Erin Elizabeth Krupa

North Carolina State University
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Raleigh, NC 27695

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EDUCATION

2011 **North Carolina State University, Raleigh, NC**
Ph.D. in Mathematics Education, Minor: Mathematics
Advisor: Dr. Jere Confrey, Co-chair: Dr. Allison McCulloch
Dissertation: *Evaluating the Impact of Professional Development and Curricular Implementation on Student Mathematics Achievement: A Mixed Methods Study*

2004 **Wake Forest University, Winston-Salem, NC**
M.A. in Mathematics
Advisor: Dr. Stephen Robinson
Thesis: *Eradicating Flour Beetles*

2002 **Elon University, Elon, NC**
B.S. in Mathematics (cum laude)
North Carolina Teaching Fellow
License: North Carolina Teaching License

PROFESSIONAL EXPERIENCE

UNIVERSITY EXPERIENCE

2022 Associate Professor, Tenured
North Carolina State University, Raleigh, NC
Science, Technology, Engineering, and Mathematics Education Department

2019-2022 Assistant Professor
North Carolina State University, Raleigh, NC
Science, Technology, Engineering, and Mathematics Education Department

2016- 2018 Associate Professor, Tenured
Montclair State University, Montclair, NJ
Mathematical Sciences Department

2011- 2016 Assistant Professor
Montclair State University, Montclair, NJ
Mathematical Sciences Department

2008-2011 Graduate Research Assistant, North Carolina State University, Raleigh, NC
Research Assistant for the North Carolina Integrated Mathematics Project

2008-2009 Graduate Research Assistant, North Carolina State University, Raleigh, NC
Research Assistant for the *Diagnostic E-Learning Trajectories Approach*

2002-2004 Teaching Assistant, Wake Forest University, Winston-Salem, NC

1999-2002 Teaching Assistant, Elon University, Elon, NC

K-12 TEACHING EXPERIENCE

2004-2008 Teacher, Enloe High School, Raleigh, NC

2001-2002 Student Teaching and Methods Course, Western Alamance High School, Elon, NC

2000 Practicum, Gray Coat's Academy, London, England

GRANTS AND AWARDS

ACTIVE GRANTS

National Science Foundation, Innovation Technology Experiences for Students and Teachers (ITEST). *Design and Pitch Challenges in STEM: Merging Entrepreneurship and Mathematics Learning.* **PIs Erin Krupa** and Robin Anderson. **$1,424,834**. August 2022-present.

National Science Foundation, EHR Core Research. *Validity Evidence for Measurement in Mathematics Education (VM^{2}Ed).* **PIs Erin Krupa** and Jonathan Bostic (Bowling Green State University). **$1,944,717**. August, 2019-present. (website)

North Carolina State University, University Foundation Grant. *Mathematics Field Day: Enhancing Middle Grades Mathematics Education*. PI Erin Krupa. **$20,000**. June 2019-present.

COMPLETED GRANTS

National Science Foundation, Noyce Master Teaching Fellows Grant. *North Carolina High School Mathematics Master Teaching Fellows.* PIs Karen Hollebrands, **Erin Krupa**, and Molly Fenn. **$2,800,000**. March 2019-July 2025. (website)

National Science Foundation, Discovery Research in K-12 Grant. *Using Animated Contrasting Cases to Improve Procedural and Conceptual Knowledge in Geometry* (*AC^{2}inG*). **PIs Erin Krupa** and Jon Star (Harvard University). **$449,451**. August 2019-2024. (website)

National Science Foundation, Discovery Research in K-12 Grant. *Supporting Students' Science*
National Science Foundation, Innovation Technology Experiences for Students and Teachers (ITEST). *Innovation Challenges for Middle School Mathematics in a Digital Learning System: Student Participation and Impact on Achievement, Affect, and STEM Career Interest.* **PI Krupa**. **$1,195,719**. January 2019-2024 (Jere Confrey PI until July 2020). (website)

Content Knowledge Through Project-Based Inquiry (PBI) Global. PIs Hiller Spires and **Erin Krupa**. **$449,081**. August 2019-2022. (website)

National Science Foundation, Noyce Scholarship Grant. *Noyce at Montclair: Preparing the Effective Elementary Mathematics Teacher Scholarship Program.* **PIs Erin Krupa**, Steven Greenstein, Jennifer Robinson, and Diana Aria. **$1,449,992**. April 2017-January 2019 served as PI, January 2019-2021, consultant. (website)

National Science Foundation, Noyce Capacity Building Grant. *Noyce at Montclair: Preparing the Effective Elementary Mathematics Teacher.* PIs Steven Greenstein, **Erin Krupa**, and Jennifer Robinson. **$225,803**. August 2013-July 2015.

New Jersey Department of Education, Mathematics Science Partnership. *CUSP: Creative University and School Partnerships*. PIs Mika Munakata, **Erin Krupa**, and Jackie Willis. **$1,099,300**. July 2013-June 2016.

Newark Public Schools sub-award from the Race to The Top 3 (RTTT3) federal funding, Professional Services Contract between the Newark Public School System and Montclair State University to conduct a professional development project with 5th and 6th grade teachers implementing the Common Core State Standards for Mathematics. **PIs Erin Krupa** and Steven Greenstein. **$283,000**. August 2012-November 2015.

Orange Public Schools, Professional Services Contract between Orange Public Schools and Montclair State University to conduct a professional development project with high school mathematics teachers. **PIs Erin Krupa** and Eileen Murray. **$20,000**. August 2014-June 2015.

Phi Kappa Phi Love of Learning Award (2010), Compensation for Teacher Participation in my Doctoral Dissertation, Raleigh, NC.

Enloe High School Parent Teacher Association (2005), Created Math-Kits for Use in the Mathematics Classroom, Raleigh, NC.

Student Undergraduate Research Experience (2003), Exploring the Effectiveness of On-line Education, Elon, NC.

SCHOLARSHIP

**Denotes undergraduate or graduate student*

PEER REVIEWED JOURNAL ARTICLES

Borden, M.*, Anderson, R. K., Loftis, A.*, **Krupa, E. E.**, & Belcher, M. (accepted). Amplifying Mathematics Learning Through Teacher Discourse Moves: Investigating Teachers' Personal Practical Knowledge Within an Entrepreneurial Design Projects. *Journal of Mathematics Teacher Education.*

Krupa, E. E., Borden, M. L.*, Spires, H. A., & Himes, M. (2025). Interdisciplinary Project Based-Inquiry: Empowering Students to Solve Global Problems. *Eurasia Journal of Mathematics, Science, and Technology Education.*

Belcher, M., Confrey, J., **Krupa, E. E.**, & Borden, M. L.* (2025). The Design & Pitch Challenges in STEM: A Theoretical Framework for Centering Mathematics Learning in Entrepreneurial Pitch Competitions. *Education Sciences*, *15*(6), 651.

Belcher, M., Confrey, J., & **Krupa, E. E.** (2024). Algorithms, Spreadsheets, and Functions: Exploring Middle Graders' Functional Reasoning during a STEM Entrepreneurial Pitch Competition. *International Journal of Mathematical Education in Science and Technology*.

Folger, T. D., Bostic, J., & **Krupa, E. E.** (2023). Defining Test-Score Interpretation, Use, and Claims: Delphi Study for the Validity Argument. *Educational Measurement: Issues and Practice, 42*(3), 22-38.

