

CURRICULUM VITAE

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EDUCATION

- Ph.D.: 1995 University of North Texas, Denton, Texas. Doctorate.
Major: Mathematics. Research area: Numerical Differential Equations.
Dissertation: "A Numerical Method for Solving Singular Differential
Equations Utilizing Steepest Descent in Weighted Sobolev Spaces."
- M.S.: 1990 Emory University, Atlanta, Georgia. Master of Science.
Major: Mathematics. Thesis: "A Reconstruction Algorithm for Use with
the Corneal Modeling System."
- B.S.: 1985 Auburn University, Auburn, Alabama. Bachelor of Science.
Major: Applied Mathematics. Concentration: Computer Science.

HONORS

- 2010 Nominated, Advisor of the Year
- 2003 Nominated, Outstanding Faculty of the Year, Lamar University
- 2000 Nominated, Apple Teaching Award, Nicholls State University
- 1998 Recognized, Outstanding Grantsmanship, Division of Academic Affairs,
Nicholls State University
- 1992 Nominated, Outstanding Teaching Fellow, Department of Mathematics,
University of North Texas

TEACHING EXPERIENCE

- 2010 - present Lamar University, Beaumont, Texas. Professor of Mathematics.

- 2001 - 2010 Lamar University, Beaumont, Texas. Associate Professor of Mathematics.
- 2005 - 2009 Texas Mathworks Junior Summer Camp, Texas State University, San Marcos, Texas. Level 5 Master Teacher.
- 1995 - 2001 Nicholls State University, Thibodaux, Louisiana. Assistant Professor of Mathematics.
- 1995 (Spring) Texas A&M University at Commerce (formerly East Texas State University), Commerce, Texas. Adjunct Instructor.
- 1990 - 1995 University of North Texas, Denton, Texas. Teaching Fellow.
- 1994 (Summer) University of North Texas, Denton, Texas. Assistant Instructor. Upward Bound Mathematics and Science high school summer program.
- 1993/1994 (Sum.) North Central Texas College, Lewisville campus. Adjunct Instructor.
- 1992 (Summer) North Central Texas College, Gainesville campus. Adjunct Instructor.
- 1987 - 1990 Emory University, Atlanta, Georgia. Teaching Fellow.

COURSES TAUGHT

- Undergraduate: Analysis I & II, Calculus for Business and Life Sciences, Calculus I, II, & III, College Algebra, Differential Equations I & II, Discrete Mathematics, Numerical Methods, Operations Research, Pre-Calculus, Remedial Mathematics, Topology, Trigonometry.
- Graduate: Ordinary Differential Equations, Numerical Methods I & II, Ring Theory and Independent Studies in Differential Equations and Functional Analysis.

GRADUATE STUDENTS

- 2011 Served on PhD committee for Jason Montgomery, University of North Texas, "Single-Iteration Sobolev Descent," anticipated 2012
- 2010 Served on PhD external review committee for Abdul Majid, Lahore University of Management Sciences, Pakistan, "Application fo Sobolev Graidents to Poisson-Boltzmann Systems"
- 2008 Jason Montgomery, MS, "Picard Iterates and Sobolev Steepest Descent," May 2008.

2007 Jack W. Gilcrease, MS, "An Application of Picard's Method to LASIK Surgery," May 2007.

2003, 2007, 2010 MS committee for Chris Kennaugh, Linda Jaycox, Jill Hamilton.

CONSULTING EXPERIENCE

2008 External evaluator for LaSIP pre- and post-tests at Nicholls State University in Thibodaux Louisiana.

2004 (Summer) Consulted with Bayside Montessori School in Clear Lake City, Texas, to investigate the relationship between the Moore method and the Montessori method.

2003 (Spring) Organized and implemented a mentoring system for the Educational Advancement Foundation for their invitation-only 6th Annual Legacy of R. L. Moore Conference. This included identifying an invitation list for Project NExT Fellows, identifying senior mentors, and selecting appropriate pairings between the mentors and fellows.

1999 (Summer) Developed a discovery-based theorem sequence in association with the Educational Advancement Foundation.

1998 (Summer) Created the original Discovery Learning Project website for the Educational Advancement Foundation.

1998 - 2005 Maintained the Mathematical Descendants Project website devoted to tracking the descendants of H. J. Ettliger, R. L. Moore, and H. S. Wall. Financial support provided in part by the Educational Advancement Foundation.

1996 - 1999 Addressed mathematical problems from academia, industry, finance, and education. Clients included the America's Cup yacht racing design team, and local, oil-related industries.

1993 - 1995 Purchased, installed, and managed financial software and industry-specific, engine-design software, for R&R Motor Supply, Denton, Texas.

INDUSTRY EXPERIENCE

1985 - 1987 SPARTA Inc., Huntsville, Alabama. Investigated multiple-vehicle tracking systems via Monte-Carlo simulations and developed terrain-modeling codes.

BOOKS

- 2009 *The Moore Method: A Pathway to Learner-Centered Instruction*, co-authored with Charles A. Coppin, E. Lee May, and G. Edgar Parker, Notes Series No. 75, Mathematical Association of America, 2009. ISBN 978-0-88385-185-2.
- 2003 *Calculus: A Discovery Approach*, co-authored with Charles Allen, Carol Browning, Dale Daniel, and Shing So. New York, New York: McGraw-Hill Primis Custom Publishing, 2003. ISBN 0-07-296870-2.

