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

ACADEMIC POSITIONS

(A) Professor(tenured) and Graduate Faculty Member, 2016-

Associate Professor(tenured) and Graduate Faculty Member, 2009 - 2016

Assistant Professor and Graduate Faculty Member, 2004 - 2009
Department of Mathematics and Statistical Sciences, Jackson State University, USA

Courses taught:

- Calculus I, II, and III
- Calculus for Business
- College Algebra
- College Algebra online
- Mathematical Modeling
- Ordinary Differential Equations
- Trigonometry
- Probability and Statistics
- Advanced Calculus
- Partial Differential Equations I (Graduate Course)
- Partial Differential Equations II (Graduate Course)
- Dynamical Systems (Graduate Course)
- Complex Analysis I(Graduate Course)

- Complex Analysis II(Graduate Course)
- Basic Real Analysis(Graduate Course)
- Linear Algebra(Graduate Course)
- Introduction to Functional Analysis (Graduate Course)

(B) Post-doctoral Fellow, 2002 - 2004

Department of Mathematics, University of Connecticut, USA

Courses taught:

- Calculus
- Calculus for Business
- Intermediate Algebra
- Problem Solving
- Differential Equations
- Elementary Mathematical Modeling

(C) Teaching and Research Assistant, 1997 - 2002

Department of Mathematics, Tulane University, USA

Courses taught:

- Calculus
- Applied Mathematics
- Real Analysis
- Probability and Statistics

(D) Teaching Assistant, 1996 - 1997

Department of Mathematics and Statistics, Utah State University, USA

Courses taught:

- Advanced Calculus
- Complex Analysis
- Ordinary Differential Equations

(E) Teaching Assistant, 1995 - 1996

Department of Mathematics, University of Louisiana at Lafayette, USA

Courses taught: College Algebra.

(F) Lecturer, 1988 - 1995

Department of Mathematics, Qingdao University, P.R.China

Courses taught:

- Mathematical Analysis
- Topology
- Linear Algebra
- Discrete Mathematics
- Partial Differential Equations

VISITING POSITIONS

(A) Summer Visiting Scholar, Educational Testing Service, June 2007

(B) Visiting Scholar, Capital Normal University, April 2012.

RESEARCH & TEACHING INTERESTS

Research:

- Nonlinear Elliptic and Parabolic Equations;

- Phase Transitions;
- Chemotaxis
- Long Time Behavior of Solutions for Nonlinear Reaction-Diffusion Systems;
- Nonlinear Dynamics of Polymer Flows;
- Biomathematics;
- Probability and Statistics;
- Population Genetics;
- Mathematical Models for Malaria Transmission;
- Parabolic Models with Wentzell Boundary Conditions;
- Model Updating Using Bayesian Statistical Framework;
- Financial Mathematics;
- Dynamical Analysis for Climate Models;
- Game Theory;
- Mathematics Education.

Teaching:

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

PUBLICATIONS

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. 13-16 (2007), 727-744.
11. Qualitative analysis for a prey-mesopredator-superpredator model, **Applied Mathematical Sciences,** Vol. 2, No. 42(2008), 2063-2080.
12. (with Tor A. Kwembe) A semilinear equation with generalized Wentzell boundary condition, **Nonlinear Analysis**, Vol. 73, No. 10(2010), 3162-3170.
13. (with Wei Zheng, Bin Peng) Reliable assessment of performance of scoured bridges, **Proceeding of Transportation Research Board (TRB) 90th Annual Meeting**, paper number 11-3020 (2011).
14. (with Tor A. Kwembe) Existence and blow-up property for a semilinear parabolic system with generalized Wentzell boundary condition, **Nonlinear Analysis**, Vol. 75, No. 6 (2012), 3078-3091.
15. (with Renesha L. Hendrix, Fatimata Diop) Analysis of Cournot duopoly model and other related models, **The Researcher**, Vol. 26, No. 2, 107-126, 2013.
16. (with David Akombo) MusicMath Project: Developing critical thinking skills in music using mathematics, **National Social Science Proceedings**. Vol. 56, National Technology and Social Science Conference, (2014), p 1-22.
17. (with T. A. Kwembe) Qualitative analysis of a mathematical model of malaria transmission and its variation, 10th MSU Conf. on Diff. Eqns. and Comp. Sim., **Elec. J. Diff. Eqns.**, Conference 23(2016), p 195-210.
18. (with T. A. Kwembe, R. S. Reddy, J. Roberts, T. Andine, B. Keys) An improved method for estimating ice line for zonal energy balance climate models, 10th MSU Conf. on Diff. Eqns. and Comp. Sim. , **Elec. J. Diff. Eqns.**, Conference 23 (2016), p 211-219.
19. Qualitative Analysis and computational simulations of the long time behavior of the distribution of genes in a large population, (preprint).
20. (with Tor A. Kwembe, Xing Yang) The effects of classical trapping on the control of malaria transmission (submitted).

