

*CURRICULUM VITAE*  
**Nathan Louis Gibson**

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As of August 26, 2009

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## A. EDUCATION AND EMPLOYMENT

### EDUCATION:

**Doctor of Philosophy**, Applied Mathematics August, 2004  
with Concentration in Computational Mathematics  
North Carolina State University, Raleigh, NC  
Committee: Professors H. T. Banks (advisor), H. T. Tran, K. Ito, and N. G. Medhin  
Thesis: *Terahertz-Based Electromagnetic Interrogation Techniques for Damage Detection*

**Master of Science**, Applied Mathematics August, 2001  
with Concentrations in Numerical Analysis and Mathematical Modeling  
University of Tennessee, Knoxville, TN  
Committee: Professors X. Feng (advisor), S. Lenhart, and O. Karakashian  
Thesis: *Solving a Fluid-Plate Interaction Problem Using Finite Element Methods with Domain Decomposition Strategies*

**Bachelor of Science**, Mathematics May, 1998  
with Concentration in Computational and Applied Analysis  
and Minor in Computer Science  
Worcester Polytechnic Institute, Worcester, MA  
Thesis advisor: Prof. B. Servatius  
Thesis: *Molecular Computing*

### EMPLOYMENT:

**Assistant Professor (Tenure Track):** September 2008 - Present  
Department of Mathematics  
Oregon State University, Corvallis, OR

**Assistant Professor:** September 2006 - August 2008  
Department of Mathematics  
Oregon State University, Corvallis, OR

**NIA Postdoctoral Fellow:**

August 2004 - September 2006

Center for Research in Scientific Computation

North Carolina State University, Raleigh, NC

Supervised by Prof. H. T. Banks of NCSU and Dr. William Winfree of NASA Langley

**B. TEACHING AND ADVISING****B.1. INSTRUCTIONAL SUMMARY:**

## I. CREDIT COURSES:

Year	Term	Number	Course Name	Enrollment
2005-06	F	MA 141	Calculus I <sup>#</sup>	27
2006-07	F	MTH 351	Introduction to Numerical Analysis	17
	F	MTH 351	Introduction to Numerical Analysis	15
	W	MTH 256	Applied Differential Equations	34
	S	MTH 351	Introduction to Numerical Analysis	25
	S	MTH 351	Introduction to Numerical Analysis	12
2007-08	F	MTH 451	Numerical Linear Algebra	8
	F	MTH 341	Linear Algebra I	23
	W	MTH 256	Applied Differential Equations	92
	S	MTH 256	Applied Differential Equations	106
	S	MTH 341	Linear Algebra I	37
2008-09	F	MTH 256	Applied Differential Equations	86
	F	MTH 654	Numerical Methods for Inverse Problems <sup>+</sup>	11
	W	MTH 351	Introduction to Numerical Analysis	27
	S	MTH 323	Mathematical Modeling <sup>*</sup>	11

<sup>#</sup> at North Carolina State University, <sup>+</sup> Special Topics/Advanced Subjects, <sup>\*</sup> Writing Intensive Course

## II. NON-CREDIT COURSES AND WORKSHOPS:

1. Invited Faculty Presentation, "Finite Difference, Finite Element and Finite Volume Methods for the Numerical Solution of PDEs", Joint talk with Dr. Vrushali Bokil, DOE Multiscale Summer School, Oregon State University, Corvallis, OR, June 30, 2007.

## III. CURRICULUM DEVELOPMENT:

- Developed an Advanced Subjects numerical analysis course called *Numerical Methods for Inverse Problems* (MTH 654). The course included theory and implementation issues regarding numerical methods for inverse problems and optimization. Enrollment included Mathematics and Engineering graduate students. Each student was advised on an individual term project employing a method discussed during the course.

