

# Molly H. Fisher, Ph.D.

**Associate Professor, Mathematics Education**  
**Director of Graduate Studies for STEM Education**

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## Education

Ph.D. (August, 2009). University of North Carolina at Charlotte, Charlotte, NC. Curriculum and Instruction, Mathematics Education

Dissertation: *Should I Stay or Should I Go? Stress, Coping, and Retention Among Novice Teachers*  
Chair: Dr. David Royster

M.A. (August, 2005). University of North Carolina at Charlotte, Charlotte, NC. Mathematics Education.

B.A. (May, 2000). University of North Carolina at Charlotte, Charlotte, NC. Mathematics.

## Licensures and Certifications

Advanced Placement Certified, Computer Science A  
NC "M" level teaching license: 9-12 Mathematics  
Blackboard Certified  
Moodle Certified  
Quality Matters Certified (for online course reviews)

## University Teaching Experience

2015 – present: **Associate Professor and Director of Graduate Studies for STEM Education**, College of Education, University of Kentucky, Lexington, KY

- Coordinate, recruit, and administer the STEM Education strand of the Educational Sciences PhD program, Masters of STEM Education program, and Rank I in STEM Education program
- Facilitate graduate students through application process, advising courses, assigning faculty as advisors, and completion of program
- Co-Chair of Masters with Initial Certification (MIC) program in Secondary Science Education, 2012-2013
- Member of Secondary STEM Education program faculty
- Former member of Elementary Education program faculty

- Taught mathematics education courses in the elementary education Teaching and Learning Studio (UKTLS) Model
- Developed and presented seminars for undergraduate students in UKTLS based on theory and research, technology, and cross curricular integration
- Collaborated with colleagues to create one of the first STEM Education departments in the nation.
- Assisted with the creation of a STEM Education master's degree and doctoral degree program
- Developed new hybrid graduate course entitled "SEM 603: Curriculum and Instruction in STEM Education"
- Member of Pre-Service Teacher Preparation Collaborative through the Kentucky Center for Mathematics
- Supervise elementary education practicum students in their field placements
- Supervise secondary mathematics student teachers in their student teaching placements.
- Instructed each of the following courses at least once:
  - SEM 337: Teaching Mathematics in the Elementary School
  - EDC 670: Advanced Studies in the Teaching of Elementary School Mathematics
  - EDC 701: History of Mathematics Education
  - SEM 603: Curriculum and Instruction in STEM Education (hybrid course)
  - SEM 631: Mathematics Pedagogy in the Secondary School
  - SEM 746: Subject Area Instruction in the Secondary School (student teaching seminar, hybrid course)
  - EDU 300: Undergraduate Research Methods for REU Fellows (hybrid course)
  - SEM 421: STEM Education Methods I
  - SEM 423: Assessment in STEM Education
  - SEM 435: STEM Student Teaching in Secondary School
  - SEM 110: Introduction to STEM Education (hybrid course)

2009 – 2015: **Assistant Professor and Director of Graduate Studies for STEM Education**, College of Education, University of Kentucky, Lexington, KY

2006 – 2009: **Lecturer**, Department of Mathematics and Statistics, University of North Carolina at Charlotte, Charlotte, NC.

- Served as the Teacher-In-Residence for 2006-2008
- Taught Mathematics and Mathematics Education courses
- Worked with the Business Learning Community to teach Mathematics courses per the request of the students and College of Business leaders.
- Supervised undergraduate Mathematics students who graded and tutored for my courses.
- Instructed each of the following courses at least once:
  - MATH 1100: College Algebra
  - MATH 1103: Pre-Calculus
  - MATH 1120: Business Calculus
  - MATH 1241: Calculus I
  - MAED 3222: Teaching Mathematics in Grades K-2
  - MAED 3224: Teaching Mathematics in Grades 3-6
  - MAED 3103: Using Technology to Teach Secondary Level Mathematics

## Grant Funding (Awarded, Active)

Mohr-Schroeder, M. (PI), Wilhelm, J. (Co-PI), Testa, S. (Co-PI), Criswell, B. (Co-PI), Walcott, B (Co-PI), Amick, L. (Senior Personnel), **Fisher, M.H. (Senior Personnel)**, Stallones, J. (Senior Personnel), Cooper, R. (Senior Personnel), Jaromczyk, J. (Senior Personnel), Royster, D. (Senior Personnel). (*awarded*, 2018). UK Noyce STEM PLUS: Producing Leaders for Urban/rUral Schools. NSF NOYCE Grant, \$1,200,000.

**Fisher, M.H. (PI)**, Wilhelm, J. (Co-PI) (*awarded*, 2015). REU Site: STEM CATS: Creating Academic Teacher Scholars in STEM Education. NSF REU Grant, \$360,656.

Thomas, J. (PI), **Fisher, M.H. (PI)**, Schack, E.O. (PI), Jong, C. (Co-PI), Gabbard, A. (Senior Personnel), Goodson-Espy, T (Senior Personnel). (*awarded*, 2014). Collaborative Research: Project TECHNO: TECHNOlogy-Centered Mathematical Noticing. NSF IUSE Grant, \$499,813.

