

**CURRICULUM VITA (rev. July 27, 2007)
for MICHAEL S. PILANT**

NAME : Michael S. Pilant

DATE OF BIRTH : October 28, 1954

PLACE OF BIRTH : El Paso , Texas

MARITAL STATUS : Married

NO. OF CHILDREN : 2

CURRENT OFFICE ADDRESS AND PHONE NUMBER

Department of Mathematics

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1 PROFESSIONAL APPOINTMENTS

1. Program Coordinator, Division of Mathematics and Science, Texas A&M University at Qatar, 2006-present
2. Associate Head, Department of Mathematics, 2002-2006
3. Professor, Departments of Mathematics, Aerospace Engineering and Computer Science, Texas A&M University, 1994-present.
4. Associate Director, Insitute for Scientific Computation, 1992-1996.
5. Associate Professor, Departments of Mathematics, Aerospace Engineering and Computer Science, Texas A&M University, 1990-1994.
6. Associate Professor, Department of Mathematics and Aerospace Engineering, Texas A&M University, 1988-1994.
7. Assistant Professor, Department of Mathematics, Texas A&M University, 1983-1988
8. Visiting Assistant Professor, Department of Mathematics, Texas A&M University, 1982-1983
9. Visiting Assistant Professor, Department of Mathematics, University of New Mexico, 1981-1982

2 PROFESSIONAL INTERESTS

- Applied Mathematics
 - Nonlinear Partial Differential Equations
 - Computational Fluids, Mechanics, Asymptotics
- Computational Mathematics
 - Numerical Algorithms - Algorithmic Development
 - Finite Element Methods
 - Parallel Methods, Domain Decomposition Methods
 - Multiresolution (Wavelet) Algorithms
 - Simulation of Nonlinear Systems
- Inverse Problems
 - Inverse Coefficient Problems for Parabolic and Elliptic Equations
- Visualization
 - Scientific Visualization
 - 3D Modeling
- Computer Aided Instruction
 - Web Based Instruction
 - Web Based Assessment
 - Adaptive Interfaces
 - Distance Learning
- Software Engineering
 - Java Classes and Applets
 - Digital Libraries for Mathematics and Science

3 EDUCATION

1. B.S. Mathematics, University of Pittsburgh (1976)
2. M.S. Mathematics, New York University (Courant Institute) (1978)
3. Ph.D. Mathematics, New York University (Courant Institute) (1982)
 - Thesis Advisor - Professor Cathleen S. Morawetz, Courant Institute, NYU.

4 SOCIETY MEMBERSHIPS

1. American Mathematical Society (A.M.S.)
2. Mathematics Association of America (M.A.A.)
3. Society for Industrial and Applied Mathematics (S.I.A.M.)
4. American Academy of Mechanics (A.A.M.)
5. Association of Computing Machinery (A.C.M.)

6. American Association for Computing in Education (A.A.C.E.)
7. Society for Values in Higher Education (S.V.H.E.)
8. Phi Beta Kappa

5 CONSULTING

1. Texaco EP&T, Houston, 1992-1994.
2. Microsoft, 1998, 2002.

6 UNIVERSITY ACTIVITIES

Current Committees:

1. Member, Instructional Technology Council (2002-present)
2. Member, College of Science, Technology Mediated Instruction Committee (2002-present).
3. Member, Department of Mathematics Computer Committee (2001-present)
4. Member, Undergraduate Studies Committee (1999-present)
5. Member, Provost's Task Force on Telecommunications and Informatics, (1998-present)
6. Member, College of Science Advisory Committee on Information Technology(1997-present)
7. Member, College of Science Computing Committee (1996-present)
8. Member, Imaging and Visualization Committee for the College of Science (1996-present)
9. Member, Mathematics and Science Education Advisory Council (1992-present)

Recent Committees:

