Matt Thomas

Statistical Consultant ❖ Cornell Statistical Consulting Unit ❖ Cornell University
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EDUCATION

Ph.D., Mathematics August 2013
University of Arizona

- Dissertation title: Analyzing Conceptual Gains in Introductory Calculus with Interactively-Engaged Teaching Styles
- Specialization: Mathematics Education
- Advisors: Guadalupe Lozano and Deborah Hughes Hallett
- Minor: Teaching and Teacher Education

M.S., Mathematics December 2009
University of Arizona

- Thesis title: Approximation of the Dispersionless Toda Lattice by Toeplitz Operators
- Advisor: Hermann Flaschka

B.A., Mathematics May 2006
Cornell University

EXPERIENCE

Cornell University 2022 - present
Statistical Consultant Cornell Statistical Consulting Unit

Ithaca College 2020 - 2022
Associate Professor Department of Mathematics

Ithaca College 2014 - 2020
Assistant Professor Department of Mathematics

Cornell University Summer 2017, Summer 2018
Visiting Scholar Department of Mathematics

University of Central Arkansas 2013 - 2014
Assistant Professor Department of Mathematics

University of Arizona 2011 - 2013
Research Assistant for Nicole Kersting
Department of Teaching, Learning & Sociocultural Studies

University of Arizona 2006 - 2013
Teaching Assistant Department of Mathematics

PUBLICATIONS

PEER REVIEWED JOURNAL ARTICLES

Mirin, B. H., **Thomas, M.**, Smith, M. K., Pratiwi, A. R., Imron, M. A., Semedi, P., Firdaus, F. I., & Klinck, H. (2025). The Price of Beauty: Assessing an environmental education program about traded songbirds in Indonesia. Environmental Education Research, 1–33, DOI: 10.1080/13504622.2025.2593363

Lu, Y., Rutt, J. L., **Thomas, M.**, & Löckenhoff, C. E. (2025). Modeling temporal self-continuity and its association with temporal discounting. Personality and Individual Differences, 246, 113354, DOI: 10.1016/j.paid.2025.113354

Longchamps, L., Lanza, P., Yore, A., McElwee, A., Chan Fu Wei, M., Panneton, B., Buckley, D. H., Lachgar, A., & **Thomas, M.** (2025). Strengthening farmer-led experiments through agronomic and causal inference frameworks. Agronomy Journal, 117(6), DOI: 10.1002/agj2.70263

Silva, M. L., Walwema, J., & **Thomas, M.** (2025). Cruel and Usual: The Psychological and Financial Cost of SETs. Journal of the Scholarship of Teaching and Learning, 25(2), DOI: 10.14434/josotl.v25i2.36729

Peebles, C. & **Thomas, M.** (2021). Using stylistic features to predict the composition date of an American contra dance. Journal of Mathematics & The Arts, DOI: 10.1080/17513472.2021.1926780

Lockwood, E., DeJarnette, A., & **Thomas, M.** (2019). Computing as a Mathematical Disciplinary Practice. Journal of Mathematical Behavior, DOI: 10.1016/j.jmathb.2019.01.004

Gleason, J., Bagley, S., **Thomas, M.**, Rice, L., & White, D. (2018). The Calculus Concept Inventory: A psychometric analysis and implications for use. International Journal of Mathematical Education in Science and Technology, 50:6, 825-838, DOI:10.1080/0020739X.2018.1538466

Weinberg, A., & **Thomas, M.** (2018). Student Learning and Sense-Making from Video Lectures. International Journal of Mathematical Education in Science and Technology, 49(6), 922-943, DOI: 10.1080/0020739X.2018.1426794

Schoenle, L., & **Thomas, M.** (2017). Solving Hardy-Weinberg with geometry: An integration of biology and math. The American Biology Teacher, 79(4), 309-312, DOI: 10.1525/abt.2017.79.4.309

Code, W., Merchant, S., Maciejewski, W., **Thomas, M.**, & Lo, J. (2016). The Mathematics Attitudes and Perceptions Survey: An instrument to assess expert-like views and dispositions among undergraduate mathematics students. International Journal of Mathematical Education in Science and Technology, 47(6), 917-937, DOI: 10.1080/0020739X.2015.1133854

PEER REVIEWED PRESENTED PAPERS

Weinberg, A., Tornai, J., **Thomas, M.**, Martin, J., Tallman, M., & Newman, K. (2019). Identifying students' attentive fidelity for calculus instructional videos. Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO: The University of Missouri.

