

Junping Shi¹

CONTACT INFORMATION

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RESEARCH INTERESTS

- Nonlinear Partial Differential Equations (Elliptic and Parabolic Type).
- Applied Nonlinear Analysis; Bifurcation Theory; Infinite Dimensional Dynamical Systems.
- Mathematical Biology; Natural Resource Modeling; Spatiotemporal Pattern Formation.

EDUCATION

- Ph.D. in Mathematics, Brigham Young University, Provo, Utah, USA, 1993-1998
- Undergraduate in Mathematics, Nankai University, Tianjin, China, 1990-1993

ACADEMIC POSITIONS

1. August 2012 – : Tenured Professor, College of William & Mary
2. July 2018 – : Chair of Department of Mathematics, College of William & Mary
3. August 2013 – August 2014: Acting BioMath Director, College of William & Mary
4. September 2006 – August 2012: Tenured Associate Professor, College of William & Mary
5. August 2000 – August 2006: Assistant Professor, College of William & Mary
6. July 1998 – July 2000: Visiting Assistant Professor, Tulane University
7. September 2001 – : Guest Professor, Harbin Normal University, China (March 2006–March 2009, Longjiang Scholar Chair Professor)
8. January 2011 – : Guest Professor, Shanxi University, China
9. Feb–May, 2013: Visiting Professor, National Center of Theoretical Science, Hsinchu, Taiwan
10. Sept–Dec, 2007: Visiting Associate Professor, National Tsing Hua University, Hsinchu, Taiwan
11. Feb–Apr, 2005: Visiting Scholar, National Tsing Hua University, Hsinchu, Taiwan; University of Sydney, Sydney, NSW, Australia; University of New England, Armidale, NSW, Australia; and Tokyo Metropolitan University, Tokyo, Japan
12. May–June 2001: Visiting Scholar, Beijing (Peking) University, China

HONORS AND AWARDS

1. Margaret Hamilton Professor of Mathematics, 2016–2019.
2. Nominee for the State Council of Higher Education in Virginia (SCHEV) Outstanding Faculty Awards (OFA), 2015.
3. Plumeri Awards for Faculty Excellence, College of William & Mary, 2013-2015.
4. 100 Talent Program, Shanxi Province, China, 2010–2013.
5. Arts and Sciences Distinguished Associate Professor of Mathematics, College of William & Mary, 2010–2013.
6. Second class scientific research award, Heilongjiang province, China, 2008. (with Yuwen Wang, Ping Liu, Renhao Cui, Yuhua Zhao.)
7. Faculty Award for the Advancement of Scholarship by the Alpha Chapter of Phi Beta Kappa, College of William & Mary, 2008.
8. Second class research award from Department of Education of Heilongjiang province, China, 2003. (with Yuwen Wang, Wen Song, Mingyao Xu and Shaorong Pan.)
9. Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities, 2002.

¹Date: March 11, 2021

EDITORIAL
POSITIONS

1. (2019-) Associate Editor, Mathematics in Applied Science and Engineering
2. (2018-) Associate Editor, Complex Variables and Elliptic Equations
3. (2016-) Associate Editor, Communications on Pure and Applied Analysis
4. (2016-2018) Associate Editor, Japan Journal of Industrial and Applied Mathematics
5. (2009-) Associate Editor, Journal of Mathematical Analysis and Applications
6. (2008-) Associate Editor, Applicable Analysis

COURSES TAUGHT College of William & Mary (all are undergraduate courses, 3-4 credits)

1. Fall 2020 and Spring 2021: sabbatical leave, no teaching
2. Spring 2020: Math 442 (Partial Differential Equations), Math 496 (Yuxin Shang, Kaidi Wang)
3. Fall 2019: Math 302 (Differential Equations), Math 495 (Yuxin Shang, Kaidi Wang)
4. Spring 2019: Math 442 (Partial Differential Equations)
5. Fall 2018: Math 345 (Intro to Mathematical Biology), Math 496 (Chengli Huang)
6. Spring 2018: Math 212 (Multivariate Calculus), Math 442(Partial Differential Equations)
Math 495 (Chengli Huang), Math 496 (Christopher Hambric)
7. Fall 2017: Math 212 (Multivariate Calculus), Math 214 (Foundation of Mathematics),
Math 495 (Christopher Hambric), Math 496 (Xin Zou), Intr 496 (Xiang Liu)
8. Spring 2017: Math 212 (Multivariate Calculus), Math 442(Partial Differential Equations)
Math 495 (Xin Zou), Intr 495 (Xiang Liu)
9. Fall 2016: Math 214 (Foundation of Mathematics), Math 302 (Differential Equations)
10. Spring 2016: Math 214(Foundation of Mathematics), Math 442(Partial Differential Equations)
11. Fall 2015: Math 212 (Multivariate Calculus), Math 302 (Differential Equations)
12. Spring 2015: Math 214(Foundation of Mathematics), Math 442(Partial Differential Equations)
Math 410 (Data Science: theory and applications, 1 credit, co-teach with Gexin Yu)
13. Fall 2014: Math 214(Foundation of Mathematics), Math 345(Intro to Mathematical Biology)
14. Spring 2014: Math 214(Foundation of Mathematics), Math 442(Partial Differential Equations)
Math 410 (Big Data Analysis, 1 credit, co-teach with Tanujit Dey)
15. Fall 2013: Math 214(Foundation of Mathematics),
Math 441(Ordinary Differential Equations II)
16. Fall 2012 and Spring 2013: sabbatical leave, no teaching
17. Spring 2012: Math 112(Calculus II), Math 442(Partial Differential Equations),
Math 496 (Matt Becker, Tim Becker, Patrick King, Tim McDade),
Math 410(Topics in Computational Mathematics, 1 credit, co-teach with Jesse Berwald)
18. Fall 2011: Math 214(Foundation of Mathematics),
Math 441(Ordinary Differential Equations II),
Math 495 (Matt Becker, Tim Becker, Patrick King, Tim McDade)
19. Spring 2011: Math 214(Foundation of Mathematics), Math 442(Applied Mathematics, II),
Math 410(Topics in Computational Mathematics, 1 credit, co-teach with Drew LaMar)
20. Fall 2010: Math 214(Foundation of Mathematics), Math 441(Applied Mathematics, I)
21. Spring 2010: Math 302(Differential Equations), Math 442(Applied Mathematics, II),
Math 410(Topics in Computational Mathematics, 1 credit),
Math 496 (Michael Essman, William Jordan-Cooley, Yuanyuan Liu)
22. Fall 2009: Math 302(Differential Equations), Math 441(Applied Mathematics, I),
Math 410(Problem Solving Seminar, 1 credit, co-teach with Dey, Hasler, Yu)
Math 495 (Michael Essman, William Jordan-Cooley, Yuanyuan Liu)
23. Spring 2009: Math 311 (Elementary Analysis), Math 490(Math. Biology and PDE)
Math 496 (Daniel Hariprasad)

24. Fall 2008: Math 111 (Calculus I), Math 311 (Elementary Analysis)
Math 410(Problem Solving Seminar, 1 credit, co-teach with Dey, Hasler, Vinroot, Yu)
Math 495 (Daniel Hariprasad)
25. Spring 2008: Math 213(Multi-variable Calculus), Math 302(Differential Equations)
26. Spring and Fall 2007: sabbatical leave, no teaching
27. Fall 2006: Math 131 (Calculus for Life sciences I), Math 345 (Math. Models in biology)
Math 410(Problem Solving Seminar, 1 credit)
28. Spring 2006: Math 302(Differential Equations), Math 490(Math. Biology and PDE)
29. Fall 2005: Math 302(Differential Equations), Math 490(Problem solving seminar)
30. Spring 2005: pre-tenure junior research leave, no teaching
31. Fall 2004: Math 112(Calculus II, 2 sections), Math 302(Differential Equations)
32. Spring 2004: Math 213(Multi-variable Calculus), Math 490(Math. Biology and PDE)
33. Fall 2003: Math 112(Calculus II), Math 302(Differential Equations)
34. Spring 2003: Math 112(Calculus II, 2 sections)
35. Fall 2002: Math 111(Calculus I), Math 441(Applied Mathematics, I)
36. Spring 2002: Math 302(Differential Equations), Math 490(Math. Biology and PDE)
37. Fall 2001: Math 302(Differential Equations), Math 410(510)(Math. Models in biology)
38. Spring 2001: Math 111(Calculus I), Math 112(Calculus II)
39. Fall 2000: Math 111(Calculus I, 2 sections)

Tulane University (all are undergraduate courses)

1. Spring 2000: Math 111(Probability and statistics), Math 224(Differential Equations)
2. Fall 1999: Math 221(Multi-variable calculus), Math 224(Differential Equations)
3. Spring 1999: Math 122(Calculus II), Math 224(Differential Equations)
4. Fall 1998: Math 121(Calculus I), Math 224(Differential Equations)

Brigham Young University (all are undergraduate courses)

1. Fall 1997: Math 312(Advanced engineering mathematics)
2. Summer 1997: Math 112(Calculus I)
3. Spring 1997: Math 110(College Algebra)
4. Fall 1996: Math 110(College Algebra)

National Tsing Hua University, Taiwan (graduate course)

1. Spring 2013: Math 637 (Reaction-diffusion models and bifurcation theory)
2. Fall 2007: Math 6101-01 (Bifurcation Theory in Banach Spaces and Application to Semilinear Elliptic Equations and Systems)

UNDERGRADUATE REU students (co)-supervised in College of William & Mary: (49)
 STUDENTS
 SUPERVISED