1. Member, Department of Mathematics Executive Committee (2001-2006)
2. Member, Departmental Honors Program (2002-2006)
3. Member, Department Head Search Committee, (2002)
4. Chair, Committee to Revise Help Sessions, (2002)
5. Chair, Math 131/142 Textbook Review Committee, (2002)
6. Member, Search Committee for the Director of Instructional Technology Services, (2001)
7. Faculty Advisor, NASA SHARP, (Summer 2001)
8. Member, Texas A&M University System Committee on Intellectual Property (1998-2000)
9. Representative, Texas A&M University, to the Alliance for Higher Education (Dallas, Tx), (1999-2000)
10. Member, Postdoctoral Committee, Department of Mathematics, (1999-2000)
11. Member, Subcommittee P, Department of Mathematics, (1999-2000)
12. Member, Jack Fields Scholarship Review Committee, Academy for Advanced Telecommunications and Learning Technologies, (Spring 1998)
13. Member, Telecommunications Task Force for the College of Science (1995-1998)

14. Faculty Advisor, Summer Honors Invitational Program, (Summer 1998)
15. Member, Search Committee for the Director of the Office of Distance Education (1997)
16. Member, Distance Education Task Force (1997-1997)
17. Member, Supercomputing Advisory Committee (1995-1998)
18. Member, Accomodating Future Computing Needs Committee (1995)
19. Member, National Science Board and Government-University-Industry Research Roundtable Project – Novel Insights Subcommittee, TAMU, (1993-1995)
20. Member, Provost’s Task Force on Video Instruction, (1993-1994)
21. Member, Executive Committee (1992-1994)
22. Member, Undergraduate Program Committee (1992-1993)
23. Member, Mathematics Head Search Committee II (1992-1993)
24. Member, Computational Classroom Advisory Committee (1990-1993)
25. Member, Departmental Computer Committees (1986-1993)
26. Member, TAMU Scholastic Dishonesty Inquiry Committee (1992)
27. Member, Promotion and Tenure Committee (1992-1993)
28. Chairman, Promotion and Tenure Committee (1991-1992)
29. Member, Mathematics Head Search Committee I (1991)
30. Member, College of Science Dean Search Committee (1991)
31. Member, Graduate Studies Committee (1989-1990)

7 AWARDS AND HONORS

1. Department of Mathematics, Outstanding Teaching Award, (2001)
2. Danforth Fellowship (1976-1980)
3. National Merit Scholarship (1972-1976)
4. Chancellor’s Undergraduate Teaching Fellowship (1974)
5. Culver Award for Distinguished Undergraduate Mathematics (1974)
6. Culver Award for Distinguished Undergraduate Mathematics (1975)

8 PUBLICATIONS

8.1 Appearing in Print:

1. “Spinodal Decomposition in a Binary Liquid Mixture,” J. Chem. Phys. 68 (2) 15 Jan. 1978
2. “The Neumann Problem for an Equation of Lavrent’ev-Bitsadze Type,” Journal of Math. Anal. Appl., v. 106, no. 2, pp. 321-359, March 1985. [MR 86i:35104]
3. (with Klaus Höllig) “Regularity of the Free Boundary for the Porous Medium Equation,” Indiana University Mathematics Journal, v. 34, no. 4, pp. 723-733, Winter 1985. [MR 87k:35252]
4. “A Note on the Numerical Solution of the Von Karman Small Disturbance Equation,” Communications in Applied Numerical Methods, vol. 1, 209-214, (1985).

