

Ruby L. Ellis

Curriculum Vitae

Academic Background

2018 Ph.D., Mathematics Education

Auburn University

Dissertation title: *An Exploratory Study of the Impact of Situated Professional Development for Integrating Technology in Mathematics Instruction on Pedagogical Beliefs and Teaching Practices of Secondary Mathematics Teachers in a School with a High African American, Low-Income Student Population*

2012 Ed. S., Mathematics Education

The University of Alabama at Birmingham

Thesis title: *Equal ACCESS: Leveling the Mathematics Playing Field with Online Education*

2009 M.Ed., Mathematics Education

Alabama State University

2003 B.S. Mathematics; B.S. High School Education

The University of Alabama at Birmingham

Professional Work Experience

July 2021 - Present North Carolina State University

Assistant Professor of Mathematics Education

Department of Science, Technology, Engineering, and Mathematics Education

August 2019 – June 2021 University of Missouri

Postdoctoral Research Fellow

Department of Learning, Teaching, and Curriculum, Mathematics Education

May 2019 – August 2019 Auburn University

Consultant, Robert Noyce Capacity Building Proposal

Department of Curriculum and Teaching, Mathematics Education

2014 – 2018 Auburn University

Graduate Teaching and Research Assistant

Department of Curriculum and Teaching, Mathematics Education

2015 - 2016 Auburn University

Graduate Teaching and Research Assistant

Department of Curriculum and Teaching, Science Education

2013 - 2014 Talladega City Schools (Alabama)

Secondary Mathematics Teacher, Talladega High School

2013 Talladega College

Mathematics Instructor

2010 – 2013 Pell City Schools (Alabama)

Secondary Mathematics Teacher, Pell City High School

2005 - 2010 Tarrant City Schools (Alabama)

Secondary Mathematics Teacher, Tarrant High School

2003 - 2005 Birmingham City Schools (Alabama)

Secondary Mathematics Teacher, Hudson K - 8 School

Certifications and Licenses

2013 Alabama Class AA, Secondary (36A)

Grade Level: 6 – 12

Mathematics (015)

EXP: 2025

2009 Alabama Class A, Secondary (06A)

Grade Level: 6 – 12

Mathematics (015)

EXP: 2025

2004 Alabama Class B, Secondary (16A)

Grade Level: 6 – 12

Mathematics (015)

EXP: 2025

Instruction and Advising

North Carolina State University

Instructor of Record

EMS 490 – Advanced Perspectives of Secondary Mathematics (Fall: 2026, 2024, 2022, 2021)

EMS 514 – Teaching and Learning Geometry (Fall: 2021)

EMS 513 – Teaching and Learning Algebra (Fall: 2026, 2024, 2022)

EMS 480 – Teaching Mathematics with Technology (Spring 2027, 2025, 2024, 2023, 2022, Summer 2026, 2022)

EMS 580 – Teaching Mathematics with Technology (Summer 2026, 2025, 2024, 2023, 2022)

EMS 711 - Research on the Teaching and Learning of Math at Secondary and Early College Levels (Spring: 2026, 2024)

EMS 841 - Practicum in EMS (Spring 2025)

EMS 851 – Internship in EMS (Fall: 2026, 2021, Summer: 2026, 2024, 2023, 2022; Spring 2025)

University of Missouri

Instructor of Record

LTC 4310 – Learning and Teaching Geometry in the Elementary School (Spring 2020)

LTC 4360/4571 – Intro. Teaching Mathematics in Middle and Secondary Schools (Fall 2020)

LTC 8875 – Technology in Mathematics Education (Online, Fall 2020)
LTC 4310 – Learning and Teaching Geometry in the Elementary School (Spring 2021)
LTC 8900 – Graduate Seminar – Race in Mathematics Education (Spring 2021)
LTC 8866 – Contemporary Equity Issues in Mathematics Education (Spring 2021)

Auburn University

Instructor of Record

CTSE 4923 – Internship in Secondary Mathematics (Spring 2015, Fall 2015, Spring 2016, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018).
CTSE 5040 – Technology and Applications in Secondary Mathematics Education (Fall 2016)