RESEARCH (refereed/peer-reviewed journals)

- 2011 “Discrete Mathematics,” in preparation, *The Journal of Inquiry-Based Learning in Mathematics*.
- 2011 “Calculus III,” to appear, *The Journal of Inquiry-Based Learning in Mathematics*.
- 2010 “Single-Iteration Sobolev Descent for Linear Initial Value Problems, submitted.
- 2010 “Seeing the Mathematical Potential in Students’ Questions,” Cavey & Mahavier, *Mathematics Teacher*, NCTM, Vol. 104, No. 2, September 2010.
- 2009 “Analysis,” with Mahavier, W.S., *The Journal of Inquiry-Based Learning in Mathematics*, No. 12, March 2009.
- 2008 “Nerd is the Word,” De Angelis, Kang, Mahavier, Stenger. *Math Horizons*, MAA, September 2008, Vol. XVI, Issue 1.
- 2008 “Calculus: The importance of precise notation,” co-authored with W. S. Mahavier. PRIMUS, Volume 18, Issue 4 July 2008 , pages 349 - 360.
- 2007 “Trigonometry,” *The Journal of Inquiry-Based Learning in Mathematics*, No. 1, March 2007.
- 2007 “MathNerds and Mathematical Knowledge for Teaching,” co-authored with L. Cavey, G. Edgar Parker, and A. White. *The Constructivist*, Vol. 18, No. 1, Fall 2007 (available online at www.odu.edu/educ/act/journal).

- 2006 “An alternative mathematical algorithm for the photo- and videokeratoscope,” co-authored with J. Hunt. *Nonlinear Analysis: Real World Applications*, Volume 7, Issue 5, December 2006, pp. 1223-1232.
- 2002 “A model for engaging students in a research experience involving variational techniques, Mathematica, and descent methods,” *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies*, Volume 12, Number 4, December 2002, pp. 365-383.
- 2002 “MathNerds Offers Discovery-Style Mathematics on the Web,” by Valerio De Angelis, Paul Dawkins, W. Ted Mahavier, and Allen Stenger. *FOCUS of the Mathematical Association of America*, Volume 22, Number 2, February 2002, pp. 10-11.
- 1999 “Weighted Sobolev descent for singular first-order partial differential equations,” *Southwest Journal of Pure and Applied Mathematics*, Volume 5, Number 1, July 1999, pp. 41-51.
- 1999 “Solving boundary value problems numerically using steepest descent in Sobolev spaces,” *Missouri Journal of Mathematical Sciences*, Volume 11, Number 1, Winter 1999, pp. 19-32.
- 1997 “A discrete convergence result for Sobolev steepest descent,” *Abstract and Applied Analysis*, Volume 2, Number 1-2, 1997, pp. 67-72.
- 1997 “A numerical method utilizing weighted Sobolev descent to solve singular differential equations,” *Nonlinear World*, Volume 4, Number 4, December 1997, pp. 435-455.
- 1997 “A gentler discovery method (the modified Texas method),” *College Teaching*, Volume 45, Number 4, Fall 1997, pp. 132-135.
- 1996 “Interactive numerical analysis,” *Creative Math Teaching*, Volume 3, Number 2, August 1996, pp. 1-2.

MATHNERDS PUBLICITY and OTHER PUBLICATIONS

- 2009 “MathNerds to the rescue,” by Cathleen Cole, *Invenio*, Lamar University’s Research Magazine, Vol 1., January 2009, pp 18-19.
- 2008 “MathNerds/Mathworks Help Young Students,” by Tamara Bell, *Chronical of Higher Education On-line Edition*
- 2007 MathNerds Online Q&R Service Connects Pre-service Teachers and School District Students, L. Cavey. *Connections*, American Mathematics

Teachers and Educators Newsletter, Vol. 16, Issue 3, Summer 2007.

- 2007 “Nerds Form Internet Project,” by Shayna Strang, *The Breeze*, February 19th, 2007.
- 2007 “Moore Method Quick-Start Guide,” co-authored with E. Lee May and G. Edgar Parker. Educational Advancement Foundation, 2007.
- 2007 “Math Tag Team, City’s Top 6th grades Partner with JMU Students,” by Heather Bowser, *DNR Online*, January 12th, 2007.
- 2007 “\$350,000 grant goes to math education, training,” by Beth Gallaspy, *The Beaumont Enterprise*, January 24th, 2007.
- 2005 “Log on for homework help,” by Lauren Picker. *Good Housekeeping*, Volume 240, Number 5, May 2005, p. 103.
- 2004 “JMU Students to Become 'MathNerds',” *Department of Mathematics & Statistics Newsletter* of James Madison University, June 2004.
- 2003 “MathNerds.com helps with math questions,” 2-minute TV news feature, *Six This Morning*, KFDM Channel 6 (Beaumont CBS), Friday October 10, 2003.
- 2003 “Math-E-matics: Overcoming the fear of math through the language of mathnerds.com,” by Cathy Cashio. *The North Texan* of the University of North Texas, Volume 53, Number 1, Spring 2003, pp 19-21.
- 2002 “Your Mentor in Cyberspace is Standing By Now,” by Jennifer Medina. *New York Times*, October 23, 2002, p. B11.
- 2002 “Ask the MathNerds,” by Cynthia Hicks, *Cardinal Cadence* of Lamar University, Volume 31, Number 1, Fall 2002, p.13.
- 2001 “On using the discovery method in the distance-education setting,” co-authored with B. Dale Daniel, Joseph W. Eyles, and J. Craig Pember. Educational Advancement Foundation, 2001.
- 2000 “MathNerds,” *Woman's World*, October 3, 2000, p. 36.
- 2000 “Online Homework Helpers,” by Ann Quigley. *Working Mother*, September 2000.
- 2000 “Site Review: MathNerds,” *Education World*, August 2000.
- 1998 “The Math Doctor,” *Acadiana Profile*, 1998.