Weinberg, A., Martin, J, **Thomas, M.**, & Tallman, M. (2018). Failing to rewind: Students' learning from instructional videos. Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Greenville, SC.

Weinberg, A., Martin, J., **Thomas, M.**, Tallman, M. (2018). Investigating Student Learning and Sense-Making from Instructional Calculus Videos. Proceedings of the Twenty-first Annual Conference on Research in Undergraduate Mathematics Education. San Diego, CA.

Thomas, M., Bagley, S., & Urban-Lurain, M. (2018). Using Machine Learning Algorithms to Categorize Free Responses to Calculus Questions. Proceedings of the Twenty-first Annual Conference on Research in Undergraduate Mathematics Education. San Diego, CA.

Lockwood, E., **Thomas, M.**, & DeJarnette, A. (2018). Computing as a Mathematical Disciplinary Practice. Proceedings of the Twenty-first Annual Conference on Research in Undergraduate Mathematics Education. San Diego, CA.

Thomas, M., & Martin, J. (2017). Virtual Manipulatives, Vertical Number Lines, and Taylor Series Convergence: The Case of Cody. Proceedings of the Twentieth Annual Conference on Research in Undergraduate Mathematics Education. San Diego, CA.

Lockwood, E., Asay, A., DeJarnette, A., & **Thomas, M.** (2016). Algorithmic Thinking: An initial characterization of computational thinking in mathematics. 38th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Tucson, AZ.

Thomas, M. & Peebles, C. (2016). A Graph-Theoretic approach to the analysis of Contra dances. Bridges Finland, 2016. Jyväskylä, Finland.

Weinberg, A. & **Thomas, M.** (2016). Students' Sense-making Practices for Video Lectures. Proceedings of the Nineteenth Annual Conference on Research in Undergraduate Mathematics Education. Pittsburgh, PA.

Martin, J., **Thomas, M.**, & Oehrtman, M. (2016). Supporting Students in Seeing Sequence Convergence in Taylor Series Convergence. Proceedings of the Nineteenth Annual Conference on Research in Undergraduate Mathematics Education. Pittsburgh, PA.

Gleason, J., White, D., **Thomas, M.**, Bagley, S., & Rice, L. (2015). The Calculus Concept Inventory: A Psychometric Analysis and Framework for a New Instrument. Proceedings of the Eighteenth Annual Conference on Research in Undergraduate Mathematics Education. Pittsburgh, PA.

Gleason, J., **Thomas, M.**, Bagley, S., Rice, L., White, D., & Clements, N. (2015). Analyzing the Calculus Concept Inventory: Content validity, internal structure validity, and reliability analysis. Proceedings of the PMENA-37. East Lansing, MI.

Thomas, M. (2014). The construction of a video coding protocol to analyze interactive instruction in calculus and connections with conceptual gains. Proceedings of the Seventeenth Annual Conference on Research in Undergraduate Mathematics Education. Denver, CO.

Kersting, N.B., Sutton, T., Kalinec Craig, C., Chen, M., Heshmati, S., Jablon Stoehr, K., **Thomas, M.**, & Goswami, G. (2014). Understanding the relationship between teacher value-added scores, instructional quality, and independent measures of student learning. 2014 Annual Meeting of the American Educational Research Association. Philadelphia, PA.

Thomas, M., & Lozano, G. (2013). Analyzing Calculus Concept Inventory Gains in Introductory Calculus. Proceedings of the Sixteenth Annual Conference on Research in Undergraduate Mathematics Education. Denver, CO. 2013.

