

SARAH K. BLEILER-BAXTER

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EDUCATION AND ACADEMIC AWARDS

Ph. D., Mathematics Education, 2012

University of South Florida, Tampa, FL

Dissertation title: “Team-Teaching Experiences of a Mathematician and a Mathematics Teacher Educator: An Interpretative Phenomenological Case Study”

- University Presidential Fellowship recipient: 4-year full academic fellowship

M. A., Mathematics, 2008

University of South Florida, Tampa, FL

Thesis title: “Orthogonal Filters and the Implications of Wrapping on Discrete Wavelet Transforms”

- University Presidential Fellowship recipient: 2-year full academic fellowship

B. S., Mathematics; Spanish (minor), 2006

Seton Hall University, South Orange, NJ

- Valedictorian: Class of 2006
- Clare Boothe Luce Scholarship recipient: 4-year full academic scholarship
- Edward J. Bloustein Scholarship recipient: 4-year scholarship

PUBLICATIONS

Yee, S. P., Boyle, J. D., Ko, Y.-Y., & Bleiler-Baxter, S. K. (2018, available online). Effects of constructing, critiquing, and revising arguments within university classrooms. *Journal of Mathematical Behavior*.

Bleiler-Baxter, S. K., Stephens, D. C., Baxter, W. A., & Barlow, A. T. (2017). Modeling as a decision-making process. *Teaching Children Mathematics*, 24(1), 20-28.

Bleiler-Baxter, S. K., & Pair, J. D. (2017). Engaging students in roles of proof. *Journal of Mathematical Behavior*, 47, 16-34.

Otten, S., Bleiler-Baxter, S. K., & Engeldowl, C. (2017). Authority and whole-class proving in high school geometry: The case of Ms. Finley. *Journal of Mathematical Behavior*, 46, 112-127.

Bénéteau, C., Bleiler-Baxter, S. K., Kersaint, G., Krajcevski, M., & Thompson, D. R. (2017). Multiple perspectives on collaborative teaching: Mathematicians, mathematics teacher educators, and students. In L. West & M. Boston (Eds.), *Annual perspectives in mathematics education: Reflective and collaborative processes to improve mathematics teaching* (pp. 247-260). Reston, VA: National Council of Teachers of Mathematics.

Yee, S. P., Ko, Y.-Y., Boyle, J. D., & Bleiler-Baxter, S. K. (2016). Constructing communal criteria for proof through critiquing the reasoning of others. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings for the 38th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 652-659). Tucson, AZ.

Strayer, J. F., Hart, J. B., & Bleiler-Baxter, S. K. (2016). Kick-starting discussions with the flipped classroom. *Mathematics Teacher*, 109(9), 662-668. Radio broadcast related to this article:
<http://www.mtsunews.com/strayer-hart-on-the-record-nov2016/>

Ko, Y.-Y., Yee, S. P., Bleiler-Baxter, S. K., & Boyle, J. D. (2016). Empowering students' proof learning through communal engagement. *Mathematics Teacher*, 109(8), 618-624.

