

John Michael Pearson
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EDUCATION

Ph.D (1989)	The University of Texas at Austin
M.A. (1982)	Mississippi State University
B.S. (1980)	University of Mississippi

EMPLOYMENT

2004-Present	Associate Executive Director Director of Programs and Services Mathematical Association of America
2002-2004	Director of Programs and Services Mathematical Association of America
2000-2002	Associate Professor of Mathematics Associate Head, Department of Mathematics and Statistics Mississippi State University
1998-2000	Associate Professor of Mathematics Mississippi State University
1992-1998	Assistant Professor of Mathematics Mississippi State University
1989-1992	Assistant Professor of Mathematics Florida International University
1987-1989	Adjunct Instructor of Mathematics Austin Community College
1983-1989	Assistant Instructor of Mathematics University of Texas at Austin
1982-1983	Lecturer in Mathematics Mississippi State University
1980-1983	Teaching Assistant Mississippi State University

RESEARCH PUBLICATIONS

- “A Hypercontractive Estimate for the Heat Semigroup on P^2 ,” *Michigan Mathematics Journal* 37 (1990), 439-446.
- “Best Constants in Sobolev Inequalities for Ultraspherical Polynomials,” *Archive for Rational Mechanics and Analysis* 116 (1991), 361-374.
- “A Poincare Inequality for Entire Functions,” *Proceedings of the American Mathematical Society* 118 (1993), 1193-1197.
- “An elementary proof of Gross' logarithmic Sobolev inequality,” *Bulletin of the London Mathematical Society* 25 (1993), 463-466.
- “A logarithmic Sobolev inequality on the real line,” *Proceedings of the American Mathematical Society* 125 (1997), no. 11, 3339-3345.
- “On sharp Sobolev embedding and the logarithmic Sobolev inequality,” with W. Beckner, *Bulletin of the London Mathematical Society* 30 (1998), 80-84.
- “Extremals for a class of convolution inequalities,” *Houston Journal of Mathematics* 25 (1999), 43-54.

SELECTED PUBLICATIONS/PRESENTATIONS WHILE AT MAA

- “The Vanishing Line Between High School and College Mathematics,” *FOCUS* 24 (1), p. 6-8, January 2004.
- “Technology in the Classroom,” in *Leading the Mathematical Sciences Department: A Resource for Chairs*, MAA Notes #64, Math. Assoc. of America, Washington, DC, 2004.
- “National Research Experiences for Undergraduates Program,” with William Hawkins and Robert Megginson, in *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, ed. Joe Gallian, AMS, Providence, RI (2007).
- “Professional Development, or, Leave Me Alone, I'm Busy,” Opening presentation, Faculty Development Workshop, U.S. Military Academy, West Point, NY, April 11-13, 2007.
- “Beyond e-mail: Using Web-based Tools for Collaborative Work,” panel discussion at MathFest, August 2007 (co-organizer with Ivars Peterson).
- “Re-invigorating the Undergraduate Program in the Mathematical Sciences,” presented at the meetings of the American Mathematical Society Committee on Education in October 2007 and the Conference Board of the Mathematical Sciences in December 2007.

“Defining Scholarship in Science and Mathematics: Challenges and Opportunities,” panel at 2008 AAC&U Annual Meeting, January 2008.

“Undergraduate STEM Education: How Much Transformation Can We Stand?” presented at University of Memphis STEMinar, February 2011.

GRANT ACTIVITY AT MAA

Principal Investigator for PProfessional Enhancement Program (PREP), funded in January 2004, a five-year grant of approximately \$1,120,000.00, and again in 2009 for an additional five years and \$1,200,000 by NSF-DUE to support faculty development workshops. See www.maa.org/prep.

I serve as staff contact/facilitator for a number of MAA grants. My role is to participate in writing grant proposals, oversee grant financial management and provide programmatic guidance to the project directors. An overview of the MAA grant management process is online: www.maa.org/ABOUTMAA/handbook/PI-Manual-Feb07.html.