Himes, M. P., Spires, H. A., **Krupa, E. E**., Borden, M. L., & Eagle, J. L. (2023). Project-Based Inquiry (PBI) Global during a Pandemic: A New Learning Ecology Perspective. *Education Sciences, 13*(11), 1099.

Munakata, M., Vaidya, A., Monahan, C.*, **Krupa, E. E.** (2023). Non-Traditional Assessments to Match Creative Instruction in Undergraduate Mathematics Courses. *International Journal of Mathematical Education in Science and Technology*.

Carney, M., Bostic, J., **Krupa, E. E**., & Shih, J. (2022). Interpretation and Use Statements for Instruments in Mathematics Education. *Journal for Research in Mathematics Education,* 53(4), 334-340.

Spires, H., Himes, M., & **Krupa, E. E.** (2022). Supporting Students' Science Content Knowledge and Motivation Through Project-Based Inquiry Global in a Cross-School Collaboration. *Education Sciences,* 12(6), 412.

Munakata, M., Vaidya, A., Monahan, C.*, **Krupa, E. E.** (2021). Promoting Creativity in General Education Mathematics Courses. *Problems, Resources, and Issues in Mathematics Undergraduate Studies*, 31(1), 37-55.

Spires, H., **Krupa, E. E.**, Himes, M., Good, C.* (2020). Project-Based Inquiry (PBI) Global: Interdisciplinary Science Learning on Water and Sanitation. *The Science Teacher*, 88(2), 36-41.

Lavery, M. R., Kruse, L.*, **Krupa, E. E.**, Bostic, J., & Carney, M. (2020). Arguments Surrounding Argument-based Validation: A Systematic Review of Validation Methodology. *Educational Measurement: Issues and Practice*, 39(4), 116-130.

Monson, D., **Krupa, E. E.**, Lesseig, K., Casey, S. (2020). Developing Secondary Pre-Service Teachers' Abilities to Respond to Student Work. *Journal of Mathematics Teacher Education,* 23(2), 209-232.

Krupa, E. E., Carney, M., Bostic, J. (2019). Argument-Based Validation in Practice: Examples from Mathematics Education. *Applied Measurement in Education,* 32(1), 1-9.

Krupa, E. E., Munakata, M., Yu, K.* (2019). A Math Field Day: Embed Content with Play. *Mathematics Teaching in the Middle School*, 24(5), 296-299.

Munakata, M., Vaidya, A., Monahan, C.*, **Krupa, E. E.** (2019). Promoting Creativity in General Education Mathematics Courses. *Problems, Resources, and Issues in Mathematics Undergraduate Studies.*

Casey, S., Lesseig, K., **Krupa, E. E.**, & Monson, D. (2018). Examining Preservice Secondary Mathematics Teachers' Responses to Student Work to Solve Linear Equations. *Mathematics Teacher Education and Development*, 20(1), 132-153.

Krupa, E. E., & Confrey, J. (2017). Effects of a Reform High School Mathematics Curriculum on Student Achievement: For Whom Does it Benefit? *Journal of Curriculum Studies, 49*(2), 191-215.

Webel, C., **Krupa, E. E.,** & McManus, J.* (2017). The Math Emporium: Effective for Whom, and For What? *International Journal of Research in Undergraduate Mathematics Education*.

Lesseig, K., Casey, S., Monson, D., **Krupa, E. E.**, & Huey, M. (2016). Developing an Interview Module to Support Secondary Preservice Teachers' Noticing of Student Thinking. *Mathematics Teacher Educator, 5(1),* 29-46.

Webel, C., **Krupa, E. E.**, & McManus, J.* (2016). Representations and Misrepresentations of Fraction Multiplication. *Teaching Children Mathematics*.

Webel, C., **Krupa, E. E**., & McManus, J.* (2015). Teachers' Evaluations and Use of Web-Based Curriculum Resources to Support Their Teaching of the Common Core State Standards for Mathematics. *Middle Grades Research Journal, 10*(2), 49-64.

Webel, C., **Krupa, E. E.**, & McManus, J.* (2015). Benny Goes to College: Is the "Math Emporium" Reinventing Individually Prescribed Instruction? *MathAMATYC Educator, 6*(3), 4-13.

Krupa, E. E., Webel, C., & McManus, J.* (2015). Undergraduate Students' Knowledge of Algebra: Evaluating the Impact of Computer-based and Traditional Learning Environments. *Problems, Resources, and Issues in Mathematics Undergraduate Studies, 25(1*), 13-30.

EDITED BOOKS

Bostic, J. D., **Krupa, E. E**., & Shih, J. (2019). *Quantitative Measures of Mathematical Knowledge: Researching Instruments and Perspectives*. New York, NY: Routledge.

Bostic, J. D., **Krupa, E. E.**, & Shih, J. (2019). *Assessment in Mathematics Education Contexts: Theoretical Frameworks and New Directions.* New York, NY: Routledge.

PEER REVIEWED BOOK CHAPTERS

Krupa, E. E. (in press). Commentary of the Process Objectives for Undergraduate Courses in Geometry for Teachers. *The GeT Course: Resources and Objectives for the Geometry Courses for Teachers.* Washington, D.C.: MAA.

An, T., Vestal, S., **Krupa, E. E.**, & Buchbinder, O. (in press). The Importance and Application of Technology in a Geometry for Teachers Course. *The GeT Course: Resources and Objectives for the Geometry Courses for Teachers.* Washington, D.C.: MAA.

An, T., Boyce, S., Buchbinder, O., Cohen, S., Dumitrascu, D., Escuadro, H., **Krupa, E. E.**, Miller, N., Pyzdrowski, L., Szydlik, S., & Vestal, S. (in press). Essential SLOs for GeT Courses. *The GeT Course: Resources and Objectives for the Geometry Courses for Teachers*. Washington, D.C.: MAA.

An, T., Boyce, S., Brown, A., Buchbinder, O., Cohen, S., Dumitrascu, D., Escuadro, H., Herbst, P., Ion, M., **Krupa, E.E.**, Miller, N. Pyzdrowski, L., Sears, R., St. Goar, J., Szydlik, S., & Vestal, S. (2024). (Toward) Essential student learning objectives for teaching geometry to pre-

service secondary teachers. In B. Benken (Ed.), The AMTE Handbook of Mathematics Teacher Education: Reflection on Past, Present and Future – Paving the Way for the Future of Mathematics Teacher Education (pp.175-197). IAP.

Krupa, E. E. (2023). Geometry and Trigonometry. *The Digital SAT Suite and Classroom Practice: Math.* New York, N.Y.: College Board.

Krupa, E. E., Bostic, J. D., & Shih, J. (2019). Validation in Mathematics Education: An Introduction to Quantitative Measures of Mathematical Knowledge: Researching Instruments and Perspectives. In J. B. Bostic, E. E. Krupa, & J. Shih (Eds.), *Quantitative Measures of Mathematical Knowledge: Researching Instruments and Perspectives*. New York, N.Y.: Routledge.

Bostic, J. D., **Krupa, E. E.**, Carney, M., & Shih, J. (2019). Reflecting on the Past and Looking Ahead at Opportunities in Quantitative Measurement of K-12 Students' Content Knowledge. In J. B. Bostic, E. E. Krupa, & J. Shih (Eds.), *Quantitative Measures of Mathematical Knowledge: Researching Instruments and Perspectives*. New York, N.Y.: Routledge.