Co-Instructor

CTSE 4030 – Curriculum and Teaching in Secondary Mathematics Education (Fall 2014)
CTSE 5040 – Technology and Applications in Secondary Mathematics Education (Fall 2014)
CTMD 4010 – Teaching Mathematics: Middle School (Spring 2015, Spring 2016)

Talladega College

MATH 101 – Introduction to College Mathematics (Fall 2013)

Graduate Assistantships

2014 - 2018 Graduate Teaching and Research Assistant

Auburn University
Department of Curriculum and Teaching, Mathematics Education

2015 – 2016 Graduate Research Assistant

Auburn University
Department of Curriculum and Teaching, Science Education

Publications - Peer-Reviewed

(In Press)

Parrish, C., **Ellis, R.**, Martin, W. (2027). From the Archives: Connecting research to teaching: Improving mathematics discourse through action research. *Mathematics Teacher: Learning and Teaching PK - 12*.

Martinez, R., **Ellis, R. L.**, Quist, M., Anderson, R., Lawrence, K., Edgington, C., & Males, L. (2026). "You are more than a white person:" Pre-Service Teachers Exploring Identity within the Multiplicity of Self and Mathematics . *Mathematics Teacher Educator*

(Under Review)

Ellis, R. L., Harkey, L., Hall, R., Martin, W. G., & Strutchens, M. (**Under Review**). Crazy 8s: A simple but Deep Problem. *Mathematics Teacher: Learning and Teaching in K-12*.

Rivera, A., **Ellis, R. L.**, & Lawrence, K. (**Under Review**). Designing Together: A Cross-Disciplinary Self-Study of AI Literacy Integration Through SAMR and Experiential Learning in Teacher Preparation. *Journal of Teacher Education*

Hoyes, M., Mojica, G., Hollebrands, K., & **Ellis, R. L.**, Chandler, K. (**Under Review**). The Role of a Dynamic Geometry Environment in Secondary Students' Argumentation While Engaging with a Euclidean Geometry Task. *Journal of Research in Mathematics Education*.

Hoyes, M., Hollebrands, K., **Ellis, R. L.**, Mojica, G., Chandler, K. (**Under Review**). Exploring High School Students' Arguments While Engaged in Solving a Dynamic Geometry Task

Anderson, R., Graham, B., Edgington, C., **Ellis, R.**, Martinez, R., & Males, L. (**Under Review**). Designing for Equity-Based Mathematics Teaching Practices: Scaffolded Tools for Lesson Planning and Analysis. *Journal of Urban Mathematics Education*

Ellis, R. L., Otten, S., de Araujo, Z., & Wang, Z. (**Under Review**). A Comparison of Student Learning in 50 Flipped and Non-Flipped Secondary Algebra Classes. *International Journal of Education in Mathematics, Science, and Technology*

Ellis, R. L., Amedu, J., & Igunza, N. (**Under Review**). Exploring the Impact of Multicultural Mathematics Tasks and Discussions on Preservice Teachers' Multicultural Mathematics Dispositions & Self-Efficacy. *Multicultural Perspectives (NCCREST/AATE)*

(Published)

Ellis, R., Chandler, K., Hoyes, M., Hollebrands, K., Mojica, G. (**2026**). Noticing students' thinking in dynamic geometry environments: Preservice teachers developing TPACK. Proceedings of the forty-eighth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.

Otten, S., **Ellis, R. L.**, de Araujo, Z., & Candela, A. (**2026**). Patterns in algebra instruction: Summarizing two studies across 14 states in the US. Proceedings of the forty-eighth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.

