Curriculum Vitae

Zhenbu Zhang

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EDUCATION

Ph.D. Mathematics, August 2002
Tulane University, New Orleans, LA, USA

M.S. Statistics, May 2000
Tulane University, New Orleans, LA, USA

M.S. Mathematics, August 1988
Academia Sinica, Beijing, P.R. China

B.S. Mathematics, July 1984
Shandong University, Jinan, P.R. China

EXPERIENCE

(A) Assistant Professor and Graduate Faculty Member, 2004 - present
Department of Mathematics, Jackson State University, USA

(B) Post-doctoral Fellow, 2002 - 2004
Department of Mathematics, University of Connecticut, USA

(C) Teaching and Research Assistant, 1997 - 2002
Department of Mathematics, Tulane University, USA

(D) Teaching Assistant, 1996 - 1997
Department of Mathematics and Statistics, Utah State University, USA

(E) Teaching Assistant, 1995 - 1996
Department of Mathematics, University of Louisiana at Lafayette, USA

(F) Lecturer, 1988 - 1995
Department of Mathematics, Qingdao University, P.R.China

RESEARCH AND TEACHING INTERESTS

Research:

- Nonlinear Elliptic and Parabolic Equations;
- Phase Transitions;
- Long time behavior of Solutions for Nonlinear Reaction-Diffusion Systems;
- Nonlinear Dynamics of Polymer Flows;
- Biomathematics;
- Probability and Statistics;
- Population genetics.

Teaching:

Calculus; Algebra; Differential Equations(ODE & PDE); Applied Mathematics; Analysis; Probability and Statistics; Mathematical Modeling; Dynamical Systems; Financial Mathematics.

PAPERS

1. (with Jiang Lishang) Blow-up of solutions of a class of nonlinear parabolic equations, **J. Partial Differential Equations** Vol. 4, No. 3 (1991), 35-50.
2. The extinction behavior of a class of nonlinear parabolic equations with strong absorption, **J. Qingdao Univ. Nat. Sci. Ed.** Vol. 5, No. 3 & 4 (1992), 28-34.
3. Estimates for the solution and its blow-up time of a class of nonlinear parabolic equations, **J. Qingdao Univ. Nat. Sci. Ed.** Vol. 7, No. 1 (1994), 49-54.
4. (with Dongming Wei) Decay estimates of heat transfer to molten polymer flow in pipes with viscous dissipation, **Electron. J. Differential Equations** Vol. 2001, No. 39 (2001), 1-14.
5. Generation and metastability of patterns for nonlinear evolution equations, **UMC Dissertation Services, ProQuest Information and Learning**, 2002.
6. Generation and metastability of patterns for a class of local and nonlocal evolution equations , **Differential Integral Equations**, Vol. 16, No. 12 (2003), 1473 - 1504.
7. Coexistence and stability of solutions for a class of reaction-diffusion systems, **Electron. J. Differential Equations**, Vol. 2005, No. 137 (2005), pp. 1-16.
8. (with Changfeng Gui) Spike solutions to a nonlocal differential equation, **Communications on Pure and Applied Analysis**, Vol. 5, No. 1 (2006), pp 85-95.

9. Existence of global solution and nontrivial steady states for a system modeling chemotaxis, **Abstract and Applied Analysis**, Vol. 2006(2006), 1-23.
10. Qualitative analysis for a prey-predator model, **International Journal of Mathematical Analysis**, Vol. 1, No. 15 (2007), 727-744.

PRESENTATIONS

- Applied and Computational Mathematics Seminar, *Pattern formation for some nonlinear evolution equations,* Tulane University, Oct. 18, 2001.
- Southeastern Conference on Applied Mathematics, North Carolina State University, *Generation and metastability of patterns for a nonlocal evolution equation*, Nov. 09 - 11, 2001.
- AMS and MAA Joint Mathematics Meeting, *Generation and metastability of patterns for a class of local and nonlocal evolution equations,* San Diego, Jan. 06 - 09, 2002.
- Mathematics Colloquium, University of Connecticut, *Pattern formation and its stability for some nonlinear evolution equations,* Sept. 19, 2002.
- AMS and MAA Joint Mathematics Meeting, *Coexistence and stability of solutions for a class of reaction-diffusion systems*, Atlanta, Jan. 05 - 08, 2005 (Invited special session speaker).
- Sixth Mississippi State - UAB Conference on Differential Equations and Computational Simulations, *Spike solutions and their stability of a nonlocal differential equation*, Starkville, MS, May 13 - 14, 2005.
- 1011th AMS Meeting, *Global behavior of a system modeling chemotaxis*, Lincoln, University of Nebraska, Oct. 21 - 23, 2005 (Invited special session speaker).
- University Scholars Symposium, *Existence of global solution and nontrivial steady states for a system modeling chemotaxis*, Jackson State University, Nov. 03, 2005.

WORKSHOPS

- The 49th Midwest Partial Differential Equations Seminar, University of Kentucky, March 15 -17, 2002.
- Write Winning Grants Workshop, Jackson State University, September 22 -23, 2004.
- All for Ph.D.'s in Mathematica Workshop, Jackson State University, December 19 -20, 2004, December 21, 2005, December 19, 2006.
- Microbial Ecology, Mathematical Biosciences Institute, The Ohio State University, Columbus, May 15 - May 19, 2006.

- Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development Program, Las Vegas, February 9 -10, 2007.

HONORS AND AWARDS

(a) 2007 ETS Visiting Summer Scholar, Educational Testing Service;

(b) 2007 Summer Faculty Scholar, Jackson State University;

(c) Selected for inclusion in the AcademicKeys Who's Who in Sciences Higher Education (WWSHE), 2006.

(d) 2005 Summer Faculty Scholar, Jackson State University;

(e) Post-Doctoral Fellowship, University of Connecticut, 2002 - 2004;

(f) Fellowship and Teaching Assistantship, Tulane University, 1997- 2002;

(g) Teaching Assistantship, Utah State University, 1996 - 1997;

(i) The USA National Dean's List, 1996-1997;

(j) Teaching Assistantship, University of Louisiana at Lafayette, 1995 - 1996;

(j) Excellent Paper First Prize, Qingdao Mathematical Society, 1993;

(k) Excellent Paper Second Prize, Qingdao Science and Technology Association, 1993;

(l) Excellent Teaching Achievement Award, Qingdao University, 1993.

GRANTS

1) **Jackson State University, The Summer Scholar Program grant**, Summer 2005, Amount: $8,000.

2) (with Dr. Hyun Jung Cho (Biology Department), Dr. Raphael D. Isokpehi (Biology Department), Dr. Tor A. Kwembe (Mathematics Department), Dr. Dmitri Sobolev(Biology Department))

NSF: Interdisciplinary Training of Undergraduates in Biological and Mathematical Sciences with Emphasis on Fisheries Stock Assessment, 2005-2008, Amount: $300,000.00. Grant # DMS-0531927.

3) **Jackson State University, The Summer Scholar Program grant**, Summer 2007, Amount: $9,000.