

Margaret Joan Mohr-Schroeder

Professor of STEM Education
Associate Dean for Clinical Preparation and Partnerships

University of Kentucky
KY

Lexington,

Department of STEM Education

mjmohr2@gmail.com

<http://www.margaretmohrschroeder.com>

859.285.0147

ACADEMIC BACKGROUND

Texas A&M University
College Station, TX

PhD, August 2006
Curriculum and Instruction with emphases in Mathematics Education and Educational Research. Dissertation title: *"An assessment of preservice teachers' mathematics knowledge for teaching middle grades mathematics"* under the direction of Dr. Gerald O. Kulm, Curtis D. Robert Professor Emeritus of Mathematics Education.

Pittsburg State University
Pittsburg, KS

MS, July 2004
Mathematics
Advisor – Dr. Elwyn Davis

Pittsburg State University
Pittsburg, KS

BSEd, December 2002
Mathematics with a minor in Biology.

LICENSING AND CERTIFICATION

- Ozobot Certified Educator – 2017
- Kentucky Teacher Internship Program (KTIP) – Professional Growth & Effectiveness System, 2014, 2015
- Kentucky Teacher Internship Program (KTIP) Teacher Educator, 2007
- Distance Learning Certification, Center for Distance Learning and Research, 2005
- Kansas State Licensed Teacher of Mathematics, grades 7-12, 2003
- Kansas State Provisional Licensed Teacher of Biology, grades 7-12, 2003

LEADERSHIP EXPERIENCE

Through my professional work experience, grants and service experience, I have had significant leadership and administrative experiences:

- Built and maintained numerous external partnerships (e.g., K12 schools, industry, business) locally and nationally – 2007 – present
- Budget and resource management, personnel oversight, and undergraduate and graduate research and teaching assistants oversight on simultaneous, multiple grant accounts – 2007 – present
- Create and maintain Clinical Advisory Councils for the College
- Recruit, admit, retain, advise, and supervise undergraduate students; maintain accreditation requirements and reporting; field experience placements and oversight; hire and maintain oversight of field experience supervisors; and handle student personnel matters as they arise as Secondary STEM Education Program Co-Director - 2013 – present (previously, Secondary Mathematics MIC Program Director from 2006 – 2013; and Secondary Math/Science MIC Program Director from 2006 – 2010)

- Policy, assessment and accreditation oversight as a member of the CAEP Quality Assurance System Team at the University of Kentucky – 2017 – present
- Led external review of the College of Engineering - 2015 – 2016
- Elected to Senate Council, executive body of the University Senate – 2016 – present (Vice Chair 2018 – 2019)
- Shepherd all new programs and programs with significant changes through the University Senate as the Senate Academics Program Chair; assure all programs have academic excellence and comply with university rules for creation and implementation; work with faculty proposers, associate deans, and deans throughout the process – 2014 – present
- Led the College of Education Faculty Council; led the creation of the first set of College Rules; co-led the creation of a Modified Duties Policy for Faculty in family situations – 2014 – 2016 (Vice Chair 2013 – 14; 2016 – 17)
- Developed and Implemented a new undergraduate teacher certification dual major, clinically-based program for secondary STEM education – 2011 - 2012
- Co-developed and implemented a new Master’s and PhD program for STEM education – 2010 – 2012
- Spearheaded the creation of a new Department of Science, Technology, Engineering and Mathematics (STEM) Education within the College of Education; led the structural development, paperwork, and shepherded it through the University Senate processes from beginning to end. – 2010 - 2011

PROFESSIONAL WORK EXPERIENCE

- 2018 – present* Associate Dean for Clinical Preparation and Partnerships, College of Education, **University of Kentucky**, Lexington, KY
- 2018 – present* Professor of STEM Education, Department of STEM Education & Department of Mathematics, **University of Kentucky**, Lexington, KY
- 2012-2018* Associate Professor of STEM Education - Mathematics Education, Department of STEM Education & Department of Mathematics, **University of Kentucky**, Lexington, KY
- 2011-2012* Assistant Professor of Middle/Secondary Mathematics Education, Department of STEM Education, **University of Kentucky**, Lexington, KY
- 2006-2011* Assistant Professor of Middle/Secondary Mathematics Education, Department of Curriculum and Instruction, **University of Kentucky**, Lexington, KY
- 2006* Graduate Research Assistant, Teacher Quality Grant, **Texas A&M University**, College Station, TX
- 2005-2006* Learning Assistant for Student Athlete Center, **Texas A&M University**, College Station, TX
- 2004-2006* Graduate Teaching and Research Assistant, Department of Teaching, Learning and Culture, **Texas A&M University**, College Station, TX
- 2003-2004* Adjunct Mathematics Faculty, Department of Mathematics, **Labette Community College**, Parsons, KS
- 2003-2004* Junior High Mathematics Teacher, **St. Marys-Colgan**, Pittsburg, KS
- 2003-2004* Graduate Assistant, Department of Mathematics, Mathematics, **Pittsburg State University**, Pittsburg, KS

2002-2004 Long term Substitute Teacher, High School Mathematics, **St. Marys-Colgan**, Pittsburg, KS

2000-2002 Mathematics Tutor, **Pittsburg State University**, Pittsburg, KS

PUBLICATIONS

+indicates work with graduate student(s)

^indicates work with undergraduate student(s)

Invited Publications

Mohr-Schroeder, M. J. (2015). Foreword. In A. Sahin (Ed.), *A practice-based model of effective science, technology, engineering and mathematics (STEM) education teaching: STEM Students on the State (S.O.S) model*, pp. vii - viii. Rotterdam, The Netherlands: Sense.

Peer Reviewed Journal Articles

Maiorca, C., & **Mohr-Schroeder, M. J.** (accepted – February 2018). Elementary preservice teachers' integration of engineering into STEM lesson plans. To appear in *School Science and Mathematics – Special issue for K12 Engineering Education*.

+^Roberts, O. T., Jackson, C., **Mohr-Schroeder, M. J.**, Bush, S. B., Maiorca, C., Cavalcanti, M., Schroeder, D. C., Delaney, A., Putman, L., & Cremeans, C. (2018). Students' perceptions of STEM learning after participating in a summer informal learning experience. *International Journal of STEM Education*, 5(35). doi: 10.1186/s40594-018-0133-4

Mohr-Schroeder, M. J. (2018). The multiple identities of a mathematics professor mom. *Journal of Humanistic Mathematics*, 8(2), 115 – 126. doi: 10.5642/jhummath.201802.12 Available at: <https://scholarship.claremont.edu/jhm/vol8/iss2/12>

Saderholm, J., Ronau, R., **Mohr-Schroeder, M. J.**, Rakes, C., & Bush, S. (2018). How to promote effective professional development in your district. *American School Board Journal*, August 2018. Available from <https://www.nsba.org/newsroom/american-school-board-journal/asbj-august-2018>

Jackson, C. D., & **Mohr-Schroeder, M. J.** (2018). Increasing STEM literacy via an informal learning environment. *Journal of STEM Teacher Education*, 53(1), Article 4. Available from <https://ir.library.illinoisstate.edu/jste/vol53/iss1/4>

Bush, S. B., Cook, K. L., Ronau, R. N., Rakes, C. R., **Mohr-Schroeder, M. J.**, & Saderholm, J. C. (2018). A highly structured collaborative STEAM program: A case in operationalizing a professional development framework. *Journal of Research in STEM Education*, 2(2), 106-125.

+^Jackson, C. J., **Mohr-Schroeder, M. J.**, Cavalcanti, M., Albers, S., Poe, K., Delaney, A., Chadd, E., Williams, M. & Roberts, T. (2018). Prospective mathematics teacher preparation: Exploring the use of service learning as a field experience. *Fields Mathematics Education Journal*, 3(5). doi: 10.1186/s40928-018-0010-5

Mohr-Schroeder, M. J., Bush, S. B., & Jackson, C. J. (2018). K12 STEM education: Why does it matter and where are we now? *Teachers College Record*. Available from <http://www.tcrecord.org/Content.asp?ContentID=22288>

- Mohr-Schroeder, M. J.**, Ronau, R., Peters, S., Lee, C. W., & Bush, W. (2017). Predicting student achievement using measures of teachers' knowledge for teaching geometry. *Journal for Research in Mathematics Education*, 48(5), 520 – 566. (acceptance rate < 8%; ISI impact factor = 1.552; SJR = 1.976; h5-index = 22)
- Rakes, C. R., Bush, S. B., **Mohr-Schroeder, M. J.**, Ronau, R. N., & Saderholm, J. (2017). Making teacher PD effective using the PrimeD framework. *New England Mathematics Journal*, XLX(1), 52-62. (acceptance rate not available)
- +**Mohr-Schroeder, M. J.**, Jackson, C., Cavalcanti, M., Jong, C., Schroeder, D. C., & Speler, L. (2017). Parents' attitudes toward mathematics and their influence on their students' attitudes towards mathematics: A quantitative study. *School Science and Mathematics*, 117(5), 214-222. doi: 10.1111/ssm.12225 (h5-index = 16; 25% acceptance rate)
- Holloway, L., Qu, L., **Mohr-Schroeder, M. J.**, Azadeh, V., Balda, J. C., Benigni, A., Colliver, D., Dolloff, P., Dougal, R., Faruque, O., Fei, Z., Liao, Y., McCann, R., Nelms, R. M., Singh, V., & Zhou, Q. (2017). A multi-institutional approach to delivering shared curricula for developing a next-generation energy workforce. *IEEE Access: Special Section on Innovations in Electrical and Computer Engineering Education*, 5, 1416 – 1427. doi: 10.1109/ACCESS.2017.2664419 (Impact factor = 3.557; JCR = 0.706) ****Chosen as a featured article for IEEE Access August 2017**
- Saderholm, J., Ronau, R. N., Rakes, C. R., Bush, S. B., & **Mohr-Schroeder, M.** (2016). The critical role of a well-articulated, coherent design in professional development: An evaluation of a state-wide two-week program for mathematics and science teachers. *Professional Development in Education*, 43(5), 789 – 818. doi: 10.1080/19415257.2016.1251485 (RG Impact Factor = 0.92; h-index = 18; SJR = .882/Q1)
- +Jackson, C., **Mohr-Schroeder, M.**, & Little, D. L. (2014). Using informal learning environments to prepare preservice teachers. *Teacher Education and Practice*, 27(2-3), 445-463. (25% acceptance rate)
- +**Mohr-Schroeder, M. J.**, Jackson, C., Miller, M., Walcott, B., Little, D. L., Speler, L., Schooler, W., & Schroeder, D. C. (2014). Developing middle school students' interests in STEM via summer learning experiences: See Blue STEM Camp. *School Science and Mathematics*, 114(6), 291-301. doi: 10.1111/ssm.12079 (h5-index = 16; 25% acceptance rate)
- +Badurdeen, F., Brown, A., Gregory, R., Fu, H., **Schroeder, M.**, Sekulic, D., Vincent, L. & Luhan, G. (2013). Reframing interdisciplinary approaches to systems thinking for sustainability. *Proceedings of the International Symposium on Sustainable Systems and Technology*. doi: 10.6084/m9.figshare.816964.v1
- Eli, J. A., **Mohr-Schroeder, M. J.**, & Lee, C. W. (2013). Mathematical connections and their relationship to mathematics knowledge for teaching geometry. *School Science and Mathematics*, 113(3), 120-134. (h5-index = 16; 25% acceptance rate)
- Badurdeen, F., Gregory, R., Luhan, G., **Schroeder, M.**, Vincent, L., & Sekulic, D. (2012). Systems thinking for sustainability: Envisioning trans-disciplinary transformations in STEM Education. *Proceedings of the International Symposium on Sustainable Systems and Technology*.
- Eli, J. A., **Mohr-Schroeder, M. J.**, & Lee, C. W. (2011). Exploring mathematical connections of prospective middle-grades teachers through card-sorting tasks. *Mathematics Education Research Journal*, 23, 297-319. (SJR = 0.603; h5-index = 10)