Name	Year	support source	position after graduation
Young He Lee	2004	NSF (2003-07)	
Lena Shebakov	2004	NSF (2003-07)	Ph.D(applied math), U. Washington
Jackie Taber	2004	NSF (2003-07)	M.S.(COR), William & Mary
Kristina Little	2006	NSF (2003-07)	Ph.D(bioengineering), U. Virginia
Derek LaMontagne	2006	NSF (2003-07)	Ph.D(chemistry), U. Florida
Fumie Hirata	2006		M.S(math), Keio U., Japan
Michael Essman	2008	NSF-CSUMS	Navel Surface Warfare Center
Daniel Hariprasad	2009	NSF-CSUMS,UBM	Ph.D(applied math) U. Arizona
William Jordan-Cooley*	2009	NSF-CSUMS,UBM	M.S.(education) Columbia U.
Yuanyuan Liu	2009	W&M Biomath	Ph.D(economics), Georgetown U.
Ruoyan Sun	2010	W&M Biomath	Ph.D(pub. health) U. Michigan
Matt Becker [#]	2010	NSF-CSUMS,NSF(2010-14)	Ph.D(applied math), U. Maryland
Tim Becker*	2010	NSF-CSUMS,W&M	Ph.D(applied math), Rice U.
Patrick King [∇]	2011	NSF-CSUMS	Ph.D(physics), U. Virginia
Tim McDade*	2011	NSF-CSUMS	Microsoft, Ph.D(political sci), Duke U.
James Janopaul-Naylor	2011	Monroe Freshman	M.D., U. Penn
Cathrine King	2011	Monroe Freshman	Ph.D(comp.), Carnegie Mellon U.
Nicholas Ducharme-Barth*	2012	NSF-CSUMS,NSF(2010-14)	Ph.D(marine sci), U. Florida
Wei Xia	2012	NSF(2010-14)	Ph.D(indu engi), Lehigh U.
Haomiao Li	2014	NSF(2010-14)	M.S.(statistics), Yale U.
Wade Hodson*	2014	NSF(2013-17)	Ph.D(physics), U. Maryland
Jing Yi Zhou*	2014	NSF(2013-17)	SBB Research Group
Mayee Chen (high school)	2014		B.S., Princeton U., Ph.D, Stanford U.
Kristina Kelly [♣]	2015	NSF-EXTREEMS-QED	Abrigo
Ben Dykstra	2015	NSF-EXTREEMS-QED	Capital One
Danella Singer [◊]	2015	NSF-EXTREEMS-QED	SAP PMO Analyst
Margaret Swift [#]	2015	NSF(2013-17)	IBM Consultant, Ph.D(biol), Duke U.
Yi Zhang*	2016	NSF(2013-17,2017-21)	Ph.D(env. engi.), Cal. Tech.
Tianshu Li	2016		Transfer to U. Virginia
Jasper Short [◊]	2016	NSF-EXTREEMS-QED	Portsmouth Pub. School
Xiang Liu	2017	W&M Charles Center	DCL Capital
Xin Zou	2017	W&M Charles Center	M.S.(comp.sci.), Carnegie Mellon U.
Christopher Hambric [♡]	2017	NSF-EXTREEMS-QED	Ph.D.(math), Lehigh U.
Gabrielle Tauscheck [♡]	2017	NSF-EXTREEMS-QED	Ph.D.(math), U. South Carolina
Yiyang Liu [♡]	2017	W&M Charles Center	Ph.D.(applied math), U. Michigan
Mikela Dockery [♣]	2017	NSF-EXTREEMS-QED	IBM
Chengli Huang	2018	W&M Charles Center	MicroStrategy
Tiana Jackson [♣]	2018	NSF-EXTREEMS-QED	
Cheng Chen	2018	Monroe Sophomore	Ph.D.(economics), U. Washington
Kyle Cochran*	2018	NSF-EXTREEMS-QED	National Institutes of Health
Peter Psathas [#]	2018	NSF-EXTREEMS-QED	Federal Reserve Bank of Philadelphia
Rachel Wilson*	2018	NSF-EXTREEMS-QED	U. Georgia Marine Extension & Sea Grant
DeAndre Johnson [♠]	2018	NSF-EXTREEMS-QED	U.S. Naval Research Laboratory
Kexin Feng	2019	Monroe Sophomore	Ph.D.(economics), Cal. Tech.
Xinzhi Zhang	2019	Monroe Sophomore	
Fangming Xu*	2019	NSF(2017-21)	M.S.(statistics), Yale U.
Kaidi Wang	2019	W&M Charles Center	M.S.(finance), MIT
Yuxin Shang	2019	W&M Charles Center	M.S.(busi.anal), Columbia U.
Jiankun Wang [#]	2020	W&M Charles Center	

*: co-advised with Rom Lipcius, Leah Shaw; [#]: co-advised with Leah Shaw;

[∇]: co-advised with Daniel Vasiliu; [◊]: co-advised with Zhifu Xie; [♣]: co-advised with Larry Leemis;

[♡]: co-advised with Chi-Kwong Li; [♣]: co-advised with Jing Zhang and Leah Shaw;

[♠]: co-advised with Sarah Day, Yongjin Lu and Laura Storch

REU students supervised in China: (2)

Name	Year	Institute	Position after graduation
Jiayin Jin	2008	Harbin Institute of Technology	Ph.D(math), Michigan State U.
Yongnan Zhao	2008	Harbin Normal University	

Honors students advised in College of William & Mary: (14)

Name	Year	position after graduation	co-advisers
Daniel Hariprasad	2009	Ph.D(applied math) U. Arizona	
Michael Essman	2010	Researcher in military research center	
William Jordan-Cooley	2010	M.S.(education), Columbia U.	R.Lipcius,L.Shaw
Yuanyuan Liu	2010*	Ph.D(economics), Georgetown U.	
Matt Becker	2012	Ph.D(applied math), U. Maryland	L.Shaw
Tim Becker	2012*	Ph.D(applied math), Rice U.	R.Lipcius,L.Shaw
Patrick King	2012	Ph.D(physics), U. Virginia	D.Vasilu
Tim McDade	2012	Microsoft	
Xiang Liu	2017*	DCL Capital	
Xin Zou	2017*	M.S.(comp.sci.), Carnegie Mellon U.	
Christopher Hambric	2018	Ph.D.(math), Lehigh U.	C.Li
Chengli Huang	2018*	Microstrategy	
Yuxin Shang	2020*	M.S.(busi.anal), Columbia U.	
Kaidi Wang	2020*	M.S.(fina.), MIT	

*: supported by William & Mary Honors Fellowship or Charles Center Fellowship

Serve in committee of Marc McGuigan (BS, Phys, 2003), Heather Wiseman (BS, Biol, 2006), David Gould (BS, Math, 2009), Niha Zubair (BS, Math, 2009), Georgia Pfeiffer (BS, Math, 2011), Ben Holman (BS, Math, 2011), Matt Peppe (BS, Math, 2011), Brian Waldman (BS, Math, 2012), Kyle Zora (BS, Phys, 2012), Ryan Gryder (BS, Math, 2014), Peibo An (BS, Phys, 2016), Eve Chase (BS, Phys, 2016), Evan Dienstman (BS, Math, 2017), John Marken (BS, Math, 2017), Melissa Guidry (BS, Phys, 2017), Brandon Buncher (BS, Phys, 2017), Duo Wang (BS, Math, 2018), Hangwei Zhuang (BS, Math, 2018), Rachel Wilson (BS, CAMS, 2019), Tianrui Zhu (BS, Math, 2019), Cheng Chen (BS, Econ, 2019), Fangming Xu (BS, Math, 2020), Xingyu Zheng (BS, CAMS, 2020), Xiangyi Fang (BS, CAMS, 2021)

GRADUATE
STUDENTS
SUPERVISED

Master degree students supervised in Harbin Normal University: (25, all jointly with Yuwen Wang)

Jinfeng Wang, Yuhua Zhao (MS, 2005); Renhao Cui, Guanqi Liu, Jia Duo (MS 2006); Rui Diao, Hui Ding, Jili Fu, Linan Sun, Yanan Wang (MS 2008); Xinying Hao, Ting Li, Yuhang Liu, Da Yu, Fujun Zhang, Xin Zhang (MS 2009); Rui Wang, Min Cheng, Li Li, Xiuhong Feng, Ping Li, Hongbo Duan (MS 2010); Bao Ma, Xiaoling Wang, Dong Pan (MS 2011).

Ph.D students supervised in China and USA (10 completed)

Name	Year	Institute	Co-adviser	Current Position
Ping Liu	2008	NNU	Yuwen Wang	Professor, Harbin Normal U.
Fengqi Yi	2008	HIT	Junjie Wei	Professor, Harbin Engineering U.
Jinfeng Wang	2011	HIT	Junjie Wei	Professor, Harbin Normal U.
Yuhua Zhao	2012	NNU	Yuwen Wang	Asso. Prof., Harbin Normal U.
Shanshan Chen	2013	HIT	Junjie Wei	Asso. Prof., Harbin Inst. Tech. Weihai
Renhao Cui	2014	HIT	Boying Wu	Professor, Harbin Normal U.
Sainan Wu	2017	HIT	Boying Wu	Lecturer, Nanjing Univ. Posts & Tele.
Wenjie Ni	2018	HIT	Mingxin Wang	Postdoc, Univ. New England
Yan Wang	2019	W&M		Postdoc, Beijing Normal University
Qingyan Shi	2019	TJU	Yongli Song	Lecturer, Jiangnan University
Penglong Shao		HIT	Jian Fang	

W&M=College of William & Mary, HIT=Harbin Institute of Technology,
 NNU=Northeast Normal University, TJU=Tongji University

Serve as Ph.D Thesis external reviewer (5)

Name	Year	Institute	Adviser
Rui Hu	2009	Memorial University of New Foundland, Canada	Yuan Yuan
Rui Peng	2010	University of New England, Australia	Yihong Du
Jerome Goddard II	2011	Mississippi State University, USA	R. Shivaaji
Sarath Sasi	2012	Mississippi State University, USA	R. Shivaaji
Ruiwen Wu	2019	Memorial University of New Foundland, Canada	Xiaoqiang Zhao

Serves as College of William & Mary Ph. D committee member for Xiao Wang (2015), Diane Christine Pelejo (2016), Sofya Zaytseva (2019).