PRESENTATIONS

1. Applied and Computational Mathematics Seminar, *Pattern formation for some nonlinear evolution equations,* Tulane University, Oct. 18, 2001.
2. Southeastern Conference on Applied Mathematics, North Carolina State University, *Generation and metastability of patterns for a nonlocal evolution equation*, Nov. 09 - 11, 2001.
3. 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.
4. Mathematics Colloquium, University of Connecticut, *Pattern formation and its stability for some nonlinear evolution equations,* Sept. 19, 2002.
5. PDE Seminar - *Gierier-Meinhardt System in Biological Pattern*, University of Connecticut, March 03, 2003.
6. PDE Seminar - *Gierier-Meinhardt System in Biological Pattern II*, University of Connecticut, March 11, 2003.
7. Mathematics Colloquium, Eastern Connecticut State University, *Pattern analysis for a singularly perturbed reaction-diffusion equation,* May 12, 2004.
8. Mathematics Colloquium, Jackson State University, *Patterns and their stability for some biological systems,* July 12, 2004.
9. 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).
10. 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.
11. 1011th AMS Meeting, *Global behavior of a system modeling chemotaxis*, Lincoln, University of Nebraska, Oct. 21 - 23, 2005 (Invited special session speaker).
12. University Scholars Symposium, *Existence of global solution and nontrivial steady states for a system modeling chemotaxis*, Jackson State University, Nov. 03, 2005.
13. Jackson State University UBM Seminar *Mixed-stock fishery analysis,* May 02, 2006.
14. Seventh Mississippi State - UAB Conference on Differential Equations and Computational Simulations, *Long-time behavior of solutions to a model involving three species*, University of Alabama, Birmingham, AL, Nov. 1-3, 2007.

15. University Scholars Symposium, *Pattern Formation in Biology*, Jackson State University, Nov. 01, 2007.
16. 7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, *A chemotaxis model with general Wentzell boundary condition*, Invited speaker for special session *Nonlinear Evolution Equations and Related Topics*, University of Texas at Arlington, May 18-21, 2008.
17. MAA 88th Annual Meeting-Southeastern Section, *Qualitative analysis and computer simulations for a large population model,* Belmont University, March 13-14, 2009.
18. AMS and MAA Joint Mathematics Meeting, *Blow-up properties for a semilinear reaction diffusion system*, Invited Special Session speaker, New Orleans, 01/06-01/09/2011.
19. Invited department colloquium talk, University of Alabama at Huntsville, Feb. 17, 2012.
20. Invited department colloquium talk, Capital Normal University, Beijing, China, April 12, 2012.
21. Invited department colloquium talk, Qingdao Technological University, China, May 3, 2012.
22. Invited department colloquium talk, Shandong Polytechnic University, Jinan, China, May 8, 2012.
23. Mathematics Open House, Mathematics research opporunities and projects, Jackson State University, 2/26/2013.
24. Instructor for NSF funded workshop on Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs 2012-2015, Jackson State University, May 16-17, 2013.
25. (with. Drs. Jacqueline Jackson, David Akombo, etc.) National Social Science Association Las Vegas National Technology and Social Science Conference, *Transforming student learning using computational thinking: An interdisciplinary approach*, April 13-15, 2014.
26. Instructor for NSF funded workshop on Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs 2012-2015, Jackson State University, May 15-16, 2014.
27. (with Dr. David Akombo) National Social Science Association Summer Seminar, **MusicMath Project: Developing critical thinking skills in Music using Mathematics**, San Diego, August 3-6, 2014.
28. 10-th Mississippi State Conference on Differential Equations and Computational Simulations, **Qualitative analysis of a mathematical model of malaria transmission and its variation**, Starkville, Oct. 22-25, 2014.

29. (Co-authors: Tor A. Kwembe, Remata Reddy, Brittany Keys, Tsion Andine, Jereyl Roberts) 10-th Mississippi State Conference on Differential Equations and Computational Simulations, **Simulations of a zonal energy balance climate model with different orders of approximation**, Starkville, Oct. 22-25, 2014.

