CURRICULUM VITAE
WANDI DING

University of Tennessee
Department of Mathematics
Knoxville, TN 37996-1300

Phone: 865-974-4283 (Work)
ding@math.utk.edu
http://www.math.utk.edu/~ding

RESEARCH INTERESTS

Math Biology, Optimal Control, Mathematical Modeling, Ordinary and Partial Differential Equations, Difference Equations with applications to populations, diseases and natural resources.

EDUCATION

Ph.D. in Applied Mathematics, 2006, University of Tennessee-Knoxville.

Dissertation: Two Biological Applications of Optimal Control to Hybrid Differential Equations and Elliptic Partial Differential Equations.

Thesis Advisor: Suzanne Lenhart.

M.S. in Applied Mathematics, 2001, Ocean University of Qingdao, China.
(The name was changed to *Ocean University of China* in 2002)

Thesis: Linear Modified Finite Difference Method for a Type of Initial Value Problems of Parabolic Partial Differential Equations.

B.S. in Mathematics Education, 1998, Normal College of Qingdao University, China.

WORKING EXPERIENCE

- **Assistant Professor**, August 2007 - current
  Department of Mathematical Sciences, Middle Tennessee State University, Murfreesboro, TN.

- **Post Doctoral Research Associate**, August 2006 - July 2007
  Department of Mathematics, University of Tennessee-Knoxville.

  - Working with Suzanne Lenhart and Louis Gross on optimal control of spatial ecology and natural resource management.

  - Working with Suzanne Lenhart to advise an undergraduate project on pest control.

TEACHING EXPERIENCE

- **Graduate Teaching Associate**, 2001 - 2006
  Department of Mathematics, University of Tennessee-Knoxville

  Solely responsible for teaching various undergraduate courses, including Basic Calculus (125), Calculus I (141) and Math for Life Science II (152) for eight semesters; prepared lecture notes, homework, quizzes, projects, exams and student grades.

  Conducted Numerical Analysis (371) Labs.

- **Graduate Assistant**, summer 2005
  Research Experiences for Undergraduates (REU) program at UTK.

- **Instructor**, October 1999 - February 2000
  Adult Education College of Ocean University of Qingdao, China
  Taught Differential Equations by correspondence to undergraduate students.

- **High School Instructor**, May 1998, Normal College of Qingdao University
  Interned in No. 2 High School of Qingdao, China; taught algebra to sophomores.

PUBLICATIONS

6. *Wandi Ding* and Suzanne Lenhart. Optimal Harvesting of a Spatially Explicit Fishery Model. Submitted to Natural Resource Modeling, June, 2007 (funded by NSF Award 0427471).

5. *Wandi Ding*, Louis J. Gross, Keith Langston, Suzanne Lenhart and Leslie A. Real. Rabies in Raccoons: Optimal Control for a Discrete Time Model on a Spatial Grid. Accepted by Journal of Biological Dynamics, June 2007 (funded by NSF Award 0427471).

4. *Wandi Ding*. Optimal Control of Hybrid ODE Systems with Application to a Tick Disease Model. Accepted by Mathematical Biosciences and Engineering, June 2007 (funded by NSF Awards DMS-0110920 and IIS-0427471).

3. Natalie Almond, *Wandi Ding*, Xiaochuan Li, Xingtao Liu, Steven Rusnica, Ismael Velzquez-Ramrez, Emily Lada, Fazafumi Ito, Michael Horton, Mellisa Choi. Mobile Sensing of Aerosolized Chemical and Biological Agents. CRSC (The Center for Research in Scientific Computation) Technical Report, CRSC-TR04-41 (p.15-26), Dec.2004, http://www.ncsu.edu/crsc/events/imsm05/publication.htm.

2. Shusen Xie and *Wandi Ding*. Linear Modified Finite Difference Method Combined with Characteristics for Convection-Diffusion Problems. J. Qingdao University of Science & Technology, China, No.2, 9-13, 2002.

1. Shusen Xie and *Wandi Ding*. Optimal Numerical Primitive Function Formula in the Space W(p;B). Preprint, 2002.

PRESENTATIONS

15. *Invited Participant*, Optimal Harvesting of a Spatially Explicit Fishery Model, 2007 World Conference on Matural Resource Modeling, Poster Session, Cape Cod, MA, June, 2007.