## Grant Funding (Awarded, Expired)

**Fisher, M.H. (PI)**, Bouwma-Gearhart, J. (Co-PI), Wilhelm, J. (Co-PI) (*awarded*, 2012). REU Site: Supporting Undergraduate Research Fellows In Timely STEM Education Research Via the University of Kentucky's STEM Education Research Laboratory. NSF REU Grant, \$316,494.

Schack, E.O. (PI), Thomas, J. (PI), **Fisher, M.H. (PI)**, Eisenhardt, S. (Co-PI) (*awarded*, 2011). Collaborative Research: Noticing Numeracy Now! NSF Transforming Undergraduate Education in STEM (TUES), \$199,955.

**Fisher, M.H. (PI)** (*awarded*, 2011). Building SPEED: The Mathematics and Science of NASCAR. University of Kentucky Summer Faculty Research Fellowship. \$7,000.

## Grant Funding (Pending)

Wilhelm, J. (PI), **Fisher, M. (Co-PI)**, Criswell, B. (Co-PI), Guiton, B. (Co-PI), Wilhelm, R. (Co-PI), Amick, L. (SP), Osterhage, J. (SP), Mohr-Schroeder, M. (SP), Lumpp, J. (SP), and Hinds, S. (SP). (*pending*, 2018). K-TIES: Kentucky Teachers Improving Education in STEM. NSF Noyce, Track 2. \$2,958,557.

## Grant Funding (Unfunded)

Amick, L. (PI), Martinez, J. (co-PI), **Fisher, M.H. (co-PI)**. (*unfunded*, 2018). The SEC Network: Secondary Early Career Network (for mathematics educators). CPM Extensive Research Grant, \$250,000.

Jong, C. (PI), **Fisher, M.H. (Co-PI)**, Thomas, J. (Co-PI), Schack, E.O. (PI), Lavery, M. (PI). (*unfunded*, 2017). COLLABORATIVE RESEARCH: Categorizing Decisions in Mathematical Contexts (Cat-DMC). NSF ECR Grant, \$1,321,261

Jong, C., **Fisher, M.H.**, Thomas, J., Wilhelm, J. (*unfunded*, 2016). Collaborating to Conceptualize and Measure Teacher Noticing in Critical Mathematics and Science Contexts: A Conference Proposal to the American Educational Research Association, \$34,169.

- Fisher, M.H. (PI)**, Thomas, J. (PI), Jong, C. (Co-PI), Schack E.O. (Co-PI), Murphy T.J. (Co-PI) (*unfunded, 2013*). Project TECHNO: TECHnology-centered Mathematical NOTicing. Kentucky Department of Education MSP Grant, \$320,000.
- Wilhelm, R. (PI), Wilhelm, J. (Co-PI), Royster, D. (Co-PI), Lester, T. (Co-PI), Duncan, C. (Co-PI), **Fisher, M. H. (Senior Personnel)** (*unfunded, 2013*). STEM STREAMS: Systemic Teaching and Research Engagement in Applied Mathematical Sciences: A Rural Recruitment and Retention Initiative. NSF STEP Grant, \$1,999,756.
- Mohr-Schroeder, M. (PI), Wilhelm, J. (Co-PI), Jackson, C. (Co-PI), Feese, N. (Co-PI), Lee, C. (Co-PI), **Fisher, M. H. (Senior Personnel)** (*unfunded, 2013*). STEM PLUS: Producing Leaders for rUral/sUburban/Urban Schools. NSF MSP Grant, \$7,611,054.
- Thomas, J. (PI), **Fisher, M.H. (PI)**, Schack, E.O. (PI), Jong, C. (Co-PI), Gabbard, A. (Senior Personnel), Goodson-Espy, T (Senior Personnel). (*unfunded, 2013*). TECHNO: Technology-Centered Mathematical Noticing. NSF TUES Type 2 Grant, \$600,000.
- Wilhelm, J. (PI), **Fisher, M.H. (Co-PI)**, Jackson, C. (Co-PI), Schroeder, M. (Co-PI), Wilhelm, R. (Co-PI), (*unfunded, 2013*). Teachers Experience Project-Based STEM: Curriculum, Research, and Networks. NASA Grant, \$500,000.