- Bleiler-Baxter, S. K., Barlow, A. T., & Stephens, D. C. (2016). Moving beyond context: Challenges in modeling instruction. In C. Hirsch (Ed.), *Annual perspectives in mathematics education: Mathematical modeling and modeling mathematics* (pp. 53-64). Reston, VA: National Council of Teachers of Mathematics.
- Strayer, J. F., Hart, J. B., & Bleiler, S. K. (2015). Fostering instructor knowledge of student thinking using the flipped classroom. *Problems, Resources, and Issues in Mathematics Undergraduate Studies (PRIMUS)*, 25(8), 724-735.
- Boyle, J. D., Bleiler, S. K., Yee, S. P., & Ko, Y.-Y. (2015). Transforming perceptions of proof: A four-part instructional sequence. *Mathematics Teacher Educator*, 4(1), 32-70.
- Pair, J. D., & Bleiler, S. K. (2015). Student perceptions of proof as communication in an inquiry-based course. *Proceedings of the 2015 NCTM Research Conference*. Retrieved from: <https://nctm.confex.com/nctm/2015RP/webprogram/Session33791.html>
- Bleiler, S. K., Ko, Y.-Y., Yee, S. P., & Boyle, J. D. (2015). Communal development and evolution of a course rubric for proof writing. In C. Suurtamm (Ed.), *Annual perspectives in mathematics education: Assessment to enhance learning and teaching* (pp. 97-108). Reston, VA: National Council of Teachers of Mathematics.
- Bleiler, S. K. (2015). Increasing awareness of practice through interaction across communities: The lived experiences of a mathematician and mathematics teacher educator. *Journal of Mathematics Teacher Education*, 18(3), 231-252.
- Bleiler, S. K., Baxter, W. A., Stephens, D. C., & Barlow, A. T. (2015). Constructing meaning: Standards for mathematical practice. *Teaching Children Mathematics*, 21(6), 336-344.
- Yee, S. P., Boyle, J. D., Ko, Y.-Y., & Bleiler, S. K. (2015). Empowering ownership of proof with communal proof-writing criteria. In M. Che & K. Adolphson (Eds.), *Proceedings for the 42nd Annual Meeting of the Research Council on Mathematics Learning* (pp. 33-41). Las Vegas, NV.
- Bénéteau, C., Bleiler, S. K., & Thompson, D. R. (2014). Promoting mathematical reasoning through critiquing student work. In K. Karp and A. R. McDuffie (Eds.), *Annual perspectives in mathematics education: Using research to improve instruction* (pp. 151-160). Reston, VA: National Council of Teachers of Mathematics.
- Bleiler, S. K., Thompson, D. R., & Krajcevski, M. (2014). Providing written feedback on students' mathematical arguments: Proof validations of prospective secondary mathematics teachers. *Journal of Mathematics Teacher Education*, 17, 105-127. Podcast interview related to this article: http://mathed.podomatic.com/entry/2014-02-23T16_19_44-08_00
- Thompson, D. R., Kaur, B., Koyama, M., & Bleiler, S. K. (2013). A longitudinal view of mathematics achievement of primary students: Case studies from Japan, Singapore, and the United States. *ZDM: The International Journal on Mathematics Education*, 45(1), 73-89.
- Bleiler, S. K., & Thompson, D. R. (2012/2013). Multidimensional assessment of the Common Core. *Teaching Children Mathematics*, 19(5), 292-300.
- Thompson, D. R., Bénéteau, C., Kersaint, G., & Bleiler, S. K. (2012). Voices of mathematicians and mathematics teacher educators co-teaching prospective secondary teachers. In J. M. Bay-Williams

(Ed.), *Professional collaborations in mathematics teaching and learning: Seeking success for all- 74th yearbook* (pp. 229-242). Reston, VA: National Council of Teachers of Mathematics.

Bleiler, S. K. (2010). Integration of proof and reasoning in school mathematics: A guide for elementary school teachers. *Dimensions in Mathematics: Journal of the Florida Council of Teachers of Mathematics*, 29(2), 6-12.

Bleiler, S. K., & Thompson, D. R. (2010). Dimensions of mathematics understanding: A longitudinal analysis of primary students' achievement in the United States. In Y. Shimizu, Y. Sekiguchi, & K. Hino (Eds.), *The 5th East Asia Regional Conference on Mathematics Education (EARCOME5): In search of excellence in mathematics education* (pp. 400-407). Tokyo, Japan: Inamoto Printing.

Thompson, D. R., Kaur, B., & Bleiler, S. K. (2010). Using a multi-dimensional approach to understanding to assess primary students' mathematical knowledge. In Y. Shimizu, Y. Sekiguchi, & K. Hino (Eds.), *The 5th East Asia Regional Conference on Mathematics Education (EARCOME5): In search of excellence in mathematics education* (pp. 472-479). Tokyo, Japan: Inamoto Printing.

Bleiler, S. K., & Saccoman, J. T. (2007). A correction in the formula for the number of spanning trees in threshold graphs. *Australasian Journal of Combinatorics*, 37, 205-213.

Bleiler, S. K., & Saccoman, J. T. (2006). A surgery reducing the number of spanning trees for certain threshold graphs. *Congressus Numerantium*, 178, 15-31.

GRANTS AWARDED

Principal Investigator, "Inquiry-Based Learning in an Upper-Level Introduction to Mathematical Proofs Course"

January-August 2014

Funded through the MTSU Faculty Research and Creative Activity Committee, \$8190.

Co-principal Investigator, "Project IMPACT"

January-September 2013

"Implementing Mathematical Practices and Content into Teaching," Math and Science Partnership Grant, funded through the Tennessee Department of Education, \$242,000.

