CURM Research Mentor** 2021-22  
 Alia Alramah, Harvey Campos-Chavez, Will deBolt, Robert Dudzinski, Miles Mena, Jacob Prince, Soren Thrawl,
- Math/Math Education Research Faculty Mentor** 2015, 2016, 2017, 2018, 2019, 2020, 2022  
 Isabel Ruiz, Dayanna Sanchez (co-mentor), Maria Rodriguez Del Corral, Sheila Lesiak, Lizett Zaratte, Paul Buldak, Nick Soto, Lauren Gernes, Eric Redmon, Jackson Hansen,

Alvi Renzyl Cortez, Hector Dondiego, Marco Pettinato, Chandler Stimpert, Heather Ray, Tyler Starkus, Adrian Siwy, Brandon Joutras, Christina Carlson, Lauren Klamerus, Simon Merheb, Keller Dellinger, Quinn Stratton, Audrey Pearson, Austin Buente, Marissa Koronkiewicz, Hannah Schultz, Rachel Sweeney, Alyssa Malzone, Leanna Pitsoulakis, Rachel Seiberlich, Betsy Larson, and Dylan Groskreutz, Lewis University, Romeoville, IL, 2015-2018

**Lewis Scholars Program Mentor 2018**

Megan Vesta (2018) (research in DNA-Self Assembly –Helm Graphs),  
Heather Ray (2018) (research in DNA-Self Assembly –Bipartite Graphs),  
Tyler Starkus (2018) (research in Sports Ranking Predictive Modeling)  
Lewis University, Romeoville, IL

**Mentor for Regional and National Undergraduate Research Presentations**

*Statistical Analysis of High-Pressure Moments in Tennis and CounterStrike: Global Offensive*

Student: London, J.

Conference: ISMAA 2022. Contributed Paper Session, Glen Ellyn, IL

**ISMAA Outstanding Undergraduate Research Award**

*Analyzing High-Pressure Moments in Tennis and Competitive Esports*

Students: London, J., Leobardo, Rodriguez

Conference: Mathfest 2022. Contributed Poster Session, Philadelphia, PA

**MAA Outstanding Poster Honorable Mention**

*Markov Chain-based Models for Predicting Win Probability of NHL*

Students: Mena, M., Campos-Chavez, H., Price, J., deBolt, W.

Conference: Mathfest 2022. Contributed Poster Session, Philadelphia, PA

*Graph Theoretical Modeling of Web Graphs in Self-Assembling DNA*

Students: Schaibley, A., Hurd, C.

Conference: Mathfest 2022. Contributed Poster Session, Philadelphia, PA

*Predictive Hockey Analytics*

Students: Alramahi, A., Campos-Chavez, H., Mena, M.

Conference: ISMAA 2022. Contributed Paper Session, Decatur, IL

*Predictive Modeling for NHL Hockey Utilizing Markov Chains*

Students: Campos-Chavez, H., deBolt, W., Mena, M., Prince, J.

Conference: JMM 2022. JMM Student Poster Session, Virtual

*Predictive Modeling for NHL Hockey Utilizing Markov Chains*

Students: Campos-Chavez, H.

Conference: 2021 LSMRCE Virtual Conference

*Statistical Analysis of NHL Hockey*

Students: Campos-Chavez, H. deBolt W., Dudzinski, R., Thrawl, S.

Conference: JMM 2022. JMM Student Poster Session, Virtual

Conference: Celebration of Scholarship, Lewis University

*A Markov Chain Model for Predicting College Basketball*

Student: Vesta, M.

Conference: JMM 2021. JMM Student Poster Session, Virtual

Conference: ISMAA 2021. Contributed Paper Session, Virtual

**ISMAA Outstanding Undergraduate Research Award**

*Graph Theoretical Design Strategies for Modeling Self Assembling DNA Complexes*

Student: Mena, M.

Conference: JMM 2020. JMM Student Poster Session, Denver, CO.

Conference: INMAA 2020. Contributed Paper Session, Virtual

Conference: JMM 2021. JMM Student Poster Session, Virtual

Conference: ISMAA 2021. Contributed Paper Session, Virtual

*Graph Theoretical Modeling of Fan Graphs in Self-Assembling DNA*

Students: Buldak, P., Sparks, J. Conference: JMM 2020. JMM Student Poster Session, Denver, CO.

*Optimal Tilings of Self-Assembling Bipartite Graphs*

Student: Redmon, Eric. Conference: JMM 2020. JMM Student Poster Session, Denver, CO.

**2020 ISMAA Outstanding Research Award**

*Modeling Fan Graphs in Self-Assembling DNA Using Graph Theory and Linear Algebra*

Students: Buldak, P., Sparks, J. Conference: MathFest 2019, MAA Student Paper Session. Cincinnati, OH.