Hoyes, M., Hollebrands, K., Mojica, G., Chandler, K., **Ellis, R.** (2025). The Development of a Framework for Describing Students' Geometric Thinking while Working on Technology-Based Dynamic Geometry Tasks to Support Teachers' Professional

- Hoyes, M., Hollebrands, K., Mojica, G., Chandler, K., **Ellis, R.** (2025). A synthesis of frameworks for describing students' geometric thinking while working on a technology-based dynamic geometry task. *International Journal for Technology in Mathematics Education*, 32(4), 145–163. https://doi.org/10.1564/tme_v32.4.01
- Hoyes, M., Hollebrands, K., Mojica, G., Chandler, K., **Ellis, R.** (2025). Exploring high school students' arguments while engaged in solving a dynamic geometry task. Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.
- Ellis, R.**, Quist, M., Anderson, R., Martinez, R., Edgington, C., Males, L., Lawrence, K. (2024). Our Inaction is Action: Countering Anti-Blackness in Secondary Mathematics Teacher Preparation. In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A. (2024). Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Kent State University.
- Parrish, C., & **Ellis, R.** (2023). Developing procedural fluency through mixed review. *New Teacher Advocate*.
- Otten, S., de Araujo, Z., **Ellis, R. L.**, Wand, Z. (2023). When whole class discourse predicts poor learning outcomes: An examination of 47 secondary algebra classes. In Lamberg, T., & Moss, D. (2023). Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (Vol. 1). University of Nevada, Reno.
- Otten, S. **Ellis, R.** Han, J. & de Araujo, Z. (2021). Comparing motivations for flipped instruction to data on flipped implementations in Algebra. Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Philadelphia, PA.
- Ellis, R.**, Han, J., de Araujo, Z., & Otten, S. (2020). Reviewing the literature on flipped mathematics instruction: A qualitative meta-analysis. Proceedings of the forty-second annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Mazatlán, Sinaloa, México: Cinvestav Department of Mathematics Education and Mexican Association on the Use of Technology in Mathematics Education.
- Mangram, C., Junor-Clarke, P., Walker, P., **Ellis, R.**, & Castro-Minnehan, C. (2020). Focus on improving clinical experiences in secondary mathematics teacher preparation. In W. G. Martin, B. R. Lawler, A. E. Lischka, W. M. Smith (Eds.), *The mathematics teacher education partnership: The power of a networked improvement community to transform secondary mathematics teacher preparation (pp.)*. Charlotte, NC: Information Age Publishing.
- Mangram, C., Conway, B., Struchens, M., **Ellis, R.**, & Erickson, D. (2019). Paired-Placement Internships: Clinical Teaching Becomes A Collaborative and Empowering Model for

Ongoing Professional Development. Proceedings of the eighth annual Mathematics Teacher Education Partnership conference. Washington, DC: Association of Public and Land-grant Universities.

Parrish, C., **Ellis, R.**, Martin, W. (2019). Connecting research to teaching: Improving mathematics discourse through action research. *Mathematics Teacher*, 112(4), 302-307.

Strutchens, M. E., Sears, R., Whitfield, J., Biagetti, S., Brosnan, P., Oloff-Lewis, J., Clarke, P. A., Stone, J. J., Erickson, D. R., Parrish, C., Conway IV, B. M., & **Ellis, R. L.** (2019). Implementation of paired placement and co-planning/co-teaching field experience models across multiple contexts. In T. Hodges, & A. Baum (Eds.), *Handbook of research on field-based teacher education* (pp. 32-63). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-6249-8.ch002

Professional Presentations (*invited)

National & International

Hoyes, M., Hollebrands, K., Mojica, G., **Ellis, R.**, Chandler, K. (2026). *Dynamic geometry environments: Impact of instruction on students' geometric arguments*. Presented at the 2026 Annual AMTE Conference, Association of Mathematics Teacher Educators.

Mojica, G., Hollebrands, K., Hoyes, M., **Ellis, R.**, & Chandler, K. (2025). *The role of a dynamic geometry environment in secondary students' argumentation while engaging with a Euclidean geometry task*. 17th International Conference on Technology in Mathematics Teaching. London, UK.

Hoyes, M., **Ellis, R.**, Mojica, G., Hollebrands, K., Chandler, K. (2025). *Describing Students' Geometric Thinking While Using Technology: Development of a Framework to Support Teachers' Noticing*. 2025 American Educational Research Association Annual Meeting. Denver, CO.

Hollebrands, K., Mojica, G., Hoyes, M., **Ellis, R.**, Chandler, K. (2025). *A technology based geometric thinking framework designed to support teachers' noticing of students' thinking*. Presented at the 2025 Annual AMTE Conference, Association of Mathematics Teacher Educators.

