



Contact Information

Department of Mathematics, Box 870350
The University of Alabama
Tuscaloosa, AL, 35487-0350
jgleason@ua.edu

Education

Ph.D., Mathematics, University of California, Santa Barbara, June 2002

- Thesis Title: *Subnormal and Fredholm tuples of operators*
- Primary Subject: Multivariable Operator Theory
- Thesis Advisor: Professor Mihai Putinar

M.A., Mathematics, University of California, Santa Barbara, June 1998.

B.S., Mathematics, Azusa Pacific University, Dec. 1995

Teaching

The University of Alabama

- Professor (2017-present)
- Director of Undergraduate Programs (2016-2021)
- Associate Professor (2011-2017)
- Director of Introductory Mathematics (2011-2013)
- Assistant Professor (2005-2011)
- Courses Taught
 - College Algebra (MATH 112); Calculus I, II, & III (MATH 125, 126, & 227); Linear Algebra (MATH 237); Differential Equations (MATH 238); Business Calculus (MATH 121); Discrete Mathematics (MATH 301); Number Theory (MATH 307); Mathematical Statistics (MATH 451/551); Complex Calculus (MATH 485/585); Introduction to Analysis I (MATH 486)
 - Mathematics for Elementary Teachers: Number of Operations (MATH 208); Geometry and Measurement (MATH 209)
 - Mathematics for Secondary Teachers: Algebraic Reasoning (MATH 403/503); Geometry and Data

Analysis (MATH 504); Geometry (MATH 405/505); Data Analysis (MATH 409/509); Advanced Geometry (MATH 467/567)

- Mathematics for Post-Secondary Teachers: Teaching College Mathematics (MATH 591); Collegiate Mathematics Education Research (MATH 593)

University of Tennessee

- Lecturer (Postdoc) (2002-2005)
- Courses Taught
 - Calculus I & II, Matrix Algebra, Advanced Calculus I & II, Differential Equations, Discrete Mathematics for Teachers

University of California, Santa Barbara

- Teaching Assistant/Associate
- Courses Taught
 - Precalculus, Calculus II & III, Calculus for the Social Sciences, Linear Algebra, Differential Equations, Mathematics for Elementary Education

Research

Research Interests:

- Mathematics Education (Educational Measurement, Content Knowledge for Teaching, Undergraduate Mathematics Education)
- Operator Theory (Multivariable Operator Theory, Subnormality, Fredholm properties)

Publications:

Peer Reviewed Journals

- Gleason, J., Martin, W. G., & Rosenhammer, M. (2024). General education mathematical needs of students, *MathAMATYC Educator*, 15(2), 12-27. <https://amatyc.org/page/EducatorWinter2024>
- Harbour, K., Livers, S., McDaniel, S., Gleason, J., & Barth, J. (2022). Professional development to support elementary mathematics and co-teaching practices: Collaborations between general and special education. *Mathematics Teacher Education and Development (MTED)*, 24(2), 33-56. <https://mted.merga.net.au/index.php/mted/article/view/764>
- Livers, S.D., Zelkowski, J., Harbour, K., McDaniel, S., Gleason, J. (2020). An examination of the relationships of mathematics self-efficacy and teaching practices among elementary, secondary, and special education educators, *Investigations in Mathematics Learning*. DOI: [10.1080/19477503.2019.1670891](https://doi.org/10.1080/19477503.2019.1670891).
- Gleason, J., Bagley, S., Thomas, M., Rice, L., & White, D. (2019). The Calculus Concept Inventory: A psychometric analysis and implications for use. *International Journal of Mathematical Education in Science and Technology*. 50, (6), 825-838. DOI: [10.1080/0020739X.2018.1538466](https://doi.org/10.1080/0020739X.2018.1538466).