Characteristics of Successful Programs in College Calculus, funded in August 2009, a five-year grant of \$2 million to identify practices that contribute to retaining qualified students in the mathematics pipeline. See www.maa.org/cspcc.

WeBWorK: Improving Student Success in Mathematics, funded in August 2009, a five-year grant of \$1.2 million to continue development of the web-based homework system WeBWorK, develop hosting models, and expand the community of users and developers. See webwork.maa.org.

Regional Undergraduate Mathematics Conferences, funded in March 2003 and again in September 2006, two three-year grants totalling approximately \$600,000. A third grant, for five years and \$600,000, was funded beginning in June 2009. See www.maa.org/ugconf.

Preparing Mathematicians to Educate Teachers (PMET), funded in January 2003, a four-year grant of approximately \$3 million to help college and university mathematics faculty increase the quality of training for future teachers. See www.maa.org/pmet.

Supporting Assessment in Undergraduate Mathematics (SAUM), funded in 2001 for three years (with a one-year extension granted for 2005), approximately \$500,000.00. See www.maa.org/saum.

(Information on additional projects administered by my office is available at www.maa.org/subpage_3.html.)

SELECTED TALKS PRIOR TO JOINING MAA

“Logarithmic Sobolev inequalities as limits,” The University of Texas at Austin, January 1993.

“Hypercontractive estimates for diffusion semigroups,” University of Southern Mississippi Scientific Computing Seminar, Stennis Space Center, January 1993.

“Limiting cases of Sobolev inequalities,” University of Mississippi, November 1997.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS PRIOR TO JOINING MAA

“Best constants in Sobolev inequalities for ultraspherical polynomials,” 1990 Joint Mathematics Meetings, Louisville, KY, January 1990.

“Zeros of orthogonal polynomials and numerical integration,” 1990 MAA Gold Coast Sectional, West Palm Beach, FL, November 1990.

“Hardy's inequality and control of constants in convolution inequalities,” 1991 Auburn Miniconference in Harmonic Analysis, Auburn, AL, June 1991.

“Duality and sharp constants in Sobolev inequalities,” 1991 MAA Gold Coast Sectional, Miami, FL, November 1991.

“Hypercontractive estimates for a class of probability measures,” 1993 Joint Mathematical Meetings, San Antonio, Texas, January 1993.

“Newton's Method and analytic functions,” 1993 MAA LA-MS Sectional, Biloxi, MS, March 1993.

“A Logarithmic Sobolev inequality on the real line,” 1995 Miniconference on Harmonic Analysis and Related areas, Auburn University, Auburn, AL, December 1995.

“A Logarithmic Sobolev inequality on the real line,” 1996 Joint Mathematics Meetings, Orlando, FL, January 1996.

“Extremals for a class of convolution inequalities,” 1996 Miniconference on Harmonic Analysis and Related areas, Auburn University, Auburn, AL, November 1996.

“ L^p logarithmic Sobolev inequalities,” 1998 Joint Mathematics Meetings, Baltimore, MD, January 1998.

PROFESSIONAL SERVICE AND ACTIVITIES AT FLORIDA INTERNATIONAL

Co-organizer, Special Session on Geometric Fourier Analysis, 1991 Joint Mathematics Meetings, San Francisco, CA, January 1991.

Participant, NSF-sponsored Short Course in Fourier Analysis, Southern Illinois University, Carbondale, IL, March 1992.

PROFESSIONAL SERVICE AND ACTIVITIES AT MISSISSIPPI STATE

Local Host, NSF-sponsored workshop on calculus reform (Calculus in the Classroom: New Ideas, New Technologies.), May 1994.

Program Chair, annual meeting of the Louisiana-Mississippi Section of the MAA, March 1995.

Organizer, Panel discussion (Effective Methods for Teaching Mathematics), annual meeting of the Louisiana-Mississippi Section of the MAA, March 1995.