+Miriti, L., & **Mohr-Schroeder, M. J.** (2011). Using online social networking to connect university supervisors to secondary mathematics student teachers' experiences. *AMTE Monograph Series*, 7, 57-71. (33% acceptance rate)

Mohr, M. J. (2006). Mathematics knowledge for teaching. *School Science and Mathematics*, 106, 219. (h5-index = 16; 25% acceptance rate)

Mohr, M. (2003). Reading teachers – Option D: Analyze scores. *American Careers: Teaching Guide*, 10, 17, 36. (acceptance rate not available)

Book Chapters

Ronau, R. N., Webb, D. C., Peters, S. A., **Mohr-Schroeder, M. J.**, & Stade, E. (accepted). Mathematical Preparation. To appear in *Mathematics Teacher Education Partnership* (A. Lischka & G. Martin, Eds). (peer reviewed)

Cavalcanti, M., Jackson, C., Maiorca, C., Roberts, O. T., Delaney, A., Bush, S., & **Mohr-Schroeder, M. J.** (accepted). Toward a common vision of STEM literacy. To appear in *STEM education 2.0. myths and truths: What did 10 years of STEM education research in K12 teach us?* (A. Sahin & M. J. Mohr-Schroeder, Eds.).

Sahin, A., & **Mohr-Schroeder, M. J.** (accepted). Informal STEM learning opportunities and their impact on student learning and motivation in STEM. To appear in *STEM education 2.0. myths and truths: What did 10 years of STEM education research in K12 teach us?* (A. Sahin & M. J. Mohr-Schroeder, Eds.).

Sahin, A., & **Mohr-Schroeder, M. J.** (accepted). Final conclusions and implications. To appear in *STEM education 2.0. myths and truths: What did 10 years of STEM education research in K12 teach us?* (A. Sahin & M. J. Mohr-Schroeder, Eds.).

+**Mohr-Schroeder, M. J.**, Jackson, C. D., Cavalcanti, M., & Delaney, A. (2018). Gaining valuable field experience through the use of informal learning environments. In M. E. Strutchens, R. Huang, D. Potari, & L. Losano (Eds.), *Educating prospective secondary mathematics teachers: Knowledge, identity, and pedagogical practices*, pp. 63 – 82. Cham, Switzerland: Springer. (peer reviewed)

Mohr-Schroeder, M. J., Jackson, C., Schroeder, D. C., & Wilhelm, J. (in press – due out 2017). Developing a STEM Education teacher preparation program to help increase STEM Literacy amongst preservice teachers. In P. Jenlink (Ed.), *STEM teaching and Common Core Standards: An interdisciplinary approach*. Lanham, Maryland: Rowman & Littlefield. (peer reviewed)

Schroeder, D. C., Lee, C. W., & **Mohr-Schroeder, M. J.** (2015). Using spatial reasoning for creative design: Merging engineering and mathematical practices. In D. Harrison (Ed.), *Handbook of Research on Digital Media and Creative Technologies*, pp. 306 – 321). IGI Global. doi: 10.4018/978-1-4666-8205-4.ch014 (peer reviewed)

+**Mohr-Schroeder, M. J.**, Cavalcanti, M., & Blyman, K. (2015). STEM education: Understanding the changing landscape. In A. Sahin (Ed.), *A practice-based model of effective science, technology, engineering and mathematics (STEM) education teaching: STEM Students on the State (S.O.S) model*, pp. 3 - 14. Rotterdam, The Netherlands: Sense.

+Magruder, R., & **Mohr-Schroeder, M. J.** (2013). Solving equations is all about balance: Using virtual manipulatives in a middle school classroom. In D. Polly (Ed.), *Common Core Mathematics Standards and Implementing Digital Technologies* (pp. 201 – 214). IGI Global. (peer reviewed)

Mohr, M. (2008). Mathematics knowledge for teaching: The case of preservice teachers. In G. Kulm (Ed.), *Teacher Knowledge and Practice in Middle Grades Mathematics* (pp. 19-44). Rotterdam, The Netherlands: Sense.

Lee, Y., **Mohr, M.**, & Lowry, K. J. (2006). Helping parents and communities reimagine accountability. In K. Sloan (Ed.), *Holding schools accountable: A handbook for educators and parents* (pp. 121-139). Westport, CT: Greenwood Publishing Group. (peer reviewed)

Mohr, M. J. (2006). Performance assessment at the high school level. In D. L. Smith and L. J. Smith (Eds.), *Restructuring high schools: Searching for solutions*. College Station, TX: Mid America Training and Development. (peer reviewed)

Peer Reviewed Conference Proceedings

+Delaney, A., Cavalcanti, M., Jackson, C., & **Mohr-Schroeder, M. J.** (2017). Opening access to all students: STEMing self-efficacy. 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. 1099 – 1102). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators. (25% acceptance rate)

+Delaney, A., Jackson, C., & **Mohr-Schroeder, M. J.** (2017). Developing STEM literacy via an informal learning environment. 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* (p. 1119). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators. (25% acceptance rate)

Lawler, B. R., Ronau, R. N., & **Mohr-Schroeder, M. J.** (2016). From improvements to transformation. In B. R. Lawler, Ronau, R. N., & M. J. Mohr-Schroeder (Eds.), *Proceedings of the fifth annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities. (100% acceptance rate)

Lawler, B. R., Ronau, R. N., & **Mohr-Schroeder, M. J.** (2016). Overview of the Conference. In B. R. Lawler, Ronau, R. N., & M. J. Mohr-Schroeder (Eds.), *Proceedings of the fifth annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities. (100% acceptance rate)

Mohr-Schroeder, M. J., Ellis, M., Smith, W. M., Smalls, D., & Hill, R. (2016). Pathways to program improvement. In B. R. Lawler, Ronau, R. N., & M. J. Mohr-Schroeder (Eds.), *Proceedings of the fifth annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities. (100% acceptance rate)

+Jackson, C., Cavalcanti, M., **Mohr-Schroeder, M.**, & Schroeder, C. (2015). Bolstering teachers STEM literacy via informal learning experiences. In M. J. Mohr-Schroeder, & J. Thomas (Eds.), *Proceedings of the 114th Annual Convention of the School Science and Mathematics Association*. Oklahoma City, OK: SSMA. (57% acceptance rate)

Jackson, C., & **Mohr-Schroeder, M.** (2014). Preparing prospective mathematics teachers to work with students who struggle. In P. Liljedaha, C. Nicol, S. Oesterle, & D. Allan (Eds.), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education and the 36th Annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 112). Vancouver, Canada: PME. (25% acceptance rate)

Mohr-Schroeder, M. J. (2012). To FOIL or not to FOIL. In L. R. Van Zoest, J. –J. Lo, & J. L. Kratky (Eds.), *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 535 – 538). Kalamazoo, MI: Western Michigan University. (25% acceptance rate)

Eli, J. A., **Mohr-Schroeder, M. J.**, & Lee, C. W. (2010). Prospective middle grades teachers' mathematical connections and its relationship to their mathematics knowledge for teaching. In *Proceedings of the 8th annual Hawaii International Conference on Education* (pp. 1367-1418). Honolulu, HI: HICE.

+McCrary, N. E., Henry, L. A., **Mohr, M. J.**, Almasi, J. F., Perry, K. H., Shake, M. C., Grow, L. P., & Mason, J. A. (2008). Conceptualizing a technology-infused problem-based studio model for teacher education and professional development. In M. E. Auer, G. de Salvador Ferreira, & A. Pester (Eds.), *Proceedings of the International Conference on Interactive Computer Aided Blended Learning*. Florianopolis, Brazil: International Association of Online Engineering.

Edited Books

Johnson, C., **Mohr-Schroeder, M. J.**, Moore, T., & English, L. (Eds.). (in preparation – due out in 2019). *The handbook of research on STEM education* (1st ed.). Routledge.

Sahin, A., & **Mohr-Schroeder, M. J.** (Eds.). (in preparation – due out 2019). *STEM education 2.0. Myths and truths: What did 10 years of STEM education research in K12 teach us?* Brill Publishing.

Mohr-Schroeder, M. J., & Thomas, J. (Eds.). (in press). *Proceedings of the 116th annual convention of the School Science and Mathematics Association* (Vol. 4). Lexington, KY: SSMA.

Mohr-Schroeder, M. J., & Thomas, J. (Eds.). (2016). *Proceedings of the 115th annual convention of the School Science and Mathematics Association* (Vol. 3). Phoenix, AZ: SSMA.

Lawler, B. R., Ronau, R. N., & **Mohr-Schroeder, M. J.** (Eds.). (2016). *Proceedings of the fifth annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities.

Mohr-Schroeder, M. J., & Thomas, J. (Eds.). (2015). *Proceedings of the 114th annual convention of the School Science and Mathematics Association* (Vol. 2). Oklahoma City, OK: SSMA.

Mohr-Schroeder, M. J., & Harkness, S. S. (Eds.). (2014). *Proceedings of the 113th annual convention of the School Science and Mathematics Association* (Vol. 1). Jacksonville, FL: SSMA.

Other publications:

Mohr, M. J. (2006). *An assessment of middle grades preservice teachers' mathematics knowledge for teaching*. Doctoral dissertation, Texas A&M University. Available electronically from <http://hdl.handle.net/1969.1/ETD-TAMU-1776>.

Smith, D. L., Ezrailson, C. M., Binks, E., Delzer, L., **Mohr, M. J.**, Warren, C. (2006). *'Connected Teacher' professional development module II: Can reading strategies help improve 8th grade students' TAKS mathematics performance?* Austin, TX: Texas Education Agency.

Publications Under Review:

Rakes, C. R., Ronau, R. N., Saderholm, J., Bush, S. B., & **Mohr-Schroeder, M. J.** (under review). Ramping up the intentionality of PD: Maximizing options through PrimeD. Submitted to *NCSM Journal of Mathematics Education Leadership*. June 2018.