CONFERENCE PRESENTATIONS

Bleiler-Baxter, S. K., & Pair, J. D. (2017, March 31). *Roles of proof: Activities that are lasting*. Poster session presented at the Middle Tennessee State University Scholar's Day, Murfreesboro, TN.

Pair, J. D., & Bleiler-Baxter, S. K. (2017, February 24). *Considerations for explicit and reflective teaching of the roles of proof*. Session presented at the 20th Annual Conference on Research in Undergraduate Mathematics Education, San Diego, CA.

Pair, J. D., & Bleiler-Baxter, S. K. (2017, February 3). *How undergraduate students understand the roles of proof in mathematics: Implications for explicit and reflective teaching*. Session presented at the 11th Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.

Yee, S. P., Ko, Y.-Y., Boyle, J. D., & Bleiler-Baxter, S. K. (2016, November 4). *Constructing communal criteria for proof through critiquing the reasoning of others*. Session presented at the 38th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education

- (PME-NA), Tuscon, AZ.
- Bleiler-Baxter, S. K., & Pair, J. D. (2016, September 23). *Coordinating cooperative creation: The group proof activity*. Session presented at the Tennessee Mathematics Teachers Association State Conference, Murfreesboro, TN.
- Tessema, A. A., & Bleiler-Baxter, S. K. (2016, September 23). *Making trigonometry interactive with support of Geogebra*. Session presented at the Tennessee Mathematics Teachers Association State Conference, Murfreesboro, TN.
- Bénéteau, C., Bleiler-Baxter, S. K., Kersaint, G., Krajcevski, M., & Thompson, D. R. (2016, July 29). *Navigating co-teaching: Perspectives from mathematicians, mathematics educators, and students*. Session presented at the 13th International Congress on Mathematical Education (ICME13), Hamburg, Germany.
- Yee, S. K., Ko, Y.-Y., Bleiler-Baxter, S. K., & Boyle, J. D. (2016, April 12). *Constructing and critiquing arguments: Effect of an instructional sequence*. Session presented at the National Council of Teachers of Mathematics Research Conference, San Francisco, CA.
- Otten, S., Engeldowl, C., & Bleiler-Baxter, S. K. (2016, April 8). *Authority and whole-class proving in a high school geometry class*. Session presented at the Annual Meeting of the American Educational Research Association, Washington, DC.
- Ko, Y.-Y., Yee, S. P., Boyle, J. D., Bleiler-Baxter, S. K., Rumsey, C., Whitacre, I., & Lesseig, K. (2016, January 29). *Supporting teachers' capabilities to engage students in constructing viable arguments and critiquing others' reasoning*. Symposium presented at the Association of Mathematics Teacher Educators 20th Annual Conference, Irvine, CA.
- Ko, Y.-Y., Yee, S. P., Boyle, J. D., & Bleiler-Baxter, S. K. (2015, December 12). *Shift in arguments: Effect of an instructional sequence*. Session presented at 31st Annual International Conference of Association of Science Education, Kenting, Taiwan.
- Baxter, W. A., Stephens, D. C., & Bleiler-Baxter, S. K. (2015, November 20). *Unpacking the "model with mathematics" standard for mathematical practice*. Session presented at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Bleiler-Baxter, S. K., & Pair, J. D. (2015, November 20). *Transitioning to proof: Activities that promote learning from one another*. Session presented at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Yee, S. P., Boyle, J. D., Bleiler-Baxter, S. K., & Ko, Y.-Y. (2015, November 20). *Making proof count: Empowering proof education through communal criteria*. Session presented at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Strayer, J. F., Hart, J. B., & Bleiler-Baxter, S. K. (2015, November 19). *Supporting classroom discourse with the flipped classroom*. Session presented at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Bleiler-Baxter, S. K., & Pair, J. D. (2015, October 23). *Transitioning to proof: Activities that promote learning from one another*. Session presented at the National Council of Teachers of Mathematics Regional Conference, Atlantic City, NJ.