- Maxwell, M., & Gleason, J. (2019). Item efficiency: an item response theory parameter with applications for improving the reliability of mathematics assessment. *International Journal of Mathematical Education in Science and Technology*, 50 (2), 216-243. DOI: [10.1080/0020739X.2018.1492038](https://doi.org/10.1080/0020739X.2018.1492038).
- Gleason, J., Livers, S., & Zelkowski, J. (2017). Mathematics Classroom Observation Protocol for Practices (MCOP2): A validation study. *Investigations in Mathematics Learning*, 9(3), 111-129. DOI: [10.1080/19477503.2017.1308697](https://doi.org/10.1080/19477503.2017.1308697).
- Bismarck, S., Zelkowski, J., & Gleason, J. (2014). Activities for Students: Predicting future gas prices using the Standards for Mathematical Practice. *Mathematics Teacher*, 107(9), 694-700. ([Article Link](#))
- Zelkowski, J., Gleason, J., Cox, D., & Bismarck, S. (2013). Developing and validating a reliable TPACK instrument for secondary mathematics preservice teachers. *Journal of Research on Technology in Education*, 46(2), 173-206. DOI: [10.1080/15391523.2013.10782618](https://doi.org/10.1080/15391523.2013.10782618).
- Bargagliotti, A., Botelho, F., Gleason, J., Haddock, J., & Windsor, A. (2012). The effectiveness of blended instruction in postsecondary general education mathematics courses. *International Journal for Technology in Mathematics Education*, 19(3), 83-94. ([Article Link](#)).
- Gleason, J. (2012). Using technology-assisted instruction and assessment to reduce the effect of class size on student outcomes in undergraduate mathematics courses. *College Teaching*, 60(3), 87-94. DOI: [10.1080/87567555.2011.637249](https://doi.org/10.1080/87567555.2011.637249).
- Gleason, J., Boykin, K., Johnson, P., Bowen, L., Raju, D., & Slappey, C. (2010). Integrated engineering math-based summer bridge program for student retention.} *Advances in Engineering Education*, 2(2). ([Article Link](#)).
- Gleason, J., Alley, A., & Baker, S. (2010). The effect of item-writing rules on the reliability of an instrument to measure mathematical knowledge for teaching.} *Journal of Mathematical Sciences and Mathematics Education*, 5(2): 21-27. ([Article Link](#)).
- Gleason, J. (2010). Reliability of the content knowledge for teaching mathematics instrument for pre-service teachers.} *Issues in the Undergraduate Mathematics Preparation of School Teachers*, Volume 1 (Content Knowledge), January 2010. ([Article Link](#)).
- Gleason, J. (2008). An evaluation of the 2008 Alabama statewide mathematics competitions.} *Alabama Journal of Mathematics*, 32: 65-73. ([Article Link](#)).
- Gleason, J. (2008). Measuring math anxiety of elementary teachers. *Academic Exchange Quarterly*, 12(2): 75-78. ([Article Link](#)).
- Gleason, J., Belcher, J., Britt, D., & Savich, P. (2008). Incorporating a critical pedagogy of place in the mathematics classroom: Rural school bussing. *Journal of Teaching and Learning*, 5(2): 23-37. ([Article Link](#)).
- Gleason, J. & Rosentrater, C. R. (2008). Xia's analytic model of a subnormal operator and its applications. *Rocky Mountain Journal of Mathematics*, 38(3):849-889. ([Article Link](#)).
- Gleason, J. (2008). Relationships between pre-service elementary teachers' mathematics anxiety and content Knowledge for Teaching. *Journal of Mathematical Sciences and Mathematics Education*, 3(1): 39-47. ([Article Link](#)).
- Gleason, J. (2008). An evaluation of mathematics competitions using item response theory. *The Notices of*

the American Mathematical Society, 55(1): 8-15. ([Article Link](#)).

- Gleason, J. & Richter, S. (2006). \mathbb{S} -isometric commuting tuples of operators on a Hilbert space. *Integral Equations Operator Theory*, 56(2):181-196. ([Article Link](#)).
- Gleason, J. (2006). Teaching mathematics online: A virtual classroom. *Journal of Online Mathematics*. March 2006. ([Article Link](#)).
- Gleason, J. & Rosentrater, C. R. (2006). The mosaic and principal function of a subnormal operator. *Integral Equations Operator Theory*, 55(1):69-82. DOI: [10.1007/s00020-005-1378-0](https://doi.org/10.1007/s00020-005-1378-0).
- Gleason, J. (2006). Quasinormality of Toeplitz tuples with analytic symbols. *Houston Journal of Mathematics*, 32(1):293-298. ([Article Link](#)).
- Gleason, J., Richter, S., & Sundberg, C. (2005). On the index of invariant subspaces in spaces of analytic functions of several complex variables. *J. Reine Angew. Math.*, 587:49--76. DOI: [10.1515/crll.2005.2005.587.49](https://doi.org/10.1515/crll.2005.2005.587.49)
- Conway, J. B. & Gleason, J. (2005). Absolute equivalence of Dirac operators. *Integral Equations Operator Theory*, 51(1):57--71. DOI: [10.1007/s00020-003-1255-7](https://doi.org/10.1007/s00020-003-1255-7).
- Gleason, J. (2003). Matrix construction of subnormal tuples of finite type. *Journal of Mathematical Analysis and Applications*, 284(2):593--602. DOI: [10.1016/S0022-247X\(03\)00366-4](https://doi.org/10.1016/S0022-247X(03)00366-4).
- Gleason, J. (2002). On a question of Ameer Athavale. *Irish Mathematical Society Bulletin*, 48:31-33. ([Article Link](#)).
- Gleason, J. (2001). Perturbations of a Fredholm complex by inessential operators. *Georgian Mathematical Journal*, 8(1):61--67. ([Article Link](#)).