ONGOING SCHOLARLY ACTIVITIES

- 2009 “An On-line Community Preparing Future Teachers through Service Learning: MathNerds Mentoring Networks,” Cavey, Kang, & Mahavier, in preparation.
- 1996 - Present Board Member and co-founder of MathNerds, www.mathnerds.org, a non-profit corporation supporting two primary activities:
- Question-and-Response Service: MathNerds provides **free**, discovery-based, mathematical guidance via an international, volunteer network of mathematicians. MathNerds does not supply answers to homework, take home tests and the like; rather, we provide hints, suggestions, and references to help our clients understand and solve their mathematical problems. More than 400 volunteers have responded to more than 200,000 questions via this service which responds to 97% of all questions received within 16 hours. (1996 – present)
- MathNerds Mentoring Networks, www.mathnerds.com/mathnerds/mmn: Networks connect universities to school districts to create on-line learning communities where school district students submit mathematical questions to university students who respond using inquiry-based strategies. We set up these networks using technology developed at Lamar University and written by Dr. Kang and Dr. Dawkins. From the start of the project to date we have served: 3099 school district students, 495 university future teachers, 300 in-service teachers, and 7 universities (Lamar, Texas State, James Madison, Austin Peay, Northern Colorado, Xavier University of Louisiana, and Boise State). Additionally, the project has resulted in: 4 research papers published and 5 expository papers published on the project. (2005 – Present)
- 2001 - 2011 As a friend to the Educational Advancement Foundation, as a Project NExT consultant (New Experiences in Teaching, a professional development program for recent math Ph.D.s), and as a member of the Lamar University faculty, I have mentored these faculty in implementing inquiry-based learning in their classrooms: Dana Ernst, Patrick Rault, Martin Marlando, Brad Bailey, Jennifer Daniel, Jackie Jensen, Kye Hong Kang, Ammar Khanfer, Timothy McNichol, James Rolf, Bernd Rossa, Ron Taylor, Japheth Wood, and Stan Yoshinobu.

GRANT EXPERIENCE (* indicates funded grant)

Funded proposals on which I have served as either PI or co-PI exceed \$2,000,000 with approximately \$1,131,000 from TEA/TSUS, \$424,000 from the National Science Foundation, \$275,000 from the Educational Advancement Foundation, and \$247,000 from the Meadows Foundation.

- 2011 Co-authored and submitted \$180,000 proposal to Educational Advancement Foundation to support graduate student scholarships at Lamar University titled, "A Moore Method Apprenticeship Program (M²AP) at Lamar University"*
- 2010 Authored and submitted a \$531,000 proposal to Educational Advancement Foundation, "Moving the Moore Method into the 21st Century: A Course-Management System for Authoring and Delivering Moore-Method courses."
- 2009 Submitted proposal to National Science Foundation titled, "Student Centered Geometry Class for Future Teachers with Web-Based Preclass Work", co-PI with Dr. Kang.
- 2008 Submitted successful \$61,835 proposal to the Educational Advancement Foundation to support the *Journal of Inquiry-Based Learning in Mathematics*.*
- 2008 Submitted \$350,000 in proposals to the Meadows Foundation and the Educational Advancement Foundation to support MathNerds Mentoring Networks project, a collaborative effort between Lamar University, MathNerds, Inc., Sam Houston State University, and Texas State University. Proposals to be resubmitted at later date.
- 2007 Worked with Mr. Harry Lucas, Jr., Trustee of the Educational Advancement Foundation and our Advancement Office to secure his offer of approximately \$150,000 in land to Lamar University.*
- 2007 Co-PI on the Steering Committee for a funded TEA grant of approximately \$175,000, entitled "Lamar University English Language Learner Mathematics Initiative." \$25,000 of this was dedicated to *MathNerds Mentoring Networks* as matching to the two-year Meadows initiative listed under 2006 below.*
- 2006 Contributed to unsuccessful \$1,500,000 federal earmark with Texas State University to support Mathematics Mentoring Network and replicate the San Marcos Texas Mathworks program at Lamar University.

- 2006 Submitted unsuccessful \$750,000 grant proposal submitted to Houston Endowment to secure matching funds for the MathNerds Mentoring Network.
- 2006 Co-PI with Kye Hong Kang for an unfunded \$150,000 NSF DUE grant proposal to create geometry courses using a technology-based pre-class model.
- 2006 Author and Project Investigator for a funded \$247,000 grant proposal to the Meadows Foundation to support creating a *MathNerds Mentoring Network* within the Texas State University System, which establishes partnerships between universities and school districts, allowing school district students to submit questions through MathNerds. Future teachers in pre-service programs will answer these questions and learn inquiry-based pedagogies and best-practices for answering student questions. *
- 2006 Co-PI on the Steering Committee for a funded TEA grant of approximately \$313,500, entitled *Lamar University English Language Learner Mathematics Initiative*. Served as one of Lamar University's Texas State University System Mathematics Initiative Representatives. This initiative is directed at improving TAKS standardized test scores of LEP (Limited English Proficiency) high school students in sophomore and junior levels. The grant supported two one-week professional development conferences for school teachers, hosted by Lamar University in association with regional Education Service Centers during the summer of 2007. From this grant, \$50,000 was dedicated to *MathNerds Mentoring Networks* as matching funds to the Meadows initiative two entries previous.*
- 2005 Author and PI for a funded \$36,523 grant from the Educational Advancement Foundation, of which \$34,023 provided for half of my sabbatical to coordinate the co-authoring of the book *The Moore Method: A Pathway to Learner-centered Instruction*. The remaining \$2,500 provided for student workers, travel, and supplies.*
- 2005 Co-PI on the Steering Committee for a funded \$393,274 TEA grant, entitled *Lamar University English Language Learner Mathematics Initiative*. Served as one of Lamar University's Texas State University System Mathematics Initiative Representatives. This initiative is directed at improving TAKS standardized test scores of LEP (Limited English Proficiency) high school students in sophomore and junior levels. The grant supported a one-week professional development conference for school teachers, hosted by Lamar University, held July 24-28, 2006. \$20,000 was committed to MathNerds translation to become a bilingual site.*