- Bleiler, S. K., & Pair, J. D. (2015, June 26). *Co-constructing a group proof*. Session presented at the Legacy of R.L. Moore Conference, Austin, TX.
- Boyle, J. D., Bleiler, S. K., Ko, Y-Y., and Yee, S. P. (2015, April 17). *What counts? Developing a communal classroom criteria of proof*. Session presented at the National Council of Teachers of Mathematics Annual Meeting, Boston, MA.
- Boyle, J. D., Bleiler, S. K., Yee, S. P., and Ko, Y-Y. (2015, April 14). *Constructing viable arguments and critiquing the reasoning of others: Where to start?* Session presented at the National Council of Supervisors of Mathematics Annual Meeting, Boston, MA.
- Pair, J. D., & Bleiler, S. K. (2015, April 13). *Student perceptions of proof as communication in an inquiry-based course*. Session presented at the National Council of Teachers of Mathematics Research Conference, Boston, MA.
- Yee, S. P., Boyle, J. D., Ko, Y-Y., & Bleiler, S. K. (2015, February 28). *Empowering ownership of proof with communal proof-writing criteria*. Session presented at the 42nd Annual Meeting of the Research Council on Mathematics Learning, Las Vegas, NV.
- Pair, J. D., & Bleiler, S. K. (2015, February 20). *Partial unpacking and the use of truth tables in an inquiry-based transition to proofs course*. Session presented at the 18th Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA.
- Bleiler, S. K., & Pair, J. D. (2015, February 19). *Roles of proof in an undergraduate inquiry-based transition to proof course*. Session presented at the 18th Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA.
- Ko, Y-Y., Yee, S. P., Bleiler, S. K., & Boyle, J. D. (2015, February 12). *Creating classroom-developed criteria for what counts as proof*. Session presented at the Association of Mathematics Teacher Educators 19th Annual Conference, Orlando, FL.
- Bleiler, S. K., & Pair, J. D. (2015, February 6). *Engagement in roles of proof within an inquiry-based transition-to-proof course*. Session presented at the Tennessee STEM Education Research Conference, Murfreesboro, TN.
- Pair, J. D., & Bleiler, S. K. (2014, November 6). *Student perceptions of the systematization role of proof*. Session presented at the Mid-South Educational Research Association Annual Meeting, Knoxville, TN.
- Stephens, D. C., Baxter, W. A., & Bleiler, S. K. (2014, September 27). *Model with mathematics: Three key decisions*. Session presented at Tennessee Mathematics Teacher Association Annual Meeting, Knoxville, TN.
- Yee, S. P., Ko, Y-Y., Bleiler, S. K., & Boyle, J. D. (2014, July 16). *Communal assessment of proof: Undergraduates' development of proof-writing criteria*. Poster session presented at the Joint Meeting of the International Group for the Psychology of Mathematics Education (PME 38), Vancouver, Canada.
- Bleiler, S. K., Ko, Y-Y., Boyle, J. D., & Yee, S. P. (2014, June 19). *Developing communal understanding of proof-writing criteria*. Session presented at the Legacy of R.L. Moore Conference, Denver, CO.

- Barlow, A. T., Bleiler, S. K., Stephens, D. C., Gerstenschlager, N., & Baxter, W. A. (2014, April 8). *Project IMPACT: Supporting elementary teachers' understanding of CCSSM through demonstration lessons*. Session presented at the National Council of Supervisors of Mathematics Annual Meeting, New Orleans, LA.
- Ko, Y-Y, Yee, S. P., Boyle, J. D., & Bleiler, S. K. (2014, February 5). *Developing a communal understanding of criteria for proof-writing*. Poster session presented at the STaR Preession of the AMTE Annual Conference, Irvine, CA.
- Bleiler, S. K. (2014, January 16). *Evaluating peers' arguments as the catalyst for learning in an introduction to proofs course*. Session presented at the Joint Mathematics Meetings, Baltimore, MD.
- Bleiler, S. K., Boyle, J. D., Ko, Y., & Yee, S. P. (2014, January 16). *Communal assessment of proof: Undergraduates' development of proof-writing criteria*. Session presented at the Joint Mathematics Meetings, Baltimore, MD.
- Stephens, D. C., Bleiler, S. K., & Baxter, W. A. (2014, January 16). *A mathematician's foray into the Common Core State Standards (for Mathematical Practice): A question of interpretation?* Session presented at the Joint Mathematics Meetings, Baltimore, MD.
- Bleiler, S. K. (2013, June 7). *Crossing community boundaries: The team-teaching experiences of a mathematician and mathematics teacher educator*. Session presented at the Mathematics Teacher Education Partnership Conference, St. Louis, MO.
- Yantz, J., & Bleiler, S. K. (2013, May 14). *Mathematical learning histories of teacher candidates and the Common Core State Standards*. Session presented at the Joint Meeting of the Tennessee Mathematics for Elementary Education and Tennessee Science for Elementary Education Annual Conference, Pellissippi State Community College, Knoxville, TN.
- Bleiler, S. K., Thompson, D. R., & Krajcevski, M. (2013, April 16). *Strengths and weaknesses of preservice secondary teachers' proof validation*. Poster session presented at the National Council of Teachers of Mathematics Research Preession, Denver, CO.
- Bleiler, S. K. (2013, February 21). *Crossing community boundaries: Collaboration between mathematicians and mathematics educators*. Session presented at the 16th Annual Conference on Research in Undergraduate Mathematics Education, Denver, CO.
- Bleiler, S. K. (2013, January 26). *Team-teaching experiences of a mathematician and mathematics teacher educator: An interpretative phenomenological case study*. Session presented at the Association of Mathematics Teacher Educators 17th Annual Conference, Orlando, FL.
- Bleiler, S. K., Thompson, D. R., Krajcevski, M. (2013, January 10). *Lessons learned from a teaching experiment focused on proof validation*. Session presented at the Joint Mathematics Meetings, San Diego, CA.
- Bleiler, S. K. (2012, September 21). *Multidimensional assessment of the Common Core State Standards*. Session presented at the Tennessee Mathematics Teacher Association Annual Meeting, Cookeville, TN.
- Bleiler, S. K., & Thompson, D. R. (2012, April 26). *Classroom assessment of the Common Core: A multidimensional approach*. Session presented at the National Council of Teachers of Mathematics Annual Meeting and Exposition, Philadelphia, PA.