30. (with Drs. Kwembe, Yang, Reddy, Wright) Poster Presentation. AMS and MAA Joint Mathematics Meeting, **EXTREEMS-QED: Laboratory for interdisciplinary statistical analysis and mathematical learning through exploration of data**, San Antonio, 01/10-01/13/2015.

31. Bridge to the Doctorate Program weekly Tuesday meetings, **Introduction of Some Mathematics Research Projects**, Jackson State University, 3/31/2015.

32. 80th MS Academy of Sciences annual meeting, *The difference between computer simulations and theoretical results*, Hattiesburg, 2/18-2/19, 2016.

WORKSHOPS & CONFERENCES

1. The 49th Midwest Partial Differential Equations Seminar, University of Kentucky, March 15 -17, 2002.
2. Write Winning Grants Workshop, Jackson State University, September 22 -23, 2004.
3. All for Ph.D.'s in Mathematica Workshop, Jackson State University, December 19 -20, 2004, December 21, 2005, December 19, 2006, December 18, 2007, December 16, 2008, December 15, 2009, and December 14, 2010.
4. Microbial Ecology, Mathematical Biosciences Institute, The Ohio State University, Columbus, May 15 - May 19, 2006.
5. Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development Program, Las Vegas, February 9 -10, 2007.
6. Special PDE Colloquium given by Dr. Louis Nirenberg and Dr Peter D. Lax, University of Memphis, March 22, 2007.
7. ETS Summer Scholar workshop, ETS, Princeton, NJ, June 2007.
8. Workshop on Introducing HBCU Science Faculty to Material Science, University of Alabama, Tascaloosa, AL, June 01-June 20, 2008.
9. NSF/CMBS Regional Conference, Tulane University, New Orleans, May 17-21, 2010.
10. Course Redesign with Blackboard 9 summer project, Jackson State University, July 2012.

11. Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs Summer Calculus Workshop, Jackson State University, May 16-17, 2013.
12. Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs Mid-Year Workshop, Jackson State University, 01/31/2014.
13. Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs Summer Calculus Workshop, Jackson State University, May 15-16, 2014.
14. XSEDE Workshop on Boost your research with access to more computer resource, Jackson State University, 4/14/2015.
15. Institutional Change through Faculty Advancement in Instruction and Mentoring workshop, Jackson State University, 5/14-5/15/2015.
16. XSEDE15 Conference, St, Louis, MO, 7/26-7/30/2015.
17. XSEDE workshop@ Southern University at New Orleans, 10/23/2015-10/24/2015.

PROFESSIONAL ACTIVITIES & SERVICES

1. Referee for **Research on Chemical Intermediates**;
2. Referee for **Communications in Mathematical Science**;
3. Referee for **Differential and Integral Equations**;
4. Referee for **Journal of Basic and Applied Sciences**;
5. Referee for **AIMS Journals and Conference Proceedings**;
6. Referee for **Abstract and Applied Analysis**;
7. Editor of **Antarctica Journal of Mathematics**;
8. Book Reivew: Reviewed two chapters (Chapter 8 and 14) for **Open Stax Calcculus** (http://oepnstaxcollege.org) in 2014;
9. Chair of Conference Session: Chaired Session A6 for 10-th Mississippi State Conference on Differential Equations and Computer Simulations in October 2014;
10. **ETS** *GRE* and *SAT* item writer (2008-2013);
11. Coordinator of the Departmental Colloquium (2004-2008);
12. Chair of Department Research Committee (2004-2009);
13. Member of Department Curriculum Committee, Graduate Committee, Placement Test Committee, Calculus Committee, Search Committee, Strategic Planning Committee, Library Committee, Sabbatical Committee, Third Year Review Committee, Promotion and Tenure Committee, Schedule Committee, Assesssment Committee.
14. Faculty Sanate Representative(2011-2012, 2013-2015);