5. (with William Rundell) "An Inverse Problem for a Nonlinear Parabolic Equation," *Comm. in P.D.E.*, v. 11, no.4, pp. 445-457, 1986. [MR 87h:35342]
6. (with William Rundell) "Undetermined Coefficient Problems for Nonlinear Elliptic and Parabolic Equations," *I.S.N.M.* 77, pp. 139-154, 1987. [MR 88i:35175]
7. (with William Rundell) "An Inverse Problem for an Nonlinear Elliptic Equation," *SIAM Journal of Analysis*, v. 18, n. 6, pp 1801-1809, 1987. [MR 88k:35216]
8. (with William Rundell) "Iteration Schemes for Unknown Coefficient Problems Arising in Parabolic Equations," *Numerical Methods for Partial Differential Equations*. v. 3, pp. 313-325, 1987. [not in MR]
9. (with William Rundell) "A uniqueness theorem for determining conductivity from overspecified boundary data," *Journal of Math. Anal. Appl.*, v. 136, n. 1, pp. 20-28, 1988. [MR 90a:35226]
10. (with William Rundell) "An iteration method for the determination of an unknown boundary condition in a parabolic initial-boundary value problem," *Proc. Edin. Math. Soc.*, v. 32, pp. 59-71, 1989. [MR 90d:35292]
11. (with William Rundell) "Fixed point methods for a nonlinear parabolic inverse problem," *Comm. P.D.E.*, v. 13, n. 4, pp. 469-493, 1988. [MR 89a:35225]
12. (with William Rundell) "Multiple undetermined coefficient problems for quasi-linear parabolic equations," *Num. Methods in P. D. E.*, v. 5, pp. 297-311, 1989. [MR 92c:65154]
13. (with W. Rundell) "Recovery of an Unknown Specific Heat by Means of Overposed Data," *Num. Methods in P. D. E.*, v. 6, pp. 1-16, 1990. [MR 91d:65205]
14. (with William Rundell) "Determining the initial age distribution for an age structured population," *Mathematical Population Studies*, v. 3, n. 1, pp. 3-20, 1991.
15. (with William Rundell) "Determining a coefficient in a first order hyperbolic equation," *SIAM Journal Applied Math.* v. 51, n. 2, pp. 494-506, 1991. [MR 91m:35242]
16. (with William Rundell) "A method for identifying nonlinear terms in parabolic initial boundary value problems," *Advances in Water Resources*, v. 14., n. 2, pp. 83-88, 1991. Computational Mechanics Publications. [MR 92b:35170]
17. (with William Rundell) "Undetermined Coefficient Problems for Quasilinear Parabolic Equations," *Inverse Problems in Partial Differential Equations*, pp. 165-185, SIAM 1990. [MR 91e:35216]
18. (with William Rundell) "Age-structured population dynamics," in *Inverse Methods in Action*, pp. 122-129, P. Sabatier, editor, Springer Verlag, 1990.
19. (with Bruce Lowe and William Rundell) "The recovery of potentials from finite spectral data," *SIAM J. of Math. Anal.*, v. 23, n. 2, pp. 482-504, 1992.
20. (with R.E. Ewing, J.G. Wade, A.T. Watson), " Estimating Parameters in Scientific Computation: A Survey of Experience from Oil and Groundwater Modeling," *IEEE Computational Science and Engineering*, pp. 19-31, Fall 1994.
21. (with Ko, J. and Kurdila, A.J.), "A Class of Finite Element Methods Based on Orthonormal Compactly Supported Wavelets," *Computational Mechanics. Solids, Fluids, Fracture, Transport Phenomena, Multi-Body Dynamics and Variational Methods*," v. 16, n. 4, pp 235-244, 1995.
22. (with J. Ko and A. Kurdila), " Triangular Wavelet-Based Finite Elements via Multi-valued Scaling Equations," *Computer Methods in Applied Mechanics and Engineer-*

ing, v. 146, pp 1–17, 1997.

8.2 Accepted

1. (with D. Allen) “Developing an Online Master’s Program - Problems and Successes”, *DEC 2003 Tenth Annual Distance Education Conference*, Jan. 21-24, 2003, Austin, TX.