- 2004 As Lamar University's Texas State University System Mathematics Initiative Representative, secured a funded \$248,955 TEA grant (in two proposals, of \$49,680 and \$199,275), entitled *Lamar University English Language Learner Mathematics Initiative*. This effort is directed at improving TAKS standardized test scores of LEP (Limited English Proficiency) high school students in sophomore and junior levels. The grant supported a one-week professional development conference for school teachers, hosted by Lamar University, held June 27 - July 1, 2005. \$20,000 was committed to MathNerds translation to become a bilingual site.*
- 2004 As liaison to the Educational Advancement Foundation, aided Dale Daniel and Charles Coppin in securing \$79,500 in funding to provide seed monies to double Lamar University's graduate mathematics scholarships.*
- 2004 Author and PI for a funded \$21,000 grant proposal to the Educational Advancement Foundation for typesetting of mathematics course guides to provide archives for the *Journal of Inquiry-Based Learning in Mathematics*. Funding spans 2004 – 2006.*
- 2004 PI for an unfunded \$500,000 NSF grant proposal to develop the online *Journal of Discovery Learning in Mathematics* (later renamed to *Journal of Inquiry-Based Learning in Mathematics*), a refereed journal that will solicit materials supporting discovery-based teaching in mathematics.
- 2004 Consultant on a funded \$36,000 grant from Educational Advancement Foundation, for the Bayside Montessori School to investigate the commonality between the Montessori Method and the Moore Method, and to pursue NSF grant funding.*
- 2003 Co-author with Max Warshauer of an unfunded Teacher Quality Grant entitled *Middle School Mathematics*.
- 2002 Author of a funded \$5,000 Lamar University Research Enhancement Grant to provide seed money, student worker support, and release time to prepare a NSF proposal to support the *Journal of Inquiry-Based Learning in Mathematics*.*
- 2001 Co-author and co-PI for a funded \$300,000 NSF grant proposal, entitled *Collaborative Proposal - A Problem-Based Calculus Sequence*. This grant supported the development of a problem-based calculus sequence over three years, as a collaborative effort of Central Missouri University, Drury University, and Lamar University. Lamar received \$99,229.*
- 1999 Co-author of a funded Mellon Foundation grant of approximately \$9,250, through the Center for the Advancement of Teaching at Xavier University.

The grant provided partial funding for MathNerds, by supporting student worker salaries, internet hosting costs, and release time for MathNerds partner Valerio De Angelis.*

- 1999 Author of an unfunded proposal to the Nicholls State University Research Council, requesting summer release time for MathNerds.
- 1997 - 1999 PI for a funded \$124,255 grant to implement a Technology-Assisted Classroom at Nicholls State University. Coordinated grant writing, purchasing, construction, networking, teaching, and dissemination. Secured funds from three sources: (1) \$46,000 from National Science Foundation, in an Instrumentation and Laboratory Improvement Grant, entitled *Technology Classroom Enhancement for Undergraduate Mathematics Education*. (2) \$59,535 from Louisiana Educational Quality Support Funds, entitled *Technology Classroom Enhancement: Matching Funds for National Science Foundation Instrumentation and Laboratory Improvement Grant*. (3) \$18,720 from Nicholls State University Funds.*

INVITED ADDRESSES

- 2011 “Inquiry-Based Learning in Mathematics: A Transformative Experience,” IBL Colloquium Speaker, Kutztown University, March 3rd, 2011
- 2011 “Single Iteration Sobolev Descent,” Mathematics Seminar, Kutztown University, March 3rd, 2011
- 2011 “Inquiry-Based Learning in Mathematics: A Transformative Experience,” MAA Sectional Meeting, Cedar City, Utah, April 9th, 2011
- 2010 “MathNerds and Webwork, A Partnership that Works,” Joint Mathematics Meetings, January 14th, 2010.
- 2010 “Mathematicians are Boring!,” MathFest!, Lamar University, October 7th, 2010.
- 2009 “MathNerds and Webwork, A Partnership that Works,” MathFest Mini-Conference on Webwork, Portland Oregon, August 10th, 2009.
- 2009 “I like what you talked about, but *WHAT DO YOU DO?*” Opening Speaker for 12th Annual Legacy of R. L. Moore Conference, Austin, Texas, July 16th, 2009
- 2009 “All Mathematicians Do is Teach,” 2-hour invited address at former students’ high school, Tomball High School, Tomball, Texas, January 27th, 2009.