BLOG POSTS

Thomas, M. (2022, January, 19). Bringing jamovi and JASP labs into OpenIntro . [Web log post]. OpenIntro Blog. Retrieved from **https://www.openintro.org/blog/article/2022-01-19-jamovi_jasp_labs/**

Bagley, S., Gleason, J., Rice, L., **Thomas, M.**, & White, D. (2016, July, 25). Does the Calculus Concept Inventory Really Measure Conceptual Understanding of Calculus? [Web log post]. AMS Blog: On Teaching and Learning Mathematics. Retrieved from **http://blogs.ams.org/matheducation/2016/07/25/does-the-calculus-concept-inventory-really-measure-conceptual-understanding-of-calculus/**

GRANTS

"STEM community building to support academic success and retention of low-income students," Co-PI. $646,847, NSF SSTEM award number 1930351, with Kelley Sullivan (PI), David Brown (Co-PI), and John Barr (Co-PI) (**https://www.nsf.gov/awardsearch/showAward?AWD_ID=1930351**)

"Collaborative Research: Empowering faculty to run online learning experiments," Co-PI. $151,520 (Project total $1,978,243), NSF IUSE Award Number 1915294, with Duane Nykamp (PI), Jim Fowler (Co-PI), and Bart Snapp (Co-PI) (**https://www.nsf.gov/awardsearch/showAward?AWD_ID=1915294**)

"Collaborative Research: Investigating Student Learning and Sense-Making from Instructional Calculus Videos," Co-PI. $185,985.00 (Project total $299,905), NSF IUSE Award Number 1712312, with Aaron Weinberg (PI), Jason Martin (Co-PI), and Michael Tallman (Co-PI) (**https://www.nsf.gov/awardsearch/showAward?AWD_ID=1712312**)

Ithaca Teachers' Math Circle ($5,000+Travel funding), Math Teachers' Circle Network, Fall 2015, with Cristina Gomez

REACHE Grant: Learning From Video Lectures ($1560), Spring 2015, with Aaron Weinberg

TEACHING EXPERIENCE

ITHACA COLLEGE

- Summer Scholars Mentor:
  - Kim Newmann, Summer 2018
  - Jamie Woodworth, Summer 2019
  - Kellie Wainwright, Summer 2019
  - Rachel King, Summer 2020
- Independent Study Mentor:
  - Jon Burger: Psychometrics, Fall 2016
  - Eric Eichelberger: Math and Music, Spring 2016
- Senior Capstone Project Mentor:
  - Brittany (Dyer) McDowell: Bayesian Cognitive Modeling, 2018
  - Heetisha Inderjeet: Mathematics of Machine Learning, 2019
  - Rachel King: Exploring Structural Equation Models, 2020
  - Xinran Liu: Structural Equation Modeling Using R, 2020
- 111: Calculus I; Fall 2014, Fall 2016, Spring 2017, Fall 2017, Fall 2018
- 112: Calculus II; Spring 2015, Spring 2018
- 144: Business Statistics; Spring 2015, Spring 2016
- 145: Statistics for Health/Life Sciences; Fall 2014, Fall 2015, Fall 2017, Fall 2018, Spring 2020
- 185: Math Experimentation; Fall 2015, Spring 2016, Fall 2016, Spring 2019
- 216: Statistical Analysis; Fall 2019
- 231: Linear Algebra; Fall 2020
- 246: Intermediate Statistics; Spring 2018, Spring 2020, Fall 2020
- 316: Probability; Spring 2016, Spring 2017, Spring 2019
- Ithaca Seminar: Are you your data?; Fall 2019, Fall 2020

UNIVERSITY OF CENTRAL ARKANSAS

- 1496: Calculus I; Fall 2013
- 1497: Calculus II; Spring 2014
- 3351: Number Systems, course for pre-service elementary grade teachers; Spring 2014
- 4320: Concepts of Calculus, course for pre-service middle grades teachers; Fall 2013
- 4360: Supervisor for 7th grade student teacher; Fall 2013