*Using Graph Theory and Programming to Design Optimal Strategies for DNA Self-Assembly*

Student: Dellinger, K. Conference: MathFest 2019, PME Student Paper Session. Cincinnati, OH.

*Predictive Modeling and Analysis of Softball Using Linear Algebra-based Ranking Systems*

Student: Pettinato, M. Conference: MathFest 2019, PME Student Paper Session. Cincinnati, OH. **PME Distinguished Speaker Award**

*Design Strategies for Modeling Mongolian Tent Graphs Using DNA Self-Assembly*

Student: Hansen, J. Conferences:

2019 INL MAA Sectional Meeting, Indianapolis, IN

2019 WI MAA Sectional Meeting, Kenosha, WI

2019 IL MAA Sectional Meeting, Carbondale, IL. **Honorable Mention**

**ISMAA Outstanding Undergraduate Research Award**

*Using Graph theory to Design Optimal Strategies for DNA Self-Assembly*

Students: Soto, N., Merheb, S. Conference: 2019 WI MAA Sectional Meeting  
Kenosha, WI.

*Modeling Crossed-Prism Graphs in Self-Assembling DNA Using Graph Theory and  
Linear Algebra*

Student: Redmon, E. Conferences:

2019 MathFest, MAA Student Paper Session. Cincinnati, OH.

2019 IL MAA Sectional Meeting Carbondale, IL. **Honorable Mention**

**ISMAA Outstanding Undergraduate Research Award**

*Predictive Modeling and Analysis of Softball Using Linear Algebra-based Ranking  
Systems*

Students: Maupin, C., Pettinato, M. Conference: 2019 IL MAA Sectional  
Meeting Carbondale, IL.

*Design Strategies for Modeling Ladder-based Graphs Using DNA Self-Assembly*

Students: Hansen, J., Starkus, T. Conference: JMM 2019. JMM Student Poster  
Session, Baltimore, MD.

*Using Graph theory to Design Optimal Strategies for DNA Self-Assembly*

Students: Soto, N., Merheb, S. Conference: JMM 2019. JMM Student Poster  
Session, Baltimore, MD.

*Modeling Crossed-Prism Graphs and Petersen Graph Families in Self-Assembling DNA  
Using Graph Theory and Linear Algebra*

Student: Gernes, L., Redmon, E., Renzyl Cortes, A. Conference: JMM 2019.  
JMM Student Poster Session, Baltimore, MD.

*Graph Theoretical Design Strategies for Modeling Self-Assembling DNA*

Students: Stimpert C., Dondiego H. Conference: MathFest 2018, MAA Student  
Paper Session. Denver, CO.

*Predictive Modeling and Analysis of Golf Using the Massey Method*

Student: Gannon, K. Conference: MathFest 2018, MAA Student Paper Session.  
Denver, CO.



*Predictive Modeling and Analysis of Golf Using the Massey Method and Artificial Intelligence Part 1*

Student: Joutras, B. Conference: MathFest 2018, PME Student Paper Session.  
Denver, CO.

*Predictive Modeling and Analysis of Golf Using the Massey Method and Artificial Intelligence Part 2*

Student: Siwy, A. Conference: MathFest 2018, PME Student Paper Session.  
Denver, CO.

*Does Mastery-based Testing Help with Test Anxiety: A Preliminary Analysis of the Impact of MBT on Student Anxiety Levels*

Student: Klamerus, L. Conference: MathFest 2018, PME Student Paper Session.  
Denver, CO.

*Does Mastery-based Testing Encourage a Growth Mindset: A Preliminary Analysis of the Impact of MBT on the Growth Mindset and Attitudes of Students*

Student: Carlson, C. Conference: MathFest 2018, PME Student Paper Session.  
Denver, CO.

*Analyzing and Comparing the Impact of Mastery-based Testing to Traditional Testing in Mathematics Courses.*

Students: Carlson, C. and Klamerus L. Conference: 2018 IL-IN-MI-Tri-State  
MAA Sectional Meeting Valparaiso, IN.

*Comparing Mastery-Based and Traditional Assessment in Calculus II Courses.*

Students: Carlson, C. and Klamerus L. Conference: JMM 2018. JMM Student  
Poster Session, San Diego, CA. **Outstanding Poster Award.**

*Modeling DNA Self-Assembly Using Graph Theory, Linear Algebra, and Programming.*

Students: Stratton, Q., Dellinger, K. Conference: 2018 IL-IN-MI-Tri-State MAA  
Sectional Meeting Valparaiso, IN.

*Modeling DNA Self-Assembly Using Graph Theory.*

Students: Stratton, Q., Dellinger, K., and Merheb, S. Conference: JMM 2018,  
JMM Student Poster Session, San Diego, CA. **Outstanding Poster Award.**

*Using Artificial Intelligence and Linear Algebra Methods to Improve Predictive Modeling and Analysis of Sports Data.*

Students: Joutras, B. Siwy, A. Conference: 2018 IL-IN-MI-Tri-State MAA  
Sectional Meeting Valparaiso, IN.