Conducted In-service training session for mathematics and science faculty from the Mississippi School for Mathematics and Science on the use of computer algebra systems in the classroom, February 1996.

Student Paper Committee for annual meeting of the Louisiana-Mississippi Section of the MAA, 1995-97, chair 1995, 1997.

Presented overview of results of "Student Research Projects in Multivariate Calculus," at NSF-ILI Poster Session, Joint Mathematics Meetings, Baltimore, MD, January 1998.

Member, Student Team Competition Committee for annual meeting of the Louisiana-Mississippi Section of the MAA, 1998-2000.

Mississippi Vice Chair, Louisiana-Mississippi Section of the Mathematical Association of America, 1998-99.

Editorial Committee Chair, Proceedings of Louisiana-Mississippi Section of the Mathematical Association of America, 2000, 2001.

Senior College Vice President, Board of Directors of Mississippi Council of Teachers of Mathematics, 2000-01.

Professional Reviewing

Reviewer, Mathematical Reviews, 1992-2004 (approx. 3 papers reviewed per year)

University and College Committees at MSU

Member, Scholarship Committee, MSU College of Arts and Sciences, 1993-1996.

Member, University Library Committee, 1994-2000.

Member, Distinguished External Scholarship Committee, 1997-2000.

Departmental Committees at MSU

Student Recruiting Committee, 1993-2002, chair 1998-2000.

Calculus Committee, 1992-93, 1998-2002.

Numerical Analysis Committee, 1992-95, 1997-2002.

Committee on Computing and Classroom Teaching, 1993-2002, chair 1998-2000.

Library Committee, 1994-2000; chair 1994-95.

MA 1463, 1613 and 1623 (Finite Math and Business Calculus) Committee, 1996-97.

MAA Department Liaison, 1996-2001.

Web Page Committee, 1998-2002; chair, 1999-2002.

Undergraduate Curriculum Committee, 1998-2001.

Promotion and Tenure Committee, 2000-2001.

Scholarship Committee, 2000-02.

GRANTS AT MSU

NSF Matching Funds for LCD Projection Panel (1992, Funded, approx. \$600.00)

NSF Calculus Reform Workshop (1994, Funded, approx. \$10,000.00)

NSF ILI Proposal (1994, coinvestigator, Funded 1995, \$50,000.00)

Hearin Computational Initiative Pilot Study (1998, coinvestigator, Funded, \$126,100.00)

Hearin Computational Initiative: Calculus On Line (web site for calculus resources) (1999, coinvestigator, funded approx. \$20,000)

NSF CCLI-A&I Proposal (2000, coinvestigator, funded beginning 2001, approx. \$200,000)

ADVISING AT MSU

I served on 30 graduate committees: Ph.D. in mathematics (2), in computational engineering (1) in computer science (1, minor advisor), in physics (1), in electrical engineering (3, minor advisor) and in aerospace engineering (2); Master's in mathematics (advisor for 2, committee member for 4, minor advisor for 2), in civil engineering (1), in electrical engineering (committee member for 4, minor advisor for 2), in computational engineering (2), in aerospace engineering (2) and in mechanical engineering (1).

I served as an undergraduate advisor in the Department of Mathematics and Statistics, and was named Advisor of the Month in the College of Arts and Sciences, May 2000. I was honored as a Mortar Board Professor of Eminence by one of my advisees (Spring 1996).

I served as Corresponding Secretary-Treasurer for the Mississippi Beta Chapter of Kappa Mu Epsilon from 1993-2002, and established and served as the faculty advisor for the MSU student chapter of MAA, 1994-2002. Together with the local and regional officers of Kappa Mu Epsilon, I planned a regional KME meeting for Spring 2002. I supervised several undergraduate and graduate students who presented their research at the annual spring meetings of the Louisiana-Mississippi Section of the MAA. I also supervised our math team at this meeting for several years.

I helped plan and served as the local (MSU campus) host for the 2002 national meeting of the high school math honor society, Mu Alpha Theta, held on the MSU campus July 2002.