Bush, S. J., **Mohr-Schroeder, M. J.**, Cook, K., Ronau, R., Saderholm, J., & Rakes, C. (under review). Structuring integrated STEM professional development: Challenges revealed and insights gained from a comparative case analysis. Submitted to *Science Education*. May 2018.

Shah, L., **Mohr-Schroeder, M. J.**, Dewar, A., Ray, H. & Rushton, G. (under review). Closing the gap: A longitudinal study of America's public school mathematics teachers. Submitted to *Journal for Mathematics Teacher Education*. December 2017.

Radtke, R., Santillan-Jimenez, E, & **Mohr-Schroeder, M.** (under review). Collaboration by Design: Development of a Video Game for Energy Literacy. Submitted to *International Journal of Design for Learning*. November 2017.

Publications in Process:

Mohr-Schroeder, M. J. (in preparation). Moving toward a STEM literate society: The case for a transdisciplinary STEM education.

Cavalcanti, M., & **Mohr-Schroeder M. J.** (in preparation). Moving toward a common definition of STEM literacy.

Jackson, C., **Mohr-Schroeder, M. J.**, Bush, S., Maiorca, C., Roberts, O. T., Cavalcanti, M., Delaney, A., Chadd, E., Dueber, D., & Schroeder, D. C. (in preparation). Toward an equity-based STEM literacy conceptual framework.

EXTERNAL FUNDING

[^]indicates work with undergraduate student(s)
(Over \$17 million as PI or coPI)

Funding as PI (\$4,781,498)

National Science Foundation – Noyce Track 1. **UK Noyce STEM PLUS: Producing Leaders for Urban/rUral Schools.** **Role: PI.** March 2018 – March 2023. Amount \$1,200,000. Grant No. 1758447.

AstraZeneca – Health and Science Innovation Challenge. **See Blue STEM Camp. Role: PI.** October 2017 – September 2018. Amount \$6,500.

National Science Foundation – NOYCE Track 4. **Collaborative Research: Network retention in Noyce communities of practice.** **Role: PI** with Gregory Rushton, Stonybrook University. April 2017 – March 2020. Amount \$1,026,374. Grant No. 1660665.

National Science Foundation (EPSCoR Track 3). **Utilizing STEM Camps and STEM Clubs to increase interest in STEM fields among females and students of color.** **Role: PI.** October 2013 – September 2018. Amount:

\$749,999. <http://education.uky.edu/STEM/content/seebluestemcamp> (co-PI from October 2013 – May 2014). *Recognized as one of the top 5 NSF national models for broadening participation at the 2015 National EPSCoR Conference, Portsmouth, NH.* Grant No. 1348281.

National Science Foundation (Robert Noyce – Phase II). *UK-NOYCE: New Opportunities Yielding Classroom Excellence – Phase II.* www.uky.edu/PIMSER/programs/NOYCE Role: PI. September 2012 – August 2018. Amount \$800,000. Grant No. 1239968.

Kentucky Center for Mathematics. *See Blue Mathematics Clinic.* <https://sites.google.com/site/ukmathematicsclinic/> Role: PI. July 2012 – August 2013. Amount: \$50,000.

Kentucky Center for Mathematics. *See Blue Mathematics Clinic.* <https://sites.google.com/site/ukmathematicsclinic/> Role: PI. July 2011 – August 2012. Amount: \$50,000.

National Science Foundation (Robert Noyce). *UK-NOYCE: New Opportunities Yielding Classroom Excellence.* www.uky.edu/PIMSER/programs/NOYCE Role: PI. August 2007 – August 2013. Amount \$748,625 (+\$150,000 supplement from KSTC). Grant No. 0733790.

Funding as co-PI (\$14,560,862)

National Science Foundation – IUSE. *Collaborative Research: Using Networked Improvement Communities to Design and Implement Program Transformation Tools for Secondary Mathematics Teacher Preparation.* Role: Co-PI. PI: Gary Martin, University of Auburn. \$150,000. October 2018 – October 2021. Grant No. 1834539.

Council on Postsecondary Education. *Energy is Elementary.* Role: co-PI. PI: Carol Hanley, University of Kentucky, College of Agriculture, Food and Environment. April 2016 – June 2017. Amount: \$110,000.

^American Association of University Women (AAUW). *#IamaWomanInSTEM.* Role: co-PI; Faculty Sponsor. PI: Shelby Albers (REU Student). 2015 – 2016. Amount: \$5000.

Council on Postsecondary Education. *STEM PRIDE: Partnering with Research & Industry to Develop (STEM) Educators for college and career readiness (CCR).* Role: co-PI. PI: Carol Hanley, University of Kentucky, College of Agriculture, Food and Environment. January 2015 – June 2017. Amount: \$274,916.

National Science Foundation (TUES). *Sys-STEM: Systems Thinking for Sustainability.* Role: co-PI. Primary Investigator, Dusan Sekulic, Fellow ASME Professor, Department of Mechanical Engineering, University of Kentucky. August 2011 – August 2015. Amount: \$200,000. Grant No. 1044232.

National Science Foundation (DRK-12). *Geometry Assessments for Secondary Teachers (GAST).* Role: co-PI; Co-PI on subgrant to UK. Primary Investigator, Dr. Bill Bush, University of Louisville with partners University of Kentucky and Alpine Testing Solutions. October 2008 – September 2014. Total Award Amount: \$3,153,856 (UK: \$844,341).

National Science Foundation (Center for Learning and Teaching). *ACCLAIM: Appalachian Collaborative Center for Learning, Assessment and Instruction in Mathematics.* www.acclaim-math.org Role: co-PI on subgrant to UK. Collaborative partnership with University of Tennessee with partners Marshall University, University of Kentucky, Ohio University, University of Louisville, and West Virginia University. Primary Investigator: Vena Long, University of Tennessee. August 2007 – 2011. Total Award Amount: \$10,667,090 (UK: \$1,350,926). (Award was active in 2001 and I came on the grant upon my arrival to UK in August 2007).

Funding as Senior Personnel:

National Science Foundation – REU. **REU Site: STEM – CATS: Creating Academic Teacher Scholars in STEM Education. Role: Senior Personnel.** Primary Investigator, Molly Fisher, Dept. of STEM Education, University of Kentucky. 2016 – 2019. Amount: \$360,656.

Kentucky Department of Education – Gates Foundation. **Mathematics Instructional Learning Community (MILC): Mathematics Development Collaborative.** Role: Senior Personnel – Mathematics Teacher Educator. Primary Investigator: Natalee Feese, Fayette County Public Schools. 2014 – 2016. Amount: \$50,000.

National Science Foundation (REU). **Supporting undergraduate research fellows in timely STEM education research via the University of Kentucky's STEM Education research laboratory.** Role: Senior Personnel. Primary Investigator, Molly Fisher, Dept of STEM Education, University of Kentucky. August 2012 – July 2015. Amount \$300,000.

Kentucky Department of Education (MSP) through US Department of Education. **Fayette County Mathematics Instructional Learning Community (MILC): A Middle School Mathematics Partnership.** Role: Senior Personnel. Primary Investigator: Natalee Feese, Fayette County Public Schools. November 2009 – October 2012. Amount: \$600,000.

Project Lead the Way. **Project Lead the Way.** Role: Senior Personnel. Primary Investigator: Dianne Leveridge, College of Engineering. 2007 – 2010. Amount \$25,000.

Funding as other roles:

National Science Foundation - Noyce. **Capacity Building: StATE-STEM: Strengthening and Advancing Teacher Education in STEM.** Role: Project Mentor (official role for Noyce Capacity Building Projects). Primary Investigator: Dana Franz, Mississippi State University. 2018 – 2019.

Mathematics and Science Partnership – Kentucky Department of Education. **Full STEAM Ahead: Preparing elementary teachers to implement best-practices in integrated STEAM instruction.** Role: External Evaluator. Primary Investigators: Sarah Bush and Kristin Cook, Bellarmine University. 2015 – 2017.

Florida State University. **FCR STEM Summer Institutes.** Role: External Evaluator. Primary Investigator: Rabieh Razzouk. 2014.

Kentucky Department of Education. **Formative Assessment Project.** Role: Algebra 1 team member. Primary Investigator: Bill Bush, University of Louisville. 2009 – 2010.

Texas Education Agency (TEA). **PEICs (PreK thru 16 Educational Improvement Consortia).** Role: Graduate Research Assistant. Dr. Dennie L. Smith, Department of Teaching, Learning and Culture, Texas A&M University, Primary Investigator. August 2005.

Interagency Education Research Initiative (IERI), a joint program of the National Science Foundation, the Department of Education, and the National Institute of Child Health and Human Development. **Middle School Mathematics Project (MSMP).** Total award amount \$5,600,000. Role: Graduate Research Assistant; Project Manager. Dr. Gerald O. Kulm, Curtis D. Robert Professor, Department of Teaching, Learning and Culture, Texas A&M University, Primary Investigator. 2004 – 2006.

In preparation or Submitted (\$7,105,222)

National Institute of Health – SEPA R25. **STEM Through Authentic Research Training (START) Program for Underrepresented Communities. Role: co-PI.** PI: Luke Bradley, College of Medicine, University of Kentucky. Submitted July 2018. \$1,250,000

National Science Foundation – ITEST. **KY STEAM - Strengthening the STEM Pipeline for All Students by Studying the Efficacy of an Inclusive Science, Technology Engineering, Arts, and Mathematics High School. Role: Senior Person.** PI: Brittany Cunningham, CNA Institute for Public Research. Submitted August 2018. \$899,043

National Science Foundation – ITEST. **Collaborative Research: SPReAd: Broadening Participation Research: Increasing Opportunity and Access for Underrepresented Learners in STEM. Role: PI.** Collaborative with Iowa State University, California State University Long Beach and Bowling Green State University. Submitted August 2018. \$1,997,618

National Science Foundation – Noyce. **Noyce K-TIES: Kentucky Teachers Improving Education in STEM. Role: Senior Person.** Submitted August 2018. \$2,958,561

Institute of Education Sciences – Education Research Grants Goal 5. **Instruments for Quantification of Understanding Identity, Reasoning in Engineering STEM (InQUIRES). Role: co-PI.** Primary Investigator: Christa Jackson, Iowa State University. Submitted August 2018. \$1,400,000

Not Funded:

National Science Foundation – DRK12. **Collaborative Research: The *Professional Development: Research, Implementation, and Evaluation* (PrimeD) framework: Advancing teacher professional development and preparation using a common conceptual framework. Role: PI** with Christopher Rakes, University of Maryland – Baltimore County. Submitted November 2017. \$3,000,000

National Science Foundation – ADVANCE. **UK ADVANCE. Role: Senior Personnel – Internal Evaluator.** PI: Elizabeth Lorch, University of Kentucky. Submitted September 2017. \$999,999