Edgington, C., Males, L., Anderson, R., **Ellis, R.**, & Quist, M. (2024). *Discarding Identities: Curricular Tasks for Prospective Mathematics Teachers*. Presented at the 2024 Annual AMTE Conference, Association of Mathematics Teacher Educators.

Hollebrands, K., Hoyes, M., **Ellis, R.**, & Chandler. (2024). *Design of a Technology-Based Geometric Thinking Framework to Support Teachers' Noticing of Students' Thinking*. Presented at the 2024 Annual AMTE Conference, Association of Mathematics Teacher Educators.

Ellis, R., Quist, M., Anderson, R., Martinez, R., Edgington, C., Males, L., & Lawrence, K. (2024). *Our Inaction is Action: Countering Anti-Blackness in Secondary Mathematics Teacher Preparation*. Presented at the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Cleveland, Ohio.

***Ellis, R. L., Amedu, J. (2024).** *Leveraging Multicultural Mathematics Tasks for Inclusive and Engaging Teaching*, 2024 NCTM Virtual Conference, National Council of Teachers of Mathematics, Virtual, National, invited.

Ellis, R. L., Shelton, T. (2024). *Data Explorers: A Collaborative Effort to Broaden Participation in Mathematical Modeling and Modeling Challenges*. 2024 Annual AMTE Conference, Association of Mathematics Teacher Educators.

***Ellis, R. L., Byun, S. (2023).** *Using Data in Secondary Mathematics Classrooms to Investigate Contemporary Social Issues*. 2023 NCTM Virtual Conference, National Council of Teachers of Mathematics, Virtual, National, invited.

Otten, S., de Araujo, Z., **Ellis, R. L.**, Wand, Z. (2023). *When Whole-Class Discourse Predicts Poor Learning Outcomes: An Examination of 47 Secondary Algebra Classes*. 45th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, North American Chapter of the International Group for the Psychology of Mathematics Education, International.

Polojac-Chenoweth, D., **Ellis, R.**, Bieda, K. & Boyland, J. (2022). *New to Mathematics Teacher Education*. Presented at the 2022 Annual Meeting of the Association of Mathematics Teacher Educators. Las Vegas, NV.

Otten, S. **Ellis, R.**, Han, J. & de Araujo, Z. (2021). *Comparing motivations for flipped instruction to data on flipped implementations in Algebra*. Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Philadelphia, PA.

Ellis, R. (2021). *Using situated professional development to impact teachers' beliefs, practices, and technology use*. Presented at the 2020 National Council of Teachers of Mathematics Annual Meeting and Exposition, St. Louis, MO (date shifted to 2021 due to covid).

Ellis, R., Han, J., de Araujo, Z., & Otten, S. (2021). *Reviewing the literature on flipped mathematics instruction: A qualitative meta-analysis*. Presented at the Forty-second Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Mazatlán, Sinaloa, México.

Strutchens, M., Mangram, C., Conway, B., **Ellis, R.**, Erickson, D. (2019). *Paired placement internships: Clinical teaching becomes a collaborative and empowering model for ongoing professional development*. Presented at The Eighth Annual MTE-Partnership Conference: Transformation, Equity, Leadership, St. Louis, MO.

Ellis, R., Naidau, M., Walker, B. (2019). *Bright ideas for affiliates 2*. Webinar hosted by the National Council of Teachers of Mathematics Membership and Affiliate Relations Committee.

Funderburk, J., **Ellis, R.**, Naidau, M., Walker, B. (2018, November). *Bright ideas for affiliates 1*. Webinar hosted by the National Council of Teachers of Mathematics Membership and Affiliate Relations Committee.

Ellis, R. (2018). *NCTM Affiliate Bright Spots*. Presented at the National Council of Teachers of

Mathematics Affiliate Leaders Conference, Indianapolis, IN.