*Graph Theoretical Design Strategies for Modeling Self-Assembling DNA.*

Student: Ray, H. Conference: 2018 IL-IN-MI-Tri-State MAA Sectional Meeting  
Valparaiso, IN.

*Predictive Modeling and Analysis of Golf Using the Massey Method.*

Student: Koronkiewicz, M. Conference: JMM 2018. JMM Student Poster  
Session, San Diego, CA.

*Predictive Modeling and Analysis of Softball Tournament Results Using Linear Algebra.*

Student: Maupin, C. Conference: JMM 2018. JMM Student Poster Session, San  
Diego, CA 2018.

Student: Maupin, C. Conference: MathFest 2017, MAA Student Paper Session.  
Chicago, IL.

*Comparing Assessment Techniques in Calculus II.*

Student: Malzone, A., Conference: MathFest 2016, Pi Mu Epsilon Student Paper  
Session. Columbus, OH.

*Determining Student Success and Persistence in Mathematics Courses.*

Student: Knight, M., Conference: MathFest 2016, MAA Student Paper Session.  
Columbus, OH.

*Determining the Success of a Mathematics Major.*

Student: Langeland, E., Conference: OurCS., Carnegie Mellon University,  
Pittsburgh, PA. 2015.

**Romeoville High School “We R Research” Seminar**

Mentored research presentations by Lewis University research students (A. Pearson, Q.  
Stratton & S. Merheb, C. Carlson & L. Klamerus, and C. Maupin) at Romeoville High  
School’s “We R Research Seminar

**Celebration of Scholarship Poster or Presentation Faculty Mentor (Lewis University)**

- *Statistical Analysis of High-Pressure Moments in Tennis and CounterStrike: Global Offensive*  
students: Campos-Chavez, H., deBolt, W., London, J.
- *Analyzing the Impact of Alternative Assessments and Growth Mindset* student: Sanchez, D.
- *Predictive Modeling for NHL Hockey Utilizing Markov Chains* students: Campos-Chavez, H.,  
deBolt, W., Mena, M., Prince, J. **Finalist for the Dr. Stephany Schlachter Excellence in  
Undergraduate Scholarship Award.**
- *A Markov Chain Model for Predicting College Basketball* -Student: Vesta, M.  
**Finalist for the Dr. Stephany Schlachter Excellence in Undergraduate Scholarship Award.**
- *Analysis of Passing Networks in Soccer* -Student: Laschober, J.

- *Exploration of the Collatz Conjecture* -Student: Biegel, N.
- *Is There a Better Handedness in Baseball?* Student: Fosen, E.
- *Using Graph theory to Design Optimal Strategies for DNA Self-Assembly* -Students: Soto, N., Merheb, S
- *The Artistic Side of Mathematics* -Student: Samoska, E.
- *Design Strategies for Modeling Ladder-based Graphs using DNA Self-Assembly* -Student: Hansen, J.
- *Predictive Modeling and Analysis of Sports Teams Using Linear Algebra* -Student: Gannon, K.
- *Modeling Crossed-Prism Graphs and Petersen Graph Families in Self-Assembling DNA Using Graph Theory and Linear Algebra* -Students: Gernes, L., Redmon, E., Renzyl Cortes, A.
- *Impact of Time-Restricted Feeding on Digestive Health* -Student: Maupin, C.
- *Using Artificial Intelligence and Linear Algebra Methods to Improve Predictive Modeling and Analysis of Sports Ranking Systems* -Students: Joutras, B. and Siwy, A.
- *Comparing the Impact of Mastery-based Testing to Traditional Testing in Mathematics Courses* -Students: Klamerus L. and Carlson C
- *Modeling DNA Self Assembly Using Graph Theory* -Students: Stratton, Q., Dellinger, K., Pearson, A., Merheb S.
- *Design in the World of Science* -Student: Pearson, A
- *Predictive Modeling and Analysis of Softball Tournament Results Using Linear Algebra* - Student: Maupin C.
- *Predictive Modeling and Analysis of Golf Teams Using Linear Algebra* -Students: Schultz, H., Buente, A., Koronkiewicz M.
- *A Suboptimal Algorithm to TSP in Polynomial Time* -Student: Onesto, J.
- *Seeing Calories and Food Through Mathematics* -Student: Garcia, J.
- *Latin Squares and Their Applications* -Student: Geier, E.
- *Explorations of the Stern-Brocot Tree* -Student: Stratton, Q.
- *The Math Behind Gerrymandering* -Student: Gillis, J.
- *Probability in Sports Wagering* -Student: Becker, K.
- *Determining the Success of a Mathematics Major* -Students: Groskreutz, D. Langland, E.
- *The Mathematics behind the SET Card Game* -Student: Smith, M. R.
- *Win Probability in MLB Games* -Student: Branchaw, N.
- *Mastermind and Variations* -Student: Smith, M. D.

