CONTACT INFORMATION

Professor of Mathematics
Director of Mathematics
Lewis University
Dept. of Computer & Mathematical Sciences
One University Parkway, Unit #298
Romeoville, IL 60446-2200, USA

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Blogs: http://mbtmath.wordpress.com
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 Sn
Advisor: Dr. Edgar Enochs

B.A. in Mathematics, Coaching Certificate, Taylor University, Upland, IN; May 2007
Honors: Magna Cum Laude

EMPLOYMENT

Professor of Mathematics, Lewis University, Romeoville, IL, 2024-Present

Associate Professor of Mathematics, Lewis University, Romeoville, IL, 2014-2024

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

Summer@ICERM Faculty Organizer, Brown University, Providence, RI, 2024

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 & MANUSCRIPTS

Johnson, C., Sorrells, J. & Harsy, A. Optimal tile-based self-assembly of DNA dipyramids and trapezohedrons. Res Math Sci 12, 25 (2025). https://doi.org/10.1007/s40687-025-00514-w

Brown, J., Bu, Y., Cheesman, Z., Orman, B., Horng, I., Thomas, S., Harsy, A. & Schultze, A., (2025) "Predictive Modeling of Lower-Level English Club Soccer Using Crowd-Sourced Player Valuations", Maths and Sports 7(1).

Almodóvar, L., Ellis-Monaghan, J., Harsy, A., Johnson, C., & Sorrells, J. (2024). Computational complexity and pragmatic solutions for flexible tile based DNA self-assembly. *Natural Computing*, 1-22.

Harsy, A,. Hoofnagle, A., Campos-Chavez*, H., deBolt, W. (2024) "Using Markov chains in predictive modeling of sports," *Springer Nature Handbook of Visual, Experimental and Computational Mathematics - Bridges through Data.*

Harsy, A., & Smith, M. (2024). An Application Approach to Teaching Linear Algebra. *PRIMUS*, 1–20. https://doi.org/10.1080/10511970.2024.2361376

Almodóvar, L., Harsy, A., Johnson, C., Sorrells, J. (2024) "Graph Theoretical Modeling of Tile-Based DNA Self-Assembly," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*.. Classroom Resources Series, Volume: 72. American Mathematical Society

Harsy, A., Smith, M. (2024) "Get in the Game with Linear Algebra," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*. Classroom Resources Series, Volume: 72. American Mathematical Society

Harsy, A., Wielgos, C. (2024) "Solving with Sherlock," Book Chapter for *Cross-Curricular Applications for Pure Mathematics Courses*.. Classroom Resources Series, Volume: 72. American Mathematical Society

Harsy, A. (2024) "Using Oral Exams to Assess Conceptual Understanding in Proof Writing Courses" Book Chapter *Effective Alternative Assessment Practices in Higher Education.* Information Age Publishing

Harsy, A., Sulyok, C.J., Wielgos, C. (2024). Solving with Sherlock. In: Dobson, S. (eds) Women in MathArt. Association for Women in Mathematics Series, vol 34. Springer, Cham. https://doi.org/10.1007/978-3-031-66402-1_17

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

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/ijsotl.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 36th 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

*Denotes undergraduate student co-author

AWARDS, FELLOWSHIPS, & GRANTS

Awards:

Lewis University Outstanding Scholar Award, 2025

Lewis University Project Completion Award: 2023, 2025

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 2026, Funding to run summer REU at Brown University

Summer@ICERM 2024, Funding to run summer REU at Brown University

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

Professor of Mathematics, Lewis University:

Win, Lose or Draw: Spring 2023

Calculus I: Fall 2014

Calculus II: Fall ’24, ‘23, ’22, ‘20 ’19 ’18, ‘17, ‘16, ‘15; Spring ‘21,’18,‘17 (2 sections), ‘16 (2 sections), ‘15 (2 sections)

Calculus III: Fall ’24, ‘23, ’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 2014-2024

Real Analysis II: Spring 2020, 2018

Senior Seminar: Fall ’23, ’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.