National Science Foundation – AISL. **Collaborative Research: Broadening Participation in STEM Education via STEM Camps. Role: PI.** Collaborative with Iowa State University, University of Central Florida, California State University – Long Beach, and Bowling Green State University. Submitted November 2017. \$3,000,000

Institute of Education Sciences – Education Research Grants Goal 5. **Towards a STEM Literate Population: Developing measurements of STEM Literacy. Role: co-PI.** Primary Investigator: Christa Jackson, Iowa State University. Submitted August 2017. \$1,400,000

Department of Education – Education Innovation and Research Program. **3D Common Instruction Design. Role: Evaluator.** Primary Investigator: Renee Boss, Central Kentucky Education Cooperative. Submitted April 2017. \$1,006,705

National Science Foundation – INCLUDES. **NSF INCLUDES DDLP: Big Red STEAM Cycle. Role: Senior Personnel.** Primary Investigator: Mark Griep, University of Nebraska-Lincoln. Submitted April 2017. \$300,000

National Science Foundation – DRK12. **Collaborative Research: The *Professional Development: Research, Implementation, and Evaluation* (PrimeD) framework: Advancing teacher professional development and preparation using a common conceptual framework. Role: PI.** Submitted December 2016. \$2,959,389

National Science Foundation – IUSE. **STEM PRIDE: Partnering with Research & Industry to Develop (STEM) Educators. Role: PI.** Submitted January 11, 2017. \$2,788,027

American Honda Foundation. **From SEE(E)D to (S)STEM: Scientists, Engineers, Entrepreneurs, Educators & Designers developing didactic tools to promote Sustainability, Science, Technology, Engineering & Mathematics. Role: co-PI.** Primary Investigator: Eduardo Santillan-Jimenez. Submitted January 2017. \$75,000

National Science Foundation – IUSE – Reimagining Engineering Departments (RED). **Blue Sky: A vision for transforming engineering education through parallel communities of practice for cultural change. Role: co-PI.** Primary Investigator: Michael Jones, Dept of Electrical and Computer Engineering. Submitted January 2017. \$1,500,000

National Science Foundation – EHR Core. **Examining district capacity assessment as drivers of implementation fidelity. Role: Senior Personnel – Research Associate; PI on UK Subgrant.** Primary Investigator: Caryn Ward, National Implementation Research Network, UNC Chapel Hill. Submitted September 2016. \$1,456,145.

National Science Foundation – INCLUDES. **Preliminary Proposal NSF INCLUDES: Using a networked improvement community to improve representation in STEM. Role: PI.** Submitted April 2016. \$300,000.

National Science Foundation – STEM+C. **CS10K: Cultivating computer science education. Role: co-PI.** Primary Investigator: Joanne Lang, Kentucky Science and Technology Center. Submitted March 2016. \$1,500,000.

National Science Foundation – IUSE – Reimagining Engineering Departments. **Blue Sky: A vision for transforming engineering education through parallel communities of practice for cultural change. Role: co-PI.** Primary Investigator: Larry Holloway, Dept of Electrical and Computer Engineering. Submitted December 2015. \$1,999,756.

National Science Foundation – NOYCE Track 4. **Effects of Recruitment Models and Program Aspects on Secondary Mathematics and Science Teacher Preparation. Role: Partner University Contact.** Lead University – Boise State University. Submitted August 2015. \$700,000

National Science Foundation – NOYCE Track 4. **Teacher Network Retention in Noyce Communities of Practice. Role: co-PI & Partner University Contact.** Lead University – Stony Brook University (SUNY). Submitted August 2015. \$700,000

National Science Foundation – iCorps-L. **Broadening participation among diverse populations via the See Blue STEM Camp: An I-Corps L Proposal. Role: PI.** Total Amount Requested: \$50,000. Submitted April 2015.

National Science Foundation – STC. **Collaborate2create (c2c): A STC for Optimizing Transdisciplinary STEM Efforts in Research, Teaching and Learning, and Outreach/Engagement. Role: PI.** Total Amount Requested \$21,771,927. Preliminary Proposal submitted December 2014.

National Science Foundation – IUSE – Reimagining Engineering Departments. **Blue Sky: A vision for transforming engineering education through parallel communities of practice for cultural change. Role: co-PI.** Total Amount Requested: \$1,999,980. Submitted November 2014.

National Science Foundation – iCorps-L. *collaborate2innovate (c2i)* - An iCorps-L proposal to expand informal STEM learning opportunities to K12 underrepresented populations. **Role: PI.** Total Amount Requested: \$50,000. Submitted September 2014.

National Science Foundation (IUSE – TUES Type 1). **Collaborative Research: Developing Knowledge for Teaching Tasks in Calculus.** **Role: PI with** Robert Ronau, University of Cincinnati. Total Award Amount: \$2,447,871. Submitted February 2014. Collaborative grant with University of Cincinnati, University of Louisville, Kent State University, Texas A&M University, Boise State University, and Sam Houston State University.

National Science Foundation (ITEST). **Collaborative Research: Apps for Gaps.** **Role: PI.** Total Award Amount: \$389,146. Overall PI: Dee Jones, Central Kentucky Education Cooperative. Overall Award Amount: \$1,180,281. Submitted February 2014. Collaborative grant with Central Kentucky Education Cooperative.

Best Buy Children’s Foundation (Community Partnership Grants). **See Blue STEM Camp & Robotics Club Initiative.** **Role: PI.** Total Award Amount: \$8590. Submitted July 2013.

Time Warner Cable – Connect a Million Minds. **Increasing Middle Level Students’ Interest in STEM Fields via STEM Camps and STEM Club.** **Role: co-PI.** Total Award Amount: \$81,059. Submitted August 2013.

National Science Foundation (EHR Core Research). **STEM PLUS: Producing Leaders for Urban/rUral Schools – A Program Evaluation.** **Role: PI.** Total Award Amount: \$300,000. Submitted July 2013.

NASA. *Teachers experience project-based STEM: Curriculum, research, and networks.* Total amount \$500,000. **Role: co-PI.** PI: Dr. Jennifer Wilhelm, Dept of STEM Education, University of Kentucky. Submitted December 2012.

Kentucky Department of Education (MSP) through US Department of Education. **Ashland Independent Project.** **Role: Higher Education Partner and Professional Development Facilitator for STEM.** Total Amount: \$600,000. Submitted November 2012.

Kentucky Council on Postsecondary Education. *SEE BLUE PLUS: Producing Leaders for Urban/rUral Schools – Fayette County Large School District Partnership.* Total: \$500,000. **Role: PI.** Submitted March 2013.

Kentucky Council on Postsecondary Education. *SEE BLUE PLUS: Producing Leaders for Urban/rUral Schools – Woodford County Small District Partnership.* Total: \$500,000. **Role: PI.** Submitted March 2013.

National Science Foundation (Advancing Informal STEM Learning). *Incorporating STEM in Informal Learning Environments.* Total: \$1,847,591 **Role: co-PI.** Submitted January 2013. PI – Christa Jackson, Dept of STEM Education, University of Kentucky.

National Science Foundation (Mathematics Science Partnership). *STEM PLUS: Producing Leaders for Urban/rUral Schools.* Total amount \$6,141,182. **Role: PI.** Submitted in December 2012.

National Science Foundation (TUES). **Collaborative research: TUES: A readily adoptable Gen Ed STEM course in “Energy Issues”:** Engaging students in critical thinking about broader impacts of science and engineering. Total amount requested: \$174,933 – University of Kentucky, University of Hawaii, and Kentucky

Community and Technical College System. **Role: co-PI.** PI – Larry Holloway, Department of Electrical and Computer Engineering. Submitted May 2012.

National Science Foundation (Mathematics Science Partnership). **STEM PLUS: Producing Leaders for Urban/rUral/sUrburban Schools.** **Role: PI.** Total amount \$7,611,054. Submitted in March 2012.

National Science Foundation (TUES). **Teaching Broader Engineering Impacts and Critical Thinking through an Energy Issues Curriculum.** Total Requested: \$200,000. Submitted May 2011. **Role: co-PI.** Primary Investigator, Larry Holloway, Department of Electrical and Computer Engineering, University of Kentucky.

National Science Foundation (MSP II). **Testing the effectiveness of the AMSP professional development model and its application to professional development for mathematics teachers.** Total Requested: \$2,099,829. Submitted July 2010. **Role: co-PI.** Primary Investigator, Dr. David Royster, Department of Mathematics, University of Kentucky.

National Science Foundation (Creative IT). **LEAD: Learning for Expanded Affordance Practice.** Total Requested: \$400,000. Submitted October 2009. **Role: co-PI.** Primary Investigator, Bruce Walcott, Associate Dean – College of Engineering, University of Kentucky.

Department of Education (Teacher Quality Partnership). **STEM PLUS: Producing Leaders for rUral Schools.** **Role: PI.** Total Requested: \$2,352,582. Submitted October 2009.

National Science Foundation (CCLI). **Sys-STEM:** Total Requested: \$200,000. Submitted May 2009. **Role: co-PI.** Primary Investigator, Dusan Sekulic, Fellow ASME Professor, Department of Mechanical Engineering, University of Kentucky.

Department of Education (Teacher Quality Partnership). **STEM PLUS: Producing Leaders for rUral Schools.** **Role: PI.** Total Requested: \$2,140,818. Submitted July 2009.

National Science Foundation (Special Ed). **STEM UP²: STEM for an Underserved Population: Uncovering Potential.** Total Requested: \$450,000. **Role: co-PI.** Primary Investigator, Jana Bouwma-Gearhart, Science Education, Department of Curriculum and Instruction, University of Kentucky. Submitted February 2009.

Council for Post-Secondary Education (Kentucky). **High School STEM-Learning Leadership Teams.** Total Requested: \$150,000. **Role: co-PI.** Primary Investigator, Dr. Tricia Browne-Ferrigno. Submitted October 2008.

National Science Foundation (MSP II). **Mathematics and Science Partnership II.** Total Requested: \$2,250,000. **Role: co-PI.** Primary Investigator, Dr. Jeff Osborn, Department of Biology, University of Kentucky. Submitted March 2008.

National Science Foundation (DRK-12). **Geometry Assessments for Secondary Teachers (GAST).** **Role: Senior Personnel.** Primary Investigator, Dr. Bill Bush, University of Louisville. Submitted November 2006.

NMSI. **UTeach.** **Role: Curriculum Developer, Research Associate, Advisor, and Course Instructor.** Jeff Osborn, Department of Biology, and Rich Millman, Department of Mathematics, University of Kentucky, Co-Primary Investigators. Submitted April 2007.

INTERNAL FUNDING

Funded (\$100,348)

University of Kentucky Women & Philanthropy Network. **#IAmAWomanInSTEM Student Leadership. Role: Leadership Steering Team.** Primary Investigator: Randolph Hollingsworth, Undergraduate Education. 2017 – 2018. \$50,000.