- 2008 “Inquiry-Based Learning in Mathematics: What is IBL?”, Opening Speaker for 11th Annual Legacy of R. L. Moore Conference, Austin, Texas July 10th, 2008.
- 2008 “MathNerds Mentoring Networks,” Mathematics for English Language Learners, San Marcos, Texas, June 24th, 2008.
- 2008 “Mathematicians are Boring!,” 2-hour invited address to 250 middle school students, Saturday Morning Mathematics Group, University of Texas, Austin, Texas, March 22nd, 2008.
- 2007 “Journal of Inquiry-Based Learning in Mathematics,” with David M. Clark, 10th Annual Legacy of R. L. Moore Conference, Austin, Texas, April 13th, 2007.
- 2007 “MathNerds Mentoring Networks,” with Laurie O. Cavey and Wendy Woodland, 10th Annual Legacy of R. L. Moore Conference, Austin, Texas, April 14th, 2007.
- 2006 “Moore Method Mentoring,” Invited panelist at 9th Annual Legacy of R.L. Moore Conference, Austin, Texas, May 11, 2006.
- 2005 “MathNerds: A Philosophy,” 1-hour invited address, part of a one-week visit to discuss research mathematics and mathematics education at James Madison University, Harrisonburg, Virginia, December 1, 2005.
- 2005 “Modified Moore Method Teaching Demonstration,” 2-hour invited mini-course at Texas Section Meeting of the Mathematical Association of America, Arlington, Texas, April 14, 2005. According to Stuart Anderson, Treasurer of the MAA Texas Section, this was the best-attended mini-course in the history of the Texas Section Meetings.
- 2004 “Sobolev Descent,” 30-minute invited address at 4th World Congress of Nonlinear Analysts, Orlando, Florida, July 3, 2004.
- 2004 “Modified Moore Method Teaching Demonstration,” 1-hour invited address at 7th Annual Legacy of R. L. Moore Conference, Austin, Texas, March 12, 2004.
- 2004 “Moore Method Resources,” Invited presentation at Project NExT and Legacy of R. L. Moore Project banquet, during Joint Mathematics Meetings, Phoenix, Arizona, January 7, 2004.

- 2003 “On three crucial phases of a successful inquiry-based course,” Invited presentation at Discovery Learning Luncheon Seminar, University of Texas, Austin, Texas, October 2, 2003.
- 2003 “Modified Moore Method Teaching Demonstration,” 1.5-hour invited address at 6th Annual Legacy of R. L. Moore Conference, Austin, Texas, March 14, 2003. Other invited panelists included Ms. David M. Clark, B. Dale Daniel, and Lee Mahavier.
- 2002 “Moore Method Teaching,” Invited panelist at Project NExT workshop, preceding MAA MathFest, Burlington, Vermont, July 31, 2002.
- 2001 “Choosing a way to teach,” Invited address at Project NExT workshop, preceding MAA MathFest, Madison, Wisconsin, July 31, 2001.
- 2000 Declined invitation to speak at 3rd World Congress of Nonlinear Analysts, Catania, Sicily, Italy, July 19-26, 2000.
- 1999 “Theorem Sequences and Mentoring,” Invited presentation with James Ochoa at 2nd Annual Legacy of R. L. Moore Conference, Austin, Texas, April 7, 1999.
- 1999 “R-K Surgery and Differential Equations,” Invited presentation at Xavier University Colloquium, Xavier University, New Orleans, Louisiana, January 1999.

PRESENTATIONS

- 2009 “MathNerds Mentoring Networks,” Joint Mathematics Meetings, Boston MA, January 8th, 2009.
- 2009 “Two Resources for Inquiry-Based Instruction,” Texas Mathematical Association of America Meeting, Denton Texas, April 22nd, 2009.
- 2008 “MathNerds, JIBLM, and MathNerds Mentoring Networks,” University of Northern Colorado MAST Institute, October 13th, 2008.
- 2008 “Student Questions as Tools for Learning to Teach,” with Laurie Cavey, 90 minute address at NCTM Conference, Salt Lake City, Utah, April 10th, 2008.
- 2008 “Picard Iterates and Graduate Recruiting: A Dual Purpose Talk,” with Jason Montgomery, Sam Houston State University Mathematics Club, January 29th, 2008.

- 2008 “MathNerds Mentoring Networks,” Sam Houston State University, January 15th, 2008.
- 2008 “MathNerds Mentoring Networks,” Joint Mathematics Meetings, San Diego, California, January 7th, 2008.
- 2007 “MathNerds,” St. Michael’s Indian School, St. Michaels, Arizona – Navajo Nation, August 4th, 2007.
- 2007 “MathNerds Mentoring Networks,” with Wendy Woodland, Mathematics for English Language Learners Conference, July 5th, San Marcos, Texas.
- 2007 “MathNerds Teacher Training,” Lamar University MELL Conference, Beaumont, Texas, June 22nd, 2007.
- 2007 “TSUS Mathematics for English Lanuage Learners – Strategies and Resources,” Adams Mark Hotel, Dallas, Texas, June 8th and 9th.
- 2007 “MathNerds and Teacher Training,” Mathworks Junior Math Camp, June 5th, 2007, San Marcos.
- 2007 “MathNerds Mentoring Networks,” with Wendy Woodland and Laurie O. Cavey, Angelo State University, February 16th, 2007.
- 2007 “MathNerds and Mathematical Knowledge for Teaching,” American Mathematics Teachers and Educators Conference, January 20th, 2007, Irvine, California.
- 2007 “An alternative mathematical algorithm for the video and photo-keratoscope, Lamar University Research Seminar, January 19th, 2007.
- 2006 San Marcos talks at Mathworks during summer.
- 2005 “Analysis: The Ultimate Training Ground,” MAA MathFest, Albuquerque, New Mexico, August 5, 2005.
- 2005 “Web-Based Resources for English Language Learners,” 90-minute Teacher Training Session at International Mathematics Education Conference, San Antonio, Texas, July 7, 2005.
- 2005 “An Incomplete List of Moore Method Materials,” 8th Annual Legacy of R. L. Moore Conference, Austin, Texas, April 30, 2005.
- 2005 “Collaborative Research: A Problem-Based Calculus Sequence,” MAA Poster Session on NSF Projects, Joint Mathematics Meetings, Atlanta, Georgia, January 7, 2005.