Bostic, J. D., **Krupa, E. E.**, & Shih, J. (2019). Introduction: Aims and Scope for Assessments in Mathematics Education Contexts: Theoretical Frameworks and New Directions. In J. B. Bostic, E. E. Krupa, & J. Shih (Eds.), *Assessment in Mathematics Education Contexts: Theoretical Frameworks and New Directions*. New York, N.Y.: Routledge.

Lavery, M., Jong, C., **Krupa, E. E.**, & Bostic, J. (2019). Developing an Assessment with Validity in Mind. In J. B. Bostic, E. E. Krupa, & J. Shih (Eds.), *Assessment in Mathematics Education Contexts: Theoretical Frameworks and New Directions*. New York, N.Y.: Routledge.

Krupa, E. E., Huey, M., Lesseig, K., Casey, S., & Monson, D. (2017). Investigating Secondary Preservice Teacher Noticing of Students' Mathematical Thinking. In E. O. Schack, J. Wilhelm, & M. H. Fisher (Eds.), *Teacher Noticing: Bridging and Broadening Perspectives, Contexts, and Frameworks*. Research in Mathematics Education (Vol. 6): Springer, Cham.

Krupa, E. E. (2016). The Effects of An Integrated Mathematics Professional Development Project on Teacher Implementation and Student Achievement. In J. Aires de Castro Filho (Ed.), *SIPEMAT: Simposio Internacional De Pesquisa Em Educacao Mathematica*. Brazil.

Confrey, J., & **Krupa, E. E.** (2012). The arrival of the Common Core State Mathematics Standards: How did we get here and what needs to happen next? In C. R. Hirsch, G. Lappan & B. J. Reys (Eds.), *Curriculum Issues in an Era of Common Core State Standards for Mathematics*. Reston, VA: National Council of Teachers of Mathematics.

Krupa, E. E., & Confrey, J. (2012). Using Instructional Coaching to Customize Professional Development in an Integrated High School Mathematics Program. In J. M. Bay-Williams (Ed.), *Professional Collaborations in Mathematics Teaching and Learning: Seeking Success for All (yearbook; 2012)*. Reston, VA: National Council of Teachers of Mathematics.

PEER REVIEWED CONFERENCE PROCEEDINGS

Krupa, E.E., Burkett, K.*, Bentley, B., Alagoz, C., Gerasimova, D., La Torre, D. M., & Toutkoushian, E. (2025). Quantitative Measure of Secondary (Grades 7-12) Instruments and Tests. American Educational Research Association Annual Meeting, Denver, CO.

Krupa, E.E., Bostic, J. D., Folger, T. D., & Burkett, K.* (2024). Introducing a Repository of Quantitative Measures Used in Mathematics Education. Proceedings for the 46th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Kent State University.

Krupa, E. E., Belcher, M., Borden, M. L.*, Loftis, A.*, & Anderson, R. K. (2024) Creating Student Autonomy and Building Functional Reasoning Through an Entrepreneurial Design Challenge. Proceedings for the 46th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Kent State University.

Borden, M.*, Anderson, R.K., **Krupa, E.E.**, Belcher, M., Loftis, A.* (November 2024). Navigating Experiential Learning: The Role of Teacher Discourse Moves in Amplifying Student Expertise. Proceedings for the 46th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Kent State University.

Krupa, E. E., Bentley, B.*, & Burkett, K. (2024). Supporting Student Learning of Geometry Through Animated Worked Example Pairs. American Educational Research Association Annual Meeting, Philadelphia, PA.

Krupa, E.E., Bostic, J.D., Folger, T., Bentley, B.*, Burkett, K.* (2023). Quantitative instrument repository for mathematics education research with validity evidence. Proceedings for the 45th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Reno, NV.

Bostic, J., Folger, T., Bentley, B., & **Krupa, E.E.** (2023). Impacting scholarship: approaches to gather validity evidence. Proceedings for the 50th Annual Meeting of the Research Council on Mathematics Learning.

Krupa, E. E., Bentley, B.*, Gerasimova, D., La Torre, D. M., Stokes, D., & Toutkoushian, E. (2023). Findings from the secondary test and instruments synthesis group. American Educational Research Association Annual Meeting, Chicago, IL.

Folger, T. D., Bostic, J. D., & **Krupa, E. E.** (2023). Delphi study for the validity argument: Defining test score interpretation, use, and claims. American Educational Research Association Annual Meeting, Chicago, IL.

Bentley, B.*, Alagoz, C., Gerasimova, D., **Krupa, E. E.,** La Torre, D. M., Stokes, D., & Toutkoushian, E. (2023). Search for Instruments and validity evidence for measures used in secondary mathematics. American Educational Research Association Annual Meeting, Chicago, IL.

Krupa, E. E., Bentley, B.*, & Mannix, J. P.* (2022). *Contrasting cases in geometry: Opportunities to explore different student solution strategies.* Proceedings from the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Hoyes, M.*, **Krupa, E. E.**, & Hollebrands, K. (2022). *Interaction Types in Online and Hybrid Mathematics Instruction.* Proceedings of the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Bostic, J., **Krupa, E. E.**, Folger, T.*, Bentley, B.*, and Stokes, D. (2022). *Gathering validity evidence to support mathematics education scholarship.* Proceedings from the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Mannix, J. P.*, Bentley, B.*, & **Krupa, E. E.** (2022). *Problem solving and perseverance in geometry: Revelations from think alouds with middle grades students.* Proceedings from the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Krupa, E. E., Leak, M.B.*, Spires, H., & Himes, M. (2022, April). *Interdisciplinary Project-Based Inquiry: Improving content knowledge and increasing empowerment*. American Educational Research Association Annual Meeting, San Diego, CA.

Bostic, J. & **Krupa, E. E.** (2021, October). *Abstracts for assessments: Describing a summary statement*. In D. Olanoff, K. Johnson, & S. Spitzer (Eds)., Proceedings of the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1854-1858). Philadelphia, PA.

Krupa, E. E., Bentley, B., & Mannix, Joshua P. (2021, October). *Contrasting Cases in Geometry: Think Alouds with Students About Transformations*. Proceedings of the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 119-120). Philadelphia, PA.

Belcher, M. B., Mannix, J. P., & **Krupa, E. E.** (2021, October). *Exploring Students' Statistical Thinking During an Entrepreneurial Design Challenge*. Proceedings of the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1360-1360). Philadelphia, PA.

Krupa, E. E., Hoyes, M., & Hollebrands, K. (2021, October). *Interactions in Blended Mathematical Learning Environments*. Proceedings of the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1621-1622). Philadelphia, PA.

Krupa, E. E. & Munakata, M. (2021, May-June). *Characterizing Feedback Given Among Mathematics Teachers: Classroom Observations.* Proceedings of the 42nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Mazatlán, Sinaloa, México.

Bostic, J. D., **Krupa, E. E.**, & Shih, J. C. (2020, Apr 17 - 21) *Validation as Design Science-Based Research: Implications for Practice and Theory*. Proceedings of the 2020 AERA Annual Meeting San Francisco, CA (Conference Canceled).

Munakata, M. & **Krupa, E. E.** (2020, Apr 17 - 21) *Nature of Feedback Among Teachers Observing Classrooms Lessons as Part of a Collaborative Professional Development*. Proceedings of the 2020 AERA Annual Meeting San Francisco, CA (Conference Canceled).