- Bleiler, S. K., & Kersaint, G. (2012, April 24). *Team-teaching experiences of a mathematician and a math teacher educator*. Session presented at the National Council of Teachers of Mathematics Research Presession, Philadelphia, PA.
- Bleiler, S. K., & Thompson, D. R. (2012, February 10). *Validating proofs: A teaching experiment with prospective secondary mathematics teachers*. Session presented at the Association of Mathematics Teacher Educators 16th Annual Conference, Fort Worth, TX.
- Bleiler, S. K. (2011, October 21). *Validating proofs: Students' use of inductive and deductive reasoning*. Gallery workshop presented at the National Council of Teachers of Mathematics Regional Meeting, Atlantic City, NJ.
- Bleiler, S. K., & Thompson, D. R. (2011, October 14). *Multidimensional understanding of the Common Core Standards: A tool for assessment*. Session presented at the Florida Council of Teachers of Mathematics Annual Meeting, Jacksonville, FL.
- Bleiler, S. K. (2011, April 15). *"Show your work!": Why this isn't enough with Wolfram|Alpha*. Session presented at the National Council of Teachers of Mathematics Annual Meeting and Exposition, Indianapolis, IN.
- Bleiler, S. K., Kersaint, G., & Krajcevski, M. (2011, January 9). *Differing views on assessment: Two instructors' strategies for modeling assessment techniques for prospective secondary mathematics teachers in an upper level team-taught geometry course*. Session presented at the Joint Mathematics Meetings, New Orleans, LA.
- Bleiler, S. K. (2010, October 1). *Wolfram|Alpha, a computational website: What effects will it have in your classroom?* Session presented at the Florida Council of Teachers of Mathematics Annual Meeting, Orlando, FL.
- Bleiler, S. K., & Thompson, D. R. (2010, August). *Dimensions of mathematics understanding: A longitudinal analysis of primary students' achievement in the United States*. Symposium paper presented at the 5th East Asia Regional Conference on Mathematics Education, Tokyo, Japan. (Paper actually presented by D. R. Thompson.)
- Thompson, D. R., Kaur, B., & Bleiler, S. K. (2010, August). *Using a multi-dimensional approach to understanding to assess primary students' mathematical knowledge*. Symposium paper presented at the 5th East Asia Regional Conference on Mathematics Education, Tokyo, Japan. (Paper actually presented by D. R. Thompson and B. Kaur.)
- Bleiler, S. K., & Thompson, D. R. (2010, April 20). *A longitudinal analysis of elementary school achievement on four dimensions*. Poster session presented at the National Council of Teachers of Mathematics Research Presession, San Diego, CA.
- Bleiler, S. K. (2009, October 8). *Dimensions of mathematics understanding: A longitudinal analysis of elementary students' achievement*. Poster session presented at the Graduate Student Research Symposium, University of South Florida, Tampa, FL.
- Bleiler, S. K. (2009, August 6). *Orthogonal filters and the implications of wrapping on discrete wavelet transformations*. Poster session presented at the Mathematical Association of America Mathfest meeting, Portland, OR.
- Bleiler, S. K. (2006, April 8). *A correction in the formula for the number of spanning trees in threshold graphs*. Poster session presented at the Garden State Undergraduate Mathematics Conference, Georgian Court College, Lakewood, NJ.