**Undergraduate Mathematics Researcher,**

May 2006-July 2006: Hong Kong, China with The Colorado School of Mines

May 2005-August 2005: Taylor University Upland, Indiana

**MATHEMATICAL COMMUNITY SERVICE**

- **Southwest Chicago Math Teachers' Circle Leadership Team and Founding Member**, 2016-present.
- **Association of Colleges in the Chicago Area Mathematics Division Chair**, 2020, 2021
- **Service to Illinois Section of the MAA:**
  - Co-Chair for Program Committee 2021 ISMAA Conference, 2022 ISMAA Conference
  - Director for Private Colleges, 2019-2022,
  - Awards Committee 2019-2020
- **SIGMAA Sports:**
  - Chair-Elect, 2022; Chair, 2023; Past-Chair, 2024
  - Secretary-Treasurer, 2019-2021
  - Nominating Committee, 2018-2019
- **Math Alliance:** Faculty Mentor for Math Alliance Group, 2018, 2022
- **Louis Stokes Alliances for Minority Participation (LSAMP) Lewis University Co-faculty Coordinator**, 2018-now
- **MAA Great Talks Faculty Mentor**, MathFest 2019, 2018
- **MAA Mentoring Network: Mentor for Early Career Mathematicians**, 2019-now
- **MAA National Subcommittee on Assessment Member**, 2021-now
- **ACMS Mentor**, 2015-now
- **Project NExT**
  - **Faculty Support Group Mentor**, 2022-2023
  - **Discussion Facilitator**, MathFest 2017
  - **Fundraising Gold '14 Co-Coordinator**, Fall 2020
- **MAA Instructional Practices Guide Focus Group**, *invited to participate in the Mathematical Association of America's focus group to help create an instructional practices guide focused on mathematics instruction*
- **Joint Mathematics Meeting Undergraduate Poster Judge**, 2015, 2016, 2017, 2018, 2020, 2021, 2022

- **Young Mathematicians Conference Undergraduate Research Judge**, The Ohio State University, 2014, 2015, 2016, 2017
- **PRIMUS Reviewer**, reviews potential articles for the *Mathematics Journal*, *PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies)*
- **The Mathematics Enthusiast Reviewer**
- **INVOLVE Mathematics Reviewer**
- **Journal of Math Circles Reviewer**, reviews potential articles for the *Mathematics Journal*, *Journal of Math Circles*
- **CRC Press/Books Reviewer, 2022**
- **ACMS Graduate Student Mentoring Network**, created a mentoring system for graduate students who are a part of the Association of Christians in the Mathematical Sciences and serve as a mentor for ACMS graduate students
- **External Reviewer for Universities**

#### Workshops/Camps:

- 2021 MAA Mathfest Mini-course:** co-organized and ran MAA Mini-course, *Application Inspired Linear Algebra: Using Data in the Classroom*
- 2020 MAA Mini-course:** *Beyond Traditional Grading Schemes: Mastery Based Grading*  
MAA Virtual Programming, 2021
- 2019 Mathfest MAA Mini-course:** co-organized and ran MAA Mini-course, *Beyond Traditional Grading Schemes: Mastery Based Grading*
- 2019 NIBLT Conference Workshop:** co-organized and ran workshop, *New to Mastery Grading*
- 2019 Joint Mathematics Meeting MAA Mini-course:** co-organized and ran MAA Mini-course, *Using Data Applications to Inspire Linear Algebra Topics in the Classroom*
- 2018 Win, Lose or Draw Workshop,** organized and ran a free workshop for Lewis Mathematics faculty and adjuncts to help them prepare to teach a new general education mathematics course, Lewis University July 17, 2018
- 2018 Mathematics Camp,** received funds to run a free math camp for 7<sup>th</sup>-10<sup>th</sup> graders, Lewis University, July 9-12, 2018
- Math Teachers' Circle Workshop,** Organized and ran free Math Teachers' 1-day August Workshop, University of St. Francis, 2017

**2016 Mathematics and Design Camp**, *Organized and ran free math camp for 7<sup>th</sup>-10<sup>th</sup> graders*, Lewis University, July 11-14, 2016

**Math Teachers' Circle Workshop**, *Organized and ran free Math Teachers' 3-day Immersion Workshop*, Trinity Christian College, 2016

**IMSA Math Camp**, *ran math camp sessions on "Patterns and the Fibonacci Sequence,"* Illinois Mathematics and Science Academy, Aurora, IL, July 25-29, 2016

**ACMS Graduate Student Workshop on "How to get a Job"**, *developed and ran a graduate student workshop along with nine other faculty. We ran 4 sessions: "The Application," "Pre-Campus Interviews," "The On-Campus Interview," and a panel session, presented two of the sessions at the conference.* Redeemer University College, Canada, May 2015,