- 2004 “Collaborative Research: A Problem-Based Calculus Sequence,” MAA Poster Session on NSF Projects, Joint Mathematics Meetings, Phoenix, Arizona, January 9, 2004.
- 2002 “Don’t Forget the Proofs!,” Joint Mathematics Meetings, San Diego, California, January 6, 2002.
- 2001 “Optimization Problem Arising from the Hydrodynamics of Keel Design,” Lamar University, Beaumont, Texas, February 27, 2001.
- 2001 “Optimization Problem Arising from the Hydrodynamics of Keel Design,” Texas A&M University, Galveston, Texas, February 23, 2001.
- 2001 “On Ben Fitzpatrick Jr.,” Ben Fitzpatrick Memorial Miniconference at Auburn University, Auburn, Alabama, February 10, 2001.
- 2000 “Adapting Moore's Method to the Distance Education Classroom,” with Dale Daniel and Craig Pember, at 3rd Annual Legacy of R. L. Moore Conference, Austin, Texas, April 6, 2000.
- 2000 “Texas-Style Theorem Sequences,” 3rd Annual Legacy of R. L. Moore Conference, Austin, Texas, April 5, 2000.
- 2000 “A Circular Problem,” Joint Mathematics Meetings, Washington, D.C., January 19, 2000.
- 1999 “Teaching of Mathematics via Discovery-Based Instruction,” with Albert Lewis, at Sigma Xi Forum on Reshaping Undergraduate Science and Engineering Education, Minneapolis, Minnesota, November 4, 1999.
- 1998 “R. L. Moore Discovery-Based Instruction and a Call for Materials,” Texas Section Meeting of the Mathematical Association of America, Southern Methodist University, Dallas, Texas, March 27, 1998.
- 1997 “Mathematics, Industry, and the Job Search,” Pi Mu Epsilon Mathematics Honorary Society Seminar, Nicholls State University, Thibodaux, Louisiana, October 9, 1997.
- 1996 “A Discrete Convergence Result for Sobolev Steepest Descent,” Southeastern-Atlantic Regional Conference on Differential Equations, Emory University, Atlanta, Georgia, October 18, 1996.
- 1996 “A Numerical Method for Solving Singular Differential Equations,” Copper Mountain Conference on Iterative Methods, Copper Mountain, Colorado, April 10, 1996.

- 1996 “Numerical Weighted Sobolev Descent for Singular Partial Differential Equations,” Joint Mathematics Meetings, Orlando, Florida, January 12, 1996.
- 1995 “Weighted Sobolev Steepest Descent and Singular Ordinary Differential Equations,” Louisiana State University Seminar, Baton Rouge, Louisiana, November 10, 1995.
- 1995 “Mathematics and Technology,” Keynote speech at Pi Mu Epsilon Mathematics Honorary Society banquet, Texas A&M University at Commerce (formerly East Texas State University), Commerce, Texas, March 1995.
- 1995 “Weighted Sobolev Spaces and Singular Differential Equations,” Joint Mathematics Meetings, San Francisco, California, January 6, 1995.
- 1994 “Radial Keratotomy,” Mathematics Department Seminar, Texas A&M University at Commerce (formerly East Texas State University), Commerce, Texas, April 1994.

PANEL SESSIONS ORGANIZED

- 2007 “MathNerds, Moore Method, and Mathematics Education: What do they have in common?,” Co-organizer/moderator with Laurie Cavey of 1.5-hour panel discussion at Joint Mathematics Meetings, New Orleans, Louisiana, January 8, 2007. Panelists included Laurie Cavey, Terry McCabe, G. Edgar Parker, Hiroko K. Warshauer, Max L. Warshauer, and Alexander White.
- 2006 “Moore Method and Constructivism,” Organizer of 1.5-hour panel discussion for Educational Advancement Foundation, Austin, Texas, May 11, 2006. Panelists included Lida Barrett, David Booth, Laurie Cavey, and Vena Long.
- 2005 “Moore Method Calculus by Those Who Do It,” Co-organizer/moderator with James P. Ochoa of 1.5-hour panel discussion at Joint Mathematics Meetings, Atlanta, Georgia, January 6, 2005. Panelists included Charles S. Allen, Gregory D. Foley, Tom Ingram, and William T. Mahavier.
- 2003 “Modified Moore Method Teaching,” Organizer of 3-hour workshop/panel discussion for UTeach (University of Texas Teacher Preparation Program), Austin, Texas, October 3, 2003. Panelists included Walter Richardson, Gary Richter, and Cameron Sawyer.

- 2003 “Successful Strategies for Implementing a Texas-Style Modified Moore Method Course,” Co-organizer/moderator with James P. Ochoa of 1.5-hour panel discussion at Joint Mathematics Meetings, Baltimore, Maryland, January 16, 2003. Panelists included E. Lee May, David McRae, G. Edgar Parker, and Shing S. So. Video of proceedings resides in the R. L. Moore Archives at the Center for American History, University of Texas, Austin, Texas.
- 2001 “New Directions in Moore Method Teaching,” Co-organizer/moderator with James P. Ochoa of 1.5-hour panel discussion at Joint Mathematics Meetings, San Diego, California, January 11, 2001. Panelists included Carol Jean Browning, Charles A. Coppin, Dale Daniel, Joseph W. Eyles, and Carol S. Schumacher. Video of proceedings resides in the R. L. Moore Archives at the Center for American History, University of Texas, Austin, Texas.
- 1999 “Discovery-Based Teaching of Undergraduate Mathematics Courses,” Co-organizer/moderator with James P. Ochoa of 1.5-hour panel discussion at Joint Mathematics Meetings, San Antonio, Texas, January 14, 1999. Panelists included Stuart J. Anderson, Jerome Dancis, Ben Fitzpatrick Jr., John Neuberger, and Mary Ellen Rudin. Video of proceedings resides in the R. L. Moore Archives at the Center for American History, University of Texas, Austin, Texas.