## Refereed Publications

- Fisher, M.H., Thomas, J., Jong, C., Schack, E.O., Dueber, D. (in press). Comparing Preservice Teachers' Professional Noticing Skills in Elementary Mathematics Classrooms. *School Science and Mathematics*.
- Roark, R., Cummane, P., Flanery, B., Jong, C., Fisher, M.H. (2018). Preservice Elementary Teachers' Perceptions of Factors that Influence Mathematics Teaching Effectiveness. *Virginia Mathematics Teacher*(44), 2, pp. 22-25.
- Fisher, M. H., Thomas, J., Schack, E. O., Jong, C., Tassell, J. (2018). Noticing Numeracy Now! Examining Changes in Preservice Teachers' Noticing, Knowledge, and Attitudes. *Mathematics Education Research Journal*(30), 2, pp. 209-232.
- Thomas, J., Jong, C., Fisher, M. H., Schack, E. O. (2017). Noticing and Knowledge: Exploring Theoretical Connections between Professional Noticing and Mathematical Knowledge for Teaching. *The Mathematics Educator*(26), 2, pp. 3-25.
- Fisher, M.H., Schack, E.O., Jong, C., Thomas, J. (2017). Noticing Pre-Service Teachers' Attitudes Toward Mathematics: Comparing Traditional and Technology-Mediated Approaches. In E. Galindo & J. Newton, (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 941-944). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Jong, C., Thomas, J., Fisher, M. H., Schack, E. O., Davis, M., Bickett, M. (2017). Decimal Dilemmas: Interpreting and Addressing Misconceptions. *Ohio Journal of School Mathematics*(75), pp. 14-22.

- Fisher, M. H. and Royster, D. (2016). Mathematics Teachers' Support and Retention: Using Maslow's Hierarchy to understand Teachers' Needs. *International Journal of Mathematics Education in Science and Technology* (47), 7, pp. 993-1008.
- Schack, E. O., Fisher, M. H., Jong, C., Thomas, J. (2015). Flowcharts to Evaluate Responses to Video-based Professional Noticing Assessments. In Bartell, T. G., Bieda, K. N., Putnam, R. T., Bradfield, K., Dominguez, H. (Eds.). (2015). *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. East Lansing, MI: Michigan State University.
- Thomas, J., Fisher, M. H., Jong, C., Schack, E. O., Krause, L., Kasten, S. (2015). Professional Noticing: Learning to Teach Responsively. *Mathematics Teaching in the Middle School* (21), 4, pp. 238-243.
- Thomas, J., Eisenhardt, S., Fisher, M. H., Schack, E. O., Tassell, J., Yoder, M. (2014/2015). Professional Noticing: Developing Responsive Mathematics Teaching. *Teaching Children Mathematics*(21), 5, pp. 294-300.
- Flanery, B., Roark, R., Cummane, P., Fisher, M.H., Jong, C. (2014). Using Professional Noticing in Elementary School Mathematics. *Virginia Mathematics Teacher*(41), 1, pp. 21-23.
- Correia, J. and Fisher, M.H. (2014). Froebel Gifts: A Tool to Reinforce Conceptual Knowledge of Fractions. *Ohio Journal of School Mathematics, (Spring 2014)*, 69, pp. 31-35.
- Eisenhardt, S., Fisher, M. H., Thomas, J., Schack, E. O., Tassell, J., Yoder, M. (2014). Is it Counting or is it Adding? *Teaching Children Mathematics* (20), 8, pp. 498-507.
- Schack, E. O., Fisher, M.H., Thomas, J., Jong, C., Eisenhardt, S. (2013). Learning to Professionally Notice: Preservice Elementary Teachers' Attitudes Toward Mathematics in Context. In Martinez, M., Castro Superfine, A. (Eds.). (2013). *Proceedings of the 35th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Chicago, IL: University of Illinois at Chicago.
- Schack, E. O, Fisher, M. H., Thomas, J., Eisenhardt, S., Tassell, J., Yoder, M. (2013). Prospective Elementary School Teachers' Professional Noticing of Children's Early Numeracy. *Journal of Mathematics Teacher Education* (16), pp. 379-397. (DOI) 10.1007/s10857-013-9240-9
- Wilder, J.M., and Fisher, M.H. (2013). All Knotted Up. *Mathematics Teacher*. (107)2, p. 160.
- Fisher, M.H., Schack, E.O., Thomas, J., Eisenhardt, S., Yoder, M., and Tassell, J. (2012). The Stages of Early Arithmetic Learning: A Context for Learning to Professionally Notice. In Van Zoest, L. R., Lo, J.-J., Kratky, J. L. (Eds.). (2012). *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Kalamazoo, MI: Western Michigan University.
- Fisher, M.H. (2011). Factors Influencing Stress, Burnout, and Retention of Secondary Teachers. *Current Issues in Education* (14), 1.
- Eisenhardt, S., Fisher, M.H., Schack, E.O., Tassell, J., Thomas, J., (2011). Noticing Numeracy Now (N<sup>3</sup>): A collaborative research project to develop preservice teachers' abilities to professionally notice children's mathematical thinking. Cincinnati, OH: *Research Council on Mathematics Learning Conference Proceedings*.

Fisher, M.H. (2010). Mathematics Teacher Retention: Four Teachers Viewpoints on Stress in the Profession. In Brosnan, P., Erchick, D. B., Flevaris, L. (Eds.). *Proceedings of the 32nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (PME-NA – Columbus, OH). Vol. VI, 1446-1454.

Chae, J.L., Lim, J.H., and Fisher, M.H. (2009). Teaching Mathematics at the College Level: International TA's Transitional Experiences. *PRIMUS* (19)3, pp. 245-259.