- Bleiler, S. K. (2006, April 2-4). *Mathematical modeling of molecular evolution by means of DNA analysis*. Poster session presented at the Petersheim Academic Exposition, Seton Hall University, South Orange, NJ.
- Bleiler, S. K. (2006, February 4). *A surgery reducing the number of spanning trees for certain threshold graphs*. Session presented at the Nebraska Conference for Undergraduate Women in Mathematics, University of Nebraska, Lincoln, NE.
- Bleiler, S. K., DiLauri, J., Michniewicz, R., & Sunshine, L. (2005, April 2-5). *An extension of Turan's theorem to multigraphs*. Poster session presented at the Petersheim Academic Exposition, Seton Hall University, South Orange, NJ.
- Bleiler, S. K. (2005, April 2). *Lower bounds for spanning trees in multigraphs*. Session presented at the Garden State Undergraduate Mathematics Conference, Middlesex County College, Edison, NJ.

TEACHING

Middle Tennessee State University, Murfreesboro, TN
Assistant Professor, Mathematics Department

Fall 2012 – Present

Graduate courses:

- Instructor of “MSE 7001: Residency Seminar I” and “MSE 7002: Residency Seminar II.” These courses are designed to support MSE students in establishing a common vision regarding Ph.D. values, and to spur MSE student progress in completing program requirements. Doctoral students will be immersed in a scholarly community that will promote a culture of academic scholarship. Frequent collaboration and interactions with peers and program faculty will provide students with opportunities to grow as scholars in mathematics and science education. (*Spring 2018, Fall 2017*)
- Instructor of “MATH 6900: Research in Mathematics Education.” This course is the only designated research course required in the MST program. Thus, it is designed to provide students with an awareness of current theory and research in the educational arena and of methods of conducting research in the field of mathematics education. (*Fall 2016*)
- Instructor of “MSE/MOBI/COMS 7654: Seminar on Obtaining a Job in Higher Education.” This seminar is intended for doctoral students in the College of Basic and Applied Sciences. The course provides insight into and strategies for the academic job search. Topics to be covered include roles and responsibilities in academic positions, differing faculty employment contexts, when and where to look for job advertisements, how to prepare job search documents, interviewing strategies, cultural/diversity issues within the job search process, and negotiating an academic position. (*Summer 2016, Spring 2013*)
- Instructor of “MSE 7840: Special Topics—Teacher Education.” This special topics course is intended for doctoral students in the Mathematics and Science Education Ph.D. program. The course is intended to provide an overview of the theory, research, and practice related to mathematics and science teacher education. (*Spring 2016*)
- Instructor of “SPSE 7180: Qualitative Evaluation and Research Methods.” This course is intended for doctoral students in the Mathematics and Science Education Ph.D. program. The course is intended to provide an overview of qualitative research and evaluation methods. Topics to be covered include

frameworks and methodologies for qualitative research, design of qualitative studies, considerations for qualitative observations and interviews, data analysis procedures, and strategies for enhancing quality and credibility of qualitative research. (*Summer 2015*)

Instructor of “MSE 7840: Special Topics—Collaborative and Cooperative Learning.” This special topics course is intended for doctoral students in the Mathematics and Science Education Ph.D. program. The course is intended to provide an overview of the theory, research, and practice related to collaborative and cooperative learning in mathematics and science education. (*Spring 2014*)

Undergraduate courses:

Instructor of “MATH 1410: Concepts and Structure of Elementary School Mathematics.” This course provides an Algebra-based study of school mathematics in keeping with the recommendations of the National Council of Teachers of Mathematics. Tools for problem solving, set theory, functions, number theory, and examinations of number systems from counting numbers to irrational numbers are explored. (*Spring 2018, Spring 2017, Fall 2015, Fall 2014, Spring 2013*)