Lavery, M., Carney, M., Bostic, J., Shih, J., **Krupa, E. E.**, Wilson, M., & Kruse, L.* (2018, April). *Examining the arguments surrounding the argument-based approach to validation: A systematic review of validation methodology*. Proceedings of the 2018 Annual Meeting of the American Educational Research Association. New York, NY.

Shih, J., Bostic, J., Carney, M., & **Krupa, E. E.** (2017). *Exploring and examining quantitative measures (Working Group)*. In E. Galindo & J. Newton (Eds.), Proceedings for the 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1516-1523). Indianapolis, IN.

Bostic, J., Carney, M., **Krupa, E. E.**, & Shih, J. (2016, October). *Exploring and examining quantitative measures.* In M. Wood, E. Turner, M. Civil, & J. Eli (Eds.), Proceedings for the 38th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1641-1647). Tuscon, AZ.

Krupa, E. E., Webel, C., & McManus, J.* (2013). *Evaluating the Impact of Computer-Based and Traditional Learning Environments on Students' Knowledge of Algebra.* In M. V. Martinez and A. C. Superfine (Eds.), Proceedings of the 35th Annual Conference of North American Chapter of the International Group for the Psychology of Mathematics Education, Chicago, Illinois.

Krupa, E. E. (2012). *Effect of Professional Development on Teachers' Implementation of a Reform Oriented Curriculum.* In L. R. Van Zoest, J.-J. Lo & J. L. Kratky (Eds.), Proceedings of the 34rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Kalamazoo, Michigan.

Krupa, E. E. (2011). *Textbook Implementation in Rural Secondary Integrated Mathematics Classrooms.* In L. R. Wiest & T. Lamberg (Eds.), Proceedings of the 33rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, Nevada.

Krupa, E. E., & Confrey, J. (2010). *Teacher Change Facilitated by Instructional Coaches: A Customized Approach to Professional Development.* In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), Proceedings of the 32nd Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Columbus, Ohio.

PEER REVIEWED WEBSITE MATERIALS

Lesseig, K., Casey, S., **Krupa, E. E.**, & Monson, D. (2019). *Preparing Teachers to Notice Student Thinking Through a Task-based Interview Module*. Supplementary Materials for AMTE Standards, https://amte.net/sptm/supp/noticing.

CURRICULA MATERIALS

Krupa, E. E., Anderson, R., Belcher, M., & Borden, M. (2021). *Design & Pitch Challenges in STEM: High School*. Retrieved from: https://sites.ced.ncsu.edu/design-and-pitch/

Krupa, E. E., Bentley, B., Mannix, J. P., & Star, J. R. (2019) *Animated Contrasting Cases in Geometry: 8th Grade Supplemental Materials*. Retrieved from: https://acinggeometry.org/

Confrey, J., **Krupa, E. E.**, & Belcher, M. (2019). *Design & Pitch Challenges in STEM*. Retrieved from: https://sites.ced.ncsu.edu/design-and-pitch/

NEWSLETTERS

Krupa, E. (2022, May). *Transformation of AC²inG Classroom-Based Research Due to COVID-19.* GeT: The News!, 3(3).

EVALUATION AND SUMMARY REPORTS

Krupa, E. E. (2018). Engaged Learning through Creativity in Science and Mathematics, NSF I-USE project: Year-end evaluation report. Montclair State University

Krupa, E. E. (2017). Engaged Learning through Creativity in Science and Mathematics, NSF I-USE project: Year-end evaluation report. Montclair State University

Krupa, E. E. (2011). A Summary Report from the Conference Moving Forward Together: Curriculum & Assessment and the Common Core Sate Standards for Mathematics. Center for the Study of Mathematics Curriculum.

Confrey, J., & Krupa, E. E. (2010). Curriculum Design, Development, and Implementation in an Era of Common Core State Standards: Summary Report of A Conference. Center for the Study of Mathematics Curriculum.

Confrey, J., Maloney, A., Krupa, E. E., Thomas, S., & Corely, D. (2010). N.C. Integrated Mathematics NC-STEM MSP: Year-end Evaluation Report. North Carolina State University.

Confrey, J., Maloney, A., & Krupa, E. E. (2009). N.C. Integrated Mathematics NC-STEM MSP: Year-end Evaluation Report. North Carolina State University.

Confrey, J., Maloney, A., & Krupa, E. E. (2008). N.C. Integrated Mathematics NC-STEM MSP: Year-end Evaluation Report. North Carolina State University.

PROFESSIONAL PRESENTATIONS

Krupa, E.E., Burkett, K.*, Bentley, B., Alagoz, C., Gerasimova, D., La Torre, D. M., & Toutkoushian, E. (2025). Quantitative Measure of Secondary (Grades 7-12) Instruments and Tests. American Educational Research Association Annual Meeting, Denver, CO.

Burkett, K.*, Abel, R.*, & **Krupa, E. E.** (2025). Developing Pre-Service Elementary Teachers' Conceptions of Place Value through Coursework. Paper presented at the 27th Annual Conference of the Research on Undergraduate Mathematics Education (RUME), Alexandria, VA.

Bostic, J. D., **Krupa, E. E.**, Folger, T., & Burkett, K.* (2025). Disseminating the Validity and Measurement in Mathematics Education Repository. Paper presented at the 23rd Annual Conference of the Hawaii International Conference on Education, Honolulu, HI.

Krupa, E.E., Bostic, J. D., Folger, T. D., & Burkett, K.* (2025). Introducing a Repository of Quantitative Measures Used in Mathematics Education. Paper presented at the 46th Annual

Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Cleveland, OH.

Borden, M.*, Anderson, R.K., **Krupa, E.E.**, Belcher, M., Loftis, A.* (November 2024). Navigating Experiential Learning: The Role of Teacher Discourse Moves in Amplifying Student Expertise. Paper presented at the 46th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Cleveland, OH.

Belcher, M., Borden, M.*, **Krupa, E.E.**, Anderson, R.K., & Loftis, A.* (November 2024). It's probably not dangerous: Using image identification and machine learning to explore probability. The North Carolina Council of Teachers of Mathematics 2024 State Mathematics Conference, Winston-Salem, NC.

Borden, M., Belcher, M.*, **Krupa, E.E.**, Anderson, R.K. (November 2024). Empowering Innovation through Math-Focused Design & Pitch Challenges. In Math Marathon 3.5, Ecuador.

Krupa, E.E., Anderson, R.K., & Belcher, M. (2024). Merging entrepreneurship and mathematics learning [Research Roundtable]. AIM 2024 Conference, Raleigh, NC.

Krupa, E.E. (2024). Feedback Among Teachers Observing Classroom Lessons as Part of a Collaborative Professional Development. 15th Annual International Congress on Mathematical Education, Sydney, Australia.

Krupa, E.E. & Bostic, J. D. (2024). Math Education Assessment: Cataloging Quantitative Instruments and Validity Evidence Since 2000. 15th Annual International Congress on Mathematical Education, Sydney, Australia.

Krupa, E. E., Bentley, B.*, & Burkett, K. (2024). Supporting Student Learning of Geometry Through Animated Worked Example Pairs. American Educational Research Association Annual Meeting, Philadelphia, PA.

Krupa, E.E. (2024). Animated Worked Example Pairs: Improving Student Learning of Geometry. Hawaii International Conference on Education, Waikoloa, Hawaii.