## Books and Editorships

Schack, E.O, Fisher, M.H., Wilhelm, J (Eds.) (2017). Teacher Noticing – Bridging and Broadening Perspectives, Contexts, and Frameworks. In, *Research in Mathematics Education* series. Springer. New York: NY.

Fisher, M.H. (2012). Models of Support Strand Commentary. In California Mathematics Project. *Monograph: Mathematics Teacher Retention*. Los Angeles, CA: Author.

## Book Chapters

Wilhelm, J. and Fisher, M.H. (in press). Preparing STEM Teachers as Researchers: A Research Experiences for Undergraduates Project. In Doig B. and Williams J. (Eds.) *Interdisciplinarity: A Glass Half Full*. Springer Publishing.

Fisher, M. H., Jong, C., Thomas, J. N., Schack, E. O. (2017). Noticing pre-service teachers' attitudes toward mathematics in traditional and online classrooms. In Polly, A., Putnam, M., Petty, T., Good, A.J. (Eds.) *Handbook of Research on Innovative Practices in Teacher Preparation and Graduate-Level Teacher Education Programs*. IGI Global Publishing.

Fisher, M. H., Schack, E. O., Thomas, J., Jong, C., Eisenhardt, S., Tassell, J., Yoder, M. (2014). Examining the Relationship Between Preservice Elementary Teachers' Attitudes Toward Mathematics and Professional Noticing Capacities. In Lo, J. J., Leatham, K. R., and Van Zoest, L. R. (Eds.). (2014). *Research Trends in Mathematics Teacher Education*, pp. 219-237.

Fisher, M.H. (2012). From Student Behavior to CYA: Challenges Contributing to Secondary Teacher Stress and Retention. In California Mathematics Project. *Monograph: Mathematics Teacher Retention*. Los Angeles, CA: Author.

Lambert, R., McCarthy, C., McCarthy, C., Crowe, E., Fisher, M.H. (2012). Assessment of teacher demands and resources: Relationship to stress, classroom structural characteristics, job satisfaction, and turnover. In McCarthy, C., Lambert, R., Ullrich, A. (eds.). *International Perspectives on Teacher Stress*, Charlotte, NC: Information Age Publishing.

## Other Publications

Schack, E. O., Fisher, M. H., Thomas, J., (2015). Teacher Noticing: An Emerging Area of Research. Book Review in *Journal for Research in Mathematics Education* (46), 3, pp. 371-375.

Fisher, M.H., Royster, D.C., Leslie-Pelecky, D. (2010). Portfolio Brief: NASCAR's Use of the Fundamental Theorem of Calculus. In Tan, Soo (author). (2010). *Applied Calculus for the Managerial, Life, and Social Sciences: A Brief Edition*. Cengage Learning. Pg. 431. (also used in subsequent editions of text)

## Conference Proceedings (Non-refereed)

Wilhelm, J., Fisher, M.H. (2018). Fostering Pre-service Teachers' Undergraduate Success: An REU Program in STEM Education. New York, NY: American Educational Research Association Conference.

Thomas, J., Dueber, D., Fisher, M.H., Jong, C., Schack, E.O. (2018). Professional Noticing into Practice: An Examination of Inservice Teachers' Conceptions and Enactment. New York, NY: American Educational Research Association Conference.

Eisenhardt, S., Fisher, M. H., Schack, E.O, Tassell, J., Thomas, J., Yoder, M. (2013). The Impact of a Professional Noticing Numeracy Module on Elementary Preservice Teachers' Attitudes Towards mathematics. San Francisco, California: American Educational Research Association Conference.

Thomas, J., Schack, E.O., Fisher, M.H., Eisenhardt, S., Yoder, M., Tassell, J. (2012). Noticing Numeracy Now (N<sup>3</sup>): Pre-service Teachers' Abilities to Attend to Children's Mathematical Thinking. Vancouver, BC, Canada: American Educational Research Association Conference.

Fisher, M.H. (2007). Retaining Beginning Mathematics Teachers in the United States. In D. Pugalee, A. Rogerson, and A. Schinck (Eds.), *Mathematics Education into the 21<sup>st</sup> Century Project: Vol. 9*. (pp. 194-198).

## International Conference Presentations

Wilhelm, J., Fisher, M.H. (2017). Preparing Preservice Teachers as Researchers: An REU Experience in STEM Education. *European Science Education Research Association Conference*. Dublin, Ireland.

Fisher, M., Schack, E., Thomas, J., Jong, C. (July 2016). Changes in Pre-Service Teachers' Attitudes Toward Mathematics: Differences In Traditional and Online Approaches. Poster. *13<sup>th</sup> International Congress on Mathematical Education*. Hamburg, Germany.

Wilhelm, J., and Fisher, M. H. (July 2016). Preparing STEM Teachers as Researchers: A Research Experiences for Undergraduates Program. Poster. *13<sup>th</sup> International Congress on Mathematical Education*. Hamburg, Germany.

Fisher, M. H., Wilhelm, J. (September 2015). STEM Education Research Experiences for Undergraduates: Preparing Teachers as Researchers. *European Science Education Research Association Conference*. Helsinki, Finland.