Peer Reviewed Conference Proceedings

- Zelkowski, J. & Gleason, J. (2018) Programmatic effects on high stakes measures in secondary math teacher preparation In Venenciano, L. and Redmond-Sanogo, A. (Eds.) *Proceedings of the 45th Annual Meeting of the Research Council on Mathematics Learning*, Baton Rouge, LA. 169-176
- Zelkowski, J. & Gleason, J. (2016) Using the MCOP2 as a Grade Bearing Assessment of Clinical Field Observations} In (Eds.) Lawler, B. R., Ronau, R. N., & Mohr-Schroeder, M. J. *Proceedings of the fifth annual Mathematics Teacher Education Partnership conference*. Washington, DC: Association of Public Land-grant Universities. 129-138.}
- Gleason, J., Thomas, M., Bagley, S., Rice, L., White, D., & Clements, N. (2015). Analyzing the Calculus Concept Inventory: Content validity, internal structure validity, and reliability analysis. In (Eds.) T.G. Bartell, K.N. Bieda, R.T. Putnam, K. Bradfield and H. Dominguez,} *Proceedings of the 2015 conference for Psychology in Mathematics Education- North America* East Lansing, MI: Michigan State University, 1291-1297 ([Article Link](#)).
- Gleason, J., White, D., Thomas, M., Bagley, S., & Rice, L. (2015). The Calculus Concept Inventory: A psychometric analysis and framework for a new instrument.} In (Eds.) T. Fukawa-Connelly, N. E. Infante, K. Keene, and M. Zandieh, *Proceedings of the 18th Annual Conference on Research in Undergraduate Mathematics Education, 2015, Pittsburgh, PA*, 105-119} ([Article Link](#))
- Gleason, J. & Cofer, L.D. (2014). Mathematics classroom observation protocol for practices results in

undergraduate mathematics classrooms. In (Eds.) T. Fukawa-Connelly, G. Karakok, K. Keene, and M. Zandieh, *Proceedings of the 17th Annual Conference on Research on Undergraduate Mathematics Education, 2014, Denver, CO*, 93-103 ([Article Link](#)).

- Bargagliotti, A.E., Botelho, F., Gleason, J., Haddock, J., & Windsor, A. (2011). A report on the effectiveness of blended instruction in general education mathematics courses. In (Eds.) S. Brown, S. Larsen, K. Marrongelle, and M. Oehrtman, *Proceedings of the 14th Annual Conference on Research in Undergraduate Mathematics Education, Vol. 1*, pg 25-38. Portland, Oregon.} ([Article Link](#))

Peer Reviewed Journal Articles Under Review

- Gleason, J., Lewis, A. K. & Toro-Rodriguez, R. Analysis of multi-step items in computer-assisted exams in calculus.

Articles in Preparation

- Gleason, J., Lai, Y., & Melhuish, K. Examining the use of measurement instruments in research in undergraduate and graduate mathematics education.
- Gleason, J. & Makowski, M. B. Gendered perceptions of undergraduate mathematics education.

Peer Reviewed Abstracts

- Bakker, M.G., Gleason, J., Nichols, S., Kuntz, A., Sundberg, C., Busenlehner, L., Chopra, N., Evans, R., Spencer, P., Murphy, A. (2011). Project VISTA: Building University/K-12 Learning Communities by Developing Materials Science Experiments. MRS Online Proceedings Library, Volume 1320, MRSF 10-1320-XX02-02. ([Article Link](#)).
- Boykin, K., Raju, D., Bonner, J., Gleason, J., Bowen, L. (2010). Engineering math based bridge program for student preparation, *Proceedings of the International Conference on Education Training and Informatics: ICETI 2010*. ([Article Link](#)).
- Bakker, M. G., Staggemeier, K., Grano, A., Kuntz, A., Gleason, J., McKenzie, L., O'Neal, B. & Pace, R. (2010). Identification, Development and Implementation of Nanoscience Activities for Alabama K-12, in *Materials Education*, edited by Marshall, E., Nucci, J., Dunham, D., & Patterson, M.M. (Materials Research Society Symposium Proceedings Volume 1233, Warrendale, PA, 2010), PP4.21. ([Article Link](#))
- Gleason, J. (2010). Effect of Class Size on Student Outcomes in Mathematics Courses with Technology Assisted Instruction and Assessment. *Proceedings of the Conference on Research in Undergraduate Mathematics Education* ([Article Link](#)).

Non-Peer Reviewed

- Gleason, J., Livers, S., & Zelkowski, J. (2015). *Mathematics Classroom Observation Protocol for Practices (MCOP2): Protocol Descriptors*. ([Website for Protocol](#)).
- Bakker, M.G., Gleason, J., Nichols, S., Kuntz, A., Sundberg, C., Busenlehner, L., Chopra, N., Evans, R., & Spencer, P. (2010). VISTA: Vertical Integration of Science and Technology in Alabama. *Curriculum and Leadership*, 8 (30). ([Article Link](#)).
- Gleason, J. (2006). Top 10 Suggestions for Teaching an Online Mathematics Course. *Rural Math*

Educator, 5(1).