Loftis, A.*, Belcher, M., **Krupa, E.E.**, & Borden, M.* (November 2023). Make it Matter: Using Spreadsheets and Desmos to Support Algebraic Reasoning. The North Carolina Council of Teachers of Mathematics 2023 State Mathematics Conference, Winston-Salem, NC.

Belcher, M., Borden, M.*, **Krupa, E.E.**, & Loftis, A.* (November 2023). Engaging students in mathematics through tinkering. The North Carolina Council of Teachers of Mathematics 2023 State Mathematics Conference, Winston-Salem, NC.

Krupa, E.E., Bostic, J.D., Folger, T., Bentley, B.*, Burkett, K.* (October 2023). Quantitative instrument repository for mathematics education research with validity evidence. North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Reno, NV.

Bostic, J., **Krupa, E.E.**, & Jong, C. (2023). *K-12 Student and Teacher Math Measures: What's out there? What do we need?* National Council for Teachers of Mathematics Research Conference. Washington, D.C.

Krupa E.E., Anderson, R.K., Belcher, M., Borden, M.*, & Loftis, A.* (October 2023). Routes Reimagined: Bringing Community into Mathematics Through an Entrepreneurial Pitch Competition. National Council of Teachers of Mathematics Conference, Washington, D.C.

Krupa, E. E., Bentley, B.*, Gerasimova, D., La Torre, D. M., Stokes, D., & Toutkoushian, E. (2023). Findings from the secondary test and instruments synthesis group. In **Bostic, J.** (Chair), **Wilson, M.** (Discussant), *A synthesis of matheamtics and statistics assessments: 2000-2020* [Symposium]. American Educational Research Association Annual Meeting, Chicago, IL, United States.

Folger, T. D., Bostic, J. D., & **Krupa, E. E.** (2023). Delphi study for the validity argument: Defining test score interpretation, use, and claims. In Gadelrab, H. F. (Chair), *Validity* [Roundtable Session]. American Educational Research Association Annual Meeting, Chicago, IL, United States.

Bentley, B.*, Alagoz, C., Gerasimova, D., **Krupa, E. E.,** La Torre, D. M., Stokes, D., & Toutkoushian, E. (2023). Search for Instruments and validity evidence for measures used in secondary mathematics. In Sianturi, I. A. J. (Chair), *Section 1C Mathematics Roundtable 5* [Roundtable Session]. American Educational Research Association Annual Meeting, Chicago, IL, United States.

Borden, M.*, Anderson, R., & **Krupa, E. E.** (2023). *Teacher professional development through engagement as researchers observing student learning.* Paper presented at the Association of Mathematics Teacher Educators, New Orleans, LA.

Krupa, E. E., Bentley, B.*, & Mannix, J. P.* (2022). *Contrasting cases in geometry: Opportunities to explore different student solution strategies.* Paper presented at the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Hoyes, M.*, **Krupa, E. E.**, & Hollebrands, K. (2022). *Interaction Types in Online and Hybrid Mathematics Instruction.* Paper presented at the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Mannix, J. P.*, Bentley, B.*, & **Krupa, E. E.** (2022). *Problem solving and perseverance in geometry: Revelations from think alouds with middle grades students.* Paper presented at the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Bostic, J., **Krupa, E.E.**, Folger, T.*, Bentley, B.*, and Stokes, D. (2022). *Gathering validity evidence to support mathematics education scholarship.* Paper presented at the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Nashville, TN.

Krupa, E., Leaks, M.B.*, Spires, H., & Himes, M. (2022, April). *Interdisciplinary Project-Based Inquiry: Improving content knowledge and increasing empowerment*. American Educational Research Association Annual Meeting, San Diego, CA.

Belcher, M., Mannix, J. P.*, & **Krupa, E. E.** (February 2022). Helping students find their purpose in math. NCCTM 2021 State Mathematics Conference, virtual.

Mannix, J. P.*, Belcher, M., & **Krupa, E. E.** (2022). Alleviating math anxiety through entrepreneurship. NCCTM 2021 State Mathematics Conference, Winston-Salem, NC. (Conference canceled).

Folger, T.*, Bostic, J., & **Krupa, E. E.** (2022, March). *Examining validity evidence: Promoting valid interpretations and uses.* [Paper presented at annual meeting of the Research Council on Mathematics Learning. Grapevine, TX.

Bostic, J. & **Krupa, E. E**. (2021, October). *Abstracts for assessments: Describing a summary statement*. Paper presented at the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Philadelphia, PA.

Krupa, E. E., Bentley, B., & Mannix, J. P.* (2021, October). *Contrasting Cases in Geometry: Think Alouds with Students About Transformations*. Paper presented at the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Philadelphia, PA.

Belcher, M. B., Mannix, J. P.*, & **Krupa, E. E.** (2021, October). *Exploring Students' Statistical Thinking During an Entrepreneurial Design Challenge*. Paper presented at the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Philadelphia, PA.

Krupa, E. E., Hoyes, M.*, & Hollebrands, K. (2021, October). *Interactions in Blended Mathematical Learning Environments*. Paper presented at the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Philadelphia, PA.

Spires, H., Himes, M., & **Krupa, E.E.** (2021, October). *Supporting students' science content knowledge through Project-Based Inquiry (PBI) Global within a rural/urban school context in the United States*. 2nd International Conference on Science and Technology Education (STE), virtual.

Krupa, E. E. (2021, August). *Utilizing Technology Tools to Model Data and Explore Functions.* NC State and Triangle Math Alliance Summit, Raleigh, NC.

Krupa, E. E., Mannix, J.P.*, & Belcher, M. (April 2021). *Motivating students mathematically thru entrepreneurial design challenges.* 2021 NCTM Annual Meeting, Virtual.

Bostic, J. D., Krupa, E. E. & Shih, J. C. (2020, Apr 17 - 21) *Validation as design science-based research: implications for practice and theory*. AERA Annual Meeting San Francisco, CA (Conference Canceled).

Arneson, A., Bostic, J., Confrey, J., Krupa, E.E. (discussant), & Perry, L. (2020, April). *Igniting discussions about measures for mathematics education contexts.* Symposium paper presented at annual meeting of the annual meeting of the American Education Research Association. San Francisco, CA. (Conference canceled).

Munakata, M. & Krupa, E. E. (2020, Apr 17 - 21) *Nature of Feedback Among Teachers Observing Classrooms Lessons as Part of a Collaborative Professional Development*. AERA Annual Meeting San Francisco, CA (Conference Canceled).

Krupa, E. E., Belcher, M.*, & Confrey, J. (2020, April). *Empowering students in math through entrepreneurship.* Paper presented at the NCTM Annual Conference, Chicago, IL (Conference Canceled).

Belcher, M.*, Krupa, E. E., & Confrey, J. (2020, April). *The math shark tank: Entrepreneurial challenges for middle grades.* Paper presented at the NCSM Annual Conference, Chicago, IL (Conference Canceled).

Krupa, E. E., Bostic, J., Cavey, L., Harrell-Williams, L., Hjalmarson, M., Walkowiak, T. (2020, February). *Quantitative research instruments relevant to mathematics teacher educators*. Paper presented at the AMTE Annual Conference. Phoenix, AZ.

Belcher, M.*, Krupa, E. E., & Confrey, J. (2019, November). *Entrepreneurial challenges for middle grades math.* NCCTM 2019 State Mathematics Conference, Greensboro, NC.