OTHER CONFERENCES ATTENDED (no presentation or minimal presentation)

- 2011 Joint Mathematics Meetings, New Orleans, LA, Recruiring for Graduate Program, January 6th – 9th.
- 2007 Several Texas State University Mathematics for English Lanuage Learners Steering Committees attended.
- 2006 Travel related to Mathematics Initiative and Meadows grant included:
- Steering Committee Meeting, Austin, Texas, October 20, 2006.
 - Mathematics Mentoring Network Meeting, San Marcos, Texas, October 19, 2006.
 - Conference for the Advancement of Mathematics Teaching, Houston, Texas, July 20-22, 2006.
 - Mathematics for English Language Learners Conference, San Marcos, Texas, July 6-7, 2006.
 - Southwest Educational Research Association Conference, Austin, Texas, February 8-11, 2006.
- 2005 Travel related to Mathematics Initiative and Meadows grant included:
- Meeting with Kenneth Craycraft (Texas State University

- System Vice Chancellor for Academic Affairs), at Thomas J. Rusk Building, Austin, Texas, December 12-13, 2005.
- Steering Committee Meeting, Austin, Texas, December 2, 2005.
 - Meeting with Max Warshauer at Mathworks Offices, Texas State University, San Marcos, Texas, October 23-24, 2005.
 - Meeting with Max Warshauer at Mathworks Offices, Texas State University, San Marcos, Texas, October 17-18, 2005.
 - Steering Committee Meeting, Austin, Texas, September 20, 2005.
 - Steering Committee Meeting, Austin, Texas, August 16, 2005.
 - Steering Committee Meeting, Austin, Texas, May 10, 2005.
 - Steering Committee Meeting, Austin, Texas, April 19, 2005.
- 2002 Texas Section Meeting of the Mathematical Association of America, Eastfield College, Mesquite, Texas, April 11-13, 2002.
- 2000 Texas Section Meeting of the Mathematical Association of America, University of Texas, Austin, Texas, April 6-8, 2000.
- 1999 Digital Course Ownership seminar from Teaching Through Technology (the T3 Group), Xavier University, New Orleans, Louisiana, November 18-19, 1999.
- 1999 Southern Regional Honors Conference, Loyola University, New Orleans, Louisiana, March 1999.
- 1998 1st Legacy of R. L. Moore Conference, University of Texas, Austin, Texas, April 16-18, 1998.
- 1998 Discovery Learning Conference, University of Texas, Austin, Texas, April 16-17, 1998.
- 1997 Discovery-Based Instruction Conference, University of Texas, Austin, Texas, July 1997.
- 1997 Discovery Learning Project Meeting, Lafayette, Louisiana, April 10, 1997.
- 1997 Topology and Dynamical Systems Conference, University of Louisiana at Lafayette, Lafayette, Louisiana, April 10-12, 1997.
- 1997 20th Annual Partial Differential Equations Conference, University of North Texas, Denton, Texas, March 1997.
- 1996 Critical Thinking Conference, Nicholls State University, Thibodaux, Louisiana, March 21-22, 1996.

- 1994 Texas Section Meeting of the Mathematical Association of America, Texas A&M University, College Station, Texas, March 1994.
- 1988 - Present Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America.

STUDENT PRESENTATIONS AND ACTIVITIES

- 2001 – Present Supported a total of 11 student workers through grants.
- 2006 – Present Faculty advisor for Mathematics Club
- 2001 – Present Faculty advisor for Kuk Sool Won of Lamar University, a martial arts student organization which has produced four black belts and earned 22 medals in tournaments (11 in 2004 and 8 in 2009).
- 2009 Escorted three students to Texas Section MAA Meeting at Tarleton State University to compete in Calculus Bowl (Angela Pokraka, Chris Sams, Gerardo Rodriguez), April 22nd, 2009.
- 2007 Escorted graduate student Jason Montgomery to present to Mathematics Club at Sam Houston State University, Huntsville, Texas, April 10th, 2007.
- 2004 Escorted graduate student Jason James to present at Texas Section MAA meeting at University of Texas, Arlington, March 23rd 2004.
- 2005 “How Fast Do You Drive?,” by Rob Flores, presented at Texas Section Meeting of the Mathematical Association of America, University of Texas at Arlington, Arlington, Texas, April 15, 2005.
- 2005 “Computational Ordinary Differential Equations Associated With LASIK Surgery,” by Joseph Hunt, presented at Texas Section Meeting of the Mathematical Association of America, University of Texas at Arlington, Arlington, Texas, April 15, 2005.
- 2003 Escorted two students to Texas Section MAA Meeting in Corpus Christi.

SERVICE

Editorships

- 2007 - Present Co-founder and Senior Editor, *Journal of Inquiry-Based Learning in Mathematics*, www.jiblm.org.

2004 - 2008 Associate Editor of Computer Science and Applied Mathematics, *Missouri Journal of Mathematical Sciences*.

2004 - 2006 Associate Editor of Research, *Texas College Mathematics Journal* of the Mathematical Association of America.

Book Reviews

2001 *A Spectrum of Calculus: An Introduction to Rigorous Thought, Development of Imagination, Experimental Mathematics, and Modeling*, by Charles A. Coppin. In preparation.

1999 *Calculus with Early Vectors*, by Phillip Zenor, Edward Slaminka, and Donald Thaxton. Upper Saddle River, New Jersey: Prentice-Hall, 1999.

Refereeing

2010 Reviewed doctoral dissertation for Abdul Majid, Lahore University of Management Sciences, "Application of Sobolev gradient method to Poisson-Boltzmann system"

2001 – Present Referee for *Texas College Math Journal*, *Texas Journal of Science and Mathematics*, *International Journal of Mathematics and Mathematical Sciences*, *Missouri Journal of Mathematical Sciences*, *PRIMUS*, and the *Journal of Inquiry-Based Learning in Mathematics*.