- Gleason, J. & Long, V. (2005). An evaluation of the Master of Mathematics program at the University of Tennessee. Completed Spring 2005 for the Department of Mathematics at the University of Tennessee.

Grants

Grants Funded

Principal Investigator on a total of 5 grants funded for approximately \$525,000.

Co-PI or Senior Personnel on a total of 8 grants funded for approximately \$8,000,000.

- A-PLUS-M: Alabama Practitioner Leaders in Underserved Schools for Mathematics, National Science Foundation (Co-PI) (\$567,906 of \$2,839,530). (2019-2025)
- UA MSP: Differentiating Mathematics Instruction within Communities of Learners, Alabama Department of Education Mathematics Science Partnership (PI) (\$513,029) (2015-2018)
- Improving the Mathematical Practices in Alabama Classroom Teaching (IMPACT), Alabama Department of Education Mathematics Science Partnership (Co-PI) (\$645,657). (2012-2015)
- The University of Alabama Noyce Scholars Program, National Science Foundation (Senior Personnel) (\$1,450,000). (2013-2018).
- Pilot of UA STEM/Area Middle and High School Partnership, University of Alabama Vice President of Research, Graduate School, Vice President of Community Affairs, Council for Community Based Partnerships, College of Arts and Sciences, College of Engineering, College of Education, (Co-PI), (\$19,905). (2010-2011).
- Enhancement of the Calculus readiness of Chemistry Majors for Physical Chemistry, The University of Alabama Academy for Improvement of Student Success, (Co-PI) (\$7,800). (2010-2011).
- NSF MSP-START Integration of Nano and Biotechnology into the Classroom, (Co-PI) (\$71,700 sub-contract for organization and evaluation of statewide \$300,000 proposal). (2008-2010)
- NSF Alabama EPSCoR RII (Co-PI) (\$1,500,000 sub-contract for the Education, Outreach, and Diversity Portion, of \$15,000,000 total state-wide grant). (2008-2010)
- Professional Development of Mathematics Teachers (Alabama Mathematics Science and Technology Initiative) (PI), \$10,057.62. (Fall 2007-Spring 2008).
- NSF Engineering Mathematics Advancement Program (Senior Personnel, Research Assistant), \$989,968. (2008-2010)
- In-service teacher training in mathematics (Alabama Mathematics Science and Technology Initiative) (PI), \$4,300. (Spring-Summer 2007)
- Mathematical Knowledge for Teaching Calculus - An Exploratory Study (PI), The University of Alabama Research Advisory Committee, \$5000. (2006)
- Preliminary Evaluation of Courses for Elementary Education Majors (PI), Jim Walter Resources, \$5000. (2005-2006)

Grants Unfunded

- Exploring Bold Problems Solving and Gender in Undergraduate Mathematics Students, National Science Foundation (Co-PI), (\$480,000) (Submitted 10/2023).
- CAREER: Injecting the Mathematical Practices into Alabama Classroom Teaching - High IMPACT, Transformative Teacher Professional Development, National Science Foundation (Senior Personnel), \$816,360. (Submitted 07/2013)
- Impact of Blending Inquiry-Based Instruction on Student Learning and Longitudinal Retention of Knowledge in Algebra, (PI on subcontract), NSF through UAB. (\$112,246 subcontract on \$599,852 grant) (submitted 01/13/12).
- The University of Alabama Noyce Scholars Program (Senior Personnel), National Science Foundation. (\$1,450,000). (submitted 03/23/2011).
- Vertical Integration of Science and Technology in Alabama, (Co-PI), National Science Foundation. (\$300,000). (submitted 07/08/10).
- The Memphis Mathematics Method (PI on subcontract), U.S. Department of Education through University of Memphis. (\$190,661 subcontract on \$2,000,000 grant) (submitted 06/03/10)
- A National Assessment of Mathematical College-Readiness Related to Scheduling Format in Secondary Schools, (Co-PI), American Educational Research Association, (\$35,000) (submitted 03/16/10)
- The Memphis Mathematics Method: Evaluating the efficacy of employing blended instruction as a strategy to produce differential gains in student learning in postsecondary general education mathematics courses (Consultant), U.S. Department of Education, (\$50,000 subcontract on \$1,000,000 grant). (submitted June 2009)
- Teaching College Mathematics Professional Development: Training undergraduate mathematics faculty in the art and science of research-based teaching, National Science Foundation, (PI) (\$118,561). (submitted May 2009)
- NSF STEM Learning Community, (Co-PI), (\$2,500,000). (submitted October 2008)
- Changing the Mathematical Development of Teachers (PI), Toyota - USA Foundation, (\$175,000). (submitted August 2007)
- Changing the Mathematical Development of Teachers (PI), Jim Walter Resources, (\$28,000). (submitted August 2007)
- Alabama Robert Noyce Mathematics Scholars Program (PI), National Science Foundation, (\$175,000). (submitted March 2007)
- CAREER: Mathematical Knowledge for Teaching Calculus (PI), National Science Foundation, (\$585,000). (submitted July 2006)
- Evaluation of Courses for Elementary Education Majors (PI), Georgia-Pacific Foundation, (\$35,000). (submitted spring 2006)
- Teaching College Mathematics: Training Undergraduate Mathematics Faculty in the Art and Science of Research-Based Teaching (PI), National Science Foundation, (\$107,612). (submitted May 2006)