Confrey, J., Krupa, E. E., & Belcher, M.* (2019, October). *Engaging middle grades students in STEM-based entrepreneurial challenges.* National STEM Education Research Summit, Raleigh, NC.

Krupa, E. E. (2019, August). *Mathematical Tasks: The Importance of Tasks in Student Learning.* NC State and Triangle Math Alliance Summit, Raleigh, NC.

Bostic, J.D., Krupa, E. E., Carney, M., & Shih, J. (2019, April). *Synthesizing Measures of K-12 Students' Math Knowledge.* National Council for Teachers of Mathematics Research Conference, San Diego, CA.

Lavery, M., Carney, M., Bostic, J., Shih, J., Krupa, E. E., Wilson, M., & Kruse, L.* (2018, April). *Examining the arguments surrounding the argument-based approach to validation: A systematic review of validation methodology*. Annual Meeting of the American Educational Research Association. New York, NY.

Bostic, J.D., Carney, M., Krupa, E. E., & Shih, J. (2017). *Exploring and Examining Quantitative Measures.* Working Group at the 39th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Indiana, IN.

Krupa, E. E., Munakata, M., Monahan, C.*, Rahman, Z.*, & Yu, K.* (2017). *Instructional Rounds as a Model of Yearlong Professional Development Support.* Paper presented at the Association of Mathematics Teacher Educators, Orlando, Florida.

Bostic, J.D., Carney, M., Krupa, E. E., & Shih, J. (2016). *Exploring and Examining Quantitative Measures.* Working Group at the 38th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

Krupa, E. E., Huey, M., Lesseig, K., Casey, S., & Monson, D. (2016). *Investigating Secondary Preservice Teachers' Noticing of Student Thinking*. Paper presented at the National Council for Teachers of Mathematics Research Conference, San Fransico, CA.

Casey, S., Monson, D., Lesseig, K., & Krupa, E. E. (2016). *Developing Secondary Preservice Teachers' Noticing of Students' Mathematical Thinking: A Focus on Responding.* Paper presented at the Association of Mathematics Teacher Educators Conference, Irvine, California.

Reys, R. E., Spangler, D., Wanko, J. J., Jackson, C., Moore, K., Dollard, C., & Krupa, E. E. (2015). *STaR—An Opportunity for New Doctorates and Something Senior Mathematics Educators Should Know About* Paper presented at the Association of Mathematics. Teacher Educators, Orlando, Florida.

Monson, D., Casey, S., Lesseig, K., Huey, M., & Krupa, E. E. (2015). *Developing Secondary PST's Ability to Elicit and Notice Student Thinking: Designing a Task-Based Interview Module*. Paper presented at the Association of Mathematics Teacher Educators, Orlando, Florida.

Krupa, E. E., Webel, C., & McManus, J.* (2014). *Improving Teachers' Core: Influence of PD on Teacher Knowledge*. Paper presented at the NCTM Research Conference, New Orleans, Louisiana.

Webel, C., Krupa, E. E. & McManus, J.* (2014). *Missing the Core: Classroom Representations of Fraction Multiplication*. Paper presented at the NCTM Research Conference, New Orleans, Louisiana.

Webel, C., Krupa, E. E. & McManus, J.* (2014). *Curricular Reasoning in the CCSSM Era: How Teachers Evaluate Electronically Available Curriculum Resources*. Paper presented at the Association of Mathematics Teacher Educators Conference, Irvine, California.

Krupa, E. E., Webel, C., & McManus, J.* (2013). Evaluating the Impact of Computer-Based and Traditional Learning Environments on Students' Knowledge of Algebra. Paper presented at the 35th Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Chicago, Illinois.

Krupa, E. E. (2013) *Modeling Geometry with Core Math Tools: Enhancing the Mathematical Practices***.** Presented at the AMTNJ conference, East Windsor, NJ.

Krupa, E. E. (2013). *Differences in curricular implementation based on varying professional development*. Paper presented at the NCTM Research Presession, Denver, CO.

Krupa, E. E. (2013). *Modeling Data with Core Math Tools: Enhancing Mathematical Practices Implementation*. Presented at the NCTM Conference, Denver, CO.

Krupa, E. E. (2012). *The Effects of an Integrated Mathematics Professional Development Project.* Paper presented at the International Symposium for Research in Mathematics Education, Fortaleza, Brazil.

Krupa, E. E. (2012). *Effect of Professional Development on Teachers' Implementation of a Reform Oriented Curriculum.* Paper presented at the 34rd Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Kalamazoo, Michigan.

Krupa, E. E. (2012). *Effects of Professional Development on Student Achievement and on Teachers' Curricular Implementation*. Paper presented at the NCTM Research Presession, Philadelphia, PA.

Krupa, E. E. (2011). *Textbook Implementation in Rural Secondary Integrated Mathematics Classrooms.* Paper presented at the 33rd Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Reno, Nevada.

Krupa, E. E., & Confrey, J. (2011). *Modeling Variation in Students' Mathematics Achievement in a Reform Curricula*. Paper presented at the NCTM Research Presession, Indianapolis, IN.

Krupa, E. E., & Confrey, J. (October, 2010). *Teacher Change Facilitated by Instructional Coaches: A Customized Approach to Professional Development.* Presentation at the 32nd Annual Meeting of the North American Chapter for the Psychology of Mathematics Education, Columbus, Ohio.

Krupa, E. E. (October, 2009). *North Carolina Integrated Mathematics (NCIM) Professional Development Model.* Presented at the North Carolina Conference for Teachers of Mathematics, Greensboro, NC.

Krupa, E. E. (April, 2004). *Eradicating Flour Beetles*. Paper presented at Mathematics Awareness Day North Carolina A&T University, Greensboro, NC.

Krupa, E. E. (April, 2002). *Creating Azulejos Using a Vector Basis.* Paper presented at the Regional Mathematical Association of America, Atlanta, GA.

Krupa, E. E. (April, 2002). *Mathematics On-line: Two Stories.* Paper presented at the Student Undergraduate Research Forum, Elon, NC.

Krupa, E. E. (April, 2001). *Gender Barriers in Secondary Mathematics Education.* Paper presented at the Student Undergraduate Research Forum, Elon, NC.

INVITED PRESENTATIONS

Krupa, E. E. (2022). *Engaging Students in Math.* Keynote at the JASON Learning National Conference, Leesburg, VA.

Krupa, E. E. (2022). *Design and Pitch Challenges in STEM: Routes Reimagined.* JASON Learning National Conference, Leesburg, VA.

Krupa, E. E. (2021). *GeT SLO'ing: An Exploration Incorporating the GeT Student Learning Objectives*. GeT: A Pencil Seminar.

Krupa, E. E., Bentley, B.*, & Mannix J. P.* (2020). *Animated Contrasting Cases in Geometry*. GeT: A Pencil Seminar.

Krupa, E. E., Belcher, M.*, & Confrey, J. (2020). *Empowering students in math through entrepreneurship.* NCTM 100 Days of Professional Learning.

Belcher, M.*, Krupa, E. E., & Confrey, J. (2020). *The math shark tank: Entrepreneurial challenges for middle grades.* NCSM Virtual Conference.

Krupa, E. E. (2013). *The Foundation of My Journey: Tips Along the Way.* Presented at Elon University, Elon, NC.

Krupa, E. E. (2012). *The CCSS Coordinating Change Starts Strategically: Implementing integrated mathematics and the mathematical practices.* Presented at the North Carolina Conference for Teachers of Mathematics, Greensboro, NC.