Grants, Fellowships

All fellowships, grants, contracts awarded by outside agencies. (various travel supports not listed)

Funding in US (as PI, co-PI or senior personnel)

1. *Collaborative Research: Quantitative Principles behind the Spatio-Temporal Oscillation of Intracellular Calcium*, DMS-1853598, National Science Foundation, 2019-2022, \$134,974. (PI: J. Shi) (collaborating with University of California at Riverside, \$466,774, PIs: X. Cui, Z. Yang)
2. *Collaborative Research: Persistence, Stability and Control of Populations in Heterogeneous Networks*, DMS-1715651, National Science Foundation, 2017-2020, \$199,999. (PI: J. Shi, co-PI: L. Shaw) (collaborating with University of Central Florida, \$150,000, PI: Z. Shuai)
3. *EXTREEMS-QED: Computational and Statistical theory and techniques in the study of large data sets*, DMS-1331021, National Science Foundation, 2013-2019, \$879,498. (PI: J. Shi, co-PI: S. Day, C. Li and G. Yu)
4. *Collaborative Research: Multiscale Modeling of Oyster Reef Dynamics*, DMS-1313243, National Science Foundation, 2013-2017, \$151,328. (PI: L. Shaw, co-PI: J. Shi) (collaborating with Virginia Institute of Marine Science, \$128,672, PI: R. Lipcius, J. Shen)
5. *Mathematical Studies of Spatial Bistability in Ecological Systems*, DMS-1022648, National Science Foundation, 2010-2014, \$157,492. (PI: J. Shi)
6. *CSUMS: Theory, Techniques, and Research in Computational Mathematics*, DMS-0703532, National Science Foundation, 2007-2013, \$884,029. (PI: C. Li, co-PIs: S. Day, R. Lewis, D. Lutzer, D. Philips, J. Shi (acting PI for 2010-2012), G. Smith)
7. *UBM: Undergraduate Research in Metapopulation Ecology*, EF-0436318, National Science Foundation, 2004-2009, \$647,000. (PI: D. Cristol, co-PIs: J. Swaddle, S. Schreiber, senior personnel: R. Chambers, T. Killingback, J. Shi.)
8. *Persistence and pattern formation in biological systems*, DMS-0314736, National Science Foundation, 2003-2007, \$108,545. (PI: J. Shi)
9. American Mathematical Society Ky Fan fund (with Chi-Kwong Li), 2003-2004. \$3,500 plus \$4,000 matching fund from College of William & Mary.
10. Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities, 2002. \$5,000.
11. *Theory and Applications of Semilinear Elliptic and Parabolic Equations*, Board of Regents of Louisiana, 1999-2001, \$15,501. (PI: J. Shi)

All summer grants and Faculty Research Assignments received from William & Mary

1. Faculty Semester Research Assignment, Fall 2020 and Spring 2021.

2. *Data analysis and visualization from the perspective of NSF EXTREEMS-QED grant.* Charles Center Fellowships / May Seminar, College of William & Mary, 2014, \$2,000. (Project coordinators: J. Shi, T. Dey, C.-K. Li, Participants: 10)
3. Faculty Semester Research Assignment, Fall 2012 and Spring 2013.
4. *Bistability in Biological and Chemical Systems,* Summer Research Grant, College of William & Mary, 2008, \$5,000. (PI: J. Shi)
5. Faculty Semester Research Assignment, Spring 2007 and Fall 2007.
6. Junior Research Leave, Spring 2005.
7. *Reaction Diffusion Equations and Applications,* Summer Research Grant, College of William & Mary, 2003, \$4,000. (PI: J. Shi)
8. *Studies of Nonlinear Partial Differential Equations from Fishery Management,* Summer Research Grant, College of William & Mary, 2002, \$4,500. (PI: J. Shi)
9. *Qualitative Studies of Nonlinear Partial Differential Equations,* Summer Research Grant, College of William & Mary, 2001, \$6,000. (PI: J. Shi)
10. *Developing a revised calculus curriculum for business and economics students at W&M,* Charles Center Fellowships / May Seminar, College of William & Mary, 2001, \$2,700. (Project Coordinator: C.-K. Li, Participants: D. Lutzer, J. Shi, B. Robeson, C. Moody)
11. Startup grant, College of Arts and Sciences, College of William & Mary, 2000-2003, \$25,000. (PI: J. Shi)

Funding in China (as co-PI)

1. *Existence and orbital stability of solutions to several classes of nonlinear elliptic equations and systems,* NSFY-11971202, Natural Science Foundation of China, 2020-2023, 520,000 Chinese Yuan (about \$74,000 in 2019). (PI: J. Wang, co-PI: J.-P. Shi)
2. *Studies on reaction-diffusion equations with chemotaxis or advection,* NSFY-11971135, Natural Science Foundation of China, 2020-2023, 490,000 Chinese Yuan (about \$70,000 in 2019). (PI: J.-F. Wang, co-PI: J.-P. Shi)
3. *Quasilinear generalized inverse, Banach manifold and bifurcation analysis of nonlinear Equations,* NSFY-11471091, Natural Science Foundation of China, 2015-2017, 700,000 Chinese Yuan (about \$114,000 in 2014). (PI: Y.-W. Wang, co-PI: J.-P. Shi, P. Liu)
4. *Bifurcation analysis for reaction-diffusion systems with non-monotone structure,* NSFY-11201101, National Natural Science Foundation of China, 2013-2015, 220,000 Chinese Yuan (about \$35,000 in 2012). (PI: J.-F. Wang, co-PI: J.-P. Shi)
5. *Analytic Bifurcation Theory in Infinite Dimensional Space and Applications in Ecological Models,* NSFY-11101110, National Natural Science Foundation of China, 2012-2014, 230,000 Chinese Yuan (about \$36,000 in 2011). (PI: P. Liu, co-PI: J.-P. Shi, S.-J. Shi)
6. *Nonlinear Generalized Inverse and Solution Set of Nonlinear Equations and Applications,* 11071051, National Natural Science Foundation of China, 2011-2013, 320,000 Chinese Yuan (about \$47,000 in 2010). (PI: Y. Wang, co-PI: J.-P. Ma, J.-P. Shi)
7. *Applications of Singularity Theory, Generalized Inverse in Bifurcation Problems and Nonlinear Analysis,* 10671049, National Natural Science Foundation of China, 2007-2009, 267,000 Chinese Yuan (about \$33,000 in 2006). (PI: Y.-W. Wang, co-PI: J.-P. Ma, J.-P. Shi)
8. *Oversea Chinese Research Fund,* Heilongjiang province, China, 2003-2006. 50,000 Chinese Yuan (about \$6,200). (PI: Y.-W. Wang, co-PI: J.-P. Shi)

1. Zhang, Jimin; Kong, Jude; Shi, Junping; Wang, Hao,
Phytoplankton competition for nutrients and light in a stratified lake: a mathematical model connecting epilimnion and hypolimnion. **Journal of Nonlinear Science**. 31, (2021) 35.
<https://doi.org/10.1007/s00332-021-09693-6>
2. Zuo, Wenjie; Shi Junping,
Existence and stability of steady state solutions of reaction-diffusion equations with nonlocal delay effect. **Zeitschrift fuer Angewandte Mathematik und Physik (ZAMP)**. 72 (2021) 43. <https://doi.org/10.1007/s00033-021-01474-1>
3. Chen, Shanshan; Shi, Junping; Zhang, Guohong,
Spatial pattern formation in activator-inhibitor models with nonlocal dispersal.
Discrete & Continuous Dynamical Systems B. 26 (2021), no. 4, 1843–1866.
<http://dx.doi.org/10.3934/dcdsb.2020042>
4. Wang, Jinfeng; Wu, Sainan; Shi, Junping,
Pattern formations in diffusive predator-prey systems with predator-taxis and prey-taxis.
Discrete & Continuous Dynamical Systems B 26 (2021), no. 3, 1273–1289.
<http://dx.doi.org/10.3934/dcdsb.2020162>
5. Chang, Xiaoyuan; Shi, Junping; Wang, Hao,
Spatial modeling and dynamics of organic matter biodegradation in the absence or presence of bacterivorous grazing. **Mathematical Biosciences** 331 (2021) 108501. (17 pages)
<https://doi.org/10.1016/j.mbs.2020.108501>
6. Wang, Xiaoli; Shi, Junping; Zhang, Guohong, *Bifurcation and pattern formation in diffusive Klausmeier-Gray-Scott model of water-plant interaction.*
Journal of Mathematical Analysis and Applications 497 (2021) 124860. (27 pages)
<https://doi.org/10.1016/j.jmaa.2020.124860>
7. Ni, Wenjie; Shi, Junping; Wang, Mingxin,
Global stability of nonhomogeneous equilibrium solution for the diffusive competition model.
Calculus of Variations and Partial Differential Equations (2020) 59:132. (28 pages)
<https://doi.org/10.1007/s00526-020-01794-6>
8. Wang, Yan; Shi, Junping,
Dynamics of a reaction-diffusion benthic-drift model with strong Allee effect growth.
Journal of Differential Equations 269 (2020), 7605–7642.
<https://doi.org/10.1016/j.jde.2020.05.044>
9. Chen, Shanshan; Shi, Junping; Shuai, Zhisheng; Wu, Yixiang,
Asymptotic profiles of the steady states for an SIS epidemic patch model with asymmetric connectivity matrix. **Journal of Mathematical Biology** 80 (2020), no. 7, 2327–2361.
<https://doi.org/10.1007/s00285-020-01497-8>
10. Chen, Shanshan; Shi, Junping,
Asymptotic profiles of basic reproduction number for epidemic spreading in heterogeneous environment. **SIAM Journal of Applied Mathematics** 80 (2020), no. 3, 1247–1271.
<https://doi.org/10.1137/19M1289078>
11. Huang, Yongyan*; Li, Fuyi; Shi, Junping,
Stability of synchronized steady state solution of diffusive Lotka-Volterra predator-prey model.
Applied Mathematics Letter 105 (2020), 106331.
<https://doi.org/10.1016/j.aml.2020.106331>
12. Jiang, Weihua; An, Qi*; Shi, Junping,
Formulation of the normal forms of Turing-Hopf bifurcation in reaction-diffusion systems with