Conferences

Invited Regional

- Alabama Mathematical Association of Two-Year Colleges, March 2023 (Mathematical Needs for General Education)
- Alabama Association of College Teachers of Mathematics, Lewis-Parker Lecture, March 2022 (Mathematical needs of students in non-STEM majors)
- Alabama Council of Teachers of Mathematics, Invited Address, Oct. 2014 ("Understanding and using the ACT Aspire")
- Auburn Mathematics Department Colloquium, Auburn, AL, Sep. 2014 ("Math Tests: What are we measuring and how well?")
- Alabama Mathematical Association of Two Year Colleges Annual Conference, Tuscaloosa, AL, Feb. 2010 ("Effect of Class Size on Student Outcomes" and "Writing Tests: What are we measuring?")
- Jacksonville State University Mathematics Seminar and Workshop, Jacksonville, AL, Nov. 2007. (Gave a seminar talk and afternoon workshop on Item Response Theory and applications for mathematics departments.)
- ACCLAIM Symposium on Distance Education, West Liberty, Kentucky, Oct. 2005. (Discussed teaching mathematics courses online.)

National Conferences (Peer Reviewed)

- National Council of Teachers of Mathematics, Washington, DC, October 2023 ("What Mathematics Do Students Need for College? A Data-Informed Discussion")
- NCTM Research Conference, Washington, DC, October 2023) ("Relationships between National Board Component Scores & MCOP2 Teaching Observation Ratings")
- Conference on Research in Undergraduate Mathematics Education, Lincoln, NE, March 2023 ("Prioritizing Mathematical Topics for General Education Requirements")
- Conference on Research in Undergraduate Mathematics Education, Oklahoma City, OK, March 2019 ("Student, Teacher, and Institution Effects on Student Achievement and Confidence in College Calculus")
- Association of Mathematics Teacher Educators (AMTE) Annual Meeting, Orlando, FL, Feb. 2017 ("Infusing Co-Teaching, Differentiation, and High Quality Mathematics Tasks: Creating a Unique Professional Development Model")
- Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA, Feb. 2015 ("Psychometric Analysis of the Calculus Concept Inventory")
- US Department of Education Mathematics Science Partnerships Annual Conference, Washington, DC, Oct. 2014 ("Improving Mathematical Practices for Alabama Classroom Teachers")
- National Council of Teachers of Mathematics Research Pre-session, New Orleans, LA, Apr. 2014 ("A New Classroom Observation Instrument for Assessing K-16 Mathematics Classrooms")
- Conference on Research in Undergraduate Mathematics Education, Denver, CO, Feb. 2014 ("An observation instrument for assessing the K-16 mathematics classroom")
- Conference on Research in Undergraduate Mathematics Education, Portland, OR, Feb. 2011 ("The effectiveness of blended instruction in postsecondary general education mathematics courses")

- Conference on Research in Undergraduate Mathematics Education, Portland, OR, Feb. 2011 ("Determining Mathematical Item Characteristics Corresponding with Item Response Theory Item Information Curves")
- Conference on Research in Undergraduate Mathematics Education, Raleigh, NC, Feb. 2010. ("Effect of Class Size on Student Outcomes in Mathematics Courses with Technology Assisted Instruction and Assessment")
- Association of Mathematics Teacher Educators (AMTE) Annual Meeting, Orlando, FL, Feb. 2009. ("Measuring the mathematical knowledge for teaching of pre-service elementary teachers")
- Association of Mathematics Teacher Educators (AMTE) Annual Meeting, Tulsa, OK, Jan. 2008. ("An evaluation of mathematics content courses for pre-service elementary teachers")

National Conferences (Other)