University of Kentucky Office of Sustainability. **From SEE(E)D to (S)STEM: Scientists, Engineers, Entrepreneurs, Educators & Designers developing didactic tools to promote Sustainability, Science, Technology, Engineering & Mathematics. Role: co-PI.** PI: Eduardo Santillan-Jimenez, UK Center for Applied Energy Research. \$25,212. 2016 – 2017.

Small Grant Initiative to Internationalize College of Education Programs. **Internationalization of UK Teaching & Learning Studio.** Total Award Amount: \$3936. **Role: PI with Dr. Laurie Henry.** Spring 2009.

College of Education Research Activity Award Fund. **Conceptualizing a Technology Infused Problem-Based Studio Model for Teacher Education and Professional Development.** Total Award Amount: \$1,200. **Role: PI with Dr. Laurie Henry.** Co-Author and Presenter at International Conference on Interactive Computer Aided Blended Learning (ICBL), Florianopolis, Brazil. November 2008.

University of Kentucky Career Center – Service Learning Grants. **Family Math Nights.** Total award amount \$500. **Role: PI with Dr. Tim Jacobbe.** January 2008 – May 2008.

Teaching and Academic Support Center. **Teaching and Technology Supervision Program Grant.** Total award amount \$19,500. **Role: co-PI.** Dr. Joan Mazur, Department of Curriculum and Instruction, University of Kentucky, Primary Investigator. 2006 – 2007.

Not Funded:

University of Kentucky Office of Sustainability. **Gaming K-12 biofuel sustainability education. Role: co-PI.** Total requested: \$17,269. PI: Christopher Manzo, College of Design. Submitted October 2014.

Small Grant Initiative to Internationalize College of Education Programs. **Internationalization of UK Teaching & Learning Studio.** Total Requested: \$4,844. Submitted September 2008. **Role: Primary Investigator with Laurie A. Henry.**

University of Kentucky. **Major Research Equipment Initiative: Interactive Classroom System.** Total Requested: \$33,380. Submitted February 2008. **Role: Primary Investigator.**

PRESENTATIONS

+ indicates work with graduate student(s)

^ indicates work with undergraduate student(s)

Invited Presentations/Panels:

Mohr-Schroeder, M.J. (2017, June). *Utilizing master teachers in mentorship.* Discussant at the Preparing E.L.I.T.E. Teachers Summit, Atlanta, GA.

- Mohr-Schroeder, M. J.**, Jackson, C. D., Schroeder, D. C., & Thomas, J. N. (2017, April). *Connecting the "M" in STEM*. Invited gallery workshop presented at the annual meeting of the National Council of Teachers of Mathematics, San Antonio, TX.
- Mohr-Schroeder, M.** (2015, November). *Track 3 Panel Session: National Models for Broadening Participation*. Invited panelist speaker at the 24th National EPSCoR National Conference, Portsmouth, NH.
- Mohr-Schroeder, M.** (2015, September). *Best practices in Arts and STEM/STEAM*. Invited panelist speaker at the 3rd annual Southeastern Conference (SEC) Symposium, Atlanta, GA.
- Mohr-Schroeder, M.** (2015, April). *Next generation STEM education*. Invited speaker at Middle Tennessee State University, Murfreesboro, TN.
- Mohr-Schroeder, M.** (2014, November). *Women and math: Inspiring the next generation of STEM educators*. Invited speaker at the annual UK High School Mathematics Day for Women, Lexington, KY.
- Mohr-Schroeder, M. J.** (2012, February). *What does it mean to be college and career ready?* Invited speaker at the Architecture for Implementing the Common Core Standards: Strategies, Partnerships, & Progress National Forum, Louisville, KY.
- Mohr-Schroeder, M. J.** (2011, June). *Increasing the number of minorities in STEM education*. Invited panelist at the annual meeting of the Kentucky Girls STEM Collaborative, Covington, KY.
- Mohr-Schroeder, M. J.** (2011, June). *Applying fractals to STEM education*. Invited Speaker at the annual Jessie Clark Middle School STEM Education Camp, Lexington, KY.
- Mohr-Schroeder, M. J.** (2011, February). *Increasing the probability of hitting a moving target: Transdisciplinary teacher preparation for tomorrow's careers*. Invited Featured Speaker at the annual meeting of the Kentucky Center for Mathematics, Lexington, KY.
- McGatha, M., **Mohr-Schroeder, M. J.**, & Thomas, R. (2009, November). *Mathematics Education Research Committee (MERC)*. Invited Panelist at the bi-annual meeting of the Kentucky Association of Colleges for Teacher Education, Louisville, KY.
- Mohr-Schroeder, M. J.** (2009, June). *Increasing the number of girls in STEM: Postsecondary Education Perspective*. Invited Panelist at the annual meeting of the Kentucky Girls STEM Collaborative, Lexington, KY.
- Yopp, J., **Mohr-Schroeder, M. J.**, & Bouwma-Gearhart, J. (2009, May). *Assessing supply and demand, setting and implementing targets*. Invited Panelist at the annual meeting of the Science and Mathematics Teacher Imperative, Boulder, CO.
- Mohr-Schroeder, M. J.**, Perry, C., Zelkowski, J. (2009, May). *What new assistant professors need to know*. Invited Panelist at the annual meeting of the Appalachian Collaborative Center for Learning, Assessment and Instruction in Mathematics C³ Conference, Newarck, OH.
- Mohr-Schroeder, M. J.** (2009, March). *Secondary mathematics initiatives at the University of Kentucky*. Invited Presentation at the bi-annual meeting of the Kentucky Association of Colleges for Teacher Education, Georgetown, KY.

Mohr, M. J. (2007, January). *Life as a STEM Educator*. Invited Presentation for Society for the Promotion of Undergraduate Research (SPUR), Lexington, KY.

International Peer Reviewed Presentations:

Cook, K., Rakes, C., Saderholm, J., Bush, S., **Mohr-Schroeder, M.**, & Ronau, R. (2018, January). *PrimeD: A professional development framework to build partnerships and empower teachers*. Paper to be presented at the international conference of the Association of Science Teacher Educators, Baltimore, MD.

Cook, K., Bush, S., Saderholm, J., Rakes, C., Ronau, R., & **Mohr-Schroeder, M.** (2018, January). *A structured and collaborative STEAM program: Operationalizing a professional development framework*. Paper to be presented at the international conference of the Association of Science Teacher Educators, Baltimore, MD.

Mohr-Schroeder, M. J., & Wilhelm, J. (2016, July). *Modeling for understanding with NOYCE fellows*. Poster and paper presented at the 13th International Congress on Mathematical Education, Hamburg, Germany.

Jackson, C., & **Mohr-Schroeder, M. J.** (2016, July). *Increasing STEM literacy via an informal learning environment*. Expanded paper presented at the 13th International Congress on Mathematical Education, Hamburg, Germany.

Badurdeen, F., Gregory, R., Luhan, G., **Schroeder, M.**, Vincent, L., & Sekulic, D. (2012, May). *Systems thinking for sustainability: Envisioning trans-disciplinary transformations in STEM Education*. Paper presented at the IEEE International Symposium on Sustainable Systems and Technology, Boston, MA.

Eli, J., **Mohr-Schroeder, M. J.**, & Lee, C. (2010, January). *Prospective middle grades teachers' mathematical connections and its relationship to their mathematical knowledge for teaching*. Paper presented at the annual meeting of the Hawaii International Conference on Education, Honolulu, Hawaii.

+McCrary, N. E., Henry, L. A., **Mohr, M. J.**, Almasi, J. F., Perry, K. H., Shake, M. C., Grow, L. P., & Mason, J. A. (2008, November). *Conceptualizing a technology-infused problem-based studio model for teacher education and professional development*. Paper presented at the annual international meeting of the Interactive Computer Aided Blended Learning, Florianopolis, Brazil.

National Peer Reviewed Presentations:

Cook, K., Bush, S., **Mohr-Schroeder, M.**, Rakes, C., Ronau, R., & Saderholm, J. (2019, January). *Highly-structured integrated STEM professional development: Challenges and insights gained from a cross-case analysis*. Roundtable presentation at the International Association for Science Teacher Education (ASTE), Savannah, GA.

Mohr-Schroeder, M. J., Schroeder, D. C, Waters, T., Hazel, B., & Leroy, K. (2018, July). *Bolstering preservice teachers' STEM literacy via a summer robotics learning experience*. Workshop presented at the annual meeting of the NSF PI Noyce Summit, Washington, DC.

^Cremeans, C., Putnam, L., & **Mohr-Schroeder, M.** (2018, April). *Middle school students' perceptions of STEM preparedness after participating in an informal learning environment*. Paper presented at the annual meeting of the National Council for Undergraduate Research, Edmond, OK.

- Ronau, R., Bush, S., Rakes, C., **Mohr-Schroeder, M.**, Cook, K., & Saderholm, J. (2018, April). *PrimeD: A Framework to Guide PD, Embed Evaluation, and Structure Research*. Research Symposium presented at the annual meeting of the National Council of Teachers of Mathematics Research Conference, Washington, D.C.
- Cavalcanti, M., **Mohr-Schroeder, M. J.**, Jackson, C., Maiorca, C., Delaney, A., Roberts, O. T., Dueber, D., & Bush, S. (2018, February). *Going beyond the framework: Operationalizing an equity framework in designing quantitative surveys*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Houston, TX.
- Martin, W. G., Ellis, M., Smith, W., Strutchens, M., & **Mohr-Schroeder, M. J.** (2018, February). *Transforming secondary mathematics teacher preparation: A networked approach to enacting the AMTE Standards*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Houston, TX.
- Rakes, C., Ronau, R., Bush, S., & **Mohr-Schroeder, M. J.** (2018, February). *Using the PrimeD Framework to understand, guide, and assess secondary mathematics teacher preparation*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Houston, TX.
- Mohr-Schroeder, M. J., & **Schroeder, D. C.** (2017, November). *Implementing Ozobots into your Classroom and Professional Development*. Workshop presented at the annual convention of the School Science and Mathematics Association, Lexington, KY.
- +Delaney, A., Cavalcanti, M., Jackson, C., & **Mohr-Schroeder, M. J.** (2017, October). *Open access to all students: STEMing self-efficacy*. Paper presented at the annual meeting of the Psychology of Mathematics Education-North America, Indianapolis, IN.
- +Delaney, A., Jackson, C., & **Mohr-Schroeder, M. J.** (2017, October). *Developing STEM literacy via an informal learning environment*. Poster and paper presented at the annual meeting of the Psychology of Mathematics Education-North America, Indianapolis, IN.
- Ronau, R., Rakes, C., Bush, S., **Mohr-Schroeder, M. J.**, & Saderholm, J. (2017, April). *PrimeD: A PD framework to build partnerships and empower teachers*. Paper presented at the NCTM Research Conference, San Antonio, TX.
- +**Mohr-Schroeder, M. J.**, Jackson, C., Cavalcanti, M., & Delaney, A. (2017, February). *Increasing STEM literacy of preservice and inservice teachers via an informal learning environment*. Paper presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- Ronau, R., Rakes, C., Bush, S., & **Mohr-Schroeder, M. J.** (2017, February). *Professional Development: Research, Implementation, and Evaluation (PrimeD) Framework: Implications for mathematics teacher professional development*. To be presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- +Schroeder, D. C., Jackson, C., **Mohr-Schroeder, M.**, & Cavalcanti, M. (2016, October). *Motivating and inspiring students' interest in STEM*. Paper presented at the annual School Science and Mathematics Convention, Phoenix, AZ.