Implementing Grading for Growth in Your Classroom

Invited Co-Presenter for the MAA Special Session on Assessment Practices that Support Equity and Inclusion, JMM, Seattle, WA 2025

Analyzing the Impact of Alternate Assessment in Mathematics Courses

Invited Co-Presenter for the MAA Special Session on Assessment Practices that Support Equity and Inclusion, JMM, Seattle, WA 2025

An Application Approach to Teaching Linear Algebra

Invited Co-Presenter for the Linear Algebra Education in a Modern World, 2024 SIAM Conference in Linear Algebra, Paris, France, 2024

Get in the Game with Linear Algebra!

Invited Speaker for the "MAA Invited Paper Session "When are we going to use this?": Interdisciplinary Projects in Pure Math Courses," MathFest 2024

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

Benefits and Challenges of Mentoring Students in Data-Driven Sports Analytics Research

Invited Speaker for the SIGMAA on Undergraduate Research Special Session on Navigating the Benefits and Challenges of Mentoring Students in Data-Driven Undergraduate Research Projects, Joint Mathematics Meeting 2024, San Francisco

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.

Invited Panelist for the MAA Project NExT pre-conference workshop "Supporting Students In and Out of the Classroom"

Invited Panelist for the 2024 Project NExT panel at the 2024 MAA Mathfest Conference, Indianapolis, IN.

Building a Community of Support In and Out of the Classroom

Invited Panelist for the 2024 Project NExT panel at the 2024 MAA Mathfest Conference, Indianapolis, IN.

Inspiring Stories: How an Academic Rejection Led to Something Amazing

Invited Speaker for Inspiring Stories Session, Joint Mathematics Meetings, Jan 2024

TPSE Panel on Grading for Active Learning & Department Change

Invited presenter and panelist at the TPSE Panel on Grading for Active Learning & Department Change, 2024 Joint Mathematics Meetings, January 2024, San Francisco

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.

May Institute UPSC session #2: Mentoring Your Faculty for P&T.

Invited panelist for UPSC May Institute, Lewis University, May 2024

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 1st 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

Running the Summer@ICERM Program

ACMS 2024 Conference, Sioux City, IA, 2024

Implementing Grading for Growth in Your Classroom

Joint presentation with A. Schultze and E. Oldaker. JMM 2025 Invited Lecture Presentation in MAA Special Session on Assessment Practices that Support Equity and Inclusion

Get in the Game with Linear Algebra!

Mathfest 2024 Invited Lecture Presentation in MAA Invited Session "When are we going to use this?": Interdisciplinary Projects in Pure Math Courses

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 Kathrynee Skonicki, Lewis University, Romeoville, IL, March 2015. 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 Sn

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

2024 Buck, K. .*Multi-Dimensional Graphs Modeling Self-Assembling DNA Nanostructures* **MAA Outstanding Poster Award**

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**

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, 2024

Philiffe Tebalan (2024), 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, 2024

Rawdah Abdullah (2024), 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,

Summer@ICERM Research Mentor 2023

Ashworth, J., Grossman, L., Navarro, F., Anderson, T., Greinke, O., Nazhar, I. Santori, L, Buck, K. Jacobs, C., Julian, A., Baek, L., Bove, E., Cho, M., Zhang, X., Bielefeldt, G., Horng, I., Luebsen, H., VonEschen, M.

Summer@ICERM Research Mentor 2024

Adler, M., Brown, J., Bu, Y., Cheesman, Z., McDill, F., Ng, T., Orman, B., Paz, W.