- Developed a Mathematical Modeling WIC course which discussed ODE, PDE and difference equation models for population, mechanical and particle flow applications. Enrollment included Mathematics, Sciences and Engineering undergraduates. Each student was advised on an individual term project employing a model discussed during the course. Preparation involved finding current research articles which exemplify course topics, creating writing assignments and computational experimentation assignments, and providing writing resources specific to the discipline.
- Prepared webpages for all courses that I taught which students can access. Webpages contained details of syllabus for course, information about assignments and exams, as well as solutions to assignments and exams. Webpages have links to tutorials in MATLAB on the web, MATLAB codes written by myself to demonstrate concepts learned in class, and links to high quality relevant research articles.

Course webpages can be found at <http://www.math.oregonstate.edu/~gibsonn>

#### IV. GRADUATE AND UNDERGRADUATE STUDENTS:

##### a. GRADUATE STUDENTS (MAJOR PROFESSOR):

Student	Degree	Department	Grad. Date
Tom Bail	Ph.D.	Mathematics	(Left OSU Aug 2008)

##### b. GRADUATE STUDENT COMMITTEE SERVICE:

Student	Degree	Department	GC Role	Graduation Date
Scott Henderson	M.S.	Mathematics	Member	2008
Cody Ray	M.S.	Mechanical Engineering	Member	2009
Carrie Manore	Ph.D.	Mathematics	Member	2011
Dojin Kim	Ph.D.	Mathematics	Member	2013

#### V. TEAM OR COLLABORATIVE EFFORTS

1. Guest Lecturer for HC 399 Introduction to Mathematical Ecology (Winter 2008 and Fall 2008): presented parameter identification problem for a logistic growth model which illustrated optimization, numerical methods for ODEs and interpolation; wrote MATLAB code to solve the forward and inverse problem, and made the code available to the students on the course web site.

## B.2. ADVISING AND MENTORING:

### I. ADVISING:

1. Advised two students (both female) on research problems in “Computational Electromagnetics” as part of the 2009 Mathematics Research Experiences for Undergraduates (REU) at OSU, June-July, 2009.

2. Advised two students (one female, one minority) on research problems in “Computational Electromagnetics” as part of the 2008 Mathematics Research Experiences for Undergraduates (REU) at OSU, June-July, 2008.

## II. MENTORING:

1. Informal course advising for several non-Math major undergraduate students including CS, CPUG, and Bio-Chem (two of which added a Math minor, one added a Math double major).
2. I have had various informal meetings with graduate students to offer advice on their current research including the following:
  - Mathematics student regarding inverse problems in electromagnetic interrogation.
  - COAS student regarding RADAR scattering in sea-foam.
  - Mathematics (Ecoinformatics minor) regarding inverse problems in cancer modeling.
  - CS (masters) student regarding computational mathematics and our PhD program.
3. Have written several letters of recommendation for students to REU programs and scholarships/fellowships
  - 2007-2008: 3
  - 2008-2009: 2

## C. SCHOLARSHIP AND CREATIVE ACTIVITY

### C.1. PUBLICATIONS:

#### I. PEER-REVIEWED PUBLICATIONS:

##### 2009

1. H. T. Banks, V. A. Bokil and N. L. Gibson, “Analysis of Stability and Dispersion in a Finite Element Method for Debye and Lorentz Media”, *Numerical Methods for Partial Differential Equations*, 25(4), 885-917, July 2009.

##### 2007

2. H. T. Banks, V. A. Bokil and N. L. Gibson, “Parameter Estimation Versus Homogenization Techniques in Time-Domain Characterization of Composite Dielectrics”, *Journal of Inverse and Ill Posed Problems*, 15(2), 117-135, 2007.

3. H. T. Banks, V. A. Bokil and N. L. Gibson, “Parameter Estimation Versus Homogenization Techniques in Time-Domain Characterization of Composite Dielectrics”, *JIIP* (Special Issue on IPMS-2006 Conf. Proc.), vol. 15, no. 2, 117–135, May 2007.
4. H. T. Banks, N. L. Gibson and W. P. Winfree, “2D Modeling of Pulsed THz Interrogation of SOFI with Knit Lines”, *Review of Progress in Quantitative Nondestructive Evaluation* (AIP Conf. Proc.), vol. 894, 408–414, 2007.