Ran a condense version of this at the ACMS 2019 conference at Indiana Wesleyan University, Marion, IN 2019

#### **Events Organized:**

***ACCA Math Talks, Fall 2020, Spring 2021, Fall 2021***

Organized the annual ACCA Math Talks and served as chair of the Math Division of ACCA, the Association of Colleges in the Chicago Area

***Noyce, PUMA STEM Growth Mindset Workshop, Spring 2021***

***PUMA STEM Faculty Mentor Workshop, 2021, 2022***

***Formative Assessment Techniques for Undergraduate Math Courses***

Organized and Moderated Themed Contributed Paper Session at MAA MathFest 2016, Columbus, OH, August 2016

***Scholarship of Teaching and Learning: What is it and how does one do it?***

Moderated and organized the Project NExT Panel Session during the National Joint Mathematical Meetings, San Antonio, TX. January 2015

***Northern Illinois NCWIT Aspirations in Computing Award Ceremony***

Helped organize and host the 2016 Award Ceremony at Lewis University

<https://www.aspirations.org/>

#### **UNIVERSITY SERVICE**

**SURE grant Reviewer:** 2019, 2023

**Voting Committee Member:** CoAST EPC 2019-2021, Chair 2020-2021

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- Voting Committee Member:** UAAC EPC/CUACC Representative 2021
- Voting Committee Member:** CoAST Faculty Affairs, 2019-2021
- Voting Committee Member:** Undergraduate Academic Affairs. 2021
- Voting Committee Member:** Graduate Council, 2017-2020
- Voting Committee Member:** Educational Policy Committee, 2015-2018
- Chair Committee Member:** Chair of the Math Search Committee, 2016, 2017, 2020, 2022
- Chair UAAC Sub-Committee Member:** Chair of the Math Review Sub-committee, 2019
- General Education Subcommittee Member:** 2017-2019, 2022-present
- Committee Member:** Data Science Faculty Search Committee, 2023
- Committee Member:** Aviation Faculty Search Committee, 2018
- Committee Member:** College of Arts and Sciences Assessment Committee, 2016-2018
- Committee Member:** Library Advisory Board, 2015-2017
- Steering Committee Member:** Noyce Scholarship Grant, 2015-present
- Committee Member:** Gender Equity Committee, 2014-present
- Assigned Committee Member:** Educational Policy Committee, 2014-2015
- Committee Member:** Math Search Committee, 2014-2015
- Committee Member:** Library Search Committee, 2015
- Lasallian Scholarship Interviewers,** 2016, 2017, 2018, 2019, 2020, 2021
- SOAR advising,** 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- Campus Visit Days,** 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022,
- May Institute**
- 2018: General Education Application Workshop*
- Arts and Sciences Day**
- 2017: Fun with Gen Ed Applications*
- 2016: Incorporating Experiential Learning in Classes and Programs*
- Math Strategic Planning Taskforce:** *Part of taskforce to create strategic plan for math side of CaMS department with Br. Tom Dupre and Margaret Juraco, 2016*
- Math Assessment Taskforce:** *Helped with the Math Department's Assessment process along with Brother Tom Dupre and Dr. David Deitemyer, 2015*
- Rotation of Math Courses Taskforce:** *put together a plan for the rotation of math courses, 2015*
- NCWIT Member Representative:** *Served as one of the NCWIT Member Representative for Lewis University (<http://www.ncwit.org/alliances/members/45>), was the leader of the taskforce that focused on the recruitment of women to Lewis' computer science and*



*computer engineering programs. I successfully initiated a Lewis Scholarship for NCWIT Aspiration Winners. 2015-2017*

**Faculty Advisor for Lewis Math Club:** *helped organize several academic talks including talks about game theory, the mathematics behind poverty, the mathematics behind mastermind, the mathematics behind poker, and a math careers panel; planned events like Poker Nights, Movie Nights, and Game Nights, 2015-2019*

## STUDENT SERVICE

**Spring 2019 ACCA Math Talks and Pi Mu Epsilon Induction,** Elmhurst, IL April 2017

*(brought 5 students 4 were inducted into PME)*

**Fall 2018 ACCA Math Talks and Pi Mu Epsilon Induction,** Elmhurst, IL Oct 2017 (brought 8 students 6 who were inducted into PME)

**Spring 2018 ACCA Math Talks and Pi Mu Epsilon Induction,** Elmhurst, IL March 2017  
*(brought 5 students 1 was inducted into PME)*

**Fall 2017 ACCA Math Talks and Pi Mu Epsilon Induction,** Elmhurst, IL Oct 2017 (brought 8 students who were all inducted into PME)

**Fall 2016 ACCA Math Talks and Pi Mu Epsilon Induction,** Chicago, IL Oct 2015 (brought 4 students and all were inducted into PME)