15. Member of College Undergraduate Curriculum Committee(2009-2010).
16. Member of the Thesis Committee for Master graduate student Ashley M. Sanders, Spring 2011;
17. Participated the ***International Conference on Variational Methods and Nonlinear Partial Differential Equations***, Beijing, April 16-19, 2012.
18. Completed **Course Design and Development with Blackboard 9**, Summer 2012;
19. Completed the requirement of **DL 501 - Introduction to Blackboard**; October 2013;
20. Completed the requirement of **DL 502 - Designing and Creating Courses in Blackboard**; November 2013;
21. Completed the requirement of **DL 503: Best Practices for Teaching Online**, January 2014;
22. Judge of The Mississippi Science and Engineering Fair - State Fair, 2005, 2013;
23. Judge of The Mississippi Science and Engineering Fair - Region II, 2005-2016;
24. Safety Regulations Committee(SRC) member for Mississippi Science and Engineering Fair - Region II, 2006.
25. Member of College Sabbatical Committee(2014-2016).
26. Member of University Distance Learning Planning and Implementation Team (2013-2016).
27. Memebr of University 2014-2015 Faculty Excellence Award Committee.
28. Prepared and helped the **Assessment of the Graduate Program of the Department of Mathematics at Jackson State University**, 2014;
29. Member of the Thesis Committee for Master graduate student, Joshua T. Kelly, Spring 2015;
30. Member of the Thesis Committee for Master graduate student, Brianna Bingham, Spring 2016;
31. Chair of the Thesis Committee for Master graduate student, Shanah Sharpe, Spring 2016;
32. Mentor for Training of Undergraduates in Biological and Mathematical Sciences(UBM). 2005-2009 .

    Scholars: Sara E. Conard, Lakenya Dennis, Kyla K. Smith(2005-2007); Tameka Y. Adams(2007-2008); Coretta C. Laird (2007-2009), Oliver Knight(2008-2009).

    Coretta C. Laird gave a presentation in the Third Year Program Review Conference at Ohio State University in June 2008.

    Projects:

(a) *Analytic and numerical analysis for a population genetics model;*

(b) *Long-time behavior analysis for a matrix population model;*

(c) *Qualitative analysis and computer simulations for a prey-predator model;*

(d) *Mathematical analysis for a SIR epidemic model.*

33. Mentor for The Alliance for the Production of African American Ph.D.s in the Mathematical Sciences, 2006-2015.

    Scholar: Delisa Halmiton (2006-2007)

    Project: *The study of Human Immunodeficiency Virus(HIV) and Acquired Immunodeficiency Syndrome (AIDS)*

    She gave a presentation on the Annual Alliance meeting held in April 2007 in Florida A & M University.

34. Mentor of HBCU-SAFRA Title III - Institutional Aid Program, 2011-2012.

    Scholars: Renesha L. Hendrix, Amber Smith, Andrew Johnson, Fatimata Diop, Rumeal D. Bell, Sean Scott, Willie Bell.

    Project: *Game Theory and Its Applications.*

    Renesha L. Hendrix and Fatimata Diop have given a presentation on the Annual Undergraduate Research Conference, April 3, 2012 and they co-authored a paper published in **The Researcher**, Vol. 26, No. 2, 107-126, 2013.

35. Mentor for NSF sponsored project: Progress in Integrating Technology in the Teaching and Learning of Mathematics at HBCUs 2012-2015.

    Scholars: Frank McGriggs, Anthony Spivey

    Project:*Use Mathematica to find the Absolute Maximum and Minimum of a Function on an Interval.*

    Anthony Spivey gave a presentation on 01/31/2014 for the Mid-year workshop held in JSU.

36. Mentor for NSF sponsored project: EXTREEMS-QED: Laboratory for Interdisciplinary Statistical Analysis and Mathematics Learning Through Quantitative Exploration of Data (LISA-QED), 2013-2016.

    Scholars: Tsion Andine, Akilah Fuller, Brittany Keys, Macalah Lang, Brittiney Lowe, Afred Martin, Jerryl Roberts, Spencer Williams, Laura Matthews.

    Project: *Global Climate Models.*

    They have given following presentations:

    (a) Jerryl Roberts, Studies of Atlantuic tropicalL storm/hurricane development and responses to conditions in equatorial Pacific Ocean, Mississippi Academy of Sciences 78th Annul Meeting, 6-7, 2014, Hattiesburg, MS.

(b) Tsion Andine, Brittany Keys, Jerryl Roberts, Simulations of a zonal energy balance climate model with different orders of approximation, EXTREEM-QED Seminar, September 29, 2014.

(c) Tsion Andine, Brittany Keys, Simulations of a zonal energy balance climate model with different orders of approximation, 10th Mississippi State Conference on Differential Equations and Computational Simulations, October 23-25, 2014, Starkville, MS.

(d) Brittany Keys, EXTREEM-QED Seminar, Dependence of Temperature Profile on the Location of Iceline , November 17, 2014.