Instructor of “MATH 3460: Foundations of Higher Mathematics.” This course supports students in their understanding of the language of mathematics, set theory and proof, relations and functions, number systems, mathematical structures. It focuses on the transition from lower-division study to upper-division study by actively engaging the student in problem solving, mathematical reasoning, and both informal and technical writing. (*Spring 2017, Fall 2016, Summer 2016, Spring 2016, Fall 2015, Spring 2015, Spring 2014, Fall 2013*)

Instructor of “MATH 3320: Teaching Mathematics in Grades 5-8.” This course provides prospective middle and high school teachers with knowledge of the major goals, current developments, and instructional procedures that are critical in the teaching of middle school mathematics. (*Spring 2016, Fall 2015, Spring 2015, Fall 2014, Fall 2013, Spring 2013, Fall 2012*)

Instructor of “MATH 1420: Informal Geometry.” This course provides a geometry-based study of school mathematics for prospective elementary teachers. The course focus is on increasing students’ content knowledge of geometry and measurement concepts taught within a problem-solving context. (*Fall 2012*)

University of South Florida, Tampa, FL

Instructor, Secondary Education Department

Fall 2010 - Fall 2011

Instructor of “MAE 4551: Reading the Language of Mathematics.” This course provides the prospective secondary mathematics teacher the opportunity to develop concepts, skills, and instructional procedures for effectively integrating communication (reading, writing, listening, and speaking) into the mathematics curriculum. (*Fall 2011*)

Instructor of “MAE 4310: Teaching Elementary School Mathematics I (K-6).” This course focuses on the content, methods, and materials for teaching elementary school mathematics, with particular emphasis on problem solving, whole number concepts, and rational number concepts. (*Spring 2011, Fall 2010*)

Computer Science Instructor/Course Development

Summer 2008, Summer 2009

Instructor at the Center for Mathematical Services in a summer program for advanced middle school and high school students. Self-developed course using Mathematica to help students gain a deeper understanding of algebraic and statistical concepts.

Hillsborough Community College, Tampa, FL

Adjunct Instructor, Mathematics Department

Summer 2007

Instructor of two sections of Pre-Algebra (MAT 0012).

Seton Hall University, South Orange, NJ

Tutor, Mathematics Department

Fall 2002-Spring 2004

Facilitated the transition of incoming freshmen in new courses. Tutored students in Developmental Math I and II, Intermediate Algebra I and II, Pre-Calculus, Calculus I and II, Honors Calculus I, II, and III.

OTHER SCHOLARLY EXPERIENCE

Participant in the MPWR Program

Spring 2018

San Diego, CA

Invited to participate in the Mentoring & Partnerships for Women in RUME (MPWR) seminar preceding the Research in Undergraduate Mathematics Education (RUME) conference in February, 2018. This event is designed to support women at all career stages in networking and increasing involvement with the RUME community.

Participant in the STaR Program

Summer 2013

Park City, UT

Applied and was selected as a fellow in the Service, Teaching, and Research (STaR) program for early career mathematics educators, a program initiated through a grant from the National Science Foundation. It included a 5-day summer institute, academic year networking via electronic means, and a follow-up session in conjunction with the annual meeting of the Association of Mathematics Teacher Educators (AMTE).

Participant in the EDGE Program

Summer 2006

New College, Sarasota, FL

Applied and was selected for participation in the Enhancing Diversity in Graduate Education (EDGE) program, an NSF-funded preparation program for women entering graduate programs in mathematics. The program consisted of two core courses in Real Analysis and Algebra/Linear Algebra, minicourses in specialized areas of mathematics research, guest lectures, problem sessions, and the formation of professional networks and mentoring relationships.

**Research Assistant, Center for Discrete Mathematics and
Theoretical Computer Science (DIMACS)/Center for Discrete Mathematics,
Theoretical Computer Science and Applications (DIMATIA)**

Summer 2005

Rutgers University, Piscataway, NJ/Charles University, Prague, Czech Republic

Applied and was selected for participation in the Summer 2005 DIMACS Research Experience for Undergraduates (REU) at Rutgers University.

Conducted research in graph theory under the advisement of Dr. Vadim Lozin (RUTCOR).

Applied and was selected for participation in the DIMATIA Research Experience for Undergraduates at Charles University.

Research Assistant, Mathematics Department

Fall 2004-May 2006

Seton Hall University, South Orange, NJ

Worked under the advisement of Dr. John T. Saccoman in mathematics research in the field of graph theory.