- time delay*. **Journal of Differential Equations** 268 (2020), 6067–6102.
<https://doi.org/10.1016/j.jde.2019.11.039>
13. Zaytseva, Sofya*; Shi, Junping; Shaw, Leah,
Model of pattern formation in marsh ecosystems with nonlocal interactions.
Journal of Mathematical Biology 80 (2020), 655–686.
<https://doi.org/10.1007/s00285-019-01437-1>
 14. Shi, Junping; Wang, Chuncheng; Wang, Hao; Yan, Xiangping,
Diffusive spatial movement with memory.
Journal of Dynamics and Differential Equations 32 (2020), no. 2, 979–1002.
<https://doi.org/10.1007/s10884-019-09757-y>
 15. Shi, Junping; Wu, Yixiang; Zou, Xingfu,
Coexistence of competing species for intermediate dispersal rates in a reaction-diffusion chemostat model. **Journal of Dynamics and Differential Equations** 32 (2020), no. 2, 1085–1112.
<https://doi.org/10.1007/s10884-019-09763-0>
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BOOK OR BOOK
CHAPTERS
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1. Junping Shi,
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2. Junping Shi,
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3. Yihong Du and Junping Shi,
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4. Junping Shi,
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5. Junping Shi,
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6. Tiancheng Ouyang and Junping Shi*,
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**Invited
Conference Talks**

1. Special Session on Nonlinear Reaction Diffusion Models with Applications in Spatial Ecology, 2021 Joint Mathematics Meetings, Online, January 6-9, 2021. (30 min invited talk)
2. 2020 Workshop on Differential equations and Dynamical Systems, Xidian University, Xi’an, China, October 31-November 1, 2020. (30 min invited talk, online)
3. International Workshop on Nonlinear Analysis, Partial Differential Equations and Applications, Jiangsu University, Zhenjiang, China, October 24-25, 2020. (40 min invited talk, online)
4. Mini-symposium on “Dynamical Systems and Mathematical Biology”, 3rd Annual Meeting of the SIAM Texas-Louisiana Section, Texas A&M University, October 16-18, 2020. (30 min invited talk, online)
5. International workshop on nonlinear analysis and applications, Harbin Normal University, Harbin, China, June 27-28, 2020. (40 min invited talk, online)
6. Special Session on Future Directions in Theory & Applications of Nonlinear Reaction-Diffusion Equations, 2020 Joint Mathematics Meetings, Denver, CO, January 15-18, 2020. (30 min invited talk)
7. Special Session on Differential and Difference Equations in Biological Dynamics, 2020 Joint Mathematics Meetings, Denver, CO, January 15-18, 2020. (30 min invited talk)
8. Session on Modeling Population Dynamics: Applications and Recent Developments, CMS Winter Meeting, Toronto, Canada, December 6-9, 2019. (30 min invited talk)
9. Special Session on Mathematical Modeling in Developmental Biology, AMS Fall Western Sectional Meeting, University of California at Riverside, Riverside, CA, November 9-10, 2019. (30 min invited talk)
10. Minisymposium on Spectral theory and PDEs on metric graphs, Equadiff 2019, Leiden University, Netherland, July 8-12, 2019. (30 min invited talk)
11. International Conference on Dynamical Systems and Applications, Lanzhou University, Lanzhou, China, June 20-23, 2019. (40 min invited talk)
12. International Workshop on Nonlinear Analysis and Reaction-Diffusion Equations, Harbin Normal University, Harbin, China, June 15-17, 2019. (40 min invited talk)
13. Thirteenth International Conference on Recent Advances in Applied Dynamical Systems, Hangzhou Normal University, Hangzhou, China, June 8-10, 2019. (30 min invited talk)
14. The 6th International Workshop on Biomathematics Modeling and Its Dynamical Analysis, Huaiyin Normal University, Huai-An, China, May 30-June 2, 2019. (45 min invited talk)

15. Minisymposium on Nonlocal Dynamical Systems and Applications, SIAM Dynamical Systems Conference, Snowbird, Utah, May 19-23, 2019. (20 min invited talk)
16. Workshop on emerging areas in reaction-diffusion systems, Center for Partial Differential Equations of East China Normal University (ECNU), Shanghai, China, April 22-26, 2019. (50 min plenary talk) <http://cpde.ecnu.edu.cn/WERDS/>
17. Special Session on Differential Equations in Mathematical Biology, AMS Spring Southeastern Sectional Meeting, Auburn University, Auburn, March 15-17, 2019. (30 min invited talk)
18. Special Session on Nonlinear Reaction-Diffusion Equations and Their Applications, AMS Spring Southeastern Sectional Meeting, Auburn University, Auburn, March 15-17, 2019. (30 min invited talk)
19. Special Session on Recent Advances in Biological Modeling and Related Dynamical Analysis, 2019 Joint Mathematics Meetings, Baltimore, MD, January 16-19, 2019. (30 min invited talk)
20. Special Session on Recent Advances in Nonlinear Schrödinger Equations, AMS Fall Eastern Sectional Meeting, University of Delaware, Newark, DE, Sept 29-30, 2018. (30 min invited talk)
21. Special Session on Analysis of Mathematical Modeling Arising from Population Biology, The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan, July 5-9, 2018. (30 min invited talk)
22. Twelfth International Conference on Recent Advances in Applied Dynamical Systems, Chongqing, China, June 8-10, 2018. (30 min invited talk)
23. The international workshop on nonlinear partial differential equations and the applications in geometry and biology, Shaanxi Normal University, Xi'an, China, June 1-4, 2018. (45 min invited talk)
24. 2018 NCTS Workshop on Mathematical Biology, National Tsing Hua University, Hsinchu, Taiwan, May 28-June 1, 2018. (45 min invited talk)
25. International Conference on Variational Methods (ICVAM-4), Chern Institute of Mathematics, Nankai University, Tianjin, China, May 14-19, 2018. (45 min invited talk)
26. Frontier of Mathematical Biology: Modeling, Computation and Analysis, University of Central Florida, Orlando, FL, May 2-4, 2018. (30 min invited talk)
27. Special Session on Nonlinear Reaction-Diffusion Equations and Their Applications, AMS Spring Eastern Sectional Meeting, Northeastern University, Boston, MA, April 21-22, 2018. (30 min invited talk)
28. Special Session on Recent Advances in Mathematical Biology, AMS Spring Southeastern Sectional Meeting, Vanderbilt University, Nashville, TN, April 14-15, 2018. (30 min invited talk)
29. Mini-symposium on PDE models in population biology, SIAM-SEAS 2018, UNC Chapel Hill, North Carolina, March 9-11, 2018. (30 min invited talk)
30. Special Session on Mathematical modeling, analysis and applications in population biology, 2018 Joint Mathematics Meetings, San Diego, CA, January 10-13, 2018. (30 min invited talk)
31. Special Session on Dynamical systems with applications to mathematical biology, 2018 Joint Mathematics Meetings, San Diego, CA, January 10-13, 2018. (30 min invited talk)
32. ICMA VI: Sixth International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, University of Arizona, Tucson, AZ, October 20-22, 2017. (30 min invited talk)
33. Special Session on Nonlinear Partial Differential Equations Arising from Life Science, Fall Eastern Sectional Meeting, State University of New York at Buffalo, Buffalo, NY, September 16-17, 2017. (30 min invited talk)
34. Mini-symposium on Patterns and dynamics in nonlinear partial differential equation, Equadiff 2017, Bratislava, Slovakia, July 24-28, 2017. (30 min invited talk)
35. Mini-symposium on Cross-diffusive systems, Equadiff 2017, Bratislava, Slovakia, July 24-28, 2017. (30 min invited talk)

36. International Conference on Topological Nonlinear Analysis, Guangzhou University, Guangzhou, China, June 12-15, 2017. (40 min invited talk)
37. The Eleventh International Conference on Recent Advances in Applied Dynamical Systems, Xi'an Jiaotong University, Xi'an, China, June 9-12, 2017. (40 min invited talk)
38. International conference on infinite dimensional dynamical systems, Sichuan University, Chengdu, China, May 29-June 2, 2017. (50 min invited talk)
39. International Conference in Nonlinear Analysis, Yunnan Normal University, Kunming, China, May 25-27, 2017. (40 min invited talk)
40. Workshop on generalized inverse and space structure and applications, Harbin Normal University, Harbin, China, May 12-14, 2017. (40 min invited talk)
41. Special Session on Differential Equations and Their Applications to Biology, AMS Spring Central Sectional Meeting at Indiana University, Bloomington, IN, April 1-2, 2017. (30 min invited talk)
42. Special Session on Recent Advances in Mathematical Biology, 2017 Joint Mathematics Meetings, Atlanta, GA, January 4-7, 2017. (30 min invited talk)
43. Workshop on Mathematical Analysis, Tokyo Institute of Technology, Tokyo, Japan, December 13, 2016. (50 minute plenary talk)
44. Special Session on Nonlinear Boundary Value Problems, AMS Fall Southeastern Sectional Meeting at North Carolina State University, Raleigh, NC, November 12-13, 2016. (30 min invited talk)
45. Special session on Dissipative Systems and Applications, The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA, July 1-4, 2016. (30 min invited talk)
46. Special session on Recent advances in dynamical systems with applications to ecology and epidemiology, The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA, July 1-4, 2016. (30 min invited talk)
47. Tenth International Conference on Recent Advances in Applied Dynamical Systems, Jiangsu Normal University, Xuzhou, China, June 10-12, 2016. (40 minute invited talk)
48. International Conference on Reaction-Diffusion Equations and their Applications to the Life, Social and Physical Sciences, Institute of Mathematical Sciences (IMS) at the Renmin University of China, Beijing, China, May 26-29, 2016. (50 minute plenary talk) <http://ims.ruc.edu.cn/201605/index.php?cid=80>
49. Workshop in Application of Mathematics in Economics and Finance, Harbin Normal University, Harbin, China, January 13-14, 2016. (50 minute invited talk)
50. Special Session on Random and Complex Dynamics of Reaction-Diffusion Systems, 2016 Joint Mathematics Meetings, Seattle, WA, January 6-9, 2016. (30 min invited talk)
51. Special Session on Recent advances in dynamical systems and mathematical biology, 2016 Joint Mathematics Meetings, Seattle, WA, January 6-9, 2016. (30 min invited talk)
52. Workshop on Shapes and other properties of solutions of PDEs, Research Institute for Mathematical Sciences (RIMS), Kyoto University, Kyoto, Japan, November 11-13, 2015. (50 min invited talk)
53. The 5th International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, University of Western Ontario, London, Ontario, Canada, October 2-4, 2015. (30 min invited talk)
54. Workshop on nonlinear and global analysis, Harbin Normal University, Harbin, China, August 19-20, 2015. (30 min invited talk)
55. The Second International Workshop on Biomathematics Modelling and Its Dynamical Analysis, Heilongjiang University, Harbin, China, August 16-17, 2015. (30 min invited talk)