- Joint Mathematics Meetings, New Orleans, LA, Jan. 2011. ("The effectiveness of blended instruction in postsecondary general education mathematics courses")
- American Mathematical Association of Two-Year Colleges Annual Conference, Boston, MA, Nov. 2010. ("Measuring the Reliability of Common Exams Using Item Response Theory")
- Joint Mathematics Meetings, San Diego, CA, Jan. 2008. ("Evaluating mathematics courses for elementary teachers: Mathematical knowledge and dispositions for teaching")
- Mathematical Association of America Mathfest, Knoxville, TN, Aug. 2006. ("Preliminary results of an evaluation of courses for elementary teachers")

Regional Conferences

- Alabama Council of Teachers of Mathematics, Oxford, AL, Nov. 2022. ("Mathematical and Statistical Needs of College Majors")
- Alabama Council of Teachers of Mathematics, Birmingham, AL, Oct. 2015. ("Teaching with GeoGebra")
- Mathematics Association of America Southeastern Section, Wilmington, NC, March 2015. ("Measuring the Conceptual Teaching in Undergraduate Mathematics Classrooms")
- Alabama Association of College Teachers of Mathematics, Auburn, AL, Feb. 2014. ("An Observation Instrument for Assessing the Undergraduate Mathematics Classroom")
- Alabama Association of College Teachers of Mathematics, Birmingham, AL, Feb. 2013. ("Comparison of Geometry Courses")
- Alabama Association of College Teachers of Mathematics, Athens, AL, March 2012. ("Changing College Math Placement")
- Stepping Up to Move Alabama Ahead in College and Career Readiness, Montgomery, AL, Dec. 2011. ("Improving Course Rigor")
- Alabama Council of Teachers of Mathematics, Montgomery, AL, Oct. 2011. ("Preparing Your Students for College Mathematics Placement Tests")
- Alabama Association of College Teachers of Mathematics, Tuskegee, AL, Feb. 2010. ("Does class size matter?")

Alabama Association of College Teachers of Mathematics, Jacksonville, AL, Feb. 2009. ("What is AMTE-A?")

- Fall Central Section Meeting of the AMS, Kalamazoo, MI, Oct. 2008. ("Structure of the Content Knowledge for Teaching-Mathematics (CKT-M) Instrument with Pre-service Teachers")
- TEAM-Math Annual Conference, Tuskegee, AL, Sept. 2008. ("Statewide cooperation to improve the mathematical education of elementary teachers")
- Alabama EPSCoR Annual Conference and Stakeholder Symposium, Montgomery, AL, July 2008. ("Outreach Activities in Alabama")
- TEAM-Math Conference, Tuskegee, AL, Aug. 2007. ("Graduate programs in mathematics education")
- Alabama Association of College Teachers of Mathematics, Tuscaloosa, AL, Feb. 2007. (Gave a talk discussing an evaluation of mathematics competitions.)
- MAA Southeastern Section Regional Meeting, Auburn, AL, March 2006. (Gave a talk about rural mathematics education issues.)
- Alabama Association of College Teachers of Mathematics, Jacksonville, AL, Feb. 2006. (Organized and led panel discussion on mathematics content courses for pre-service elementary teachers.)

Additional Mathematics Education Conferences Attended:

- Alabama Association of College Teachers of Mathematics, Troy, AL, Feb. 2023
- Conference on Research in Undergraduate Mathematics Education, Boston, MA, February 2020
- Validity Evidence for Measurement in Mathematics Education Conference, Las Vegas, NV, February 2020
- Mathematical Association of America Southeastern Section, Cleveland, TN, March 2019
- Mathematical Association of America Southeastern Section, Clemson, SC, March 2018
- Alabama Association of College Teachers of Mathematics, Jacksonville, AL, Feb. 2018
- Mathematical Association of America Southeastern Section, Macon, GA, March 2017
- Conference on Research in Undergraduate Mathematics Education, San Diego, CA, Feb. 2017
- Alabama Association of College Teachers of Mathematics, Birmingham, AL, Feb. 2017
- RUME with a View, Normal, OK, Oct. 2016
- Alabama Association of College Teachers of Mathematics, Montgomery, AL, Feb. 2016
- Alabama Association of College Teachers of Mathematics, Tuscaloosa, AL, Feb. 2015
- Conference on Research in Undergraduate Mathematics Education, Denver, CO, Feb. 2013
- Association of Mathematics Teacher Educators, Orlando, FL, Jan. 2013
- Mathematical Association of America Southeastern Section, Morrow, GA, Mar. 2012
- Alabama Association of Two-Year Colleges, Athens, AL, March 2012.
- Conference on Research in Undergraduate Mathematics Education, Portland, OR, Feb. 2012
- American Mathematical Association of Two-Year Colleges, Austin, TX, Nov. 2011.
- Mathematical Association of America Southeastern Section, Tuscaloosa, AL, April 2011.
- Alabama Association of Two-Year Colleges, Birmingham, AL, Feb. 2011.
- Alabama Association of College Teachers of Mathematics, Montgomery, AL, Feb. 2011.