UNIVERSITY OF ARIZONA

- Graduate Teaching Assistant for Mathematics Methods Classes for pre-service secondary teachers, (406B) Spring 2010 and (406A) Spring 2011
- Graduate Teaching Assistant, Primary Instructor for:
- Intermediate Algebra (New Start Summer Program); Summer 2008
- 112: College Algebra; Fall 2006 and Spring 2007
- 120: Pre-Calculus; Fall 2007
- 125: Calculus I; Fall 2008 and Spring 2009
- 129: Calculus II; Fall 2011
- 263: Introduction to Statistics and Biostatistics; Spring 2011
- 302A: Mathematics for Elementary Education Majors; Spring 2008
  In addition to teaching, helped prepare video and worksheet lessons by videotaping middle school student interactions with mathematics questions (Wakefield Middle School, Tucson, AZ)

K-12 PROFESSIONAL DEVELOPMENT AND MATHEMATICS EDUCATION OUTREACH

- Professional development co-leader for Numbers and Operations & Fractions with Cristina Gomez, Ithaca College, July 13-14, 2016
- Co-instructor for "Intel Math" - 80 hour professional development course for K-8 in-service teachers
  - Chandler, AZ, February 2012 and September 2012
  - Florence, AZ, June 2011 to March 2012
  - Globe, AZ, October 2011 to February 2012
- Practicum at Miles Exploratory Learning Center, 3rd grade, August 2011 to December 2011
- NSF GK-12 fellow at Tucson High School, June 2009 to July 2010: Co-taught Pre-Calculus and Algebra 1 classes and brought in University speakers from the Mathematics Department at the University of Arizona

AWARDS AND FELLOWSHIPS

- Dean's Merit, Ithaca College, 2018
- Level II Departmental Merit, Ithaca College, 2017, 2018
- Project STaR Fellowship, January 2015
- Mathematics Department Teaching Award, University of Arizona, March 2012
- Graduate Student Travel Grant Award, University of Arizona, March, 2012
- VIGRE (Vertical InteGration of Research and Education) Fellowship, University of Arizona, Fall 2010
- GK-12 Fellowship, University of Arizona, June 2009 to July 2010
- Mathematics Department Service Award, University of Arizona, December 2009

OUTREACH AND SERVICE

ITHACA COLLEGE

Service to Department

- Co-planner of Math Exploration Day, April 10, 2019
- Activities Committee (chair), 2018-2019 AY
- Departmental search committee, 2015-2016 AY, 2018-2019 AY
- Personnel committee, 2017-2018 AY (elected)
- Faculty advisor to Pi Mu Epsilon Math Honor Society, Fall 2016-Spring 2020
- Department community committee, 2016-2017 AY
- Department merit committee, Spring 2016
- School of Business search committee, Spring 2016
- Colloquium organizer, Spring 2015 - Fall 2016
- Member of statistics learning goals working group, Fall 2014

Service to College

- Member of Data governance executive committee, Fall 2019 - Spring 2020
- Member of Middle States Accreditation working group - Standard III, Student Learning, Spring 2016 - Spring 2018
- Presenter for Ithaca Today, April 12, 2015; April 13, 2019
- Volunteer for IC Open House, September 27, 2014; October 4, 2014; October 3, 2015; April 8, 2017

UNIVERSITY OF CENTRAL ARKANSAS

- Committee member, University of Central Arkansas, August 2013 to May 2014:
    - Hiring search committee (elected)
    - Mathematics education committee
    - Technology committee
    - Calculus committee
    - Departmental library liaison

UNIVERSITY OF ARIZONA

- Graduate and Professional Student Travel Grant Judge, University of Arizona, April 2012
- Graduate Student Representative to Undergraduate Education Committee, University of Arizona, August 2008 to May 2010
- Founder and facilitator of Mathematics Education Graduate Student Brown Bag Seminar, University of Arizona, January 2010 to May 2010
- Mathematics “Department Tea” Co-organizer, University of Arizona, August 2008 to May 2009
- Incoming TA “grading workshop,” training for new teaching assistants, University of Arizona, August 2008 and August 2009
- Assisted with administering the AP Calculus Practice Test, University of Arizona, April 2008 and April 2009

SERVICE TO PROFESSION

- NSF Ad-hoc reviewer, 2020
- Local Organizing Committee MAA Seaway Sectional Meeting, 2019
- NSF Ad-hoc reviewer, 2018