**Fall 2015 ACCA Math Talks and Pi Mu Epsilon Induction,** Lisle, IL Oct 2015 (brought 5 students and all were inducted into PME)

**We R Research Seminar,** Romeoville High School, Romeoville, IL (attended and had 4 groups of student researchers present the research they did under my guidance)

[Fifty for the Future Awards Ceremony](#), attended as one of the two department representatives, helped arrange travel for students, Chicago, IL 2018

## COMMUNITY SERVICE

**DataSail,** *helped organize and judge Datathon, mentored student research projects. 2016*

**Southwest Chicago Math Teachers' Circle.** *helped organize, plan, and run MTC meetings as part of the leadership team*

**NCWIT ASPIRATIONS AWARD CEREMONY,** *Helped organize and run the 2016 Aspirations Award Ceremony held at Lewis University, volunteered at 2015 Award Ceremony.*

**Girls Create with Technology,** *ran a Maker Lab Session for Girls Create with Technology.*

**C.A.T.S (Computer and Technology Scholars),** *worked with female students in grades 5th through 8th at Saint Mary Immaculate Catholic Elementary in Plainfield. This*



*club was developed to encourage young women to consider computer programming as career since there is such a shortage of women in this field. The club teaches the girls basic programming skills. This club is conducted at no cost to the students.*

**Math Club Canned Food Drive**, raised \$120 and over 70 cans of food which was donated to the Northern Illinois Food Pantry.

**Mentor and Calculus Study Table Leader for IUPUI's UWIS** (Undergraduate Women In Science) (2013-2014)

**Active member of Open Door Church's Refugee Ministry**, (Lexington, KY )

**Assistant Coach** for Sayre Middle School's Girls Soccer Team (Lexington, KY) (2008, 2009)

**East Allen County School Gifted and Talented (G/T) Program Intervention Participant**,  
Community service work with elementary math students, (2004-6)

**Volunteer for Habitat for Humanity** 2007-2009 (New Orleans, LA & Lexington, KY)

## DEVELOPMENT OF NEW COURSES/PROGRAMS

**Solving with Sherlock**, a new interdisciplinary seminar for Lewis' general education plan

**Applied Combinatorics and Graph Theory**, a new math elective course

**Senior Seminar**, new math capstone course

**Math Bash**, a yearly session on careers in mathematics, and advice about navigating the Lewis Math Major or Minor

**Applied Linear Algebra**, created and taught a new course in linear algebra that focuses on the applications of linear algebra

**Online Developer for Applied Linear Algebra**, created and developed an online version of our Applied Linear Algebra course

**Real Analysis II**, second course in the Real Analysis sequence

**Fall Math Majors and Minor Retreat**, a yearly retreat for math majors

**Math/CaMS Study Tables**, a place where students can get free math/CaMS tutoring from majors  
**ACCA Calculus Competition Training Sessions**, to prepare students for the calculus competition in the spring

**WebWork Online Homework Packets for Applied Linear Algebra**. Created a semester's worth of Applied Linear Algebra Online Homework

**WebAssign Online Homework Packets for Calculus II**. Created a semester's worth of Calculus II Online Homework

**WebAssign Online Homework Packets for Calculus III.** Created a semester's worth of Calculus III Online Homework

**Linear Algebra Online Homework Packets for Applied Linear Algebra.** Created a semester's worth of Applied Linear Algebra Online Homework

**Maple Projects for Calculus III,** created several Maple Projects to help Calculus III students visualize 3-space applications.

#### CONFERENCES/WORKSHOPS ATTENDED

**ISMAA 2023,** Glen Ellyn, IL, March 2023

**JMM 2023,** Boston, MA, January 2023

**Canadian Mathematical Society Winter Meeting,** Toronto, ON, Canada, December 2022

**Mathfest 2022,** Philadelphia, PA, August 2022

**ACMS 2022,** Azusa, CA, May 2022

**JMM 2022,** Virtual, April 2022

**ISMAA 2022,** Virtual, Millikin University, March 2022

**CURM Faculty Research Mentor Workshop,** Virtual, May 2022

**Creating a Better Summer Experience: A DEI Workshop for REU Directors and Faculty Mentors,** Virtual, May 2022

**ISMAA 2021,** Virtual, March 2021

**Just Equations, The Mathematics of Opportunity: Advancing Social Justice through Math Education,** Virtual, February 2021