Professional Societies

2001 – Present Texas Section Mathematical Association of America Liaison

1990 - Present Member, Mathematical Association of America

1990 - Present Member, American Mathematical Society

2005 - 2008 Member, Association of Mathematics Teacher Educators

2004 - 2008 Member, National Council on Teachers of Mathematics (also 1998)

1998 - 2001 Member, American Association of University Professors

2006 Ad-hoc member American Mathematical Society Committee on Conferences

Outreach

- 1996 – Present Co-founder, Board Member, MathNerds.org.
- 2011 Math Counts Volunteer Tutor, Harmony Science Academy, January 11th – February 24th, 2011, approximately 4 hours per week
- 2008 – 2009 Science Fair Judge, November 23rd, Harmony Science Academy
- 2008 MathCounts Volunteer Tutor, January 15th, Harmony Science Academy

Lamar University (Departmental)

While all committee service is important, several roles stand out. As head of the Curriculum Committee during 2003 – 2005, we created a common core and added three tracks specifically targeting mathematics majors pursuing degrees for teaching, industry, or graduate school. As head of the Graduate Curriculum Committee during 2006 – 2007, we modernized the course inventory by deleting unnecessary courses and adding courses relevant to current mathematical trends and faculty interests. *As head of the Fast Track Subcommittee of the Graduate Curriculum Committee in 2010-2011, I helped draft and push through the system a Five Year Fast Track BS/MS degree enabling talented undergraduates to complete two degrees in five years.*

- 2010 – 2011 Promotion and Tenure Committee (Chair), Graduate and Undergraduate Curriculum Committee, Mathematics Club (advisor), Committee of Advisors, Kuk Sool Won of Lamar (martial arts club advisor), Technology Committee
- 2009 – 2010 Graduate and Undergraduate Curriculum Committee, Mathematics Club (advisor), Committee of Advisors, Kuk Sool Won of Lamar (martial arts club advisor), Technology Committee
- 2008 – 2009 Graduate and Undergraduate Curriculum Committee, Mathematics Club (advisor), Committee of Advisors, Kuk Sool Won of Lamar (martial arts club advisor), Technology Committee
- 2007 – 2008 Graduate and Undergraduate Curriculum Committee, Mathematics Club (advisor), Committee of Advisors, Course Committee (chair), Kuk Sool Won of Lamar (martial arts club advisor), Technology Committee
- 2006 – 2007 Graduate Curriculum Committee (chair), Curriculum Committee, Advising, Graduate Admissions, Mathematics Club (advisor), Recruiting and Finance, Hiring,
- 2005 – 2006 No service, on sabbatical

- 2004 – 2005 Graduate Curriculum Committee (chair), advising, Curriculum Committee, TSUS Mathematics Initiative Steering Committee Representative, Interactive Learning Committee, Graduate Faculty and Research Committee, Web committee
- 2003 – 2004 Curriculum Committee (chair), Advising Team, TSUS Mathematics Initiative Steering Committee Representative, Interactive Learning Committee, Web Committee, Graduate Faculty and Research Committee
- 2002 – 2003 Curriculum Committee (chair), Ad-hoc Committee on Release Time and Merit Pay, Hiring Committee, TSUS Mathematics Initiative Steering Committee Representative, Interactive Learning Committee, Web Committee, Graduate Faculty and Research Committee, Putnam Contest Committee, Calculus Text Selection Committee
- 2001 – 2002 Interactive Learning Committee, Web Committee, Graduate Faculty and Research Committee, Putnam Contest Committee

Lamar University (College and University)

- 2009 – 2011 Faculty Senate and Academic Issues Subcommittee
- 2008 – 2009 Council on Scholarship and Fellowship Advisement, Jack Kent Cooke Scholarship Representative
- 2007 - 2008 Council on Scholarship and Fellowship Advisement, Jack Kent Cooke Scholarship Representative
- 2006 - 2007 Council on Scholarship and Fellowship Advisement, Jack Kent Cooke Scholarship Representative
- 2005 – 2006 Sabbatical
- 2004 - 2005 College of Arts and Sciences Curriculum Committee, Council on Scholarship and Fellowship Advisement
- 2003 - 2004 College of Engineering Strategic Planning Committee, Library Dean Search Committee, Council on Scholarship and Fellowship Advisement
- 2002 - 2003 College of Engineering Scholarship Committee, Commencement Committee, Academic Lecture Series, Library Dean Search Committee, Council on Scholarship and Fellowship Advisement
- 2001 - 2002 Academic Lecture Series Committee

Nicholls State University (abbreviated)

1995 - 2001 Technology-Assisted Classroom Committee (chair), Instruction Through Technology Committee, Grant Writing Committee, Faculty Development Committee (chair), Five Year Program Review Committee, Scholarship Committee, University Mathematics Outreach Program, Student Recruitment Committee (Undergraduate, Graduate, and Industry), Faculty Evaluation Policy Committee, Departmental Calculator Policy Committee, Calculus Book Selection Committee, Faculty Senate Recording Secretary (elected), Faculty Senate Representative (elected), Honors Program Committee Representative for College of Arts and Sciences (co-author of program and taught one of the first Honors courses), Graduate Curriculum Committee, Undergraduate Curriculum Committee, Master's Program Defense Committee, Ad-hoc Committee on College Algebra Pilot Courses, Commencement Committee.

COMPUTER and PROGRAMMING EXPERIENCE

Assembly, Basic, C, C++, Fortran, HTML, LaTeX, Maple, Mathematica, MATLAB, Pascal, PL/I, Macintosh, Windows, UNIX.

PERSONAL

Born in Tennessee, and raised in Georgia and Texas.

Married Cathleen Jean Cole in 1990.

Children: Caroline and Austin, born in 1998 and 2002 respectively.

Hobbies: water sports, martial arts, motorcycling, and financial markets.