+**Mohr-Schroeder, M. J.**, Schroeder, D. C., Jackson, C., Walcott, B., Calvacanti, M., Delaney, A., & Evans, M. (2016, May). *Broadening participation of underrepresented populations*. Video presented at the NSF 2016 Video Showcase. Available at <http://stemforall2016.videohall.com/>

Rakes, C., Ronau, R., Saderholm, J., Bush, S., & **Mohr-Schroeder, M.** (2016, April). *The critical role of well-articulated, coherent professional development design: A mathematics and science program evaluation*. Paper presented at the annual meeting of the American Education Research Association, Washington, DC.

^Albers, S., Williams, M., **Mohr-Schroeder, M.**, & Jackson, C. (2016, April). *A summer in STEM: Increasing middle school students' interest and engagement in STEM through a one-week summer camp*. Paper presented at the annual meeting of the National Council for Undergraduate Research, Asheville, NC.

Mohr-Schroeder, M. J., & Jackson, C. (2016, January). *Informal learning environments: Unique approaches to preparing preservice teachers*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

Amick, L., Fisher, M. H., & **Mohr-Schroeder, M. J.** (2016, January). *Using the professional noticing framework to assess secondary preservice mathematics teacher knowledge*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

+Cavalcanti, M., & **Mohr-Schroeder, M. J.** (2015, October). *Mobilizing STEM education through leadership, partnership, and apprenticeship: A doctoral student's perspective*. Paper presented at the annual School Science and Mathematics Association Convention, Oklahoma City, OK.

^+**Mohr-Schroeder, M. J.**, Jackson, C., Schroeder, D. C., Cavalcanti, M., Poe, K., Albers, S., & Williams, M. (2015, October). *Bolstering preservice teachers' STEM literacy via informal learning experiences*. Paper presented at the annual School Science and Mathematics Association Convention, Oklahoma City, OK.

Martin, G., Strutchen, M., & **Mohr-Schroeder, M. J.** (2015, June). *The MTE-Partnership: A national network to transform secondary mathematics teacher preparation*. Paper presented at the annual Science and Mathematics Teacher Imperative Conference, New Orleans, LA.

Mohr-Schroeder, M. J., Walcott, B. L., & Schroeder, D. C. (2015, June). *Bringing out the E in STEM education: Forging successful partnerships between colleges of education and engineering and the local school districts*. Paper presented at the annual Science and Mathematics Teacher Imperative Conference, New Orleans, LA.

+^Schroeder, D. C., Jackson, C., **Mohr-Schroeder, M. J.**, Powers, L. B., Albers, S., Poe, K., Roberts, O. T., Blyman, K., Cavalcanti, M., & Speler, L. (2015, April). *Tapping the potential of struggling learners of mathematics: Instructional strategies*. Gallery workshop presented at the annual meeting of the National Council of Teachers of Mathematics, Boston, MA.

+**Mohr-Schroeder, M. J.**, Peters, S., Ronau, R., Lee, C. W., Bush, W., & Blyman, K. (2015, April). *What knowledge do secondary geometry teachers need to be effective?* Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Boston, MA.

- Jackson, C., & **Mohr-Schroeder, M. J.** (2015, February). *Using informal learning environments to prepare preservice teachers to work with struggling mathematics learners*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.
- Bush, W., Peters, S., **Mohr-Schroeder, M. J.**, Ronau, R., Lee, C. W. (2015, February). *Establishing predictive validity: Knowledge for teaching geometry assessments*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.
- +Jackson, C., **Mohr-Schroeder, M.**, Schroeder, D. C., Roberts, O. T., Blyman, K., & Cavalcanti, M. (2014, November). *Preparing prospective teachers to work with students who struggle in mathematics*. Paper presented at the annual meeting of the School Science and Mathematics Association, Jacksonville, FL.
- +Schroeder, D. C., Jackson, C., **Mohr-Schroeder, M. J.**, Blyman, K., Roberts, O. T., & Cavalcanti, M. (2014, November). *Motivating and inspiring middle level students' interest in STEM via STEM Camp*. Paper presented at the annual meeting of the School Science and Mathematics Association, Jacksonville, FL.
- ^Speler, L., Schooler, W., **Mohr-Schroeder, M.**, & Jackson, C. (2014, April). *Getting middle school students interested in STEM*. Paper presented at the annual meeting of the National Conference for Undergraduate Research, Lexington, KY.
- Jackson, C., **Mohr-Schroeder, M. J.**, Schroeder, D. C., & Powers, L. B. (2014, April). *Instructional strategies for students who are struggling in mathematics*. Workshop presented at the annual meeting of the National Council of Teachers of Mathematics, New Orleans, LA.
- +**Mohr-Schroeder, M. J.**, Jackson, C., Schroeder, D. C., & Little, D. L. (2013, November). *Informal Learning Environments in STEM Education*. Paper presented at the annual meeting of the School Science and Mathematics Association, San Antonio, TX.
- Mohr-Schroeder, M. J.**, Bush, W., Lee, C. W., Ronau, R., Peters, S., Buckendahl, C., & Stokes, M. (2013, January). *Geometry Assessments for Secondary Teachers (GAST)*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- +**Mohr-Schroeder, M. J.**, Jackson, C., Little, D., & Schroeder, D. C. (2012, November). *See Blue Mathematics Outreach Initiative: Tapping the potential of struggling learners*. Paper presented at the annual meeting of the School Science and Mathematics Association, Birmingham, AL.
- Mohr-Schroeder, M. J.** (2012, November). *To FOIL or not to FOIL*. Paper presented at the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Kalamazoo, MI.
- +Jones, A., **Mohr-Schroeder, M. J.**, Bouwma-Gearhart, J., Walcott, B., & Osborn, J. (2012, May). *UK NOYCE: New Opportunities Yielding Classroom Excellence*. Poster presented at the annual Robert Noyce Fellowship Meeting. Washington, DC.
- Mohr-Schroeder, M. J.**, Bush, W., Lee, C. W., Ronau, R., Buckendahl, C., & Stokes, M. (2011, January). *Geometry Assessments for Secondary Teachers*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

- Eli, J. A., **Mohr-Schroeder, M. J.**, & Lee, C. W. (2011, January). *Investigating prospective middle grades teachers' mathematical connections and its relationship to their mathematical knowledge for teaching*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Bouwma-Gearhart, J., & **Mohr-Schroeder, M. J.** (2010, June). *Fostering effective STEM faculty-education faculty collaborations concerning STEM*. Paper presented at the annual meeting of the Science and Mathematics Teacher Imperative, Cincinnati, OH.
- Bouwma-Gearhart, J., Schmid, S., & **Mohr-Schroeder, M. J.** (2010, April). *Mixed-methods study investigating research university STEM faculty motivation to engage in teaching professional development*. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.
- +Miriti, L., & **Mohr-Schroeder, M. J.** (2010, January). *Using digital literacies to enhance communication and reflection during student teaching*. Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- +**Mohr-Schroeder, M. J.**, Gifford, K., & Bouwma-Gearhart, J. (2009, July). *Using digital literacies in STEM Education*. Presented at the annual meeting of the National Science Foundation Robert Noyce Fellowship Program, Washington, DC.
- +Bouwma-Gearhart, J., Coy, G., & **Mohr-Schroeder, M. J.** (2009, July). *Inquiry in Mathematics and Science*. Presented at the annual meeting of the National Science Foundation Robert Noyce Fellowship Program, Washington, DC.
- +Gifford, K., Coy, G., **Mohr-Schroeder, M. J.**, Bouwma-Gearhart, J., & Osborn, J. (2009, July). *UK – NOYCE: New Opportunities Yielding Classroom Excellence*. Poster presented at the annual meeting of the National Science Foundation Robert Noyce Fellowship Program, Washington, DC.
- +Eli, J. R., & **Mohr, M. J.** (2009, April). *An Exploratory Study of Prospective Middle Grades Teachers' Mathematical Connections While Completing Tasks in Geometry*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- +Eli, J. R., & **Mohr, M. J.** (2009, April). *Prospective Middle Grades Teachers' Mathematical Connections in Geometry*. Poster presented at the annual meeting of the National Council of Teachers of Mathematics, Washington, D.C.
- Perry, K. H., & **Mohr, M. J.** (2008, December). *Conceptualizing a collaborative model for elementary teacher education*. Alternative session, UK Teaching & Learning Studio: A model for innovative teacher preparation. Paper to be presented at the annual meeting of the National Reading Conference, Orlando, FL.
- +Williams, C., Gifford, K., **Mohr, M. J.**, & Osborn, J. (2008, June). *UK – NOYCE: New Opportunities Yielding Classroom Excellence*. Poster presented at the annual meeting of the National Science Foundation Robert Noyce Fellowship Program, Washington, D.C.
- +Schroeder, D. C., **Mohr, M. J.**, Stevens, J. T., Ma, X., Tyler, K., & Millman, R. (2008, March). *A look at attitude and achievement as a result of self-regulated learning in Algebra I*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY.

+Schroeder, D. C., & **Mohr, M. J.** (2007, November). *A look at attitude and achievement as a result of self-regulated learning in the Algebra I classroom*. Paper presented at the annual meeting of the School Science and Mathematics Association, Indianapolis, IN.

+**Mohr, M. J.**, Binks, E., Smith, D. L., Smith, L., & Schroeder, D. C. (2007, April). *Using research-based literacy strategies to improve mathematics achievement in the middle grades*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

+Schroeder, D. C., **Mohr, M. J.**, Goldsby, D., & Eli, J. A. (2007, March). *An assessment of mathematics knowledge for teaching: Comparing elementary and middle grades preservice teachers*. Poster presented at the annual meeting of the National Council of Teachers of Mathematics, Atlanta, GA.

Mohr, M. J., & Kulm, G. (2006, October). *An assessment of middle grades preservice teachers' mathematics knowledge for teaching*. Paper presented at the annual meeting of the School Science and Mathematics Association, Missoula, MT.

Mohr, M. J. (2005, November). *Teaching problem solving to preservice middle school mathematics and science teachers*. Paper presented at the annual meeting of the School Science and Mathematics Association, Fort Worth, TX.

Local, State, and Regional:

Rakes, C. R., Ronau, R. N., Bush, S. B., **Mohr-Schroeder, M.**, & Saderholm, J. (2017, January). *Establishing a common vision and PDSA cycles to enhance secondary mathematics pre-service teacher development: A pilot study*. Presentation at the Association of Maryland Mathematics Teacher Educators, Baltimore, MD.