56. Mini-symposium on Recent Developments in the Modeling, Simulation and Analysis of Mathematical Models Arising from Biology, 8th International Congress on Industrial and Applied Mathematics (ICIAM), Beijing, China, August 11-14, 2015. (30 min invited talk)
57. Workshop on Mathematical Modeling in Life Sciences, Harbin Normal University, Harbin, China, August 1-2, 2015. (50 min invited talk)
58. Differential Equations and Applications to Biological Models, Tongji University, Shanghai, China, May 25-27, 2015. (Two 50 min invited talks)
59. Special Session on Advances in the Theory and Applications of Dynamical Systems, AMS Spring Southeastern Sectional Meeting, University of Alabama in Huntsville, Huntsville, AL, March 27-29, 2015. (30 min invited talk)
60. Special Session on Spatial Evolutionary Models and Biological Invasions, AMS Spring Eastern Sectional Meeting, Georgetown University, Washington, DC, March 7-8, 2015. (30 min invited talk)
61. Special Session on Theory and Application of Reaction Diffusion Models, 2015 Joint Mathematics Meetings, San Antonio, TX, January 10-13, 2015. (30 min invited talk)
62. Special Session on Applications of Dynamical Systems to Biological Model, 2015 Joint Mathematics Meetings, San Antonio, TX, January 10-13, 2015. (30 min invited talk)
63. Workshop on Mathematical Biology and Nonlinear Analysis, and celebration for Steve Cantrell, University of Miami, Miami, FL, December 19-21, 2014. (30 min invited talk)
64. AMS Fall Southeastern Section Meeting, University of North Carolina at Greensboro, Greensboro, NC, November 8-9, 2014. (30 min invited talk)
65. 10th Mississippi State Conference on Differential Equations and Computational Simulations, Mississippi State University, Starkville, MS, October 23-25, 2014. (50 min plenary talk) <https://www.ccs.msstate.edu/deconf/de2014/index.php>
66. 13th National Conference in Functional Differential Equations, Qinghai Minority University, Xining, China, July 29-31, 2014. (40 min invited talk)
67. Workshop in Functional Differential Equations, Harbin Institute of Technology at Weihai, Weihai, China, July 23-27, 2014. (50 min invited talk)
68. 18th China National Conference on Nonlinear Functional Analysis, Harbin, China, July 14-16, 2014. (50 min plenary talk) <http://www.smartchair.cn/hp/Math8806>
69. Special session on Qualitative Analysis of Reaction Diffusion Systems, 10th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Madrid, Spain, July 7-11, 2014. (30 min invited talk)
70. Special session on Nonlinear Elliptic and Parabolic Problems, 10th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Madrid, Spain, July 7-11, 2014. (30 min invited talk)
71. Eighth International Conference on Recent Advances in Applied Dynamical Systems, Guilin University of Electronic Technology, Guilin, China, June 2-4, 2014. (40 min invited talk)
72. NCTS International Conference of Nonlinear Dynamics with Application to Biology, NCTS, National Tsing Hua University, Hsinchu, Taiwan, May 28-30, 2014. (40 min invited talk)
73. 2014 International Symposium on Mathematical Biology, Guangzhou, China, May 24-28, 2014. (50 min invited talk)
74. Minisymposium on Recent Advances in Mathematical Biology, 38th Annual SIAM Southeastern Atlantic Section Conference, Florida Institute of Technology, Melbourne, Florida, March 28-30, 2014. (30 min invited talk)
75. Special session on Reaction Diffusion Equations and Applications, 2014 Joint Mathematics Meetings, Baltimore, MD, January 15-18, 2014. (30 min invited talk)
76. International Workshop on New Mathematical Developments Arising from Ecology, Epidemiology and Environmental Science, Beijing International Center for Mathematical Research, Peking University, Beijing, China, October 17-20, 2013. (45 min invited talk)

77. Special session on Recent Advances in Mathematical Epidemiology and Ecology, The Fourth International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems (ICMA IV), Texas Tech University, Lubbock, TX, October 4-6, 2013. (30 min invited talk)
78. The Seventh International Conference on Recent Advances in Applied Dynamical Systems, Linyi, China, June 8-10, 2013. (40 min invited talk)
79. Special session on pattern Formation in Biology, Fourth Conference on Computational and Mathematical Population Dynamics (CMPD4), Taiyuan, China, May 29–June 2, 2013. (30 min invited talk)
80. Special session on Understanding Planet Earth via Reaction Diffusion Equations, 2013 Joint Mathematics Meetings, San Diego, CA, January 9–12, 2013. (30 min invited talk)
81. Special session on Recent progress in nonlinear analysis and PDE's arising from dispersal models, Everything Disperses to Miami: The Role of Movement and Dispersal in Ecology, Epidemiology and Environmental Science, University of Miami, Miami, FL, December 14–16, 2012. (30 min invited talk)
82. International Conference in Nonlinear Analysis, Xuzhou Normal University, Xuzhou, China, October 9–13, 2012. (30 min invited talk)
83. Special Session on Nonlinear Elliptic and Parabolic Problems in Mathematical Sciences, 9th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Orlando, FL, July 1–5, 2012. (30 min invited talk)
84. Special Session on Reaction Diffusion Equations and Applications, 9th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Orlando, FL, July 1–5, 2012. (30 min invited talk)
85. The Sixth International Conference on Recent Advances in Applied Dynamical Systems, Guangzhou University, Guangzhou, China, June 25-27, 2012. (40 min invited talk)
86. Workshop on PDE Problems in Mathematical Biology and Physics, Hong Kong Polytechnic University, HongKong, China, June 22-23, 2012. (1 hour invited talk)
87. Minisymposium on Modeling Complex Biological Systems: Theoretical and Computational Studies, 36th Annual SIAM Southeastern Atlantic Section Conference, University of Alabama, Huntsville, AL, March 24-25, 2012. (30 min invited talk)
88. Special Session on Recent Advances in Mathematical Biology, Ecology, and Epidemiology, 2012 Joint Mathematics Meetings, Boston, MA, January 4–7, 2012. (30 min invited talk)
89. Special Session on Nonlinear Boundary Value Problems, 2011 AMS Fall Southeastern Sectional Meeting, Wake Forest University, Winston-Salem, North Carolina, USA, September 24–25, 2011. (30 min invited talk)
90. 8th East China Partial Differential Equations Conference, Xi'an, China, July 11–14, 2011. (45 min invited talk)
91. Special Session on Nonlinear PDEs and Variational Methods, 2011 AMS Spring Western Section Meeting, Las Vegas, Nevada, USA, April 30–May 1, 2011. (30 min invited talk)
92. Minisymposium on Simulation and analysis in biological systems, 35th SIAM Southeastern Atlantic Section Conference, Charlotte, North Carolina, USA, March 26–27, 2011. (20 min invited talk)
93. Special session on Structured Models in Ecology, Evolution, and Epidemiology: Periodicity, Extinction, and Chaos, 2011 Joint Mathematics Meeting, New Orleans, Louisiana, USA, Jan 6–9, 2011. (30 min invited talk)
94. Special session on Analysis of Reaction-Diffusion Models, 2011 Joint Mathematics Meeting, New Orleans, Louisiana, USA, Jan 6–9, 2011. (30 min invited talk)
95. A PDE Day in NCTS, NCTS, National Tsing Hua University, Hsinchu, Taiwan, Dec 20, 2010. (2 one-hour invited talks)

96. NCTS Workshop on PDE Models of Biological Process, NCTS, National Tsing Hua University, Hsinchu, Taiwan, Dec 13–17, 2010. (30 min invited talk)
97. 2010 Mathematical Conference and Annual Meeting of the Taiwan Mathematical Society, Changhua Normal University, Changhua, Taiwan, Dec 11–12, 2010. (45 min invited talk)
98. Special session on Differential Equations and Applications to Physics and Biology, AMS South-eastern Section Meeting, Richmond, Virginia, USA, Nov 6–7, 2010. (20 min invited talk)
99. International conference on Functional Analysis and Applications, Harbin Institute of Technology, Harbin, China, July 25–28, 2010. (1-hour invited talk)
100. 7th East China Partial Differential Equations Conference, Central China Normal University, Wuhan, China, July 6–9, 2010. (45 min invited talk)
101. Fourth International Conference on Recent Advances in Applied Dynamical Systems, Jinhua, China, June 16–20, 2010. (30 min invited talk)
102. International Conference on Variational and Topological Methods in Nonlinear Analysis, Beijing, China, May 20–22, 2010. (45 min invited talk)
103. International Workshop on Reaction-Diffusion Models and Mathematical Biology, Harbin, China, June 24–27, 2009. (45 min invited talk)
104. International Conference on Nonlinear and Stochastic Dynamics, Sichuan university, Chengdu, China, June 1–5, 2009. (45 min invited talk)
105. Interdisciplinary Conference on Applied Analysis and Mathematics, NCTS, Tsing Hua University, Hsinchu, Taiwan, May 13, 2009. (30 min invited talk)
106. AMS southeastern sectional meeting, Special Session on Dynamics and Applications of Differential Equations, Huntsville, AL, October 26, 2008. (30 min invited talk)
107. *Lectures on bifurcation in reaction-diffusion models from biology.* Mathematical Applications in Ecology and Evolution Workshop, Center for Computational Sciences, Mississippi State University, August 4–6, 2008. (three 1-hour invited lectures, one of two main speakers)
<http://www.ccs.msstate.edu/conferences/Bio-Conference-Collage.jpg>
108. International Conference on Nonlinear Partial Differential Equations and Geometric Analysis, Harbin, China, June 30–July 4, 2008. (45 min invited talk)
109. 7th AIMS International Conference on Dynamical Systems and Differential Equations, Special session on Differential Equations of Mixed Type Arising in Engineering, Biology and Ecology, Arlington, Texas, May 18–21, 2008 (30 min invited talk)
110. 7th AIMS International Conference on Dynamical Systems and Differential Equations, Special session on Nonlinear Evolution Equations and Related Topics, Arlington, Texas, May 18–21, 2008 (30 min invited talk)
111. 7th AIMS International Conference on Dynamical Systems and Differential Equations, Special session on Pattern Formation in Biology and Ecology: from Interfaces to Meta-solutions, Arlington, Texas, May 18–21, 2008 (30 min invited talk)
112. AMS southeastern sectional meeting, Special Session on Mathematical Modeling in Biology, Baton Rouge, LA, March 29, 2008. (30 min invited talk)
113. Workshop on Variational Methods, Capital Normal University, Beijing, China, December 28–29, 2007. (45 min invited talk)
114. PDE Day in Taida Institute of Mathematical Sciences, National Taiwan University, Taipei, Taiwan, November 28, 2007 (1-hour invited talk)
115. International Workshop on Banach Space, Operator Theory and Applications in Nonlinear Analysis, Harbin Normal University, Harbin, Heilongjiang, China, July 25–27, 2007 (50 min invited talk)
116. The Second International Conference on Recent Advance in Applied Dynamical Systems, Zhejiang Normal University, Jinhua, Zhejiang, China, June 4–8, 2007 (40 min invited talk)