Krupa, E. E. (2012). *The Effects of an Integrated Mathematics Professional Development Project.* Paper presented at the International Symposium for Research in Mathematics Education, Fortaleza, Brazil.

Krupa, E. E. (May, 2011). Current State of Integrated Mathematics Across North Carolina High Schools. Presentation at the Integrated Mathematics Advisory Panel Meeting, Durham, NC.

Krupa, E. E., & Thomas, S. (January, 2010). *North Carolina Integrated Mathematics (NCIM) Professional Development Model: Creating a Math-Talk Learning Community.* Presentation at the Teaching Contemporary Mathematics Conference, Durham, NC.

Confrey, J., & Krupa, E. E. (November, 2009). *Clips: Creating Web-Based Communities of Mathematics Teachers to Promote Interactive Classrooms Using Video Examples*. Paper presented at the Brown Bag Meeting at the Friday Institute, Raleigh, NC.

POSTER PRESENTATIONS

Krupa, E. E., Belcher, M., & Mannix, J.P.* (February 2021). *Empowering students in math through entrepreneurial challenges*. Poster presented at the 2021 NCSU College of Education Research Celebration, Raleigh, NC.

Krupa, E. E. Greenstein, S., Visbeen, E.*, & Vecco, F.* (2018, July). Noyce @ Montclair: Preparing the Effective Elementary Mathematics Teacher. Poster presented at the Noyce Summit, Washington, D.C.

Krupa, E. E. & Greenstein, S. (2017, July). Noyce @ Montclair: Preparing the Effective Elementary Mathematics Teacher. Poster presented at the Noyce Summit, Washington, D.C.

Krupa, E. E. (2011, May). Evaluating the Impact of Professional Development and Curricular Implementation on Student Mathematics Achievement. Poster presented at the North Carolina State University Mathematics, Science, and Technology Education Research Symposium, Raleigh, NC.

Krupa, E. E. (2011, March). Evaluating the Impact of Professional Development and Curricular Implementation on Student Achievement. Poster presented at the North Carolina State University Mathematics, Science, and Technology Education Research Symposium, Raleigh, NC.

Krupa, E. E. (2010, May). Teacher change facilitated by instructional coaches: A customized Approach to Professional Development. Poster presented at the North Carolina State University Mathematics, Science, and Technology Education Research Symposium, Raleigh, NC.

Cayton, C., Starling, T., Krupa, E. E. (2009, May). Investigating Students' Conception of Functional Rate of Change Using Dynamic Geometry Software. Poster presented at the North Carolina State University Mathematics, Science, and Technology Education Research Symposium, Raleigh, NC.

Krupa, E. E. (2009, February). A synthesis of *Core-Plus* in relation to the North Carolina Integrated Mathematics (NCIM) project. Poster presented at the Center for the Study of Mathematics Curriculum Conference, Phoenix, AZ.

INTERNATIONAL PROFESSIONAL DEVELOPMENT PRESENTATIONS

Mathematics with technology content specialist for the New Literacies Teacher Leader Institute held at the Royal Beijing Academy, November 3-7, 2010, Beijing, China.

K-12 TEACHER PROFESSIONAL DEVELOPMENT PROGRAMS: LED SOLO

Improving Instructional Practices Through Content Embedded Coursework., Orange Public Schools, 3rd – 5th grade teachers, 2016-2017 school year.

Content Course for Number and Operations and Operations and Algebraic Thinking, Orange Public Schools, 3rd – 5th grade teachers, 2015-2016 school year.

Mathematics Teacher Leadership Development, Orange Public Schools, 6th – 12th grade teachers, 2014-2015 school year.

K-12 TEACHER PROFESSIONAL DEVELOPMENT PROGRAMS: COLLABORATIONS

STEM Education Course for Secondary School Teachers in Bogota, Colombia, North Carolina State University, Spring 2021, with Dr. Michael Bustle and STEM Education faculty.

Design & Pitch Challenges in STEM: Implementing the Model, North Carolina State University, 5th – 12th grade teachers, one-week virtual seminar August 2020, with Dr. Michael Belcher and Joshua P. Mannix.

CCSSM Geometry and Statistics & Probability Professional Development, Montclair State University, 5th – 8th grade teachers, two-week summer 2015, instructional rounds 2015-2016 school year, with Mika Munakata.

CCSSM Instructional Shifts Professional Development, Orange Public Schools, 9th – 12th grade teachers, 2014-2015 school year, with Eileen Murray.

CCSSM Expression & Equations and Functions Professional Development, Montclair State University, 5th – 8th grade teachers, two-week summer 2014, follow-up sessions 2014-2015 school year, with Mika Munakata.

CCSSM Fraction, Ratio & Proportion, and Number Systems Professional Development, Montclair State University, 5th – 8th grade teachers, two-week summer 2013, follow-up sessions 2013-2014 school year, with Mika Munakata.

CCSSM Race to the Top Professional Development, Newark Public Schools, 5th & 6th grade teachers, 2013-2014 school year, with Steven Greenstein.

CCSSM Race to the Top Professional Development, Newark Public Schools, 5th & 6th grade teachers, 2012-2013 school year, with Corey Webel.

New Literacies Teacher Leader Institute: Mathematics with Technology Content Specialist, The Friday Institute for Educational Innovation (Raleigh, NC), 9th – 12th grade teachers, one week summer 2012, with Hiller Spires.

North Carolina Integrated Mathematics Workshops, NC School of Science and Mathematics, Durham, NC, 9th-12th grade teachers, two-week summer 2008, 2009, 2010, with Helen Compton & Dot Doyle.

ADDITIONAL PROFESSIONAL WORK

Teaching GeT Working Group Participant, Online Professional Learning Community to Support the Geometry Course for Teachers, August 2020- current.

NSF-sponsored Conference Facilitator, *Validity Evidence for Measurement in Mathematics Education* (V-M^{2}Ed), San Antonio, TX, 2016-2017.

Evaluator on an NSF I-USE Grant, *Engaged Learning through Creativity in Science and Mathematics*, 2016-present.

Amplify Learning, Digital Geometry Materials Curriculum Writer, 2013-2015.

Massive Open Online Courses (MOOC) Facilitator, Disciplinary Literacy for Deeper Learning, Mathematics Education Technology Content Specialist. North Carolina State University, 2014 and 2015.

Helping Children Learn Mathematics, Consultant for Identifying Technology Resources for the Textbook, 2013.