8.3 Refereed Conference Proceedings

1. (with William Rundell) “ Identification of nonlinear flux terms in a parabolic initial-boundary value problem,” *Krueger Conf. Proc.*, Albuquerque, 1990.
2. Ko, J., Kurdila, A.J., and Pilant, M.P., “Wavelet Galerkin Multigrid Methods,” *presented at the 35th Structures, Structural Dynamics and Materials Conference*, Hilton Head, South Carolina, May, 1994.
3. J. L. Schnase. et. al, “The CoLib Project: Enabling Digital Botany for the 21st Century,” *Proceedings of the Conference on Digital Libraries*, 1994.
4. R. Ewing, A.J. Kurdila, and M. Pilant, “ Multiresolution Analysis of Partial Differential Equations on Irregular Domains,” *Proceedings of the Society of Engineering Science 31st Annual Technical Meeting*, Texas A&M University, College Station, Texas, October 10-12, 1994.
5. (with R.E. Ewing, J.G. Wade, A.T. Watson), “Identification and Control Problems in Petroleum and Groundwater Modeling,” *Proceedings of the SIAM Symposium on Control Problems in Industry*, 1994 Annual meeting, *Birkhäuser*, 28 pages.
6. J. Ko, A.J. Kurdila, and M. Pilant , “Triangular Wavelet-Basaed Finite Elements via Multivalued Scaling Functions,” *Proceedings of the 36th Structures, Structural Dynamics, and Materials Conference*, New Orleans, LA, April 10-13, 1995.
7. M. S. Pilant, “Parameter Estimation Issues for Flow in Porous Media”, *presented at 1995 NGEMCOM conference*, EPA Supercomputing Facility, Bay City, Michigan, August, 1995.
8. (with Hall, Robert and Strader, Arlen), “The Impact of Web-Based Instruction on Performance in an Applied Statistics Course,” *International Conference on Mathematics/Science Education and Technology 1999 Conference Proceedings*, pp 261-266, 1999.
9. (with R. Hall, J. Epstein, Y. Hester, and R. A. Strader), “Issues Involved in a Large Scale Implementation of Web-Based Mathematics Instruction,” *International Conference on Mathematics/Science Education and Technology 2000 Conference Proceedings*, pp. 334-339, 2000.
10. (with Hall, Robert; Strader, Arlen), “Cognitive Design of Instructional Databases,” *Society for Information Technology and Teacher Education Proceedings*, pp 1167-1172, 2001.
11. (with Allen, Don) “The Distance Education Degree Program for The Master of Mathematics with a Teaching Option at Texas A&M University,” *Society for Information Technology and Teacher Education Proceedings*, pp 111-116, 2001.

12. (with Strader, Arlen; and Hall, Robert) "Assessing Student Statistical Problem-Solving Skills using Interactive Java Applets," *Society for Information Technology and Teacher Education Proceedings*, pp. 1196-1197, 2001.
13. "Applied Calculus on the Web – Applets and Applications", *International Conference on Technology in Collegiate Mathematics Proceedings*, 2001.
14. (with D. Allen) "Developing an Online Master's Program - Problems and Successes," *DEC 2003 Tenth Annual Distance Education Conference*, Jan. 21-24, 2003, Austin, TX.
15. (with J. Epstein) "Finite Math on the Web - Core Mathematics Delivered via the Web," *International Conference on Technology in Collegiate Mathematics*, 2003.

8.4 Technical Reports:

1. Höllig, K., and Pilant, M. S., "Regularity of the Free Boundary For the One-Dimensional Porous Medium Equation," Center for Approximation Theory (CAT) Report # 46, Texas A&M University
2. Höllig, K., and Pilant, M. S., "Regularity of the Free Boundary for the Porous Medium Equation," University of Wisconsin - Math Research Center (MRC) Report # 2742
3. "Galerkin Approximations to Equations of Mixed Type," (C.A.T. report #73)
4. "Analysis of a Thermoviscoplastic Uniaxial Rod Under Prescribed Stress. Part I - Theoretical Development," Mechanics and Materials Center (MMC) Report MM-4875-85-2, TexasA& M University
5. "Analysis of a Thermoviscoplastic Uniaxial Rod Under Prescribed Stress. Part II - Boundary Layer and Asymptotic Analysis." (MMC Report MM-4875-85-6)
6. "Numerical Results for a Thermoviscoplastic Uniaxial Bar Under Prescribed Stress. Part III - Numerical Results for a Bar with Radiative Boundary Conditions," (MMC Report MM-4875-85-10)
7. "A One-Dimensional Model for Predicting Thermomechanical Response of an Inelastic Uniaxial Bar to High Thermal Inputs" in preparation.
8. "Experimental and Theoretical Determination of Thermomechanical Response of Inelastic Structural Materials to High Energy Thermal Inputs" First Annual Technical Report, (MM 5485-87-7).
9. "Experimental and Theoretical Determination of Thermomechanical Response of Inelastic Structural Materials to High Energy Thermal Inputs" Semi-Annual Technical Report, (MM 5485-87-24).
10. "Experimental and Theoretical Determination of Thermomechanical Response of Inelastic Structural Materials to High Energy Thermal Inputs" Second Annual Technical Report, (MM 5485-88-5).
11. "Experimental and Theoretical Determination of Thermomechanical Response of Inelastic Structural Materials to High Energy Thermal Inputs" Final Technical Report, (CMC 5485-90-1).