117. The Fourth International Conference on Mathematical Biology, Wuyi Mountain, Fujian, China, May 29-June 1, 2007 (30 min invited talk)
118. AMS eastern sectional meeting, Special Session on Nonlinear Elliptic and Parabolic Equations, Storrs, CT, October 29, 2006. (30 min invited talk)
119. AMS western sectional meeting, Special Session on Nonlinear Differential Equations: Methods & Applications, Salt Lake City, UT, October 7, 2006. (30 min invited talk)
120. Workshop on Analysis and PDE, Harbin Normal University, July 22, 2006. (Two 1-hour invited talk)
121. Recent Developments In Differential Equations and Applications, Guangzhou University, Guangzhou, China, July 17-21, 2006. (45 min invited talk)
122. 6th AIMS International Conference on Dynamical Systems and Differential Equations, Special session on Modeling and Analysis of Predators-Preys Systems: Stability, Bifurcation, Chaos and Complexity, Poitiers, France, June 25-28, 2006 (30 min invited talk)
123. 6th AIMS Internatinal Conference on Dynamical Systems and Differential Equations, Special session on Nonlinear Parabolic and Elliptic PDEs and Applications, Poitiers, France, June 25-28, 2006 (30 min invited talk)
124. International Conference on Nonlinear and Stochastic Dynamics, Sichuan University, Chengdu, China, June 5-9, 2006 (45 min invited talk)
125. International Conference on Dynamical Systems: Bifurcation, Application and Computation, Shanghai Normal University, Shanghai, China, June 2-5, 2006 (45 min invited talk)
126. International Conference on Nonlinear Partial Differential Equations, Qufu Normal University, Rizhao, Shandong, China, July 11-16, 2005. (45 min invited talk)
127. HuaZhong International Conference on Nonlinear Partial Differential Equations, Zhangjiajie, Hunan, China, July 9-12, 2005. (45 min invited talk)
128. First International Conference on Recent Advances in Bifurcation Theory and Applications of Dynamical System, Zhejiang Normal University, Jinhua, Zhejiang, China, June 8-12, 2005. (45 min invited talk)
129. International Conference of Nonlinear Evolution Equations and Infinite Dimensional Dynamical Systems, Nanjing Normal University, Nanjing, Jiangsu, China, June 2-6, 2005. (45 min invited talk)
130. Workshop on Mathematical and Numerical Analysis on Nonlinear Phenomena, Tokyo Metropolitan University, Tokyo, Japan, February 7, 2005. (Two 1-hour invited talks, only invited foreign speaker)
131. Workshop on Spatial Ecology: The Interplay between Theory and Data, Institute of Theoretical and Mathematical Ecology (ITME), University of Miami, Coral Gables, FL, January 7-10th, 2005. (one hour plenary talk)
<http://www.math.miami.edu/anno/spatial/participants.htm>
132. AMS-SIAM Special Session on Reaction Diffusion Equations and Applications, Joint Mathematics Meetings, Atlanta, GA, January 5-8th, 2005. (30 min invited talk)
133. International Conference On Nonlinear Dynamics And Evolution Equations, Memorial University of Newfoundland , St. John's, Newfoundland and Labrador, Canada, July 6-10th, 2004. (30 min invited talk)
134. Special session on Recent Developments on Nonlinear Elliptic Equations and Variational Problems, AIMS' Fifth International Conference on Dynamical Systems and Differential Equations California State Polytechnic University, Pomona, CA, June 16-19th, 2004. (30 min invited talk)
135. Special session on PDE with Application in Biology, AIMS' Fifth International Conference on Dynamical Systems and Differential Equations California State Polytechnic University, Pomona, CA, June 16-19th, 2004. (30 min invited talk)

136. Workshop on Nonlinear Analysis - Hamiltonian Systems and Celestial Mechanics, Nankai Institute of Mathematics, Nankai University, Tianjin, China, June 9-13th, 2004. (1-hour invited talk)
137. International Workshop of bifurcation theory and applications, Shanghai Jiaotong University, Shanghai, China, May 23-26th, 2004. (30 min invited talk)
138. Workshop on Defects and their Dynamics, Banff International Research Station, Banff, Canada, August 9-16th, 2003. (1-hour invited talk)
139. Program on Nonlinear Functional Analysis and PDE, Morningside Center, Institute of Mathematics, Chinese Academy of Sciences, Beijing, China, July 4th, 2003. (Two 1-hour invited talks)
140. Workshop: New Perspective of Nonlinear Partial Differential Equations, Ryukoku University, Otsu, Shiga, Japan, June 23-25th, 2003. (one hour plenary talk), One of two invited foreign speakers.
141. Special Session on Nonlinear Elliptic Partial Differential Equations, AMS Sectional Meeting, Salt Lake City, UT, October 26th, 2002. (30 min invited talk)
142. International conference of Nonlinear Functional Analysis, (satellite conference of ICM 2002) Shanxi University, Taiyuan, Shanxi, China, August 14-18th, 2002. (45 min invited talk)
143. Dynamical Systems and Differential Equations Conference, University of North Carolina at Wilmington, NC, May 24-27th, 2002. (30 min invited talk)
144. Special session of Nonlinear Elliptic Equations, AMS Annual joint meeting, San Diego, CA, January 5-10th, 2002. (30 min invited talk)
145. Workshops in Nonlinear PDE, PIMS, University of British Columbia, Vancouver, British Columbia, Canada, July 11-27th, 2001. (30 min invited talk)
146. International Conference in Differential Equations and Dynamical Systems, Lahsa, Tibet, China, July 2-7th, 2001. (45 min invited talk)
147. Special Session of Singular and Degenerate Nonlinear Elliptic Boundary Value Problems, AMS Sectional Meeting, Hoboken, NJ, April 28th, 2001. (30 min invited talk)
148. Special Session of Analysis and Applications of Nonlinear PDEs, AMS Sectional Meeting, Las Vegas, NV, April 22nd, 2001. (30 min invited talk)
149. Special session of PDE Models in Population Biology and Epidemiology, AMS Joint meeting, New Orleans, LA, January 11th, 2001. (30 min invited talk)
150. Minisymposium on Transitions and Reaction Diffusion Equations, SIAM Pacific Rim Dynamical Systems Conference, Maui, HI, August 11th, 2000. (30 min invited talk)
151. Minisymposium on Spike Layer in Reaction-Diffusion Systems, SIAM Pacific Rim Dynamical Systems Conference, Maui, HI, August 11th, 2000. (30 min invited talk)
152. Special session of Nonlinear Differential Equations and Their Applications, AMS sectional meeting, University of Louisiana, Lafayette, LA, April, 2000. (30 min invited talk)
153. Special session of Nonlinear Eigenvalue Problems and Applications, AMS Joint meeting, Washington, DC, January, 2000. (30 min invited talk)
154. Special session of Nonlinear PDE, AMS sectional meeting, Las Vegas, NV, April, 1999. (30 min invited talk)
155. Conference honoring Professor Alan Lazer, University of Miami, Coral Gables, FL, January, 1999. (30 min invited talk)
156. Special session of Nonlinear Elliptic and Parabolic Equations, International Conference of Differential Equations and Dynamical Systems, Southwest Missouri State University, Springfield, MO, July 1996. (30 min invited talk)
157. Utah Nonlinear Analysis Conference, Brigham Young University, Provo, UT, January 1996. (45 min invited talk)

**Invited Short
Courses and
Lecture series**

1. Short course on Reaction-diffusion models and bifurcation, Zhejiang Normal University, Jinhua, China, December 16, 2020-January 17, 2021. (10 lectures, 15 hour, online)
2. Harbin Normal University, Harbin, China, June 12-14, 2019 (8-hour lecture series)
3. University of Seville, Seville, Spain, lecture series (8 hours), October 15-19, 2018.
4. Summer short course in Harbin Institute of Technology, July 21-26, 2016. (16 hour short course)
5. Summer short course on bifurcation theory and its applications, University of New Brunswick, Fredericton, Canada, August 13-17, 2012. (6 talks, 15 hours)
6. 2011 Nonlinear Reaction-Diffusion Equations Summer School, Shanxi University, Taiyuan, Shanxi, China, July 17-27, 2011. (5 talks, 10 hours)
7. *Degree Theory and Bifurcation theory for Fredholm operators, and Reaction-diffusion systems*, 12-hour Lecture series, Harbin Normal University, Harbin, Heilongjiang, China, May 7-19, 2007.
8. *Bifurcation theory in Banach space and application to semilinear equations* 14-hour Lecture series, Harbin Institute of Technology, Harbin, Heilongjiang, China, April 17-29, 2007.
9. *Lectures on solution set of semilinear elliptic equations*, 12 hour lecture series for graduate students, Tokyo Metropolitan University, Tokyo, Japan, Feb. 7-18, 2005.
10. Lecture series (12 hours), Harbin Normal University, Harbin, Heilongjiang, China, July 30th-August 5th, 2002.