Fisher, M. H., Schack, E. O., Wilhelm, J., Thomas, J., McNall-Krall, R., Jong, C. (July 2014). Teacher Noticing: A Hidden Skill of Teaching. Working Session for the *International Group for the Psychology of Mathematics Education*. Vancouver, British Columbia.

Fisher, M.H. (January 2010). Factors Influencing Stress, Burnout, and Retention of Secondary Teachers in the United States. *Hawaii International Conference on Education*. Honolulu, HI.

Fisher, M.H. (July 2010). Should I Stay or Should I Go? A Study of Stress, Burnout, and Retention of Secondary Teachers in the United States. *Paris International Conference on Education, Economy, and Society*. Paris, France.

Fisher, M.H. (April 2007). Retaining Beginning Mathematics Teachers in the United States. *Mathematics Education for the 21<sup>st</sup> Century Conference*. Charlotte, NC.

## National Presentations

Wilhelm, J., Fisher, M.H. (April 2018). Fostering Pre-service Teachers' Undergraduate Success: An REU Program in STEM Education. To be presented at the American Educational Research Association Conference. New York, NY.

Thomas, J., Dueber, D., Fisher, M.H., Jong, C., Schack, E.O. (April 2018). Professional Noticing into Practice: An Examination of Inservice Teachers' Conceptions and Enactment. To be presented at the American Educational Research Association Conference. New York, NY.

Fisher, M.H., Davis, M., Thomas, J., Jong, C., Schack, E.O. (November 2017). Analyzing Preservice Elementary Teachers' Content Knowledge using the TEDS-M Assessment. Presented at the School Science and Mathematics Association Conference. Lexington, KY.

Fisher, M.H., Crawford, B. (November 2017). "From School of Crisis to Distinguished": Mathematics' Role in Transforming a Rural School. Presented at the School Science and Mathematics Association Conference. Lexington, KY.

Fisher, M.H., Schack, E.O., Jong, C., Thomas, J. (October 2017). Noticing Pre-Service Teachers' Attitudes Toward Mathematics: Comparing Traditional and Technology-Mediated Approaches. North American Chapter of the International Group for the Psychology of Mathematics Education. Indianapolis, IN.

Schack, E.O., Thomas, J., Fisher, M.H. (April 2017). Decimal Operations: Making Meaningful Moves from Misconceptions. National Council of Teachers of Mathematics Annual Meeting. San Antonio, TX.

Jong, C., Schack, E.O., Thomas, J., Fisher, M.H. (April 2017). Developing an Adaptable Instrument to Measure Professional Noticing Skills. National Council of Teachers of Mathematics Research Conference. San Antonio, TX.

Fisher, M. H., Jong, C., Thomas, J., Schack, E. O. (January 2016). Implementing an Online Professional Noticing Module and its Effects on Attitudes Towards Mathematics. American Association of Mathematics Teacher Educators Conference. Irvine, CA.

Amick, L., Fisher, M., Mohr-Schroeder, M. (January 2016). Using the Professional Noticing Framework to Assess Secondary Preservice Mathematics Teacher Knowledge. American Association of Mathematics Teacher Educators Conference. Irvine, CA.



- Thomas, J., Jong, C., Schack, E. O., Fisher, M. H., Wilhelm, J., Stockero, S. (November 2015). Teacher Noticing: A Hidden Skill of Teaching. Working Session for the North American Chapter of the Psychology of Mathematics Education. East Lansing, MI.
- Schack, E. O., Fisher, M. H., Jong, C., Thomas, J. (November 2015). Flowcharts to Evaluate Responses to Video-based Professional Noticing Assessments. North American Chapter of the International Group for the Psychology of Mathematics Education. East Lansing, MI.
- Thomas, J., Schack, E. O., Fisher, M. H., Jong, C., Tassell, J. (April 2015). Trajectory-Based Measures of Professional Noticing Capacities. American Association of Mathematics Teacher Educators Conference. Orlando, FL.
- Jong, C., Schack, E. O., Thomas, J., Fisher, M. H. (April 2015). Flowcharts to Assess Professional Noticing: Methods for Coding Open-ended Responses. National Council of Teachers of Mathematics Research Conference. Boston, MA.
- Fisher, M. H., Wilhelm, J. (November 2014). Examining REU Fellows' Research Expectations as They Begin a Research-Intensive STEM Program. School Science and Mathematics Association Convention. Jacksonville, FL.
- Schack, E. O., Eisenhardt, S., Fisher, M. H., Jong, C., Tassell, J., Thomas, J. (April 2014). An Instructional Model to Develop Preservice Teachers Professional Noticing Skills. National Council of Teachers of Mathematics Research Conference. New Orleans, LA.
- Fisher, M. H., Thomas, J. Eisenhardt, S., Schack, E. O., Jong, C., Tassell, J. (April 2014). Correlating Professional Noticing and Mathematics Knowledge for Teaching. National Council of Teachers of Mathematics Research Conference. New Orleans, LA.
- Schack, E. O., Fisher, M. H., Thomas, J. (November 2013). Look Before You Leap: Using Children's Thinking to Target Instruction. National Council of Teachers of Mathematics Regional Meeting. Louisville, KY.
- Schack, E. O., Fisher, M.H., Thomas, J., Jong, C., Eisenhardt, S. (November 2013). Learning to Professionally Notice: Preservice Elementary Teachers' Attitudes Toward Mathematics in Context. North American Chapter of the International Group for the Psychology of Mathematics Education. Chicago, IL.
- Eisenhardt, S., Fisher, M.H., Schack, E.O, Thomas, J., Tassell, J., Yoder, M. (April 2013). The Impact of a Professional Noticing Numeracy Module on Elementary Preservice Teachers' Attitudes Toward Mathematics. American Educational Research Association Conference. San Francisco, CA.
- Fisher, M.H., Schack, E.O. (January 2013). Noticing Numeracy Now: Preservice Teachers' Noticing of Children's Mathematical Thinking. National Science Foundation CCLI/TUES PI meeting. Washington, DC. (poster presentation)
- Fisher, M.H., Schack, E.O. (November 2012). Measuring Professional Noticing: Rubric Development and Calibration. Mid South Educational Research Association Conference (MSERA). Lexington, KY. (poster presentation)
- Fisher, M.H., Schack, E.O., Thomas, J., Eisenhardt, S., Yoder, M., and Tassell, J. (November 2012). The Stages of Early Arithmetic Learning: A Context for Learning to Professionally Notice. North American