+**Mohr-Schroeder, M. J.**, Schroeder, D. C., Walcott, B., Jackson, C., Evans, M., & Cavalcanti, M. (2015, May). *Informal STEM learning communities to broaden participation of underrepresented populations in STEM*. Poster presented at the annual Kentucky EPSCoR Conference, Lexington, KY.

+[^]Albers, S., Poe, K., **Mohr-Schroeder, M. J.**, Schroeder, D. C., Cavalcanti, M., Blyman, K., & Roberts, O. T. (2015, April). *Using informal learning environments to prepare preservice teachers to work with struggling mathematics learners*. Paper presented at the 1st Kentucky Mathematics Educator Development Conference, Richmond, KY.

Criswell, B., & **Mohr-Schroeder, M. J.** (2014, September). *Preparing the next generation of STEM teachers*. Paper presented at the annual meeting of the Kentucky Association of Teacher Educators (KATE), Erlanger, KY.

Mohr-Schroeder, M., Bush, W., Lee, C. W., Ronau, R., & Peters, S. (2013, November). *What knowledge do secondary geometry teachers need to be effective?* Paper presented at the regional meeting of the National Council of Teachers of Mathematics, Louisville, KY.

+[^]Jackson, C., **Mohr-Schroeder, M. J.**, Schroeder, D. C., Powers, L. B., Speler, L., & Schooler, W. (2013, November). *Tapping the potential of struggling learners*. Paper and workshop presented at the regional meeting of the National Council of Teachers of Mathematics, Louisville, KY.

Wilhelm, J., Fisher, M., Jong, C., Jackson, C., Krall, R., **Mohr-Schroeder, M. J.**, Criswell, B. (2013, October). *STEM Education: Bridging disciplines, bridging generations, bridging cultures*. Presented at the Innovate to Learn Institute (Sponsored by University of Kentucky), Lexington, KY.

- +**Mohr-Schroeder, M.**, Jackson, C., Schroeder, D. C., & Little, D. L. (2013, March). *Tapping the potential of struggling learners*. Paper presented at the annual meeting of the Kentucky Center for Mathematics, Lexington, KY.
- Mohr-Schroeder, M.**, Jackson, C., & Schroeder, D. C. (2012, March). *See Blue Mathematics Clinic*. Paper presented at the annual meeting of the Kentucky Center for Mathematics, Lexington, KY.
- Fisher, M. H., **Mohr-Schroeder, M. J.**, Jackson, C., Jong, C., & Wilhelm, J. (2012, March). *Pursuing a graduate degree in STEM Education: The facts and myths*. Paper presented at the annual meeting of the Kentucky Center for Mathematics, Lexington, KY.
- Mohr-Schroeder, M. J.**, Jackson, C., Bouwma-Gearhart, J., & Schroeder, D. C. (2012, January). *Tapping the potential of struggling learners: The SEE BLUE Mathematics Clinic*. Paper presented at the annual meeting of the University of Kentucky STEM Education Symposium, Lexington, KY.
- +Jackson, C., Little, D., & **Mohr-Schroeder, M. J.** (2011, April). *UK Mathematics Clinic*. Paper presented at the annual meeting of the UK STEM Education Symposium, Lexington, KY.
- Foletta, G. M., **Mohr-Schroeder, M. J.**, & Marchionda, H. (2011, February). *Come see what our four Noyce projects are doing for Kentucky*. Panel Presentation presented at the annual meeting of the Kentucky Center for Mathematics, Lexington, KY.
- Schroeder, D. C., & **Mohr-Schroeder, M. J.** (2010, October). *3-D manipulations and constructions using FREE Google Sketchup*. Paper presented at the annual meeting of the Kentucky Council for Teachers of Mathematics, Somerset, KY.
- Schroeder, D. C., & **Mohr-Schroeder, M. J.** (2010, June). *Using digital literacies to build a professional learning network*. Paper presented at the annual Innovations for Learning Conference, Lexington, KY.
- Schroeder, D. C., Lee, C. W., & **Mohr-Schroeder, M. J.** (2010, June). *3-D manipulations and constructions using FREE Google Sketchup*. Paper presented at the annual Innovations for Learning Conference, Lexington, KY.
- Bouwma-Gearhart, J. L., **Mohr-Schroeder, M. J.**, & Bouwma, A. (2010, June). *Modeling based inquiry in postsecondary STEM classrooms*. The Annual Conference on STEM Education of the Partnership Institute for Mathematics and Science Education Reform, Lexington, KY.
- Mohr-Schroeder, M. J.**, & Schroeder, D. C. (2009, October). *Using digital literacies in the mathematics classroom*. Paper presented at the annual meeting of the Kentucky Council of Teachers of Mathematics, Paris, KY.
- Mohr, M. J.** (2006, September). *Using research-based literacy strategies to improve mathematics achievement*. Paper presented at the annual meeting of the Kentucky Council of Teachers of Mathematics, Georgetown, KY.
- Mohr, M. J.**, Binks, E., Shaw, B., & Smith, D. L. (2006, February). *Using research-based literacy strategies to improve mathematics achievement in the middle grades*. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, TX.

Mohr, M. J., Binks, E., & Shaw, B., & Smith, D. L. (2006, January). *Using research-based literacy strategies to improve mathematics achievement in the middle grades*. Poster session presented at the annual meeting of the Educational Research Exchange, College Station, TX.

Mohr, M. J. (2006, January). *Calculating effect sizes from previous research in mathematics education*. Poster session presented at the annual meeting of the Educational Research Exchange, College Station, TX.

Mohr, M. J. (2005, March). *The property of commutativity of addition*. Paper presented at the annual meeting of the Student Research Week, College Station, TX. *Presentation received 1st place*.

Other Research Experience

Advisory Board Member:

- *Collaborative Research: Mathematics of Doing, Understanding, Learning and Educating for Secondary Schools, MODULE(S²)*. PI: Jeremy Strayer, Middle Tennessee State University. (NSF-IUSE). 2017 – present

Manuscript Reviewer:

- Journal for Educational Research, 2017 – present
- Journal for Research in Mathematics Education, 2014 – present
- Contemporary Issues in Technology and Teacher Education, 2010 – present
- Journal for Teacher Education (JTE), 2009 – present
- School Science and Mathematics Journal (SSMJ), 2006-present
- Journal for Mixed Methods Research (JMMR), 2009 – 2013

Conference Proposal Reviewer:

- School Science and Mathematics Convention, 2017
- National Council of Teachers of Mathematics Research Conference, 2016
- Association of Mathematics Teacher Educators (AMTE) Conference, 2009 – present
- American Educational Research Association (AERA) National Conference, 2007-2010
- Southwest Educational Research Association (SERA) Conference, 2004-2006

Editorial Board:

- Associate Editor for *School Science and Mathematics*, 2017 – present
- Co-Editor for Mathematics Teacher Education Partnership Proceedings, 2016 – 2017
- Co-Editor for *SSMA Convention Proceedings*, 2014 – present
- Internal Editorial/Review Board. (2006). *6th Annual Curriculum & Pedagogy Conference Proceedings: Curriculum for a Progressive, Provocative, Poetic, and Public Pedagogy*. Milam, J., Springgay, S., Carpenter II, B. S., & Sloan, K. (Eds.).

HONORS AND AWARDS

- 2017-18 Southeastern Conference (SEC) Academic Leadership Development Program Fellow
- See Blue STEM Camp recognized as a Top 5 Model for Broadening Participation in STEM by National Science Foundation, November 2015, University of Kentucky.
- Kentucky Council of Teachers of Mathematics M.E.S.A. (Mathematics Education Service and Achievement Award), 2014, University of Kentucky (A lifetime achievement award)
- Education Exceptional Leadership Award, College of Education, 2006, Texas A&M University
- First place presentation at Student Research Week, 2005, Texas A&M University
- P.E.O. Scholar Awards Nominee, 2004, Texas A&M University
- Mathematics Education Graduate Assistantship/Scholarship, 2004-2006, Texas A&M University

- Regents Fellowship, 2004-2005, Texas A&M University
- Mathematics Department Graduate Student Outstanding Teacher Award, 2004, Pittsburg State University
- Mathematics Department Graduate Student Assistantship/Scholarship, 2003-2004, Pittsburg State University
- Mathematics Department Graduate Student Summer Fellowship, 2003, Pittsburg State University
- Kansas Teacher of Promise, 2002, Pittsburg State University
- Outstanding Senior Athlete Award, cross-country and track, 2004, Pittsburg State University
- Academic All-MIAA, cross-country and track, 2000, 2003, 2004, Pittsburg State University
- MIAA Commissioner's Academic Excellence Award, cross-country and track, 2000, 2001, 2002, 2003, 2004, Pittsburg State University
- Outstanding Student Ambassador, 2003, Pittsburg State University

SERVICE and ENGAGEMENT

Professional Organizations

- Million Women Mentors, 2014 – present
- APLU's Mathematics Teacher Education Partnership, 2014- present
 - Executive Planning Committee, 2014 – present
 - Transformation Work Group Co-Leader, 2016 – present
 - Measurement Committee, 2014 – present
 - MATH Research Action Committee, 2015 – present
 - KTMT Research Action Committee (RAC) Team Co-Leader, 2013 – 2015
- Association of Mathematics Teacher Educators, 2006 – present
 - Nominations & Election Committee, 2014 – 2018 (Chair 2016 – 2018)
 - Technology and Mathematics Teacher Education Committee, 2011 – 2014 (Chair 2013 – 2014)
 - Mentor Task Force, 2008 – 2010
- School Science and Mathematics Association
 - Executive Board of Directors, 2012 – present (Two terms)
 - Publications Committee Chair, 2012 – present
 - Membership Committee, 2011 – 2012
 - Finance Committee, 2008 – 2010
 - Publications Committee, 2005-2008
- APLU's Science and Mathematics Teacher Initiative (SMTI) 2009 - present
- APLU's The Leadership Collaborative (TLC), 2009 – 2013
- American Educational Research Association (AERA), 2005 - 2011
 - Division C Graduate Student Award Committee Chair, 2008 – 2010
 - Division C Graduate Student Award Committee Vice-Chair, 2008 – 2009
- Kentucky Council of Teachers of Mathematics, 2006 – present
 - Executive Board Member, ex-officio, 2008 – present
- National Council of Teachers of Mathematics, 2002 - present
- Kappa Mu Epsilon

Committee Memberships and Engagement

State Education Department:

- Kentucky Academic Standards for Mathematics Review Committee, 2015 – 2016
- Mathematics Content Leadership Network through Central Kentucky Education Cooperative, 2010 – 2013
- Unbridled Learning Forum Planning Committee, Council on Postsecondary Education, 2011 - 2012