**Invited
Colloquium Talks**

1. China University of Petroleum, Qingdao, China, March 17, 2021. (online)
2. Jiangnan University, Wuxi, China, December 22, 2020. (online)
3. Henan University, Kaifeng, China, December 21, 2020. (online)
4. University of North Carolina at Greensboro, Greensboro, NC, September 14, 2020. (online)
5. Shannxi University of Technology, Xi'an, China, September 22, 2020. (2 talks, online)
6. Wuhan University of Technology, Wuhan, China, August 14, 2020. (online)
7. Shandong University at Weihai, Weihai, China, August 12, 2020. (online)
8. University of Central Florida, Orlando, FL, October 29, 2020 (online); January 9, 2020. (2 talks)
9. Zhengzhou University, Zhengzhou, China, June 20, 2019.
10. Lanzhou Jiaotong University, China, June 22, 2019.
11. Guangzhou University, Guangzhou, China, July 26, 2020 (online); June 6, 2019. (2 talks)
12. Dalian University of Technology, Dalian, China, November 30, 2020 (online); May 30, 2019. (2 talks)
13. University of Cincinnati, Cincinnati, OH, February 28, 2019.
14. Xidian University, Xi'an, China, June 4, 2018.
15. Hunan University, Changsha, China, May 23, 2018.
16. University of California at Riverside, Riverside, CA, October 18, 2017.
17. California State University, Northridge, CA, October 17, 2017.
18. South China University of Technology, Guangzhou, China, June 5, 2019; June 15, 2017. (2 talks)
19. Southern China Normal University, Guangzhou, China, June 15, 2017.
20. Shannxi Normal University, Xi'an, China, December 2, 2020 (online); China June 11, 2017. (2 talks)

21. Renmin University of China, Beijing, China, September 18, 2020 (online); May 21, May 22, 2017. (3 talks)
22. University of Alberta, Edmonton, Canada, October 3, 2016.
23. Heilongjiang University, Harbin, China, January 4, 2021 (online); December 3, 2020 (online); June 11, 2019; May 21, 2018; May 15, 2017; July 24, 2016. (6 talks)
24. Central China Normal University, Wuhan, China, May 22, 2016.
25. Jiangsu University, Zhenjiang, China, June 3, 2016.
26. Southeast University, Nanjing, China, June 4, 2016.
27. Nanjing University of Aeronautics & Astronautics, Nanjing, China, June 4, 2016.
28. University of Tennessee at Chattanooga, Chattanooga, TN, February 19, 2016.
29. Harbin Institute of Technology, Weihai, July 27, 2015.
30. John Hopkins University, Baltimore, MD, April 6, 2015.
31. University of South Florida, Tampa, FL, February 6, 2015.
32. Ohio State University, Columbus, OH, March 8, 2017; October 15, 2014. (2 talks)
33. Beijing University of Chemical Engineering, Beijing, August 14, 2014.
34. Northwest Normal University, Lanzhou, China, August 5, 2014.
35. Lanzhou University, Lanzhou, China, August 3, 2014. (2 talks)
36. Lanzhou Institute of Technology, Lanzhou, China, August 3, 2014.
37. Qinghai Normal University, Xining, China, July 30, 2014.
38. National Defense Technology University, Changsha, China, June 7, 2014. (2 talks)
39. Central South University, Changsha, China, May 24, May 26, 2018; June 6, 2014. (3 talks)
40. Southwest University, Chongqing, China, June 10, 2018; July 14, 2013. (2 talks)
41. Hong Kong Polytechnic University, Hong Kong, China, May 22, 2014; July 3, 2013. (2 talks)
42. Institute of Mathematics, Academia Sinica, Taipei, Taiwan, March 28, 2013.
43. National Center for Theoretical Sciences, National Tsing-Hua University, Hsinchu, Taiwan, March 8, March 29 and May 3, 2013. (3 talks)
44. Virginia Commonwealth University, Richmond, VA, Jan. 18, 2013.
45. North China Electric Power University, Beijing, China, Nov. 5, 2012.
46. Sichuan University, Chengdu, China, March 21, 2021 (online); Nov. 2, 2012. (2 talks)
47. University of Electronic Science and Technology of China, Chengdu, China, June 1, 2017; Nov. 1, 2012. (4 talks)
48. Harbin Engineering University, Harbin, China, May 16, 2017; May 17, 2016; July 29, 2015; July 18, 2014; October 18, 2012. (6 talks)
49. University of Science and Technology of China, Hefei, China, August 7, 2014; October 15, 2012. (2 talks)
50. Shandong University, Jinan, China, December 28, 2020 (online); October 8, 2012. (2 talks)
51. University of Western Ontario, London, Ontario, Canada, August 21, 2012.
52. North University of China, Taiyuan, China, July 22, 2012.
53. Guangdong University of Technology, Guangzhou, China, June 26, 2012.
54. Old Dominion University, Norfolk, VA, January 19, 2016; March 3, 2012. (2 talks)
55. Virginia State University, Petersburg, VA, October 31, 2014; February 17, 2012. (2 talks)
56. Providence University, Taichung, Taiwan, December 10, 2010. (2 talks)
57. Jilin University, Changchun, China, July 28 and 29, 2010. (3 talks)
58. Taiyuan University of Science and Technology, Taiyuan, China, July 11, 2010.

59. Shanxi University, Taiyuan, China, July 10, July 20, 2020 (online); June 18, June 19, 2019; May 18, May 19, 2017; May 13, 2015; August 18 and 19, 2014; June 3, 2013; October 29 and 30, 2012; June 28 and July 21, 2012; May 11, 2011; July 10 and 11, 2010. (17 talks)
60. Tongji University, Shanghai, China, April 24, June 3, 2019; June 7, 2017; July 28, 2016; July 7 and July 8, 2013; May 14, 2011; June 30 and July 5, 2010. (9 talks)
61. Shanghai Normal University, Shanghai, China, July 1, 2010.
62. Shanghai Jiaotong University, Shanghai, China, June 30, 2010.
63. Yunnan University, Kunming, Yunnan, China, June 25, 2010.
64. Yunnan Normal University, Kunming, Yunnan, China, June 24, 2010.
65. Kunming University of Science and Technology, Kunming, Yunnan, China, June 24, 2010.
66. Guilin University of Electrical Technology, Guilin, Guangxi, China, June 21, 2010.
67. University of Wyoming, Laramie, WY, November 7, 2019; March 11, 2010. (2 talks)
68. Memorial University of Newfoundland, St. Johns, Canada, December 14, 2009.
69. University of Alabama at Birmingham, Birmingham, AL, October 24, 2008.
70. George Washington University, Washington, DC, February 28, 2008.
71. Beijing Normal University, Beijing, China, December 28, 2007.
72. National Central University, Chungli, Taiwan, December 9, 2010; May 14, 2009; December 6, 2007. (3 talks)
73. National Taiwan University, Taipei, Taiwan, September 20, 2007.
74. Zhejiang Normal University, Jinhua, Zhejiang, China, September 26; October 28, 2020 (online); June 14, 2010; May 28, 2007. (4 talks)
75. Georgia Institute of Technology, Atlanta, GA, March 6, 2006.
76. Beihang University, Beijing, China, July 1, 2005.
77. Yangzhou University, Yangzhou, Jiangsu, China, June 7 and June 8, 2005. (2 talks)
78. Capital Normal University, Beijing, China, July 23, 2020 (online); June 12, 2008; April 15, 2007; May 30, 2005. (4 talks)
79. National Chiao Tung University, Hsinchu, Taiwan, November 27, 2007; April 19, 2005. (2 talks)
80. National Tsing Hua University, Hsinchu, Taiwan, September 17, 2007; April 18 and 25, 2005. (3 talks)
81. Taiwan Normal University, Taipei, Taiwan, April 20th, 2005.
82. University of New England, Armidale, NSW, Australia, March 17, 2005.
83. Rensselaer Polytechnic Institute, Troy, NY, January 24, 2005.
84. East China Normal University, Shanghai, China, May 26 and 28, 2004. (2 talks)
85. Harbin Institute of Technology, Harbin, Heilongjiang, China, June 16, 2020 (online); June 11, 2019; May 17, 2017; January 16, July 22, July 25, 2016; May 16, 2015; July 17, 2014; October 17, 2012; May 21, 2011; June 4 and June 13, 2010; January 2 and June 21, 2008; April 20 and April 27, 2007; June 11, 2006; June 19, 2005; July 2, 2003. (19 talks)
86. Harbin Normal University, Harbin, Heilongjiang, China, May 19, 2016; October 23, 2012; May 23, 2011; May 31, 2010; May 16, 2007; June 16, 2005; May 18 and 20, 2004; June 30 and July 1, 2003. (10 talks)
87. Chinese Academy of Sciences, Beijing, China, July 17, 2008; December 27, 2007; May 27, 2005; May 8, 2004; July 21, 2002. (5 talks)
88. University of Virginia, Charlottesville, VA, September 20 and 21, 2001. (2 talks)
89. University of Texas at San Antonio, San Antonio, TX, September 7, 2001.
90. Peking University, Beijing, China, June 9, 2001.

91. Tsinghua University, Beijing, China, Nov. 6, 2012; May 27, 2010; May 26, 2005; May 31, 2001. (4 talks)
92. Nankai University, Tianjin, China, December 19, 2016; July 23, 2014; May 28, 2001. (3 talks)
93. Georgia State University, Atlanta, GA, March, 2000.
94. Portland State University, Portland, OR, March, 2000.
95. University of Memphis, Memphis, TN, March, 2000.
96. University of Texas at Arlington, Arlington, TX, February, 2000.
97. Georgia Southern University, Statesboro, GA, February, 2000; December 1999. (2 talks)
98. College of William & Mary, Williamsburg, VA, February, 2000.
99. Georgetown University, Washington, DC, February, 2000.
100. Mississippi State University, Miss State, MS, March 9, 2004; April 1999. (2 talks)
101. Brigham Young University, Provo, UT, May 1999.