- Member of the Upstate New York Inquiry-Based Learning Leadership Team, Spring 2018 - 2022
- Published blog post for Ithaca College Center for Faculty Excellence, "Calculus: An Implementation of Standards/Specifications Based Grading", **https://threadcfe.com/2017/03/29/calculus-an-implementation-of-standardsspecifications-based-grading/**, with Megan Martinez, March 29, 2017
- Reviewer for Mathematical Thinking and Learning, the Journal of MultiDisciplinary Evaluation, and PRIMUS
- Member of Local Organizing Committee: Psychology of Mathematics Education, North America (PME-NA) Conference, Tucson, AZ, 2016
- Development of Statistics Labs using software R Commander in conjunction with OpenIntro open source statistics project, **https://www.openintro.org/about.php**.
- Interviewer for Central New York Region Master Teacher Program, November 8th, 2014
- Reviewer for Psychology of Mathematics Education, North America (PME-NA) Conference, 2015-2016
- Reviewer for Research in Undergraduate Mathematics Education (RUME) conference proceedings, 2013-2017
- Mathematics Judge for the 2014 ISEF State Science Fair, University of Central Arkansas, Conway, AR, April 4, 2014
- Mathematics Professional Development Day for Elementary School Teachers, Ithaca, NY, October 7, 2014
- Master Teachers Workshop on "Exploding Dots," SUNY Cortland, Cortland, NY, September 6, 2014

OUTREACH

- Organizing committee member for Greater Upstate New York Regional IBL Conference, Syracuse, NY, October 19, 2019
- Mentor for Early Career Mathematicians (ECM) Network, 2019-2020
- Co-organizer of the Rochester Math Teacher's Circle (with Ryan Gantner, St John Fisher College), Spring 2018
- Presenter at the National Mathematics Festival: Geometric Balloon Bending, Washington D.C., April 22, 2017 & May 4, 2019
- Co-founder and monthly presenter (with Cristina Gomez) of the Ithaca Math Teachers' Circle, 2015 to 2016
- "Flexagons," Math Exploration Day, Ithaca College, April 13th, 2015 & April 25, 2017
- "Mathematical Card Tricks," Math Day, Ithaca College, Ithaca, NY, November 15, 2014
- Co-founder, weekly presenter, and organizer of the Tucson Math Circle for middle and high school students, August 2008 to September 2010
- Founder and weekly organizer of second Tucson Math Circle at Tucson High School, August 2009 to May 2010
- "The Prisoner's Dilemma and Evolutionary Game Theory," Advanced Biology classes at Salpointe Catholic High School, Tucson, AZ, October 20, 2009
- "Math Fair" at University High School, Tucson, AZ, March 13, 2009

INVITED TALKS AND PRESENTATIONS

INVITED TALKS

- "Measurement of Calculus Knowledge and Learning," University of Texas, San Antonio, November 22, 2019
- "Pieces of IBL" (with Rich Spindler), Inquiry-Based Learning (IBL) Special Session Workshop, MAA Seaway Sectional Meeting, St. John Fisher College, Rochester, NY, April 6, 2019
- "Students' Use of Online Calculus Videos", Penn State University Teaching Seminar, March 14, 2019

- "Psychometrics: How Facebook Knows So Much about You", Houghton College, October 17, 2017
- "Psychometrics: What That Buzzfeed Quiz Actually Tells You," Pi Mu Epsilon Induction Ceremony, Utica College, March 21, 2017
- "Measuring Conceptual Understanding in Calculus," Ohio State Math Education Forum, August 5, 2015