- Higher Education Leadership Network Facilitator, Kentucky Association of Colleges for Teacher Education, 2011
- KACTE Mathematics Education Summit: Towards the Rollout of the new Mathematics Standards – Conference Co-Organizer, Spring 2010
- Kentucky Mathematics Research Committee, Chair of SB1 Committee, Kentucky Association of Colleges for Teacher Education, 2009 - 2010
- Work Group on Postsecondary Mathematics for Senate Bill 1, Council of Postsecondary Education, 2009 - 2010

Kentucky Center for Mathematics:

- Kentucky Centers Directors Group, 2015 – present
- Kentucky Mathematics Educator Development, 2014 – 2016

Community Engagement:

- Kentucky Girls STEM Collaborative Leadership Team, 2017 – 2019
- Beaumont Family STEM Night, 2017 – present
- Dunbar Girls STEM Night, 2016
- Dixie Elementary STEM Night, 2016
- Future City Regional Competition Volunteer, Jan 2015
- IDEA Festival Bluegrass Planning Committee, 2014 – 2016
- The Kentucky STEM Consortium, 2014 – 2016
- Winburn Family Math Night, 2015 - present
- Beaumont Middle School Operation Preparation – 2014 - 2015
- Wellington Elementary STEM Day – 2013 – present
- Beaumont Middle School Family Math Nights Co-Coordinator, 2013 - 2015
- Jessie Clark Family Math Night, 2013 - present
- Jessie Clark Family Math Nights Co-Coordinator, 2011 - 2012
- Family Math Nights—Booker T. Washington Elementary Academy Co-Coordinator, 2009 - 2010
- Lexington Humane Society, 2007 - 2010
- Family Math Nights—Great Schools Initiative, Booker T. Washington Elementary Academy Co-Coordinator, 2008
- Tier 3 Assistance Committee—Mathematics, Jessamine County High Schools, 2007-2008
- Intel Central Kentucky Regional Science and Engineering Fair Judge, February 2007
- St. Marys-Colgan High School Head Women’s Cross-Country Coach, 2003

University Committees and Engagement:

- Search Committee for Dean of the College of Engineering, 2017 – 2018
- Underrepresented Minority Graduate Scholar Mentor, 2016 – 2017
- Academic Preparation and Placement (APP) Advisory Board, Spring 2016 – present
- University Faculty Sustainability Council, 2016 – present
- College of Engineering External Review Chair, Spring 2016
- Senate Council, University Senate, 2016 – present
- University Senator, University Senate, 2011 – present
- Senate Academic Programs Committee, 2011 – present (Chair 2014 – present)
- UK Graduate Council, 2013 – 2014
- Partnership Institute for Mathematics and Science Education Reform (PIMSER), Pre-Service Teacher Recruitment & Support Programs Coordinator, 2007 – 2013
- Honors Program Review Task Force, University of Kentucky, Fall 2010
- Co-Chair of Educational Research Exchange, 2005-06, Texas A&M University

- International Student Mentor, 2005-06, Texas A&M University
- Athletic Fee Council—Graduate student representative, 2003, Pittsburg State University
- University Student Ambassador—Vice-President, 2000-04, Pittsburg State University

College Committees and Engagement:

- CAEP Quality Assurance System Task Group, 2017 – present
- Research Advisory Committee, 2017 – present (Co-chair 2017-18)
- College of Education Faculty Council, 2012 – present, Chair 2014 – 16 (Vice Chair 2013-14; 2016-17)
- See Blue STEM Club Sponsor, 2012 – present
- Undergraduate Admissions & Standards, College of Education, 2010 - 2014
- Courses & Curricula Committee, College of Education, 2011 – 2013
- COE Senate Bill 1 Design Team, Spring 2011 – Spring 2012
- Big Blue Council of Teachers of Mathematics, Co-Sponsor, 2008 – 2012
- Master's Redesign Steering Committee, Math/Science Chair, 2008 – 2010
- K-Week Program Recruiting, 2008 – 2009
- Mathematics Education Search Committee, University of Kentucky, 2006 – 2010
- UK Teaching & Learning Studio Steering Committee, Department of Curriculum and Instruction, University of Kentucky, 2007 – 2009
- Discussant for the University of Kentucky/University of Cincinnati/University of Louisville Collaborative Spring Doctoral Research Conference, University of Kentucky, April 2007
- Science Education Search Committee, University of Kentucky, 2007-08
- Scholarship Committee for Kappa Delta Pi, University of Kentucky, 2006-07
- Strategic Planning Committee, Department of Curriculum and Instruction, University of Kentucky, 2006 – 2007
- NCATE Secondary Mathematics Program Chair, University of Kentucky, 2006-08
- Educational Technology (Mathematics and/or Science) Search Committee, 2005-06, Texas A&M University

TEACHING EXPERIENCE

*Indicates Curricular Creations or Revisions

Graduate Courses:

- *Robotics (co-teach with Professor of Electrical Engineering in the College of Engineering)
- Engineering in STEM Education
- *See Blue Mathematics Clinic - A Service Learning Course
- *Research in Mathematics Education
- *Mathematics Curriculum
- Theoretical Foundations of Mathematics Education
- *Foundations of Pedagogical Theory and Practice in STEM Education
- *Systems Thinking for Sustainability
- *Subject Area Instruction in Secondary School: Student Teaching in Mathematics
- *Mathematics Pedagogy in the Secondary School
- *Foundations of Pedagogical Theory and Practice in the Secondary School

Undergraduate Courses:

- *STEM Methods II
- *STEM Education Student Teaching in the Secondary School
- *Assessment in STEM Education
- *Systems Thinking for Sustainability

- *See Blue Mathematics Clinic – A service learning course
- *Teaching and Learning Studio Integrated Courses in Elementary Education: Various topics in Cross-Curriculum, Learning Technologies, and Application of Theory and Research
- Teaching Mathematics in the Elementary School
- *Survey of Secondary Mathematics Curriculum
- *Mathematics Problem Solving
- Integrated Mathematics
- Applied Mathematics
- College Algebra
- Foundations of Mathematics
- College Algebra with Review
- Intermediate Algebra

High School Courses: Algebra 1, Algebra 2, Geometry, Algebra 3 (Pre-Calculus)

Junior High School Courses: Algebra $\frac{1}{2}$ (Pre-Algebra) and Algebra 1

DOCTORAL STUDENTS

Graduated Students Chaired (6):

- Jamie-Marie (Wilder) Miller, PhD (December 2017). *Instructional coaching and its effects on middle school teachers' perceptions of coaching and content knowledge: A mixed methods study*. Education Sciences: STEM Education. University of Kentucky. Committee Chair. Currently a mathematics coach at Lincoln County Public Schools.
- Kayla Blyman, PhD (May 2017). *Influences of probability instruction on undergraduates' understanding of counting processes*. Education Sciences: STEM Education. University of Kentucky. Committee Chair. Currently a visiting assistant professor at USMA – West Point.
- Maureen Cavalcanti, PhD (May 2017). *Assessing STEM literacy in an informal learning environment*. Education Sciences: STEM Education. University of Kentucky. Committee Chair. Currently a Research Associate for University of Kentucky and Education Resource Specialist in the College of Medicine at The Ohio State University Wexner Medical Center.
- Kate Johnson, PhD (August 2015). *Success After Failure: An Examination of Credit Recovery Options and their Effect on College- and Career-Readiness*. Education Sciences: STEM Education. University of Kentucky. Committee Chair. Currently a mathematics teacher at Fayette County Public Schools, Lexington, KY.
- David Little, PhD (December 2014). *Measuring post-secondary STEM majors' engagement in sustainability: The creation, assessment, and validation of an instrument for sustainability curricula evaluation*. Education Sciences: STEM Education. University of Kentucky. Committee Chair. Currently an assistant professor at Western Governors University.
- Robin Magruder, EdD (December 2012). *Solving linear equations: A comparison of concrete and virtual manipulatives in middle school mathematics*. Education and Administration: Mathematics Education. University of Kentucky. Committee Chair. Currently a tenure-track assistant professor of mathematics education at Campbellsville University, Campbellsville, KY.

Graduated Students Co-Chaired (5):

- O. Thomas Roberts, PhD (May 2017). *Classroom influences on third grade African American Learners' mathematics identities*. Education Sciences: STEM Education. University of Kentucky. Co-Chair of Committee with Cindy Jong. Currently a tenure-track assistant professor of early childhood STEM education at Bowling Green State University.

- Robin McClaran, PhD (May 2013). *Investigating the impact of interactive applets on students' understanding of parameter changes to parent functions: An explanatory mixed methods study*. Education Sciences: Mathematics Education. University of Kentucky. Co-Chair of Committee with Carl Lee. Currently a tenure-track assistant professor of mathematics education at East Texas Baptist University.
- Tonja Locklear, PhD (August 2012). *A descriptive, survey research study of the student characteristics influencing the four theoretical sources of mathematical self-efficacy of college freshmen*. Education Sciences: Mathematics Education. University of Kentucky. Co-Chair of Committee with Carl Lee. Currently a healthcare analytics statistician in Roanoke, Virginia.
- Jennifer Eli, PhD (July 2009). *An exploratory mixed methods study of prospective middle grades teachers' mathematical connections while completing investigative tasks in geometry*. Education Sciences: Mathematics Education. University of Kentucky. Co-Chair of Committee with Carl Lee. Currently an Associate Professor of Mathematics Education at University of Arizona.
- D. Craig Schroeder, PhD (May 2007). *A look at attitude and achievement as a result of self-regulated learning in the algebra I classroom*. Education Sciences: Mathematics Education. University of Kentucky. Co-Chair of Committee with Truman Stevens. Currently a STEM teacher at Fayette County Public Schools.

Graduated Students Committee Member (5):

- Kristen Barnard, PhD (May 2017). *Some take-away games on discrete structures*. Mathematics. University of Kentucky.
- Wesley Hough, PhD (May 2017). *On independence, matching, and homomorphism complexes*. Mathematics. University of Kentucky.
- Scott Niles, PhD (May 2016). *Environmental change and adaptation in Kentucky emerging research institution sponsored programs offices: A multiple case study*. Educational Leadership. University of Kentucky.
- Kimberly Creech, EdD (May 2014). *A phenomenological exploration of teacher experiences in creating and teaching a senior year English transition course*. Literacy Education. University of Kentucky.
- Lingling Ma, PhD (May 2009). *Learning strategies and their effects on mathematics achievement among immigrant and non-immigrant students*. Education Sciences: Mathematics Education. University of Kentucky.

Current Doctoral Students (12):

- Chairing: 4 (Rachel Rogers Blackwell, Marla Lemmon, Candice Cprek Conley, Kristen Witt)
- Co-Chairing: 1 (Maranda Miller)
- Committee Member: 6 (Karen Heavin, Wes Bradley (Ed Leadership), Jeffrey Slye (Mathematics), Carol Hanley (Quantitative Research Methods), Andrew Waterhouse (Ed Leadership), David Dueber (Quantitative Research Methods))
- Advising: 1

Masters Students (79):

- MS chaired: 2
- Masters (MA) with Initial Certification – Portfolio & Written Exam: 77