**Mathematical and Computational Approaches to Social Justice Workshop,** Virtual, March 2021

**JMM 2021,** Virtual, January 2021

**2020 Midwest Sports Analytics Conference,** Virtual, November 2020

**INMAA 2020,** Virtual, October 2020

**JMM 2020,** Denver, CO, January 2020

**MAA Mathfest 2019,** Cincinnati, OH, August 2019

**National Inquiry-based Learning and Teaching Conference,** Denver, CO, June 2019

**Association of Christians in the Mathematical Sciences Conference,** Marion, IN, May 2019

**WIMAA,** Kenosha, WI, April 2019

**INMAA,** Indianapolis, IN, April 2019

**ISMAA,** Carbondale, IL, March 2019

**NSF funded workshop, National Pedagogical Initiatives on Linear Algebra,** University of Oklahoma, OK, October 2018

**MAA Mathfest 2018**, Denver, CO, August 2018  
**May Institute 2018**, Lewis University, Romeoville, IL May 2018  
**MAA Webinar: Collaborations with Partner Disciplines**, Online, May 2018  
**2018 MAA IL-IN-MI Tri-State Sectional Meeting**, Valparaiso, IN, March 2018  
**Spring 2018 ACCA Math Talks and Pi Mu Epsilon Induction**, Elmhurst, IL March 2018  
**The Joint Mathematical Meetings 2018**, San Diego, CA, January 2018  
**2017 ACCA Scholarship of Pedagogy Symposium**, University of St. Francis, Joliet, IL, Nov. 2017  
**Fall 2017 ACCA Math Talks and Pi Mu Epsilon Induction**, Elmhurst, IL Oct 2017  
**Annual ACCA Dinner and Divisional Meetings**, Concordia University, River Forest, IL, Oct 2017  
**MAA MathFest 2017**, Chicago, IL. July 2017  
**2017 PKAL STEM Leadership Institute**, Adamstown, MD. July 2017  
**Research Experiences for Undergraduate Faculty (REUF) Workshop**, ICERM, Providence RI. June 2017  
**PIC Math Data Analytics Workshop**, Salt Lake City, UT. May 2017  
**May Institute 2017**, Lewis University, May 2017  
**PUMA-STEM Retention and Recruitment Workshop**, Elmhurst, IL May 2017  
**Illinois MAA Sectional Meeting 2017**, Glen Ellyn, IL. March 2017  
**The Joint Mathematical Meetings 2017**, Atlanta, GA, January 2017  
**2016 Original Lilly Conference on College Teaching**, Oxford, OH, Nov 2016  
**2016 ACCA Scholarship of Pedagogy Symposium**, University of St. Francis, Joliet, IL, Nov. 2016  
**Indiana MAA Fall Sectional Meeting**, Purdue University, West Lafayette, IN, Oct 2016  
**MAA MathFest 2016**, Columbus, OH, August 2016  
**19th Legacy of RL Moore Conference**, Columbus OH, August 2016  
**Inquiry Based Learning (IBL) Workshop 2016**, San Luis Obispo, CA, June 2016  
**NCWIT Summit 2016**, Las Vegas, Nevada, May 2016  
**Indiana MAA Spring Sectional Meeting**, Franklin College, Franklin, IN, March 2016  
**19<sup>th</sup> Annual Conference on Research in Undergraduate Mathematics Education (RUME)**, Pittsburgh, PA, February 2016  
**MPWR Seminar (Mentoring & Partnerships for Women in RUME)**, Pittsburgh, PA, February 2016  
**The Joint Mathematical Meetings 2016**, Seattle, WA, January 2016  
**Chicago Math Teachers Circle**, Loyola University, Chicago, IL, 2015-2016 (monthly)  
**2015 ACCA Scholarship of Pedagogy Symposium**, Elmhurst College, Elmhurst, IL, Nov. 2015  
**Indiana MAA Fall Sectional Meeting**, Purdue North Central, Westville, IN, Oct 2015

**Annual ACCA Dinner and Divisional Meetings**, Concordia University, River Forest, IL, Oct 2015  
**Field Museum Women in Science Mixer**, Chicago, IL, Oct 2015  
**The Fall 2015 ACCA Math Talks**, Benedictine University, Lisle, IL, Oct 2015  
**MAA MathFest 2015**, Washington DC, August 2015  
**Grant Training Center's Writing & Designing NSF Proposals Workshop**, UIC, July 2015  
**Illinois Colleges Grant Development Conference**, Lewis University, June 2015  
**20<sup>th</sup> Biennial Conference of the Association of Christians in the Mathematical Sciences**,  
Redeemer University College, Canada, May 2015  
**NCWIT Summit 2015**, Hilton Head, South Carolina, May 2015  
**Illinois MAA Sectional Meeting**, NIU, Dekalb, IL, March 2015  
**Indiana MAA Sectional Meeting**, Taylor University, Upland, IN, March 2015  
**The Joint Mathematical Meetings 2015**, San Antonio, TX, January 2015  
**2014 ACCA Scholarship of Pedagogy Symposium**, Elmhurst College, Elmhurst, IL, Nov. 2014  
**University of Illinois at Chicago's Undergraduate Mathematics Symposium**, Chicago, IL,  
October 2014  
**Annual ACCA Dinner and Divisional Meetings**, North Park University, Chicago, IL, Oct 2014  
**Project NExT Workshop**, Portland, OR, August 2014  
**MAA MathFest 2014**, Portland OR, August 2014  
**MAA Indiana Fall Sectional Meeting**, Evansville, IN, October 2013  
**AMS Fall Central Sectional Meeting**, St. Louis, MO, October 2013  
**MAA MathFest 2013**, Hartford, Connecticut, August 2013  
**19th ACMS Biennial Conference**, Bethel University, St. Paul, Minnesota, May 2013  
**NCGOA 2013** (The Eleventh Annual Spring Institute on Noncommutative Geometry and  
Operator Algebras), Vanderbilt University, Nashville, TN, May 2013  
**MAA Indiana Spring Sectional Meeting**, IU East, Richmond, IN, March 2013  
**The Joint Mathematical Meetings 2013**, San Diego, CA, January 2013  
**GPOTS 2012** (Great Plains Operator Theory Symposium), University of Houston, May 2012  
**Annual Wabash Extramural Modern Analysis Mini Conference**, Oct 2011, 2012, Sept 2013  
**The Wabash Extramural Modern Analysis Seminar**, meets quarterly, Wabash College, 2011-4