PRESENTATIONS NOT LISTED UNDER CONFERENCE PROCEEDINGS

- "The Analysis of Contra Dance" (with Crystal Peebles), Mathematics Department Colloquium, Ithaca College, April 8, 2019
- "Psychometrics: What That Buzzfeed Quiz Actually Tells You," World of Math Course, Ithaca College, Ithaca, NY, April 4, 2019
- "Putting Students on the Right Track: Predicting Final Grades in Calculus using Early-Semester Data" presented by Steve Bennoun, Cornell University. Joint Mathematics Meeting, Baltimore, MD. Jan 18, 2019
- "Avoiding Skynet - How to Prevent Machines from Doing the Thinking for Us," Ithaca College Data Day, October 25, 2018
- "IBL in Statistics," Working Group and Round-table Discussion Leader, National IBL Conference, Austin, TX, May 31 - June 2, 2018
- "The Rochester Math Teachers' Circle - Last Mathematician Standing," with Nicole Juersivich (Nazarather College), AMTRA, Mar 24, 2018
- "Using Standard/Specifications Grading to Complement IBL," with Megan Martinez and Aaron Weinberg, 2017 MAA Seaway Section/NYSMATYC Meeting, October 21, 2017
- "Divination Process to Explore Ethnomathematics," with Osman Yurekli, 2017 MAA Seaway Section/NYSMATYC Meeting, October 21, 2017
- "Virtual Manipulatives, Vertical Number Lines, and Taylor Series Convergence," Ithaca College Mathematics Department Colloquium, Ithaca, NY, March 27, 2017
- "Using WeBWorK for Immediate Feedback in Math," EdTech Day Lightning Presentations, Ithaca College, Ithaca, NY, March 23, 2017
- "Psychometrics: What That Buzzfeed Quiz Actually Tells You," World of Math Course, Ithaca College, Ithaca, NY, March, 8, 2016
- "Virtual Manipulative Supporting Sequence Convergence in Taylor Series Convergence," Oklahoma-Arkansas MAA Regional Meeting, Conway, AR, April 1-2, 2016 (Presentation given by Jason Martin, with additional author Michael Oehrtman)
- "Mathematics Attitudes and Perceptions Survey: Assessing Students' Expert-like Conceptions of Mathematics." Joint Mathematics Meetings, Seattle, WA, January 6, 2016 (Presentation given by Warren J. Code, with additional authors Joseph Lo, Wes Maciejewski, and Sandra Merchant)
- "Psychometrics: Testing the test" IC Math Sophomore Seminar, Ithaca College, Ithaca, NY, February 24, 2015
- "Analyzing Interactively-Engaged Instruction and Conceptual Gains in Introductory Calculus" UCA Research in STEM Education Seminar, Department of Mathematics, University of Central Arkansas, Conway, AR, April 4, 2014
- "Analyzing Conceptual Gains in Introductory Calculus with Interactively-Engaged Teaching Styles" Department of Mathematics, Ithaca College, Ithaca, NY, March 18, 2014
- "The Construction of a Video Coding Protocol to Analyze Interactive Instruction in Calculus and Connections with Conceptual Gains" 17th Annual Conference on Research in Undergraduate Mathematics Education, Denver, CO, March 1, 2014
- "An Introduction to R" Software Interest Group, Department of Mathematics, University of Arizona, March 25, 2013
- "Analyzing Calculus Concept Inventory gains in introductory calculus" 16th Annual Conference on Research in Undergraduate Mathematics Education, Denver, CO, February 22, 2013
- "Teaching Interactively" Undergraduate Teaching Assistant presentation, University of Arizona, February 12, 2013