- Strutchens, M., Whitfield, J., Erickson, D., Conway, B., Parrish, C., & **Ellis, R.** (2018). *Paired-Placement Internships: A Collaborative and Empowering Model for Clinical Teaching*. Presented at The Seventh Annual MTE-Partnership Conference: Equity, Transformation, Leadership, Denver, CO.
- Russell, M., Thomas, M., Laurencio, D., Taylor, A., **Ellis, R.**, Dixon, C. (2017). *Promoting persistence in STEM graduate degree programs for traditionally underrepresented students in STEM*. Presented at the Ethnographic and Qualitative Research Conference, Las Vegas, NV.
- Ellis, R.**, & Parrish, C. (2016). *Mathematical Discourse and Questioning: Connecting Research to Practice*. Presented at the 2016 National Council of Teachers of Mathematics Regional Conference, Philadelphia, PA.
- Russell, M., **Ellis, R.** (2016). *Promoting equity in science teaching through transformative professional development in rural Alabama*. Presented at the 2016 National Association for Research in Science Teaching (NARST) International Conference, Baltimore, MD.

State and Local

- ***Ellis, R.** & Lawrence, K. (2026). *Be the Graph: Exploring distance-time graphs through motion and technology*. Annual Youth Symposium: Girl Scouts STEM Focused Mini Camp, North Carolina State University.
- ***Ellis, R.**, Chandler, K., Hoyes, M. (2026). Using technology to teach geometric concepts. North Carolina Department of Public Instruction Webinar series.
- Chandler, **K.**, **Ellis, R.**, Hoyes, M., & Mojica, G. (2024). Describing Students' Thinking on Geometric Tasks. Presented at the 2024 NCCTM Annual Fall Conference. Winston-Salem, NC.
- ***Ellis, R.** (2021). Integrating Mathematical Action Technology (Desmos and GeoGebra). Workshop conducted at L. M. Smith Middle School. Birmingham, AL.
- ***Ellis, R.** (2020). The Bridge Research Discussion: Confronting unproductive beliefs and supporting productive practices in the secondary mathematics classroom. Presented at University of Missouri, Columbia, MO.
- ***Ellis, R.** (2019). *Technology resources. Pre-service teacher roundtable discussion*. Presented at the Missouri Council of Teachers of Mathematics Conference, Columbia, MO.
- ***Ellis, R.** (2019). *Panelist. Pre-service teacher panel discussion*. Presented at the Missouri Council of Teachers of Mathematics Conference, Columbia, MO.
- Ellis, R.** (2018). *Middle school content and pedagogy session: Ratios and proportional reasoning*. Presented at the Transforming East Alabama Mathematics and Alabama Mathematics, Science, and Technology Initiative Professional Mathematics Learning Community 2018 Summer Academy, Auburn, AL.

Ellis, R. (2018). *Middle school content and pedagogy session: Proportional Reasoning*. Presented at the Transforming East Alabama Mathematics and Alabama Mathematics, Science, and Technology Initiative Professional Mathematics Learning Community January Quarterly Meeting, Auburn, AL.

Ellis, R. (2017, June). *Middle school content and pedagogy session: Samples and Populations*. Presented at the Transforming East Alabama Mathematics and Alabama Mathematics, Science, and Technology Initiative Professional Mathematics Learning Community 2017 Summer Academy, Auburn, AL.

Ellis, R., Eiland, A. (2015). *NCTM regional conference highlights*. Presented at the Auburn University STEM Education Seminar, Auburn, AL.

Parrish, C., & Ellis, R. (2015). *Discourse and questioning in the mathematics classroom: Connecting research to practice*. Feature Power Session at Alabama Council of Teachers of Mathematics (ACTM) Annual Fall Forum, Birmingham, AL.

Ellis, R., Parrish, C., East, L., Horn, T., McCall, A., Wells, J. & Johnson, R. (2014). *PRISM: Practical resources in mathematics education*. Presented at the 2014 East Alabama Council of Teachers of Mathematics Spring Conference, Opelika, AL.

Parrish, C., **Ellis, R.**, East, L., Horn, T., McCall, A., Wells, J. & Johnson, R. (2014). *Historical significance of the Alabama college and career readiness standards and the mathematical practice standards*. Presented at the 2014 East Alabama Council of Teachers of Mathematics Spring Conference, Opelika, AL.