### 2006

5. H. T. Banks and N. L. Gibson, “Inverse Problems Involving Maxwell’s Equations with a Distribution of Dielectric Parameters”, *Quarterly of Applied Mathematics*, **64**, 749–795, December 2006.
6. H. T. Banks and N. L. Gibson, “Void Detection in Foam with Knit Lines Using THz Pulse Interrogation”, *Mathematical and Computer Modelling*, vol. 44, nos. 9-10, 807–815, November 2006.
7. H. T. Banks, V. A. Bokil, D. Cioranescu, N. L. Gibson, G. Griso, and B. Miara, “Homogenization of Periodically Varying Coefficients in Electromagnetic Materials”, *Journal of Scientific Computing*, vol. 28, no. 2, 191–221, September 2006.

### 2005

8. H. T. Banks and N. L. Gibson, “Well-posedness of solutions with a distribution of dielectric parameters”, *Applied Mathematics Letters* **18**, 423–430, 2005.
9. H. T. Banks, N. L. Gibson and W. P. Winfree, “Gap detection with electromagnetic terahertz signals”, *Nonlinear Analysis: Real World Applications* **6**, 381–416, 2005.

### 2002

10. S. Gavrillets and N. L. Gibson, “Fixation Probabilities in a Spatially Heterogeneous Environment”, *Population Ecology* **44**, 51–58, 2002.

## II. NON-REFEREED ARTICLES/TECHNICAL REPORTS:

1. M. Milne and D. Wedde (Advisor: N. L. Gibson), “Simulating polydisperse materials with distributions of the Debye model”, REU 2009 Proceedings, Oregon State University, August 2009.
2. K. Barrese and N. Chugh (Advisor: N. L. Gibson), “Approximating Dispersive Mechanisms Using the Debye Model with Distributed Dielectric Parameters”, REU 2008 Proceedings, Oregon State University, August 2008.

3. H. T. Banks, N. L. Gibson and W. P. Winfree, “Void detection in complex geometries”, Tech. Rep. CRSC-TR08-09, Center for Research in Scientific Computation, North Carolina State University, May 2008.
4. Nathan Gibson, Jason Kurtz, Ahmed Naga, Zoi Rapti, Yoon Song, Yan Yu, and Stanislav Žabić, “Ring Structure against Rolling Circular Drum” in 2001 Industrial Mathematics Modeling Workshop for Graduate Students, P. A. Gremaud, Z. Li, R. C. Smith, and H. T. Tran, editors, Tech. Rep. CRSC-TR01-27, Center for Research in Scientific Computation, North Carolina State University, November 2001.

### III. JOURNAL PUBLICATIONS IN PREPARATION:

1. “High Order Staggered Finite Difference Methods for Maxwell’s Equations in Debye and Lorentz Dispersive Media”, with V. A. Bokil.
2. “Simulating polydisperse materials with distributions of the Debye model”, with M. Milne and D. Wedde.

### IV. WORK IN PROGRESS:

1. High Order Mixed Finite Elements for Maxwell’s Equations in Dispersive Media, with V. A. Bokil.
2. Microscale modeling electromagnetic waves in foam and powders.
3. Generalized Polynomial Chaos method for EM simulation in Cole-Cole materials.