- Mathematical Association of America Mathfest, Portland, OR, Aug. 2009.
- NCTM Research Pre-session, Atlanta, GA, March 2007.
- Association of Mathematics Teacher Educators (AMTE) Annual Meeting, Irvine, CA, Jan. 2007.
- The 2006 TEAM-Math Conference, Tuskegee, AL, Aug. 2006.
- Preparing Mathematicians to Educate Teachers (PMET), Tuscaloosa, AL, May 2006.
- ACCLAIM Symposium on Rural Mathematics Education, Cherry Valley, OH, May 2006.
- "Growing What Works": 2006 Governor's Summit for Mathematics and Science Education, Birmingham, AL, March 2006.
- AMS-MER Workshop on Excellence in Undergraduate Mathematics: Mobilizing for the Future, Phoenix, AZ, Dec. 2005.
- NCTM Regional Meeting, Birmingham, AL, Oct. 2005.
- NCTM Annual Meeting, Anaheim, CA, Apr. 2005.

Operator Theory Conference/Seminar Talks:

- Analysis Seminar, University of Montana, Feb. 2005.
- Special Session of the Southeastern Section of the AMS, Vanderbilt University, Oct. 2004.
- International Workshop on Operator Theory and Applications (IWOTA), Newcastle, July 2004.
- Southeastern Analysis Meeting (SEAM), University of Alabama, March 2004.
- Special Session of Southeastern Section of the AMS, Chapel Hill, Oct. 2003.
- Southeastern Analysis Meeting (SEAM), University of Tennessee, March 2003.
- University of Tennessee Analysis Seminar, March 2002.
- Young Analysts Meeting of the Southeast (YAMS), Furman University, July 2001.

Additional Operator Theory Conferences Attended:

- Southeastern Analysis Meeting, Lexington, VA, Apr. 2005.
- Joint Meetings, Phoenix, AZ, Jan. 2004.
- Biennial Conference of the ACMS, San Diego, May 2003.
- Conference on Quadrature Domains, Santa Barbara, March 2003.
- Joint Meetings, Baltimore, Jan. 2003.
- Virginia Operator Theory and Complex Analysis Meeting, Richmond, Sept. 2002.
- Joint Meetings, San Diego, Jan. 2002.
- AMS Western Sectional Meeting, UC Irvine, Nov. 2001.
- MAA Southern California Sectional Meeting, Loyola Marymount, Oct. 2001.
- Mussomeli Conference on Operators on Banach Spaces, Sicily, Sept. 1999.

Honors/Awards

- Outstanding Commitment to Advising Award, The University of Alabama Academic Advisors

Association, 2017.

- Outstanding Faculty/Staff-Initiated Engagement Effort, UA Council on Community-Based Partnerships, 2009-2010. (with Martin Bakker, Aaron Kuntz, Sherry Nichols, Cheryl Sundberg, Nitin Chopra, Laura Busenlehner)
- Member of the Azusa Pacific University Academic Hall of Honor, 2006 Inductee.

Association Memberships

- American Mathematical Society (1996-2018)
- Mathematics Association of America (2001-present)
- Association of Mathematics Teacher Educators (2006-present)
- Association of Mathematics Teacher Educators of Alabama (2008-present)
- National Council of Teachers of Mathematics (2005-present)
- Alabama Council of Teachers of Mathematics (2005-present)
- West Alabama Council of Teachers of Mathematics (2005-present)

Research Advising

Undergraduate Research Advising:

- Kate Frederick, University of Tennessee, *Matricially Quasinormal Tuples*, 2004.
- Heather Cheatum, Presbyterian College, *Quadrature Domains*, NSF-REU Program 2004.
- Alison Barrentine, Elissa McIntyre, and Karla Mitchell, University of Alabama, *Undergraduate Mathematics Course Placement*, 2008.
- Stephanie Baker, University of Alabama, *Mathematical Knowledge for Teaching*, 2009.
- Sarah Moore, University of Alabama, *Impact of teaching on student outcomes in calculus*, 2017-2019.

Master's Degree Research Advising:

- Ashley Alley, *The effect of item-writing rules on the reliability of an instrument to measure mathematical knowledge for teaching*, project, 2009.
- Cara Coons, *Student misconceptions of algebra*, project, 2011.
- Andrew Hamric, *Evaluating mathematics exam items using expected cognitive approach and given information*, project, 2012.
- Keri Flowers, *Equipping elementary teachers to teach mathematics*, project, 2012.
- Mary Strickland, *Measuring qualitative properties of test items: A preliminary study*, project, 2012.
- Leah Cofer, *Mathematics Classroom Observation Protocol for Practices in undergraduate mathematics classrooms*, project, 2013.
- Kaitlyn Stephens, *Using comparative judgment to analyze precalculus algebra exam tasks*, project, 2017.
- Ashlee Allen, *Textbook analysis of synthetic and polynomial division in undergraduate mathematics*, 2019.