Chapter of the International Group for the Psychology of Mathematics Education Conference (PME-NA). Kalamazoo, MI.

Thomas, J., Schack, E.O., Fisher, M.H., Eisenhardt, S., Yoder, M., Tassell, J. (April 2012). Noticing Numeracy Now (N<sup>3</sup>): Pre-service Teachers' Abilities to Attend to Children's Mathematical Thinking. American Educational Research Association Conference. Vancouver, BC, Canada.

Fisher, M.H. (March 2012). Using Maslow's Hierarchy to Prioritize Teachers' Needs and Understand Mathematics Teacher Retention. Mathematics Teacher Retention Symposium. Los Angeles, CA.

Fisher, M.H. (February 2012). Using Maslow's Hierarchy to Understand Teacher Retention. Fort Worth, TX: Association of Mathematics Teacher Educators Conference. (poster presentation)

Thomas, J., Fisher, M.H., Schack, E.O. (February 2012). Noticing Numeracy Now (N<sup>3</sup>): Developing Preservice Teachers' Professional Noticing of Children's Mathematical Thinking. Association of Mathematics Teacher Educators Conference. Fort Worth, TX.

Fisher, M.H., Thomas, J., Schack, E.O., Eisenhardt, S. (October 2011). Noticing Numeracy Now (N<sup>3</sup>): Focusing on Children's Mathematical Thinking. National Council of Teachers of Mathematics, Regional Conference. St. Louis, MO.

Thomas, J., Schack, E.O., Fisher, M.H., Eisenhardt, S., Tassell, J., Yoder, M. (April 2011). Noticing Numeracy Now (N<sup>3</sup>): A Collaborative Effort to Bolster Preservice Teachers' Professional Noticing of Students' Mathematics. Math Recovery Conference. Louisville, KY.

Eisenhardt, S., Fisher, M.H., Schack, E.O., Tassell, J., Thomas, J., (March 2011). Noticing Numeracy Now (N<sup>3</sup>): A Collaborative Research Project to Develop Preservice Teachers' Abilities to Professionally Notice Children's Mathematical Thinking. Research Council on Mathematics Learning. Cincinnati, OH.

Fisher, M.H. (October 2010). Mathematics Teacher Retention: Four Teachers Viewpoints on Stress in the Profession. North American Chapter of the International Group for the Psychology of Mathematics Education Conference (PME-NA). Columbus, OH.

Chae, J.L., Fisher, M.H. (March 2008). Teaching Mathematics at the College Level: International TA's Transitional Experiences American Educational Research Association, New York, NY. (poster presentation)

## **Local Conference Presentations and Workshops**

Thomas, J. N., Jong, C., Fisher, M. H., Kinne, L., Tassell, J. (April 2016). Mathematics Teaching and Learning in Online and Technology-Mediated Contexts: A Forum for Guided Discussion. Kentucky Mathematics Educators (KMED) Conference. Lexington, KY.

Fisher, M. H., Jong, C., Thomas, J. N., Davis, M., Bickett, M. (April 2016). Undergraduate Involvement in Mathematics Education Research: Insights from Students' Perspective. Kentucky Mathematics Educators (KMED) Conference. Lexington, KY.