14. *Invited speaker*, Rabies in Raccoons: Optimal Control for a Discrete Time Model on a Spatial Grid, Computational Science Workshop for Natural Resource Managers, Knoxville, TN, April, 2007.

13. *Invited participant*, Optimal Harvesting of a Semilinear Elliptic Fishery Model, Poster Presentation at MBI Workshop for Young Researchers in Mathematical Biology, Columbus, Ohio, March, 2007.

12. *Invited participant*, Optimal Harvesting of a Semilinear Elliptic Fishery Model, AWM Workshop for Women Graduate Students and Recent PhDs, New Orleans, LA, January, 2007.

11. Optimal Harvesting of a Spatially Explicit Fishery Model, Poster Session at Conference in Honor of Thomas I. Seidman - Advances in Control of Partial Differential Equations, Baltimore, MA, October, 2006.

10. Optimal Harvesting of a Spatially Explicit Fishery Model, Mathfest Poster Session, Knoxville, TN, August, 2006.

9. *Invited talk*, Optimal Harvesting of a Semilinear Fishery Model, Minisymposium on Applications of Control in Biology, SIAM Annual Meeting, Boston, MA, July, 2006.

8. Optimal Harvesting of a Semilinear Elliptic Logistic Fishery Model, Computational Science Workshop for Natural Resource Managers, Knoxville, TN, April, 2006.

7. Optimal Harvesting of a Semilinear Elliptic Fishery Model (preliminary report), Joint Mathematics Meetings, Contributed Session on Optimization and Control, San Antonio, TX, January, 2006.

6. Optimal Harvesting of a Semilinear Elliptic Fishery Model (preliminary report), The 25^{th} Annual Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE25), Dayton, OH, October, 2005.

5. *Invited talk*, Optimal Control of Hybrid Systems Involving ODEs with Application for a Tick-borne Disease Model, SIAM Annual Meeting, Minisymposium on Control of Systems with Hybrid Features, New Orleans, LA, July, 2005.

4. *Invited participant*, Optimal Control of Hybrid Systems Involving ODEs, AWM Workshop Poster Session, New Orleans, LA, July, 2005.

3. Optimal Control of Hybrid Systems Involving ODEs, Joint Mathematics Meetings, Contributed Session on Calculus of Variations, Atlanta, GA, January, 2005.

2. Optimal Control of Hybrid Systems Involving ODEs (preliminary report), The 24^{th} Annual Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE24), Chattanooga, TN, October, 2004.

1. *Invited participant*, Optimal Control of Hybrid Systems Involving ODEs (preliminary report), AWM Workshop Poster Session, Portland, OR, July, 2004.

HONORS & AWARDS

President, SIAM Student Chapter, University of Tennessee, Knoxville, 2004 - 2006.

Scholarly Activities Research Incentive Fund (SARIF), Summer 2004, University of Tennessee.

Graduate Student Achievement Award, Department of Mathematics, University of Tennessee, Knoxville, Spring 2003.

Science Alliance Fellowship, University of Tennessee, Knoxville, 2001 - 2006.

The Honorary Title of Excellent Graduate, Normal College of Qingdao University, China, July 1998.

Scholarships for four consecutive years, Normal College of Qingdao University, 1994 - 1998.

TRAINING PROGRAMS

Invited participant, MBI Workshop for Young Researchers in Mathematical Biology, March 2007.

Best Practices in Teaching Program, The Graduate School, University of Tennessee, 2006 - 2007.

Invited participant, IMSM (Industrial Mathematical & Statistical Modeling) workshop, North Carolina State University, July - August 2004.

JICS (Joint Institute for Computational Science) workshop on Parallel Programming with MPI, University of Tennessee, May 2004.

Mathematical Biological Complexity Short Course, University of Tennessee, July 2003.

PROFESSIONAL SOCIETIES

Member
- American Mathematical Society
- Society for Industrial and Applied Mathematics
- Society of Mathematical Biology
- Mathematical Association of America
- Association for Women in Mathematics
- The Honor Society of Phi Kappa Phi
- Resource Modeling Association
- Association for Computing Machinery

JOURNAL REFEREE

Optimal Control Applications and Methods.

COMPUTER SKILLS

UNIX (Linux) : MATLAB, C, MAPLE, LaTeX, HTML.

Windows (95/98/2000/XP) : MATLAB, MAPLE, HTML, Microsoft Office, Smart Board/Sympodium.