8.5 Books

1. (with Bollinger, Kathryn; Epstein, Janice; Hall, Robert; Hester, Yvette; Strader, Arlen). "Finite Math on the Web," *Brooks Cole/Thompson Learning*, 1st edition, 2001, 250 pp, with Student CDROM containing 4 Java applets, 30 minutes of streaming video, and extensive solutions sets. <http://www.finitemathtutor.com> - official web site.
2. (with Bollinger, Kathryn; Epstein, Janice; Hall, Robert; Hester, Yvette; Strader, Arlen). "Finite Math on the Web," *Brooks Cole/Thompson Learning*, 2nd edition, 2005
3. (with Bollinger, Kathryn; Epstein, Janice; Hall, Robert; Hester, Yvette; Strader, Arlen). "Finite Math on the Web," *Brooks Cole/Thompson Learning*, 3rd edition, 2007
4. (with Bollinger, Kathryn; Epstein, Janice; Kiffe, Tom; Whitfield, Jennifer), "Applied Calculus Online," *Brooks Cole/Thompson Learning*, electronic edition, 2006.

8.6 Other

1. "Mathematics," Major subject article for the Microsoft Encarta 2000 Encyclopedia CDROM.
2. "Mathematics," 5000 word article for Microsoft Encarta 2003 Encyclopedia (revised).

9 CONFERENCE PRESENTATIONS

1. "The Free Boundary Problem for the One-Dimensional Porous Medium Equation" Texas P.D.E. Seminar, Southwest Texas State University, 1984.
2. "Regularity and Convergence Results for a Galerkin Approximation of the One-Dimensional Porous Medium Equation" presented at the SIAM/SPE/SEG Conference, Houston, Jan. 1985.
3. "Galerkin Methods for Equations of Non-Fixed Type," Texas P.D.E. Seminar, University of Houston, 1985.
4. "Asymptotic Behavior of a Thermoviscoplastic Material under Cyclic Loading," SIAM National Meeting, Pittsburgh, June 1985.
5. "Time Dependent Behavior of a Thermoviscoplastic Uniaxial Rod," Tenth U.S. National Congress of Applied Mathematics, U. T. Austin, June 16-20, 1986.
6. "A Survey of Recent Results in Inverse Coefficient Problems," Combined Midwest-Southeast Differential Equations Conference, Vanderbilt University, October 23-24, 1987.
7. "Using Domain Decomposition Methods for Computing Singularities of Equations of Mixed Type," SIAM Conference on Domain Decomposition Methods, Houston, March 20-22, 1989. [Chaired session.]
8. "Survey of Methods for Inverse Coefficient Problems", AMS Summer Conference, Arcata 1989.

9. "On the Formal Equivalence of Certain Multidimensional, Finite Data Inverse Problems," Texas P.D.E. Conference, TAMU, 1993.
10. Chaired Special Session on Scientific Computing, Texas Section, MAA, Annual Meeting, April 8, 1994.
11. Ko, J., Kurdila, A.J., and Pilant, M.P., "Wavelet Galerkin Multigrid Methods," *presented at the 35th Structures, Structural Dynamics and Materials Conference*, Hilton Head, South Carolina, May, 1994.
12. Ko, J., Kurdila, A.J., and Pilant, M.P., "A Class of Wavelet-based Finite Elements for Computational Mechanics," *presented at the 35th Structures, Structural Dynamics and Materials Conference*, Hilton Head, South Carolina, May, 1994.
13. M. S. Pilant, "Multi-scale Parameter Estimation Techniques for Flow in Porous Media", SIAM 45th Anniversary Conference, Albuquerque, New Mexico, June 17, 1997. [30 minute invited minisymposium talk]
14. M. S. Pilant, "Identifying Parameters In Large Complex Systems, A Marriage of Mathematical Analysis and Computation," AAAS 73d Annual Meeting, Southwestern and Rocky Mountain Division, May 22, 1997. [20 minute talk]
15. (with R. Hall, J. Epstein, Y. Hester, and R. A. Strader), "Issues Involved in a Large Scale Implementation of Web-Based Mathematics Instruction," International Conference on Mathematics/Science Education and Technology 2000 Conference Proceedings, Feb 5-8, 2000. [30 minute talk]
16. (with Hall, Robert; Strader, Arlen), "Cognitive Design of Instructional Databases," *Society for Information Technology and Teacher Education 2001*
17. "Applied Calculus on the Web – Applets and Applications", *International Conference on Technology in Collegiate Mathematics*, 2001.
18. (with Epstein, Janice) "Finite Math on the Web – Core Mathematics Delivered Via the Web" *International Conference on Technology in Collegiate Mathematics*, 2003.
19. "Parameter Estimation and Modeling in Nonlinear Systems," First Annual Doha Conference on Applied Mathematics and Computational Science, Doha, Qatar, May 20-22, 2007.