- Amick, L., Fisher, M. (March 2016). Using Professional Noticing to Respond to Student's Mathematical Understandings and Inform Productive Decision Making. KCM Annual Conference. Lexington, KY.
- Wilhelm, J., Fisher, M. H., Jong, C., Jackson, C., Krall, R.M., Mohr-Schroeder, M., Criswell, B. (October 2013). STEM Education: Bridging Disciplines, Bridging Generations, Bridging Cultures. Innovate to Learn Institute. Lexington, KY.
- Fisher, M., Schroeder, M., Wilhelm, J., Jackson, C., Jong, C. (March 2012). Pursuing a Graduate Degree in STEM Education: The Facts and Myths. Kentucky Center for Mathematics Annual Conference. Lexington, KY.
- Fisher, M., Thomas, J., Eisenhardt, S. (February 2012). Noticing Numeracy Now (N3): Developing Preservice Teachers' Professional Noticing of Children's Mathematical Thinking. University of Kentucky STEM Conference. Lexington, Kentucky.
- Bouwma-Gearhart, J. L., Bouwma-Gearhart, A., Fisher, M.H. (December 2011). Meeting the New Science Standards: Engaging Students in Modeling-Based Inquiry Collaboration and Communication Via Instructional Technology. AdvancED/UK College of Education 2011 Innovation Summit. Lexington, KY.
- Fisher, M.H., Royster, D.C., Wilhelm, J. (July 2011). Building SPEED: The Mathematics of NASCAR. Lexington, KY. (workshop presentation)
- Fisher, M.H., Thomas, J., Schack, E.O. (April 2011). Noticing Numeracy Now (N<sup>3</sup>): A Collaborative Effort to Bolster Preservice Teachers' Professional Noticing of Students' Mathematics. UK STEM Education Research Conference. Lexington, KY.
- Schack, E.O., Thomas, J., Fisher, M.H., Eisenhardt, S., Tassell, J., Yoder, M., Higgins, P. (February 2011). Noticing Numeracy Now (N<sup>3</sup>): A Collaborative Research Project to Develop Preservice Teachers' Abilities To Professionally Notice Children's Mathematical Thinking. Kentucky Center for Mathematics Conference. Lexington, KY.
- Royster, D.C., Fisher, M.H., Wilhelm, J. (November 2010). Building SPEED: The Mathematics and Science of NASCAR. Lexington, KY. (workshop presentation)
- Fisher, M.H., Schack, E.O. (2010). N<sup>3</sup>: Noticing Numeracy Now. Kentucky Council of Teachers of Mathematics. Somerset, KY.
- Fisher, M.H., Schnittka, C. (2010). P20: STEM Innovation Lab. Next Generation Learning Summit. Lexington, KY.
- Leslie-Pelecky, D., Royster, D.C., Fisher, M.H., Wilhelm, J. (February 2010). Building SPEED: The Mathematics and Science of NASCAR. Lexington, KY. (workshop presentation)
- Royster, D.C., Fisher, M.H. (2009). Building SPEED: Mathematics of NASCAR. Kentucky Council of Teachers of Mathematics. Paris, KY.
- Fisher, M.H. (2004). Advanced Placement Computer Science National Conference Review. Charlotte, NC: Charlotte-Mecklenburg Schools. (workshop presentation)

Fisher, M.H. (2003). Advanced Placement Computer Science Textbook Workshop. Charlotte, NC: Charlotte-Mecklenburg Schools. (workshop presentation)

## Graduate Committees (Chair)

- James Taylor, PhD in STEM Education
- Micah Smith, PhD in STEM Education
- Morgan Dow, MS in STEM Education
- Melanie Williamson, PhD in STEM Education
- Ferguson, Jennifer, PhD in STEM Education
- Ben Crawford, MS in STEM Education, graduated August 2018
- French, Brandon, MS in STEM Education, graduated May 2016
- Bixler, Sharon, PhD in STEM Education, graduated August 2016

## Graduate Committees (Other Roles)

- Jordan Findley, PhD in School Psychology, committee member
- Heather Chapman, MS in STEM Education, committee member
- Jeffery Slye, PhD in Mathematics, committee member
- Ashley Ziegler, PhD in Nursing, committee member
- Bonita Tyler, EdD in Educational Policy Studies and Evaluation, committee member
- Drew Wilkerson, EdD in Educational Policy Studies and Evaluation, committee member
- Shane Clark, PhD in Mathematics, committee member
- Hood, Dawn, PhD in STEM Education, committee member
- Nelson, Darlene, EdD in Mathematics Education, committee member
- Karkelanova, Anushka, EdD in Mathematics Education, committee member
- Hu, Shanshan, PhD in Educational Psychology, committee member, graduated May 2018
- Miller, Jamie-Marie, PhD in STEM Education, committee member, graduated December 2017
- Mills, Jodi, PhD in STEM Education, committee member, graduated May 2016
- Moorhead, Lauren, MS in STEM Education, committee member, graduated May 2016
- Thomas, Megan, PhD in Educational Psychology, consultant, graduated December 2012
- Sengupta, Aparajita, PhD in English, outside examiner, graduated December 2010
- Magruder, Robin, PhD in Mathematics Education, committee member, graduated December 2012
- Roan-Belle, Clarissa, PhD in Educational, School, and Counseling Psychology, outside examiner, graduated May 2013
- Master's Committees for Masters with Initial Certification program in Mathematics Education: 65
- Master's Committees for Masters in Elementary Education: 4

## K-12 Teaching and Administrative Experience

2008 – 2016: **CTE and Mathematics Department Chair (part-time)**, North Carolina Virtual Public School.  
2008 – 2016: **Mathematics and AP Computer Science Teacher (part-time)**, North Carolina Virtual Public School.