Mathematics Item Writer and Reviewer, Castle Worldwide, Morrisville, NC, 2005-2006

TEACHING AND MENTORING

COURSES TAUGHT AT NORTH CAROLINA STATE UNIVERSITY

EMS 471	Student Teaching in Mathematics
EMS 472	Teaching Mathematics Topics in Senior High School
EMS 704	Curriculum Development and Evaluation in Science and Mathematics
EMS 802	Seminar in Mathematics Education
EMS 893	Supervised Research
MA 408	Foundations of Euclidean Geometry

COURSES TAUGHT AT MONTCLAIR STATE UNIVERSITY

MATH 106	Contemporary Applied Mathematics for Everyone
MTHM 201	Mathematics in Elementary Schools I,
MATH 350	College Geometry
MATH 370	Mathematics for Teaching
MATH 401	Fundamentals of Pre-Service Mathematics

MATH 497 Mathematics Research
MATH 744 Special Topics, Quantitative Research Methods in Mathematics Education
MATH 813 Geometry for Middle and High School
MATH 816 Mathematics Curriculum
MATH 920 Qualifying Exam Prep
Unlisted Probability for High School Teachers

COURSES TAUGHT AT ENLOE HIGH SCHOOL

Honors Geometry
Honors Algebra II
Honors Pre-Calculus
Honors Introduction to College Math

COURSES TAUGHT AS TEACHING ASSISTANT

North Carolina State University, Raleigh, NC
EMS 480/580 Teaching Mathematics with Technology

Wake Forest University, Winston-Salem, NC
MTH 111 Calculus I
MTH 112 Calculus II
MTH 113 Calculus III
MTH 121 Linear Algebra

Elon University, Elon, NC
MATH 115 College Algebra
MATH 110 Nature of Mathematics

DOCTORAL STUDENT COMMITTEES

Dissertation Chair
Charles Johnson, North Carolina State University, expected Spring 2026
Shari Brockington, North Carolina State University, July 2025
Margaret Borden, North Carolina State University, Spring 2025
Ashley Loftis, North Carolina State University, December 2024
Hillary Sessions, North Carolina State University, December 2024
Brianna Bentley, North Carolina State University, Spring 2023
Joshua Mannix, North Carolina State University, December 2022
Courtney Taylor NeSmith, North Carolina State University, Summer 2022
Michael Belcher, North Carolina State University, Summer 2020 (co-chair Dr. Confrey)
Douglas Platt, Montclair State University, Spring 2018

Dissertation Committee Member
Rayshawn Locklear, North Carolina State University, July 2025
Zachary Vaskalis, North Carolina State University, July 2023
David Stokes, North Carolina State University, December 2023
Latoya Brewer, North Carolina State University, Spring 2023
Katie Floyd, North Carolina State University, Spring 2022
Johnathan Lopez-Torres, North Carolina State University, Spring 2021
Gurkan Kose, Montclair State University, in Spring 2021
Ceire Monohan, Montclair State University, Fall 2020
Marylu Dalton, Montclair State University, Spring 2017

Eliza Leszczynski, Montclair State University, Spring, 2014
Tina Powell, Seton Hall University, Spring 2014

UNDERGRADUATE STUDENT RESEARCH SUPERVISED

Shannon Carney, Summer 2022-present
Elizabeth Rodgers, Fall 2020 – 2022
Madi Beddingfield, Fall 2020 – 2022
Erica Council, Fall 2019 – Spring 2020
Francis Kavalos, Fall 2014
Melissa Tobie, Fall 2015

SERVICE

DEPARTMENTAL SERVICE

Graduate Program Coordinator, Mathematics & Statistics Education, 2022-current
Graduate Scholarship Committee, North Carolina State University, 2021-current
Revisions to middle grades math teaching certification program, 2020-current
Started a Mathematics Teacher club for undergraduates at Montclair State University, 2016-2018
Department Personnel Action Committee, 2016-2017
Mathematics Education Special Interest Group Chair, 2013-2016
Department Curriculum Committee, 2013-2016, Chair from 2014-2016
Departmental Budget Committee, 2015-2016
Created BA/MAT Dual Certification Program: Mathematics and Teacher of Students with Disabilities
Created new degree program, Mathematics with K-6 teacher certification
Revised Mathematics with P-12 teacher certification, 2012-2013
NCATE Accreditation Coordinator, 2013-2015
Mathematics Education Search Committees, 2011-2016
Course Coordinator MTHM 201 and 302, 2012-2013
Mathematical Sciences Newsletter, 2011-2013

COLLEGE SERVICE

College of Science and Mathematics Honors Program Committee Chair, 2016-2018
College Curriculum Committee, 2013-2015

UNIVERSITY SERVICE

Library Representative, North Carolina State University, 2019-present
Teacher Education Policy Committee, Montclair State University, 2016-2018
President's Committee for the Lumina Foundation, 2016-2017
Provost's Committee for the Common Core/PARCC, 2013-2015
IRB Faculty Mentor, 2013-2014

REGIONAL SERVICE

Math Club for middle school students in Paramus, 2016 and 2017
Bradford University Magnet Elementary School, collaborates with 5th grade classroom, 2011-2014

STATE AND NATIONAL SERVICE

American Educational Research Association, Division C, Section 1C, Co-chair 2025- current

Associate of Mathematics Teacher Educators National Technology Committee 2020 - 2025
Journal of Mathematics Teacher Education Reviewer, 2019-present
New Jersey Association of Mathematics Teacher Educators President- 2016-2018
New Jersey Association of Mathematics Teacher Educators Board Member 2013-2016
NCTM Review Committee on the AMTE Mathematics Teacher Preparation Standards, 2016-2017
Editorial Board Member, Investigations in Mathematics Learning Special Edition, 2016-2017
Journal of Mathematical Behavior Reviewer, 2016-present
Review MOST Project Contributions to the Field, 2016
Associate of Mathematics Teacher Educators National Affiliate Connections Committee 2014-2016
Problems, Resources, and Issues in Mathematics Undergraduate Studies reviewer, 2013-2014
Psychology for Mathematics Education- North America Reviewer in 2010, 2011, 2012
Service, Teaching, and Research Fellow technology committee, 2012-2013
Service, Teaching, and Research Fellow CCSSM support materials committee, 2012-2013
National Council for Teachers of Mathematics Research Conference Presider, 2013
American Educational Research Association Reviewer in 2012
Integrated Mathematics Advisory Panel, Durham, NC June 2011

AFFILIATIONS/MEMBERSHIPS

National Council of Teachers of Mathematics
North Carolina Council of Teachers of Mathematics
North Carolina Association of Mathematics Teacher Educators
American Educational Research Association
Psychology for Mathematics Education- North America
Association of Mathematics Teacher Educators
New Jersey Association of Mathematics Teacher Educators
Association for Mathematics Teachers, NCTM New Jersey affiliate

HONORS AND AWARDS

Senior Faculty Fellow at the Friday Institute for Educational Innovation, North Carolina State University, October 2023
University Faculty Scholars Award, North Carolina State University, July 2023
Best of STEM Award, International Society for Technology in Education's, August 2022
National Science Foundation STEM for All Video Showcase Facilitators' Choice Award, May 2022
Goodnight Early Career Innovators Award, North Carolina State University, August 2021
Friday Institute Faculty Fellow, North Carolina State University, August 2021
National Science Foundation STEM for All Video Showcase Facilitators' Choice Award, May 2021
Nominated for the Graduate School's Outstanding Graduate Faculty Mentor Award, North Carolina State University, Spring 2020
Community Enrichment Award, LGBTQIA Alumni Network, Elon University, Fall 2019
Elon College Distinguished Alumna in Natural, Mathematical & Computing Sciences, Elon University
Service, Teaching, and Research Fellow (STaR), Montclair State University
Graduate Assistantship, North Carolina State University
Graduate Assistantship, Wake Forest University

North Carolina Teaching Fellow, Elon University
Phi Kappa Phi Honor Society, North Carolina State University
Golden Key International Honor Society, North Carolina State University
Phi Mu Epsilon Math Honor Society, Wake Forest University
Honors Program, Elon University
First Place: Geometer's Sketchpad Morphing Contest, Elon University
Omicron Delta Kappa National Honor Society, Elon University
Kappa Mu Epsilon Mathematics Honor Society, Elon University
Alpha Chi Academic Honor Society, Elon University