Research Projects

Participation With Grants

Years	Project	Description
October 2023 - September 2028	Collaborative Research: Preparing Future Middle School Mathematics Teachers to Lead Productive Geometry Discussions using Web-Based Dynamic Geometry Technology Tools	NSF IUSE Hollebrands, K. F. (PI), Ellis, R. L. (Co-PI), Mojica, G. F. (Co-PI), Chandler, K. (Co-PI), \$1,783,246.00.
October 2023 - September 2025	Collaborative Research: The design and refinement of modules for countering Anti-Blackness in undergraduate mathematics teacher preparation	NSF IUSE: Morales, L. (PI), Edgington, C. P. (Co-PI), Anderson, R. K. (Co-PI), Ellis, R. L. (Co-PI), Martinez, R. (Co-Principal), \$198,227.00.

August 2022 – May 2023	Multicultural Mathematics Activities and Preservice Teachers' Identities and Cultural Competencies	Office for Faculty Excellence SoTL Institute mini grant \$1,250 PI: Ruby Ellis (NCSU)
May 2022- July 2022	Community Oriented, Mathematically Equitable Teachers (COMET): Integrating Youth Participatory Action Research as a Critical Component of Mathematics Teacher Education	Office of Research and Innovation (\$5,000) Ruby Ellis (NCSU) , Robin Anderson (NCSU), Cyndi Edgington (NCSU),
May 2022 – April 2023	Broadening Participation in the HiMCM Competition	Consortium for Mathematics and Its Applications (\$60,000 gift). Rachel Levy (DSA), Ruby Ellis (NCSU) , Jason Perkins (TSH), and Karen Weeks (DSA). The Science House (TSH) and the Data Science Academy (DSA) at NC State are collaborating to implement training, support, and resources that encourage more K-12 students to consider careers in mathematics, modeling, and data sciences and lead to more schools participating in competitions like the High School Mathematical Contest in Modeling (HiMCM).

July 2021- Not Funded (Resubmitted July 2022)	Collaborative Research: Preparing to Teach Mathematics with Technology: LEAding Productive Mathematics Discussions with Web-Based Dynamic Geometry Tools (PTMT: LEAD DG)	National Science Foundation IUSE, Karen Hollebrands (PI), NCSU, Ruby Ellis (Co-PI) , NCSU, Gemma Mojica (Co-PI), NCSU Status: Resubmitted and funded (See Above) \$2,634,619
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2019 - 2021	Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics	National Science Foundation Discovery Research K-12. Zandra de Araujo (PI), University of Missouri, James Tarr (Co-PI), University of Missouri, Ze Wang (Co-PI), University of Missouri, Samuel Otten (Co PI), University of Missouri, Award ID: 1721025. (Served as a Postdoctoral Research Fellow.)
2018 - 2019	Collaborative Research: Teacher Leadership: Investigating the Persistence and Trajectories of Noyce Master Teaching Fellows	National Science Foundation Robert Noyce Scholarship. Wendy Smith (PI), University of Nebraska, Award ID: 1758462. The purpose of this project is to learn about mathematics and science teachers' leadership trajectories and the factors that may have influenced those trajectories. (Served as a graduate assistant on the grant until December 2018. Served as a Postdoctoral Research Fellow from January 2019 until August 2019)
2017 - 2019	Collaborative Research: Attaining Excellence in Secondary Mathematics	National Science Foundation Improving Undergraduate STEM Education (IUSE) Grant. Marilyn Strutchens (PI), Auburn