2005 – 2006: **Mathematics Teacher**, Lake Norman High School, Mooresville, NC.

2000 – 2005: **Mathematics Teacher**, David W. Butler High School, Matthews, NC.

## Other Professional Experience

2010 – 2013: **Co-Director of STEM Innovation Lab**, University of Kentucky, Lexington, KY.

2007 – 2009: **Mathematics Curriculum Reviser and Course Developer**, North Carolina Virtual Public School.

2007 – 2008: **Advanced Placement Summer Institute Coordinator**, University of North Carolina at Charlotte, Charlotte, NC.

2007 – 2009: **Graduate Assistant for Building SPEED: Science Participation: Education, Engagement, and Diversity**, University of North Carolina at Charlotte, Charlotte, NC.

## Awards and Recognitions

- Recipient of North Carolina Council of Teachers of Mathematics Trust Fund Graduate Scholarship for Educators, 2004
- Successfully completed the Performance Based Licensure Portfolio for second year teachers in North Carolina, 2002
- North Carolina Prospective Teachers Undergraduate Scholarship Recipient, 1996-2000
- Goude Educational Undergraduate Scholarship recipient for Mathematics Education majors, 1998-1999, 1999-2000
- Member of Kappa Delta Pi National Honor Society for Educators, 1998-2000, 2007-present
- Nominated for University of Kentucky's Provost's Teaching Award, 2010
- STaR Project Fellow, 2011
- Faculty Mentor of the Week, Office of Undergraduate Research, 2017

## Service to the Profession

- Member of UNCC Curriculum and Instruction Graduate Student Professional Association, 2006-2009
- Treasurer of UNCC Curriculum and Instruction Graduate Student Professional Association, 2006-2007
- President of UNCC Curriculum and Instruction Graduate Student Professional Association, 2007-2008
- Peer Reviewer, Mathematics Teacher, National Council of Teachers of Mathematics, 2009-present
- Peer Reviewer, School Science and Mathematics, 2010-present
- Peer Reviewer, National Association for Research in Science Teaching Annual Conference, 2010
- Member of 2011 STaR fellowship technology committee
- Peer Reviewer, Psychology of Mathematics Education – North America Conference, 2012, 2017, 2018
- Peer Reviewer, Teaching Children Mathematics, National Council of Teachers of Mathematics, 2012-present
- Peer Reviewer, Europe's Journal of Psychology, 2012
- Peer Reviewer, Journal of Physical Education, 2013
- Peer Reviewer, Educational Psychology, 2013
- Peer Reviewer, Journal of STEM Education, 2013
- Peer Reviewer, National Conference for Undergraduate Research, 2014
- National Science Foundation, Grant Panel Reviewer, 2014, 2016, 2018

## Service to the Department, College, and University

- Judge and grader for "Panthers Number Crunch" high school mathematics competition, 2007, 2008
- Assisted in the North Carolina Regional Science Olympiad by scoring and managing two events, 2008,

2009

- Read exam for 2008 Korean Math Competition held at UNCC to offer grammatical changes
- Invited to attend the National Advanced Placement Conference as mathematics representative from Charlotte-Mecklenburg Schools, 2004
- Attended “Achieving Curriculum Diversity” summer workshop for faculty at UNCC, 2007
- Served as reader for the MATH 1100 common final, Spring 2007
- Table leader and discussion leader for “Pursing the Dream” diversity conference, February 2008
- College of Education Social Welfare Committee, 2009-2014, Chair 2013
- Mathematics Education Search Committee Member, 2009
- Kentucky Teacher Internship Program, University Mentor, 2010-present
- Faculty Marshal, UK Graduation, May 2011, May 2012
- College of Education Research Advisory Committee, 2011-2015
- STEM Education Symposium planning committee, 2011-2012
- Science Education Search Committee Member, 2013
- College of Education Staff Recognition Award Committee, 2013
- Clinical Mathematics Education Search Committee, Chair, 2014
- Conducted student teaching site visit for Consortium of Overseas Student Teaching (COST) program in Berlin, Germany, 2014.
- College of Education Courses and Curriculum Committee, 2014-2016
- College of Education technology workgroup, 2014-2015
- College of Education Rules Committee, 2016-2017
- Graduate Recruitment, Retention, and Success Committee, 2015-present, Chair 2017 – present
- Chaired Peer Review Committee to evaluate departmental review of Education Policy and Evaluation Studies Department.
- College of Education Faculty Council, 2017-present
- College of Education Faculty Council Vice President, 2018

## **Professional Associations**

- National Council of Teachers of Mathematics
- North Carolina Council of Teachers of Mathematics
- Kentucky Council of Teachers of Mathematics
- Association of Mathematics Teacher Educators
- School Science and Mathematics Association
- American Educational Research Association
- North American Chapter of the International Group for the Psychology of Mathematics Education