(e) Tsion Andine, Brittany Keys, Afred Martin: Analytical and numerical analysis of an energy balance climate model, Annual Undergraduate Research Conference, April 9, 2015.

(f) Tsion Andine, Brittany Keys, Afred Martin: Analytical analysis and computer simulations of an energy balance climate model, Lockheed Martin Executive Sponsor Visit, April 14, 2015.

(g) Brittiney Lowe, Akilah Fuller, Spencer Williams, Analytical analysis and computer simulations of an energy balance climate model, 35th Annual Mathematics and Engineering Fair. April 17, 2015.

(h) Brittany Keys, Dannie Kimble, Brittney Lowe, Akilah Fuller, Effect of CO_2 on temperature change, JSU Center for Undergrduate Research Annual Conference, April 14, 2016.

Two scholars did ther summer internship in the summer 2015. One sdudent did her internship in the summer 2016 and one student was offered SXEDE 2016 summer scholar.

37. Mentor for XSEDE15.

38. Graduate mentor for the LSMAMP Bridge to the Doctorate Program, 2008-present.

    Master Graduate Student: Shanah Sharpe

    Project: *Analytic analysis and computer simulations on the dynamics of climate models.*

    She did her summer internship in NASA in the Summer 2015. She has been offered full scholarship by Georgia State University for her Ph.D studies.

39. Lecture Notes: Introduction to Mathematical Modeling (For Course Math 430-Mathematical Modeling).

40. Lecture Notes: Practical Manual to Mathematica (For Course Math 241-244: Calculus with Analytic Geometry I, II,III, IV - Lab).

41. New Courses Designed:

    - Math 307-Probability and Statistics for Engineering (with Dr. D. Chen and Dr. B. Diatta), 2005.
    - Math 272-Data Analysis, 2013;
    - Math 300-Regression, 2013;

- Math 828-Partial Differential Equations I (for Ph.D. Program, Spring 2014);
- Math 829-Partial Differential Equations II (for Ph.D. Program, Spring 2014).

42. Catalogues Developed:
    - Math 326 - Introduction to Financial Engineering;
    - Math 355 - Probability and Statistics I;
    - Math 400 - Statistical Analysis;
    - Math 402 - Stochastic Process;
    - Math 404 - Computational Statistics;
    - Math 406 - Bayesian Analysis;
    - Math 408 - Time Series Analysis;
    - Math 410 - Survey Sampling;
    - Math 412 - Multivariate Data Analysis.
43. Catalogues Revised:
    - Math 368-Ordinary Differential equations;
    - Math 369- Introduction to Dynamical Systems;
    - Math 415- Partial Differential Equations;
    - Math 577/578-Ordinary Differential Equations I and II (Graduate Courses);
    - Math 579/580- Partial Differential Equations I and II (Graduate Courses).
44. Participant of NSF sponsored Department of Computer Science Computational Thinking Project, 2013-2014.
45. Visited The Super Computing Facilities in the University of California at San Diego, 10/17/2014.
46. Visited The Super Computing Facilities in the University of Illinois at Urbana-Champaign, 08/28/2015.
47. Wrote recommendation letters for their summer intern, graduate school, medical school, and scholarship applications for the following students:

    Israel Abiye, Tsion F. Andine, Michael T. Brooks, Victoria Caher, Herious Cotton, Beruh Dejene, Endeshaw K. Endeshaw, Amanuel Faris, Temesgen Fisena, Navasia Flemming, Liza A. Gebre, Yonatan S. Girma, Kenisha Hayes, Yohannes Kassaye, Brittaby Keys, Brionna Knighten, Jala Morrow, Nikeya Peay, Misrak Seifu, Justin C. Thompson, Nekeisha Walker, Eyerusalem K. Woldu, Jaelah L. Wright-Keely.
48. Serving as the textbook coordinator of the department: to order textbook for bookstore each semester and request desk copies for faculty members.

HONORS AND AWARDS

(a) One JSU Excellent Award, August 2012.

(b) JSU Teaching Tuesday Outstanding Faculty Award, 2011-2012.

(c) CSET Outstanding Achievement Award-Teaching, December 15, 2008;

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

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

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

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

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

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

(j) Outstanding Scholastic Achievement and Recognized on the Utah State University Honor Roll, 1996 & 1997;

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

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

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

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

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

GRANTS

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

   Completed the project: published one paper and gave two presentations.