	Clinical Experiences with a Lens on Equity	University, Award Id: 172699; Ruthmae Sears, University of South Florida, Award Id: 1726362; & Howard Gobstein, APLU, Award Id: 1726853. This project will implement an improvement science study to address the following question: How does a continuum of collaborative and student-focused clinical experiences, including co-planning/co-teaching and paired placement fieldwork models, impact pre-service teachers' implementation of equitable teaching practices across multiple institutional contexts? (Served as a graduate assistant on the grant until December 2018.)
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2015 - 2018	STEM Enrichment in Physics, Mathematics, and Project-based Learning: Meeting K-12 Needs in Alabama	The purpose of this project is to provide a comprehensive series of professional development (PD) activities for K-12 teachers to address the serious needs, particularly in high-needs school districts, for enhanced curriculum materials and training in Physics, Mathematics (grades 6- 12), and Project-Based Learning. We will provide this PD along three different fronts utilizing expertise from Auburn faculty and staff while coordinating directly with both Alabama Math Science and Technology Initiative (AMSTI) and Alabama Science in Motion (ASIM) personnel, including the AU directors of both units. (Served as a graduate assistant on the grant and provided professional development.)
2015 - 2016	Math and Science Partnership (MSP) Qualitative Research for NanoBio Science Partnership for the Alabama Black Belt Region	The purpose of this project is to increase science achievement increase the science achievement and interest levels for middle school students in the Alabama Black Belt region, reduce gaps in the performance in science among various ethnic, socioeconomic, and gender subgroups, improve the knowledge and performance of in-service teachers through intensive professional development, and recruit highly motivated minority students, including
		community college graduates, to become certified science teachers. (Served as a graduate assistant on the grant.)

2014 - 2015	TEAM-Math and AMSTI Professional Learning Communities	The purpose of the project is to establish professional learning communities (PLCs) to provide collaborative and sustained professional development for teachers in targeted K-12 schools in East Alabama. The immediate focus of the professional development is the Alabama College and Career Ready Standards, especially the Standards of Mathematical Practice. (Served as a graduate assistant on the grant and professional development provided.)
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2014	Auburn University Mathematics Teacher Education Partnership Hub Grant from the Hemsley Charitable Trust	The Mathematics Teacher Education (MTE) Partnership is a national partnership of universities and K–12 districts with the goal of ensuring that secondary mathematics teacher candidates are prepared to meet the requirements of CCSS. (Served as a graduate assistant on the grant.)
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Professional Public Service

National

Association of Mathematics Teacher Educators (AMTE)

Associate Vice President of Nominations and Elections (2024 - 2025)

Nominations and Elections Committee (2023 - 2026)

Associate Vice President of Professional Development (2022 – 2023)

Professional Development Committee Member (2020 - 2022)

North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)

Reviewer (2019 - 2026)

Equity and Justice Strand Leader for PME-NA 42 (2020)

Volunteer PME-NA 41 (2019)

National Council of Teachers of Mathematics (NCTM)

Membership and Affiliate Relations Committee (2016 - 2019)

Regional Conference Volunteer (2015)

University & College

AACTE Holmes Scholars NC State Chapter

Faculty Coordinator (2023 - 2026)

Search Committee, Assistant Professor in Teacher Education (2023)

State and Local

2026 - 2028 Secretary, North Carolina Association of Mathematics Teacher Educators
2017 - 2018 Leaders in Training Mentor, Pick Elementary School
2013 - 2014 School Improvement Committee, Talladega City Schools
2011 - 2013 Mathematics Curriculum Development Team, Pell City School System
2007 - 2010 Mathematics Department Chair, Tarrant City Schools
2007 - 2010 New Teacher Mentor, Tarrant City Schools
2007 - 2010 Building Leadership Team, Tarrant City Schools
2006 - 2010 Vanguard Technology Team, Tarrant City Schools
2004 - 2005 Building-Based Student Support Team, Hudson K-8 School

Organization Memberships

National

American Association of Colleges for Teacher Education
Association of Mathematics Teacher Educators
Benjamin Banneker Association
Holmes Scholar Alumnae Association
National Council of Teachers of Mathematics
North American Chapter of the International Group for the Psychology of Mathematics Education

State and Local

Alabama Council of Teachers of Mathematics
Association of Mathematics Teacher Educators - Alabama
North Carolina Council of Teachers of Mathematics
North Carolina Association of Mathematics Teacher Educators

Professional Growth and Early Career Opportunities

Association of Mathematics Teacher Educators STaR Fellow 2022 Cohort
Community for Advancing Discovery Research in Education (CADRE) Postdoc Professional Growth Opportunity (2020 Cohort)
American Association of Colleges for Teacher Education (AACTE) Holmes Scholars (2015 Cohort, Auburn University)
Preparing Future Faculty (2015 – 2016 Cohort, Auburn University)