10 WORKSHOPS

1. "Multimedia Workshop" [Invited Presentation], 90 min, ICTCM, Baltimore, Maryland, Nov. 1-4, 2001.
2. ICTCM Short Course [3 day], Phoenix AZ, May 20-24, 2002.
3. ICTCM/MAA Short Course [3 day], Burlington, VT, July 28-31, 2002.
4. "Tech Toys - Technology in Education," [Pre-Conference Workshop] ICTCM, Orlando, Oct. 31-Nov 2, 2002.

11 PANELS

1. "The Role of Assessment in Online Instruction," SITE, 2001.
2. "Online Testing", part of *Creating Online Assessments*, ICTCM, 2001.

12 INVITED LECTURES

1. "Methods in Nonlinear Partial Differential Equations" presented at the Texas Institute for Computational Mechanics (TICOM) , U.T. at Austin, Aug. 1984
2. "Hodograph and Galerkin methods in Nonlinear Partial Differential Equations" TICOM, Nov. 1984
3. "Survey of Methods for Inverse Coefficient Problems", one hour survey talk, AMS Summer Conference, Arcata 1989.
4. "Parallel algorithms for an Inverse Sturm-Liouville Problem," 20 minute invited address, AMS Meeting, Portland, OR., June 1991.
5. "Wavelet Galerkin Methods," University of South Carolina, April 20, 1994.
6. "Parallel Navigation and Visualization Tools," University of South Carolina, April 21, 1994.
7. "Scale-up in Multiphase Flow: Nonlinearity, Heterogeneity, or Anisotropy?," Characterizing Multiphase Flow in Porous Media, April 20, 1995.
8. M. S. Pilant, "Parameter Estimation Issues for Flow in Porous Media", *presented at 1995 NGEMCOM conference*, EPA Supercomputing Facility, Bay City, Michigan, August, 1995.

13 OTHER PRESENTATIONS

1. "High Performance Computing and Scientific Visualization," to Congressman Jack Fields, at Texas A&M University, April 25, 1995.
2. "Inverse Problems and Parameter Estimation," on the occasion of the 50th birthday of Richard E. Ewing, November 20, 1996

14 FUNDING

14.1 Research Funding:

1. Faculty Investigator, A.F.O.S.R. Grant # F49620-83-C-0067, "A Model for Predicting Thermomechanical Response of Large Space Structures" Co-PI's - D. H. Allen, W. Haisler, Aerospace Engineering Department, Texas A&M University. Funding for Summer 1984 and Summer 1985.
2. Co-PI, A.F.O.S.R. Grant # F49620-86-K-0016, "Experimental and Theoretical Determination of Thermomechanical Response of Inelastic Structural Materials to High Energy Thermal Inputs" 6-01-86 thru 9-30-89, Funding amount \$358,660.
3. Co-PI, National Science Foundation Grant #DMS-870-1338, "Determination of Non-linear Terms in Parabolic and Elliptic Partial Differential Equations From Overposed Data" with W. Rundell, \$48,000, jointly funded with Air Force Office of Scientific Research. 6-87 through 5-89. (received two 6 month budget extensions)
4. CO-PI, Office of Naval Research Grant #ONR N00014-89-J-1008, "Undetermined coefficient problems for quasi-linear parabolic equations," with W. Rundell, \$176,125,