## C.2. PROFESSIONAL MEETINGS, SYMPOSIA AND CONFERENCES:

### I. INVITED CONFERENCE PRESENTATIONS:

1. 2009 SIAM Southeastern Sectional Meeting, Columbia, SC. “High Order Staggered Finite Difference Schemes for Electromagnetic Wave Propagation in Debye and Lorentz Dispersive Media”, Apr, 2009.
2. Conference on Applied Inverse Problems 2007: Theoretical and Computational Aspects, University of British Columbia, Minisymposium: Identification of defects and cracks, “Electromagnetic Characterization of Damage in Complex Dielectrics”, Jun 2007.
3. The Third International Conference on Inverse Problems: Modeling and Simulation, Oludeniz, Turkey. “Parameter Identification using Electromagnetic Interrogation of Heterogeneous Dielectrics”, *Inverse Problems Related to Scattering in Complex Structures Session*, organized by J. A. Burns and H. T. Banks, May 2006.

4. Sixth SIAM Conference on Control and its Applications, New Orleans, LA. “An Electromagnetic Inverse Problem Involving Distributions of Dielectric Parameters”, *Inverse Problems in Electromagnetics and Biology Minisymposium*, organized by H. T. Banks and A. S. Ackleh, Jul 2005.
5. 29th Annual SIAM Southeast Atlantic Section Meeting, Charleston, SC. “Gap Detection with Electromagnetic Terahertz Signals”, *Inverse Problems in Electromagnetics and Biology Minisymposium*, organized by H. T. Banks and N. L. Gibson, Mar 2005.
6. SAMSI Multiscale Working Group Closing Workshop, RTP, NC. “Multiscale and Polarization in Dielectric Materials: A Probabilistic Approach”, invited by R. C. Smith, Sep 2004.
7. “Journées Jeunes” at Laboratoire J.-L. Lions/Paris VI, Paris, France. “Pulsed Terahertz Electromagnetic Inverse Problems”, invited by D. Cioranescu, Mar 2004.
8. Invited presentation at Laboratoire J.-L. Lions/Paris VI, Paris, France. “Crack Detection using Electromagnetic Interrogation”, invited by D. Cioranescu, Apr 2003.

## II. INVITED COLLOQUIA AND SEMINAR PRESENTATIONS

1. Solid-state and Optics Seminar, Physics Department, Oregon State University, Corvallis, OR. “Approximating Dispersive Mechanisms Using the Debye Model with Distributions of Dielectric Parameters”, October, 2008.
2. Applied Mathematics and Computation Seminar, Oregon State University, Corvallis, OR. “Gradient-based Methods for Optimization. Part I: Comparison of Standard Methods.”, November, 2007.
3. Applied Mathematics and Computation Seminar, Oregon State University, Corvallis, OR. “Gradient-based Methods for Optimization. Part II: Development of Levenberg-Marquardt-Armijo”, November, 2007.
4. 2007 REU Program at Oregon State University, Corvallis, OR. “Finding damage in Space Shuttle foam”, July 2007.
5. Mathematics Colloquium, Oregon State University, Corvallis, OR. “Electromagnetic characterization of damage in Space Shuttle foam”, March, 2007.
6. Applied Mathematics and Computation Seminar, Oregon State University, Corvallis, OR. “Inverse Problem for Distributions of Dielectric Parameters”, November, 2006.
7. Applied Mathematics Colloquium, Sandia National Laboratories, Albuquerque, NM. “On Various Inverse Problems in Electromagnetics Involving Distributions of Dielectric Parameters”, February, 2006.
8. Mathematics Department Colloquium, University of Notre Dame, Notre Dame, IN. “Electromagnetic Inverse Problem Involving Distributions of Dielectric Parameters”, February, 2006, invited by B. Dwyer.

9. Applied Math Graduate Student Seminar, North Carolina State University. “Electromagnetic Crack Detection Inverse Problems Using Terahertz Interrogating Signals”, October 2003, invited by M. Haider.