SERVICE

Professional Service:**Member of Editorial Board**

- *The Mathematics Educator* (Journal), Singapore (Spring 2014-Present)

Regional Chair, Tennessee High School Mathematics Contest

2012-Present

Secretary, Tennessee Association of Mathematics Teacher Educators (TAMTE)

2014-2017

Manuscript Reviewer

- Teaching Children Mathematics (Fall 2015- present)
- PRIMUS (Summer 2015-Present)
- Journal of Mathematics Teacher Education (Fall 2014-present)
- The Mathematics Educator (Singapore) (Spring 2014-present)
- NCSM Journal of Mathematics Education Leadership (Spring 2012-Present)
- ZDM: The International Journal on Mathematics Education (Spring 2012-Present)
- Mathematics Teacher (Fall 2008-Present)

Conference Proposal Reviewer

- Research on Undergraduates in Mathematics Education (RUME) (2015, 2016, 2017)
- Psychology of Mathematics Education- North America (PME-NA) (2016)
- AMTE Annual Conference (2012, 2013)

NCATE Program Reviewer

Fall 2012

Conference Volunteer

- NCTM Research Conference (presider, Interactive Paper Session), April 15, 2015
- NCTM annual conference (AMTE exhibit hall booth representative), April 19, 2013
- AMTE annual conference (leader/facilitator of Luncheon Discussion Table on topic of “Connecting with Mathematics Teacher Educators in Institutions with Large Teaching Loads”), Orlando, FL, January 24, 2013
- Conference on Research on the Enacted Mathematics Curriculum (note taker), Tampa, FL, November 4-6, 2010
- NCTM annual conference (news distribution), San Diego, CA, April 22, 2010
- AMTE annual conference (front desk), Orlando, FL, February 5-7, 2009
- Knotting Mathematics and Art: Conference in Low Dimensional Topology (conference organizer and coordinator), Tampa, FL, November 1-4, 2007

University Service:

Chair, College of Basic and Applied Science Committee on Teaching	2016-Present
Chair, Mathematics Department Committee on Teaching Advancement	2014-Present
Member, Search Committee for Full-Time Temporary positions	Summer 2017
Member, Search Committee for Full-Time Temporary positions	Summer 2016
Member, Search Committee for Mathematics Education position	2015-2016
Faculty Sponsor, Pi Mu Epsilon (Tennessee Gamma Chapter, MTSU)	2012-2014
Member, Tenure and Promotion Guidelines Committee	2013-2014
Member, Course Redesign Committee (MATH 1730)	2013-2014
Member, Undergraduate Program Policy Committee	2012-2013

Community Service:

Supervisor, Club MARVEL November 10, 2012; November 16, 2013; November 14, 2014
Supervised pre-service teacher candidates (enrolled in MATH 3320) as they taught mathematics lessons to at-risk student participants of Club MARVEL from Murfreesboro City Schools.

Instructor, Camp PRISM June 3, 2013; May 28 and June 3, 2014

- (May 28 and June 3, 2014) Collaborated with Dr. Chris Stephens and Mr. Wesley Baxter to co-plan and implement a lesson (titled, “A Day at the Theme Park”) to engage middle grades students in modeling with mathematics.
- (June 3, 2013) Collaborated with Dr. Jeremy Strayer to co-plan and implement a lesson to help middle grades students in Camp PRISM (from Murfreesboro City Schools) gain a deeper understanding of the mean in statistics. See MTSU news video at <http://www.youtube.com/watch?v=AnRTpswPrLU>

Tutor, Suncoast Area Teacher Training Tutor-a-Bull Program Fall, 2010
Tutored seventh and eighth grade students in a local middle school in mathematics.

After School Math Club Supervisor/Tutor Spring, 2010
University Area Community Center, Tampa, FL
Assisted Dr. Vomvoridi-Ivanovic in the After School Math Club for elementary students (grades K-5). Responsibilities included supervision of pre-service elementary teachers and tutoring/teaching mathematics to elementary school students.

Volunteer/Student Teacher January-June, 2009
Greco Middle School, Temple Terrace, FL
Assisted classroom teachers with instruction of eighth grade mathematics.

PROFESSIONAL AFFILIATIONS

National Council of Teachers of Mathematics (2008-present)

Association of Mathematics Teacher Educators (2009-present)

Tennessee Association of Mathematics Teacher Educators (2012-present)

Middle Tennessee Mathematics Teachers (2012-present)

National Council of Supervisors of Mathematics (2013-present)