## OTHER PROFESSIONAL ACTIVITIES

### MOOCS Completed:

*Practical Learning Analytics* (edX), University of Michigan, Summer 2016

*Practical Learning Analytics* has a specific goal: to help us collectively ponder learning analytics in a concrete way. To keep it practical, we will focus on using traditional student record data, the kinds of data every campus already has. To make it interesting, we will address questions raised by an array of different stakeholders, including campus leaders, faculty, staff, and especially students. To provide analytic teeth, each analysis we discuss will be supported by both realistic data and sample code.

*Machine Learning* (Coursera), Stanford University, Fall 2015

This course is a broad introduction to machine learning, datamining, and statistical pattern recognition. Topics include supervised learning (parametric/non-parametric algorithms, support vector machines, kernels, neural networks), unsupervised learning (clustering, dimensionality reduction, recommender systems, deep learning), and best practices in machine learning (bias/variance theory; innovation process in machine learning and AI). This course applies these techniques to application like building smart robots, text understanding (web search, anti-spam), computer vision, medical informatics, audio, database mining, and other areas.

*Applications of Linear Algebra Part 2* (edX), Davidson College, Spring 2015

Explore applications of linear algebra in the field of data mining by learning fundamentals of search engines, clustering movies into genres and of computer graphics by posterizing an image.

*Applications of Linear Algebra Part 1* (edX), Davidson College, Spring 2015

Learn to use linear algebra in computer graphics by making images disappear in an animation or creating a mosaic or fractal and in data mining to measure similarities between movies, songs, or friends.

## MEMBERSHIPS

**RUME SIGMAA** (Research in Undergraduate Mathematics Education MAA Special interest group), 2015- present

**SPORTS SIGMAA**, 2017-present

**Math Circles SIGMAA**, 2015-present

**UR SIGMAA** (Undergraduate Research MAA Special interest group), 2015- 2018

**Lewis DataSail**, 2015-2017

**Southwest Chicago Math Teachers' Circle**, 2016-present, also on leadership team

**Chicago Math Teachers Circle**, 2015-present

**Field Museum Women in Science**, 2015-present

**REUF**, 2017-present

**MAA** (Mathematical Association of America), 2014-present

**AMS** (American Mathematics Society), 2014-present

**ACMS** (Association of Christians in the Mathematical Sciences), 2014-present

**AWM** (Association for Women in Mathematics), 2014-2016, 2018

**NCWIT** (National Center for Women in Technology), 2015-present

**Kappa Mu Epsilon**, Lewis University Chapter, 2015-present

**Pi Mu Epsilon**, ACCA Chapter, 2015-present

**MAA Project NExT**, 2014-present

**IUPUI's Student AMS Chapter**, 2014

**ACMS Graduate Student Mentoring Network**, organizer and mentor, 2015-present

**MAA Mentoring Network** (as a mentor), 2019-present

**MAA Mentoring Network** (as a mentee), 2014

**IBL Mentoring Network** (as a mentee), 2016

**AWM Mentoring Network** (as a mentee), 2014

## **TECHNICAL SKILLS**

**Languages:** C++, LATEX, HTML, R Statistics

**Applications:** Echo Smartpens, MatLab, Maple, Mathematica, Octave

**Classroom Platforms:** Oncourse, Moodle, Blackboard, MyMathLab, Webassign, Webwork

**CITI Training, ALICE Training**

## **LANGUAGE SKILLS**

**Spanish:** Moderate speaking, reading, and writing proficiency

**French:** Moderate reading proficiency

**References on next page.**

## REFERENCES

### Lewis References:

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