### III. OTHER PRESENTATIONS:

1. 2009 SIAM Annual Meeting, Denver, CO. Contributed talk, “Modeling Dispersive Mechanisms Using Distributions of Dielectric Parameters”, July 2009.
2. 2008 SIAM Annual Meeting, San Diego, CA. Contributed talk, “Stability and Dispersion Analysis of a Finite Element Method for Maxwell’s Equations in Dispersive Media”, July 2008.
3. 2007 DOE Summer School in Multiscale Mathematics and High Performance Computing, Corvallis, OR. Invited Faculty Presentation, “Introduction to Finite Difference, Finite Element and Finite Volume Methods for the Numerical Solution of Partial Differential Equations”, June 2007.
4. 33rd Annual Review of Progress in Quantitative Nondestructive Evaluation, Portland, OR. Contributed talk “2D Modeling of Pulsed THz Interrogation of SOFI with Knit Lines”, *Terahertz Imaging Session*, chaired by H. Ringermacher, August 2006.
5. Industrial Mathematical and Statistical Modeling Workshop for Graduate Students, NCSU, Raleigh, NC. Participant presentation: “Ring Structure against Rolling Circular Drum”, chaired by Ralph Smith, August 2001.
6. MathFest ’98, Toronto, Canada. “DNA Computing”, IIME Student Paper Session, chaired by Robert Smith, July 1998. (IIME presentation award winner.)

### IV. OTHER CONFERENCE/WORKSHOP PARTICIPATION:

1. MathFest 2009, Portland, OR, Aug 2009. (Attendee.)
2. American Institute of Mathematics Research Conference Center workshop “High-order methods for computational wave propagation and scattering”, September 2007. (Invited faculty participant with support. Participated in working group on time-domain methods.)
3. SIAM Southwestern Regional Mathematics in Industry Workshop, Houston, TX, April 2001. (Participated in panel discussion.)
4. SIAM Northeast Regional Mathematics in Industry Workshop, Worcester, MA, May 1998. (Assisted with organization.)

### V. CO-AUTHORED PAPER/POSTER PRESENTATIONS (+ PRESENTER):

1. V. A. Bokil<sup>+</sup> and **N. L. Gibson**, “General Order Finite Difference Methods for Maxwell’s Equations in Dispersive Media, Contributed talk in Session “ Electromagnetics, Networks and Applications”, SIAM Annual Meeting, Denver, CO, July 2009.
2. H. T. Banks, V. A. Bokil<sup>+</sup> and **N. L. Gibson**, “Analysis of Stability and Dispersion in a Finite Element Method for Debye and Lorentz Dispersive Media”, Invited presentation, *AWM Workshop for Women Graduate Students and Recent PhDs*, SIAM Annual Meeting, San Diego, CA, July 2008.
3. H. T. Banks, V. A. Bokil<sup>+</sup> and **N. L. Gibson**, “Numerical Solution of a Homogenization Model for Spatially Periodic Dispersive Dielectrics”, Workshop on *Modeling, Analysis and Simulation of Multiscale Nonlinear Systems* in cooperation with SIAM Activity Group on Geosciences, Oregon State University, Corvallis, OR, June 29, 2007.
4. H. T. Banks, V. A. Bokil<sup>+</sup> and **N. L. Gibson**, “Inverse Problem Methodology for Complex Dielectric Materials”, The Third International Conference on Inverse Problems: Modeling and Simulation, Oludeniz, Turkey. Minisymposium on *Inverse Problems Related to Scattering in Complex Structures Session*, organized by J. A. Burns and H. T. Banks, May 2006.

## VI. PROFESSIONAL DEVELOPMENT:

- Participant in “Building Future Faculty Program”, Faculty Center for Teaching and Learning, North Carolina State University, Raleigh, NC, Mar 2006.
- Participant in Mentoring Workshop: “Right Attention, Right Balance and Right Empowerment”, how to mentor graduate students, especially from underrepresented groups, North Carolina Alliance to Create Opportunity Through Education, NCSU, Raleigh, NC, March 2006.
- Participant in “Teaching Workshop”, for graduate teaching associates, NCSU, Raleigh, NC, August 2001.
- Participant in “Introduction to CourseInfo” and “Advanced CourseInfo”, training course for Blackboard’s CourseInfo program, UTK, Knoxville, TN, June and July 2000.