Math/Math Education Research Faculty Mentor 2015-present

Danielle Murphy, Evan Burns, Ryan Syed, Philiffe Tebalan, 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

Graph Theoretical Modeling of Self-Assembling DNA of the Double Cone Graph
Students: Burns, E, Tebalan, P.
Mathfest 2024, Indianapolis, IN

Multi-Dimensional Graphs Modeling Self-Assembling DNA Nanostructures
Student: Buck, K.
Mathfest 2024, Indianapolis, IN

Optimal Tile-Based Self-Assembly of DNA Using Graph Theory
Student: Abdullah, R.
Mathfest 2024, Indianapolis, IN

Algorithmic Generation of DNA Self-Assembly Structures
Students: Ashworth, J., Grossman, L., Navarro, F.
Joint Mathematics Meeting 2024, San Francisco, CA

Optimal Constructions for Low-Order Graphs With Self-Assembling DNA
Students: Anderson, T., Greinke, O., Nazhar, I. Santori, L.
Joint Mathematics Meeting 2024, San Francisco, CA

Construction Strategies for Modeling Lattice and Prism Graphs with Self Assembling DNA
Students: Nazhar, I. Santori, L., Anderson, T., Greinke, O.
Joint Mathematics Meeting 2024, San Francisco, CA

Multi-Dimensional Graphs Modeling Self-Assembling DNA Nanostructures
Students: Buck, K. Jacobs, C., Julian, A.
Joint Mathematics Meeting 2024, San Francisco, CA

Optimal Constructions for DNA Self-Assembly of k-Regular Graphs

Students: Baek, L., Bove, E., Cho, M., Zhang, X.

Joint Mathematics Meeting 2024, San Francisco, CA

Algorithmic Generation of DNA Self-Assembly Graphs

Students: Bielefeldt, G., Horng, I., Luebsen, H., VonEschen, M.

Joint Mathematics Meeting 2024, San Francisco, CA

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: Langland, 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)

- *Graph Theoretical Modeling of Self-Assembling DNA of the Double Cone Graph*
  Students: Burns, E. and Tebalan, P.
- *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 and 2024; Past-Chair, 2024 and 2025
  - Secretary-Treasurer, 2019-2021
  - Nominating Committee, 2018-2019
- **MAA National Subcommittee on Assessment Chair,** 2024-present
- **ACMS Board Member**, 2024-present
- **Louis Stokes Alliances for Minority Participation (LSAMP) Lewis University Co-faculty Coordinator**, 2018-present
- **MAA Great Talks Faculty Mentor,** MathFest 2019, 2018
- **MAA Mentoring Network: Mentor for Early Career Mathematicians,** 2019-present
- **MAA National Subcommittee on Assessment Member,** 2021-present
- **ACMS Mentor,** 2015-present
- **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

- **Banff International Research Station Reviewer,** Reviewed proposals as part of the equity, diversity and inclusion (EDI) advisory board that operates in parallel to and in coordination with the scientific advisory board
- ***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:

2024 ACMS Early Career Pre-Conference Workshop: co-organized and ran multiple day workshop for the ACMS, 2024

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^{th}-10^{th} 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^{th}-10^{th} 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:

Sports SIGMAA Business Meeting and Invited Talk, MathFest 2024, 2023

Sports SIGMAA Paper Session, MathFest 2024

Sports SIGMAA Business Meeting and Invited Talk, MathFest 2024

Panel: How Are You Effectively Placing Students in Their First Math Course and Supporting Students in their Placements?

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, 2023, 2024

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, 2024

Voting Committee Member: CoAST EPC 2019-2021, 2023-26, Chair 2020-2021

Voting Committee Member: UAAC EPC/CUACC Representative 2021, 2023, 2024

Voting Committee Member: CoAST Professional Status Committee, 2024-2027

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

ACMS 2024, Dordt University, Sioux City, IA, May 2024

SIAM Conference on Applied Linear Algebra, Paris, France, May 2024

Critical Issues in Mathematics Education 2024: Bringing Innovation to Scale: Teaching-Focused Faculty as Change Agents, Berkley, CA, April 2024

JMM 2024, San Franscisco, Jan 2024

Mathfest 2023, Tampa, FL, August 2023

2023 Open MAA Math Workshop on Using CalcPlot3D and 3D printing for Teaching Calculus III, virtual

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

19th 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

20th 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

ILAS (International Linear Algebra Society)

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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