- 1-89 through 12-91.
5. CO-PI, National Science Foundation, #DMS-890-1763, "Various Problems Concerning the Recovery of Unknown Coefficients in Differential Equations," with W. Rundell, \$90,800, 9-89 through 5-92. Support for 2 graduate students.
 6. CO-PI, NSF-#8804590 (SCREMS), \$45,000, "Mathematical Sciences Research Equipment." with W. Rundell.
 7. CO-PI, NSF-#9103519 (SCREMS), "Mathematical Sciences Research Scientist," with W. Rundell, G. Chen, J. Zhou, P. Stiller, \$49,000, with \$25,000 matching funds, for support of scientific programmer and system manager.
 8. Co-PI, "Multidimensional Reconstruction Methods for Inverse Problems," #DMS-920-2352, \$162,531, 6-1-92 thru 5-31-95. Funded by NSF-DMS.
 9. Co-PI, "Partnership in Computational Sciences," Dept. of Energy, DE-FG05-92ER25143, \$2,480,000, Jan. 1992- Dec. 1994.
 10. Investigator, "Wavelet Galerkin Methods in Computational Mechanics," NASA-Langley, \$17,000, \$43,806 supplement. 10/1/93 – 9/31/96
 11. Investigator, "Wavelet Galerkin Methods and Multiresolution Methods in Computational Mechanics," ATP Program - Texas Coordinating Board, \$ 169,648, Jan 1, 1994 - Jan, 1 1996.
 12. Investigator, "Wavelet Galerkin Methods and for the Solution of Partial Differential Equations on Irregular Domains," ARP Program - Texas Coordinating Board, \$20,222. Jan 1, 1994 - Jan, 1 1996.
 13. Co-PI, "Partnership in Computational Science," Dept. of Energy, DOE-32550-4130F, \$127,000, Jan 1, 1995 - Sept. 30, 1995.
 14. Co-PI, "Partnership in Computational Science," Dept. of Energy, \$475,000, July 15, 1995 - Feb. 29, 1996.
 15. Co-PI, "Planning Grant for a Center for Collaborative Research on Learning Technologies," NSF #9616500, \$50,000, 12/1/96 - 7/15/97.
 16. PI, "Phase I - ATSI/TAMU Academy - Skills Factory", American Training and Skills Institute (ATSI) subcontract, \$48,000.
 17. Co-PI, "Intelligent Tutoring Systems", Brooks AFB, \$408,000, 6/1/97 - 12/31/98.
 18. PI, Brooks-Cole Publishing Co, "Finite Math on the Web©," \$130,000, 9/1/97 - 8/31/01.
 19. PI, Brooks-Cole Publishing Co, "Applied Calculus on the Web©," \$130,000, 9/1/02 - 8/31/05.
 20. Co-PI, "BIOCOMPLEXITY, Incubation Activity: Application of Mathematical Methods and Scientific Computation to Complex Ecological Problems," NSF-#0083894, \$96,918. 9/2000-8/2003
 21. Co-PI, "TAMU STEPS: Retention Through an Applied Physics, Engineering, and Mathematics (PEM) Model," NSF-#0336591, \$2,000,000. 9/2003-5/2008.

14.2 Equipment Funding

1. Co-PI, "Mathematical Sciences Research Equipment" NSF-SCREMS #DMS-8604640, funded June 1, 1986, for purposes of obtaining a high resolution color graphics workstation and supporting equipment. Funding amount \$49,500 with \$33,000 matching

funds. (Purchased an Silicon Valley Graphics IRIS 3130 Color Graphics Workstation with peripherals.)

2. CO-PI, "Mathematical Sciences Research Equipment", NSF-SCREMS #DMS-8804590, \$45,000 with \$45,000 matching funds from Texas A&M University. (Purchased a MIPS 2000 RISC architecture superminicomputer, workstations, and peripherals).
3. CO-PI, NSF-Infrastructure Equipment Proposal, "Acquisition of Instrumentation and Computational Equipment for the Experimental Laboratory," Electrical Engineering Dept., \$415,710
4. CO-PI, NSF, "Acquisition of Network Infrastructure to Support Engineering and Science Research and Research Training in the Texas A&M University ATM Testbed," \$393,000, 7/1/97 - 6/30/99.
5. PI, TAMU Electronic Learning Incentives Program, \$5000, for purchase of a dual procession pentium server to build a digital library for science and mathematics, 1997. This is found at <http://smartlib.tamu.edu/>
6. PI, "College of Science Information Technology Laboratory," \$50,000 for startup. \$20,000 yearly for maintenance, support and upgrades.