## C.3. GRANT AND CONTRACT SUPPORT:

### I. EXTRAMURAL FUNDING:

#### a. DECLINED GRANTS:

1. PI, “NSF-COMPUTATIONAL MATHEMATICS: Numerical Methods for Forward and Inverse Electromagnetic Problems in Complex Dispersive Dielectrics,” Submitted on 12/7/2006. Co-PI N. L. Gibson.

2. Co-PI, DOE-Multiscale Mathematics and optimization for Complex Systems: “Multi-level Hierarchy of Models for Capturing Multiscale Nature of Complex Systems”, to DOE Multiscale Mathematics and optimization for Complex Systems, Nathan Gibson (PI). This was a joint proposal with Los Alamos National Laboratory (LANL). The PI on the LANL part was Dr. Konstantin Lipnikov.

b. OTHER GRANTS

1. Pi Mu Epsilon National Lectureship Grant (\$500), Spring 2008.
2. NIA/NASA grant NIA/NCSU-03-01-2536-NC, June 2007 – August 2007.

II. INTRAMURAL FUNDING FROM OREGON STATE UNIVERSITY:

1. PI for DeLoach Work Scholarship (\$900) “Math Learning Center Computer Lab Tutor”, Fall 2009.
2. FRT Winter 2009 (Spring 2009 Release): *Mathematical Methods for Terahertz Interrogation in Biomedical Imaging and Homeland Security Applications*
3. PI for Technology Resource Fee (TRF) Grant (\$2000) “Mathematics Learning Center PC Laboratory Consultants & Expenses”, FY09.

## D. SERVICE

### D.1. OREGON STATE UNIVERSITY SERVICE

#### I. MATHEMATICS DEPARTMENT SERVICE

1. Member, Computer/Web Committee, Fall 2007–present.
  - PI for DeLoach Work Scholarship (\$900) “Math Learning Center Computer Lab Tutor”, Fall 2009.
  - PI for Technology Resource Fee (TRF) Grant (\$2000) “Mathematics Learning Center PC Laboratory Consultants & Expenses”, FY09.
2. Member, Math Club/Competitions, Fall 2007–present:
  - Organized Math Challenge, a weekly, web-based, campus-wide, problem solving competition with cash prizes provided by PME (\$50). Overall winner was invited to represent OSU at the *Monthly Problem Solving Competition Championship* held at MathFest Aug 2009. He placed sixth out of approximately 25 students.
  - PI for Womens Giving Circle Award (\$4,250) for proposal, “Undergraduate Mathematics Reading Room”, Spring 2009.

- Organized first annual Northwest Undergraduate Mathematics Symposium (NUMS) at OSU, May 2009. Hosted 33 attendees from six universities including 17 student speakers. Sponsorship received from OSU Student Foundation (\$400), Pi Mu Epsilon (\$100), Pearson Publishing (\$50), Fred Meyer (\$50), Papa's Pizza Parlor (\$50).
    - Two NUMS participants went on to win PME cash prizes for presentations at MathFest 2009.
    - One OSU student who presented at NUMS was awarded travel and expenses stipend by PME to present at MathFest 2009.
  - Chapter Advisor, Pi Mu Epsilon Mathematics Honor Society, Fall 2007–present.
    - Pi Mu Epsilon National Lectureship Grant (\$500), Spring 2008.
    - Re-installed chapter after more than forty years of inactivity.
  - Chapter Advisor, SIAM student chapter, Spring 2008–present.
    - Received \$500 in funding for annual activities.
    - Helped students create chapter including circulating petition.
  - Chapter Co-advisor, AWM student chapter, Fall 2008–present.
    - Helped students create chapter.
  - Organized OSU's annual participation in the VTR Mathematics Competition, October 2007–present
  - Organized OSU's annual participation in the Putnam Competition, December 2006–present.
  - Organized OSU's annual participation in the COMAP Math Modeling Competition, February 2007–present.
    - Each year an OSU team has achieved “Meritorious Winner”, corresponding to roughly 10-20% internationally.
  - Attended *Club Advisor Conference* sponsored by the Club and Organization Development Office, Jan 2008.
3. GTA teaching evaluation, Feb 2009.
  4. Invited colloquium/seminar speakers
    - (a) B. Servatius, Editor, PME Journal. “Combinatorial rigidity and the molecular conjecture”, May 2008.
    - (b) D. Sutherland, President PME. “Permutations and Tableaux: Algorithms in Combinatorics”, Apr 2009.