- "Measuring Interactive-Engagement in College Calculus Classrooms" University of Central Arkansas, February 8, 2013
- "Measuring Interactive-Engagement in College Calculus Classrooms" Mathematics Graduate Student Colloquium, University of Arizona, February 6, 2013
- "Exploding Dots" Mathematics Educator Appreciation Day Conference, Tucson, AZ, January 25, 2013
- "Analyzing Conceptual Gains in Introductory Calculus with Interactively-Engaged Teaching Styles" Joint Mathematics Meetings, San Diego, CA, January 9-12, 2013
- "Developing a Protocol for Analyzing the Quality of Classroom Interactions in an Undergraduate Calculus Course" Joint ArizMATYC, MAA Southwestern Section and SunMaRC Conference, March 30 to April 1, 2012
- "Developing a Protocol for Analyzing the Quality of Classroom Interactions in an Undergraduate Calculus Course" Joint Mathematics Meetings, Boston, MA, January 4-7, 2012
- "Measuring Interactive Engagement in Calculus Classes" Mathematics Instruction Colloquium, University of Arizona, November 29, 2011
- "Exploding Dots" Tucson Teachers' Circle, University of Arizona, February 17, 2011
- "GTEAMS" Mathematics Instruction Colloquium, University of Arizona, November 3, 2010
- "Exploding Dots" K-12 Mathematics: Hands on, Minds on Application Workshop, Biosphere 2, Tucson, AZ, October 23, 2010
- "G-TEAMS: Bringing Grad Students Into K-12 Classrooms" Mathematics Instruction Colloquium, University of Arizona, September 28, 2010
- "Interesting and Fun Problems from the Tucson Math Circle" Mathematics Educators Appreciation Day, Tucson, AZ, January 30, 2010
- "G-TEAMS: Grad Students and Teachers Together" Mathematics Educators Appreciation Day, Tucson, AZ, January 30, 2010
- "Conceptual Knowledge of Introductory Calculus" Mathematics Education Graduate Student Brown Bag, University of Arizona, December 7, 2009
- "Reflections on the Math Circle" Mathematics Instruction Colloquium, University of Arizona, December 1, 2009
- "A Taste of the Tucson Math Circle" Mathematics Instruction Colloquium, University of Arizona, February 17, 2009
- "A Beginner's Guide to Geometric Quantization" Mathematics Graduate Student Colloquium, University of Arizona, February 4, 2009
- "Some Interesting Investigative Questions from the Tucson Math Circle" Mathematics Educators Appreciation Day, Tucson, AZ, January 24, 2009
- "Tensegrities and Rigidity" Mathematics Graduate Student Colloquium, University of Arizona, March 12, 2008
- "The Geometry of Polygon Spaces" Research Tutorial Group Mini-Conference, University of Arizona, December 6, 2007

POSTERS

- Beckner, A.G., Zhang, K., Thomas, M., Casasola, M. (2026, April). Unpacking spatial skills in the Picture Rotation Task using Multilevel Item Response Theory [Poster presentation]. Cognitive Development Society, Montreal, QC, Canada.
- "Predicting Final Grades in Calculus using Pre-and Early-Semester Data" with Steve Bennoun, Cornell University. (2019) The Twenty-second Annual Conference on Research on Undergraduate Mathematics Education, Oklahoma City, OK.
- "Investigating Student Learning and Sense-Making from Instructional Calculus Videos" with Aaron Weinberg, Ithaca College; Jason Martin, University of Central Arkansas; and Michael Tallman, Oklahoma State University. (2018) The Twenty-first Annual Conference on Research on Undergraduate Mathematics Education, San Diego, CA.
- "Collaborative Research: Investigating Student Learning and Sense-Making from Instructional Calculus Videos" with Aaron Weinberg, Ithaca College; Jason Martin, University of Central Arkansas; and Michael Tallman, Oklahoma State University. 2018

Joint Mathematics Meeting, MAA Poster Session: Projects Supported by the NSF Division of Undergraduate Education.

- "Contra Dance Corpus Study: First Steps" with Crystal Peebles, Ithaca College, Society for Music Perception and Cognition Meeting, San Diego, CA, July 30, 2017 - August 3, 2017
- "Psychometric Analysis of the Calculus Concept Inventory" with Diana White, University of Colorado Denver; Jim Gleason, University of Alabama; Spencer Bagley, University of Northern Colorado; Nathan Clements, University of Wyoming; and Lisa Rice, Arkansas State University Eighteenth Annual Conference on Research in Undergraduate Mathematics Education Conference, Pittsburgh, PA, February 19-21, 2015
- "Analyzing Conceptual Gains in Introductory Calculus With Interactively-Engaged Teaching Styles" Transforming Research in Undergraduate STEM Education (TRUSE) Conference, St. Paul, MN, June 3-7, 2012
- "G-TEAMS" Regional NSF GK-12 Meeting, University of North Texas, Fort Worth, TX, November 14, 2009

PROFESSIONAL DEVELOPMENT

- Equity and Inclusion in Evaluating Teaching Workshop, Center for Faculty Excellence, Ithaca College, January 16, 2018
- Member of the Upstate New York Inquiry-Based Learning Consortium, Fall 2015 - 2022
- Early Career Excellence Institute, Center for Faculty Excellence, Ithaca College, January 2015 - December 2015.