14.3 Funded Conferences

1. CO-PI, National Science Foundation, Office of Naval Research, Air Force Office of Scientific Research, Grant #DMS-9015637, "Inverse Problems - Computational Algorithms" an international conference held at Texas A&M University March 10-14, 1991. \$21,000.00 with \$9,000 matching funds.
2. Organizer, **First Annual Doha Conference on Applied Mathematics and Computational Science**, International Conference held at Texas A&M University at Qatar, in Doha, Qatar, May 20-21, 2007. **Groundwater as a Main Water Source for Agriculture in Qatar**, \$30,000.00 with supplemental funding by the Ministry of Municipal Affairs and Agriculture, and the Office of the Vice President for Research, Texas A&M University.

14.4 Pedagogical Awards

1. Texas A&M University Association of Former Students Incentive Grant, \$1,000, August 1989.
2. Texas A&M University Honors Curriculum Development Grant, \$2,000, May 1991.
3. Texas A&M University Association of Former Students Incentive Grant, \$1,500, July 1991.
4. \$50,000, Investigator, "Reinforcing Core-Concept Ideas in the Calculus Sequence," TAMU Interdisciplinary Research Initiatives Award, Sept 1993.
5. \$2,500, TEES Undergraduate Research Advisor to Loyal G. Bassett II, "Design and Implementation of Distributed Graphics Protocols with Compression," Summer 1993.
6. \$5,000, College of Science Research Enhancement Grant, Oct. 1993.
7. \$25,000, "Development of an Interactive Learning Environment for Engineering Calculus," TAMU Interdisciplinary Research Initiatives Award, April 1995.

8. \$4078, "Web Templates for Business Mathematics," Electronic Learning Incentives Program (ELIP), 1998.
9. \$8400, "Assessment Tools for Web-Based Instruction at Texas A&M University," Electronic Learning Incentives Program (ELIP), 1998.
10. \$150,000, "Development of a Distance Masters Degree in Mathematics with Teaching Option," Provost, 5/99 - 12/00.

14.5 Other Funding

1. College of Science Summer Research Grant, Summer 1984

15 STUDENTS

15.1 Completed

1. Undergraduate Honors Theses.
 - (a) Robert Newberry, "Design, Implementation and Initial Testing of an On-Line Mathematics Curriculum." Spring 1992
 - (b) Johnny Chen and Loyal Bassett, II, "Parallel Algorithms for Compression and Transmission of Complex Images: Applications to Interactive Scientific Visualization," May 1994.
2. Master's Students. 2 Non-Thesis.
3. Master's Students.
 - (a) Arlen Strader, December 1996, "Hybrid Wavelet-Finite Element Algorithms," M.S. Mathematics, Chair.
 - (b) David Eberle, May 2001, "Numerical Techniques for Rigid Body Simulation," M.S. Mathematics
4. Ph.D. Students.
 - (a) Young Sook Kim, "Numerical Methods for Equations of Mixed Type," May 1990, Texas A&M University.
 - (b) Lester Caudill, "Identification and Reconstruction of Potentials in Two Space Dimensions," May 1992, Texas A&M University.
 - (c) Yan Zheng, "Multi-Scale Parameter Estimation for the Steady State Diffusion Equation," August 1997, Texas A&M University.

15.2 Current:

1. Master's Students, Distance
 - (a) Paula Whitman
 - (b) Rebecca Moch
 - (c) Richard Frederick
 - (d) Pamela Kimbrough

- (e) Heather Bergman
- (f) Richard Enderton
- 2. Master's Students, Thesis.
 - (a) Sandeep Parmekar, M.S. Mathematics, Chair, inactive.
- 3. Ph.D. Students
 - (a) Craig McIntyre, "Inverse Problems for Population Models," Ph.D. Mathematics, Co-Chair, inactive.
 - (b) SeongSoo Kim, committee
 - (c) Thomas Oliver, committee

16 POSTDOCTORAL RESEARCHERS

- 1. J. G. Wade, 1992-1993

17 DEVELOPMENT

- 1. Frito-Lay R&D, February 1994.
- 2. University Associates, Spring 1994
- 3. Hearing Research Planning Meeting, Jan. 1994. (Math,EE)
- 4. College of Science Development Council meetings
 - (a) 1994, 1995, 1996, 1997, 1999, 2001