## II. SERVICE TO THE UNIVERSITY

1. **Senior Personnel** for the OSU IGERT Ecoinformatics Program, Apr 2008–present.

- Participant on “brain-storming” panel for
    - (a) Carrie Manore, June 2007, Feb 2008.
    - (b) Elizabeth Burrows, July 2007.
  - Attended summer “boot-camp”, Jul 2008.
2. **Affiliated Faculty** in Oregon Space Grant Consortium, Feb 2009–present.
    - (a) Attended the first annual Student Symposium at OSU, Spring 2008.
    - (b) Panel reviewer to determine Oregon Space Grant Consortium/NASA Undergraduate Scholarship Program winners, Feb 2008 & 2009.
  3. **Graduate Council Representative** on Committee
    - (a) Brett Peterson, M.S., EECE, Thesis Defense, Feb 2008
    - (b) Abhijith Arakali, Ph.D., EECE
      - Program meeting Mar 2008
      - Preliminary Exam Apr 2009
    - (c) Omid Rajaei, Ph.D., EECE
      - Program meeting Mar 2008
      - Preliminary Exam Jun 2009
    - (d) Sukosin Thongrattanasiri, Ph.D., Physics
      - Program meeting May 2008
      - Preliminary Exam Jan 2009

## D.2. SERVICE TO THE PROFESSION:

### I. REVIEW AND REFEREE SERVICE:

Refereed articles for the following scholarly journals:

1. *Computational Geosciences*
2. *Advances in Applied Mathematics and Mechanics*
3. *Journal of Inverse and Ill-Posed Problems*
4. The journal *Mathematical and Computer Modelling*

### II. SYMPOSIUM ORGANIZED:

1. Organized an invited session on “Inverse Problems in Biology” at the *Third International Conference on Inverse Problems: Modeling and Simulation*, Oludeniz, Turkey, May 2006.

2. Organized an special session on “Inverse Problems in Electromagnetics and Biology” at the *SIAM Southeast Atlantic Section Meeting*, College of Charleston, SC, March 2005.

### III. PROFESSIONAL AND HONORARY SOCIETIES:

- Pi Mu Epsilon – Mathematics Honor Society (PME)
- Society for Industrial and Applied Mathematics (SIAM)
- Mathematics Association of America (MAA)

## E. AWARDS

### I. National and International Awards:

1. Invited faculty participant with support, American Institute of Mathematics Research Conference Center workshop “High-order methods for computational wave propagation and scattering”, September 2007.
2. NIA Post-doctoral Fellowship, July 2004 – June 2006.
3. NASA Graduate Student Researcher Fellowship, July 2002 – June 2004.

### II. University and Community Awards:

1. DeLoach Work Scholarship (\$900) for proposal “Math Learning Center Computer Lab Tutor”, Fall 2009.
2. Womens Giving Circle Award (\$4,250) for proposal “Undergraduate Mathematics Reading Room”, Spring 2009 (along with V. A. Bokil).
3. OSU Faculty Release Time Award (FRT), Spring 2009.
4. Nominated Mathematics Graduate Teaching Assistant of the Year at University of Tennessee, Knoxville, 1999.