Dante Cardinale, *Mathematical Standards in Accounting*, 2023.

Ph.D. Degree Research Advising:

- Mary Maxwell, *Using Bayesian Techniques with Item Response Theory to Analyze Mathematics Tests*, dissertation chair, 2013
- Laura Erin Watley, *Structural Validity and Reliability of Two Observation Protocols in College Mathematics*, dissertation chair, 2017
- Anna Keefe, *Psychometric properties of pooled and multi-step questions in a calculus setting*, dissertation chair, 2022

Professional Development Workshops

- In-service teacher professional development workshops and classroom visits as part of the UA-MSP 2015-2018, impacting approximately 120 teachers.
- In-service teacher professional development workshop through SECME, 6/23/2015, for 20 teachers.
- In-service teacher professional development workshops and classroom visits through Project IMPACT 2012-2015, approximately 15 days per year for each of
 - 80 elementary teachers,
 - 20 middle school teachers,
 - 25 high school teachers.
- In-service teacher professional learning community with AMSTI
 - 2010-2011 (25 participants)
 - 2011-2012 (25 participants)
 - 2012-2013 (35 participants).
- Organizer and facilitator for a two-day workshop for college faculty who teach mathematics courses for pre-service elementary teachers, August 2008.
- In-service teacher workshops for middle school and high school teachers with AMSTI (10 workshops with approximately 140 teachers total), 2007-2010.

Service

External Organizations:

- Member of the Alabama General Studies Committee Area III Natural & Mathematical Sciences Academic Committee (2023-present)
- Strategic Taskforce to Accelerate Mathematics Pathways (STAMP) in Alabama (2019-present)
- Alabama General Studies Committee: Subcommittee to study mathematics pathways, 2021-2023
- Member of the General Studies Academic Committee of Mathematics for the Alabama Articulation and General Studies Committee, 2014-2018

Managing Editor for the Alabama Journal of Mathematics, 2011-2020

- Webmaster for Alabama Association of College Teachers of Mathematics, 2011-2022
- Webmaster for Mathematical Association of America Southeastern Section, 2011-2019
- Local organizer for the 2015 Alabama Association of College Teachers of Mathematics annual meeting.
- President Elect/President/Past President, Association of Mathematics Teacher Educators of Alabama, 2009-2013.
- President Elect/President/Past President, Alabama Mathematical Association of Two Year Colleges, 2010-2013.
- President, Alabama Association of College Teachers of Mathematics, 2011-2012.
- Vice President, Alabama Association of College Teachers of Mathematics, 2010-2011.
- Local organizer for 2011 Mathematical Association of American-Southeastern Section Annual Meeting.
- Member of the Executive Council of the Alabama Association of College Teachers of Mathematics, 2008-2010.
- Member of the Executive Council of the Association of Mathematics Teacher Educators of Alabama, 2008-2009.
- Local organizer for the 2007 Alabama Association of College Teachers of Mathematics annual meeting.

Department Committees/Responsibilities:

- Director of Undergraduate Programs, 2016-2021
- Coordinator of Department Academic Continuity Exercise, 2014-2015.
- Course revision committee, Department of Mathematics, Spring 2010.
- University of Alabama High School Mathematics Contest Coordinator, 2005-2012.
- Undergraduate Program Committee, Department of Mathematics, 2009.
- Co-Advising all Secondary Mathematics Education majors, 2007-present
- Graduate Program Committee, Department of Mathematics, Spring 2006.
- Undergraduate Program Committee, Department of Mathematics, Fall 2005.

College Committees:

- Member Diversity Committee, College of Arts and Sciences, 2008-2011.

University Committees:

- Core Curriculum Committee, 2021-present
- Undergraduate Council, 2019-2021.
- Undergraduate Programs and Services Committee, 2014-2017.

Other:

- Journal Reviewer: Rocky Mountain Journal of Mathematics, Journal of Mathematical Analysis and Applications, Journal of Research in Rural Education, Journal for Research in Mathematics Education, Linear Algebra and Its Applications, Asia Pacific Journal of Education, Journal of Interactive Online Learning, Investigations in Mathematics Learning, School Science & Mathematics, Teaching Mathematics

and Its Applications, International Journal of STEM Education.

- Review Panel for National Science Foundation, June 2006.

THE UNIVERSITY OF
ALABAMA®

[Accessibility](#) | [Equal Opportunity](#) | [UA Disclaimer](#) | [Site
Disclaimer](#) | [Privacy](#)

[Copyright © 2020](#) | [The University of Alabama](#) | Tuscaloosa, AL
35487 | (205) 348-6010

Website provided by the [Center for Instructional Technology](#), [Office
of Information Technology](#)