2. Co-PI: (with Dr. Hyun Jung Cho, Dr. Raphael D. Isokpehi, Dr. Tor A. Kwembe, Dr. Dmitri Sobolev)

   NSF: Interdisciplinary Training of Undergraduates in Biological and Mathematical Sciences with Emphasis on Fisheries Stock Assessment, 2005-2008. Amount: $300,000.00. Grant No. DMS-0531927.

   Mentored scholars regularly, students gave one presentation, I gave one presentation on national conference. I gave two presentations on campus and wrote a note titled "Mathematical Modeling" for course Math 430.

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

   Completed the project: published one paper and gave two presentations

4. PI: HBCU-SAFRA Title III Grant Project, 2011-2012. Amount: $7500.

   Completed the project: published one paper wth students and two students gave a presentation on the annual undergraduate research conference.

5. Participant: (PIs: Dr. Wei Zheng etc.)

   NSF: Novel Development of Lab and Course Modules: Integrate Intelligent Structure Technology and Self-Regulated Learning to Inspire Motivated and Strategic Learners in STEM , 03/01/2009—02/28/2015. Amount: $149,999.00. Grant No. DUE-0837395.

   Attended meetings regularly, designed quizzes, survey, pretest, post-test, and projects according to the requirements of the program.

6. Co-PI: (with Dr. Wei Zheng, Dr. Jianjun Yin, Dr. Sungbum Hong, Dr. Kenneth T. Milliken)

   NSF: Broadening Participation Research Project:Effects of Scaffolding Cyber-Enabled Collaborative Learning in Authentic STEM Education Settings, 09/01/2013—08/31/2016. Amount: $349,999.00. Grant No. HRD-1332591.

   Carried out all the activities required by the project including survey, pretest, post-test, concept inventory, team work, discussion on blackboard and through email, and collect data etc.

7. Co-PI: (with Dr. Tor A. Kwembe, Dr. Xing Yang, Dr. Remata S. Reddy, Dr. Raphael D. Isokpehi)

   NSF: EXTREEMS-QED: Laboratory for Interdisciplinary Statistical Analysis and Mathematics Learning Through Quantitative Exploration of Data (LISA-QED), 09/15/2013—08/31/2016. Amount: $600,000.00. Grant No. DMS-1330801.

   Carried out all the activities required by the project including mentoring students, visiting national labs, attending national conference and workshop, giving presentations, writing research papers, building a lab in the department etc. Scholars have given 7 presentations on and off campus. One paper has been accepted to publish in a national conference proceeding.

8. Participant: (PIs: Dr. Loretta Moore, etc.)

   NSF: Computational Thinking as an Approach to Refining the Critical Thinking and Analytical Reasoning Skills of Undergraduates at an HBCU, 10/10/2012—09/30/2015. Amount: $299,998.00. Grant No. HRD-1240251.

   Designed a course with other participants, attended two national conferences, gave two presentations, and published a paper in the conference proceeding.

9. Participant (Mentor and Workshop Instructor): (PIs: Dr. Tor A. Kwembe etc.)

   NSF: Progress in Integrating Technology in the Teaching and Learning of Mathematics at Historical Black Colleges and Universities (HBCU), 07/01/2012—06/30/2015. Amount: $200,000.00. Grant No. DMS-1214359.

   Mentored one student who gave a presentation during the mid-year wrokshop, served as an instructor for the annual summer workshop in 2013 and 2014, completed a manual titled " Teach Mathematics with Mathemtica".

10. Participant: (PIs: Dr. Wei Zheng etc.)

    NSF: Targeted Infusion Project: Prompting Effective Active Learning through Implementing Self-Regulated Learning Assessment in Diverse STEM Learning Settings, 08/01/2014-07/31/2017. Amount: $399,996.00. Grant No. HRD-1436342.

    Attended meetings regularly, designed quizzes, survey, pretest, post-test, projects, and collect data according to the requirements of the program.

11. Participant: (PIs: Dr. Paul Tchouwou, etc.)

    Department of Education: "First in the World" (FITW) Integrated STEM experiences for all students through multidisciplinary research, innovation, education, and engagement, 2015-2019, Amount: $2,988,707.00.

COMPUTER SKILLS

Languages: FORTRAN, C.

Mathematical and Statistical Software: Matlab, SAS, Mathematica.

Operating Systems: Unix, Windows, Macintosh.

Typesetting Software: LaTex, Microsoftword.