CONTRIBUTED
TALKS

1. ICMA VII: Seventh International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, Arizona State University, Tempe, AZ, October 12-14, 2019.
2. Colloquium, College of William & Mary, April 19, 2019.
3. Colloquium, College of William & Mary, September 20, 2013.
4. 2013 Annual Meeting of The Society for Mathematical Biology, Arizona State University, June 10-13, 2013.
5. Colloquium, College of William & Mary, February 8, 2013.
6. Workshop on Mathematical Biology, Dalhousie University, Halifax, Canada, August 18-19, 2012.
7. Colloquium, College of William & Mary, November 12, 2010.
8. Math 410 (CSUMS seminar), College of William and Mary, Feb. 3, 2010.
9. Math 410 (CSUMS seminar), College of William & Mary, Feb. 18, 2009.
10. Biomath Luncheon, College of William & Mary, March 31, 2008.
11. Math 410 (CSUMS seminar), College of William & Mary, January 22, 2008.
12. 25th Annual Southeastern-Atlantic Regional Conference on Differential Equations, Dayton University, Dayton, OH, October 8th, 2005.
13. Colloquium, College of William & Mary, Williamsburg, VA, September, 2005.
14. Sixth Mississippi State-UAB Conference on Diff. Equations & Computational Simulations, Mississippi State University, Mississippi State, MS, May 13-14th, 2005.
15. Mathematical-Computational Biology (MCB) seminar, College of William & Mary, Williamsburg, VA, October 27th, 2004.
16. 23rd Annual Southeastern-Atlantic Regional Conference on Differential Equations, Kennesaw State University, Kennesaw, GA, October 17-18th, 2003.
17. 22nd Southeastern-Atlantic Regional Conf. on Differential Equations, University of Tennessee, Knoxville, TN, October 11th, 2002.
18. Nonlinear Differential Equations, Mechanics and Bifurcation, Duke University, Durham, NC, May 20-22th, 2002.
19. 21st Southeastern-Atlantic Regional Conference on Differential Equations, Wake Forest University, Winston-Salem, NC, November 3rd, 2001.
20. Fifth Mississippi State Conference on Differential equations and computational simulations, Mississippi State University, Mississippi State, MS, May 18-19th, 2001.
21. Colloquium, College of William & Mary, Williamsburg, VA, February 16th, 2001.
22. Colloquium, College of William & Mary, Williamsburg, VA, September, 2000.

23. 20th Southeastern-Atlantic Regional Conf. on Differential Equations, Virginia Tech, Blacksburg, VA, October 21st, 2000.
24. SIAM Dynamical system conference, Snowbird, UT, May, 1999.
25. Applied Mathematics Seminar, Tulane University, New Orleans, LA, October 1998.
26. Colloquium, Tulane University, New Orleans, LA, September 1998.
27. Conference on Waves in Mathematical Biology, University of Pittsburgh, Pittsburgh, PA, September 1998.

PUBLISHED
SOFTWARE

Java applet drawing bifurcation diagram for elliptic equations (1998)
<http://www.math.wm.edu/~shij/java/bifurcation.html>

COMMITTEE
SERVICE

College committee service

- Art and Sciences library policy committee (Fall 2006)
- College admission policy advisory committee (2008-2011, 2013-2016, chair 2016)
- Academic Calendar Advisory Committee (2011-2012, 2013-2014)
- Art and Science Committee on Honors and Interdisciplinary Studies (2016-2019)
- ISC4 Building Committee (2018-)

Department of Mathematics committees

- Merit Evaluation committee: 2009-2010.
- Personnel committee: 2010-2011 (coordinator), 2011-2012, 2013-2014, 2017-2018.
- Colloquium Committee: 2008-2012(chair), 2013-2018(chair)
- Mathematics Contests adviser(VPI, Putnam): 2004-2007.
- Mathematics Contests Committee: 2008-2012(chair), 2013-2014(chair)
- Applied Math hiring committee: 2005-2006
- Biomath hiring committee: 2006-2007, 2013-2014(chair)
- Statistics hiring committee: 2017-2018
- Actuarial hiring committee: 2019
- Computer committee: 2001-current
- Department webmaster: 2001-current
- Student information: 2005-2007
- Library representative: 2005-2007
- Online newsletter editor: 2002-2007
- Institute representative of AMS, SIAM and MAA: 2002-2007
- Space committee: 2000-2005
- Handbook committee: 2000-2001
- Undergraduate adviser: 2003-2004, 2005-2007, 2008-2012, 2013-2014, 2015-2016, 2017-2020
- Math 112 (Calculus II) course coordinator: Spring 2003, Fall 2003, Fall 2004

CONFERENCE
ORGANIZING

1. Co-organizer of *International Workshop on Nonlinear Analysis, Partial Differential Equations and Applications*, Jiangsu University, Zhenjiang, China, October 24-25, 2020. (online conference)
2. Co-organizer of special session on *Recent Advances in Mathematical Biology*, AMS Sectional Meeting at University of Virginia, Charlottesville, VA, March 13-15, 2020. (conference was cancelled due to COVID)
3. Co-organizer of special session on *Emergence and Dynamics of Patterns in Nonlinear Partial Differential Equations and Related Fields*, 13th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Atlanta, GA, USA, June 5-9, 2020. (conference was cancelled due to COVID)
4. Co-organizer of *The Thirteenth International Conference on Recent Advances in Applied Dynamical Systems*, Hangzhou Normal University, Hangzhou, China, June 8-10, 2019.
5. Co-organizer of *The Twelfth International Conference on Recent Advances in Applied Dynamical Systems*, Chongqing Normal University, Chongqing, China, June 8-10, 2018.
6. Co-organizer of Special Session on *Recent Advances in Nonlinear Schrödinger Equations*, AMS Sectional Meeting at University of Delaware, Newark, DE, September 29-30, 2018.
7. Member of Global Organizing Committee, Co-organizer of special session on *Emergence and Dynamics of Patterns in Nonlinear Partial Differential Equations and Related Fields*, 12th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan, July 5-9, 2018.
8. Co-organizer of special session on *Nonlinear partial differential equations arising from life science*, AMS Sectional Meeting at SUNY Buffalo in Buffalo, NY, September 16-17, 2017.
9. Co-organizer of *The Eleventh International Conference on Recent Advances in Applied Dynamical Systems*, Xi'an Jiaotong University, Xi'an, China, June 9-12, 2017.
10. Co-organizer of *International Workshop on Nonlinear Analysis and Reaction-Diffusion Equations*, Jiangsu University, Zhenjiang, China, June 3-5, 2017.
11. Co-organizer of *Undergraduate EXTREEMS-QED workshop*, College of William & Mary, April 8, 2017.
12. Member of Global Organizing Committee, Co-organizer of special session on *Emergence and Dynamics of Patterns in Nonlinear Partial Differential Equations from Mathematical Science*, 11th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Orlando, FL, USA, July 1-5, 2016.
13. Co-organizer of *The Tenth International Conference on Recent Advances in Applied Dynamical Systems*, Jiangsu Normal University, Xuzhou, China, June 11-13, 2016.
14. Co-organizer of *Workshop in Application of Mathematics in Economics and Finance*, Harbin Normal University, Harbin, China, January 13-14, 2016.
15. Chair of Organizing Committee of *International Symposium on Application of Nonlinear Partial Differential Equations in Life Science*, Chern Institute of Mathematics, Nankai University, Tianjin, China, August 4-7, 2015.
16. Organizing committee member of *Workshop on Hamiltonian Systems and Variational Methods*, Southeast University, Nanjing, China, May 30-31, 2015.
17. Organizing committee member of *Recent advances in reaction-diffusion equations and applications*, Jiangsu Normal University, Xuzhou, China, May 21-24, 2015.
18. Organizing committee member of *International Workshop on Mathematics in Life and Physical Sciences*, Institute for Mathematical Sciences, Renmin University of China, May 19-21, 2015.
19. Co-organizer of special session on *Qualitative Behavior of Solutions of Partial Differential Equations*, AMS Spring Northeastern Section Meeting, Georgetown University, Washington, DC, USA, March 7-8, 2015.

20. Co-organizer of special session on *Qualitative analysis of reaction diffusion systems*, 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain, July 7-11, 2014.
21. Co-organizer of *The Eighth International Conference on Recent Advances in Applied Dynamical Systems*, Guilin University of Electronic Technology, Guilin, China, June 2-4, 2014.
22. Co-organizer of *Workshop on Nonlinear Elliptic Systems*, Taiyuan, China, July 24-26, 2013.
23. Co-organizer of *The Seventh International Conference on Recent Advances in Applied Dynamical Systems*, Linyi, China, June 8-10, 2013.
24. Co-organizer of Special session on *Pattern Formation in Biology*, Fourth Conference on Computational and Mathematical Population Dynamics (CMPD4), Taiyuan, China, May 29–June 2, 2013.
25. Co-organizer of Special Session on *Understanding Planet Earth via Reaction Diffusion Equations*, 2013 Joint Mathematics Meeting, San Diego, CA, USA, Jan 9–12, 2013.
26. Co-organizer of *9th Eastern China PDE Conference*, Shanxi University, Taiyuan, China, July 16–19, 2012.
27. Co-organizer of special session on *Nonlinear Elliptic and Parabolic Problems in Mathematical Sciences*, 9th AIMS International Conference on Dynamical Systems, Differential Equations, and Applications, Orlando, FL, USA, July 1–5, 2012.
28. Co-organizer of *Undergraduate Mathematics Conference in Washington*, George Washington University, DC, April 21–22, 2012.
29. Co-organizer of special session on *Self-organization phenomena in reaction diffusion equations*, 2012 Spring AMS Eastern Section Meeting, Washington, DC, USA, March 17–18, 2012.
30. Co-organizer of special session *Reaction Diffusion Equations and Applications*, 2012 Joint Mathematics Meeting, Boston, MA, USA, Jan 4–7, 2012.
31. Co-organizer of *2011 Nonlinear Reaction-Diffusion Equations Summer School*, Shanxi University, Taiyuan, Shanxi, China, July 17-27, 2011.
32. Co-organizer of *Fifth International Conference on Recent Advances in Applied Dynamical Systems*, Shanghai, China, May 16–18, 2011.
33. Co-organizer of *GMU-WM 2011 CSUMS Spring Workshop*, Williamsburg, Virginia, USA, April 16, 2011.
34. Co-organizer of special session *Analysis of Reaction-Diffusion Models*, 2011 Joint Mathematics Meeting, New Orleans, Louisiana, USA, Jan 6–9, 2011.
35. Co-organizer of special session *Differential Equations and Applications to Physics and Biology*, 2010 Fall AMS Southeastern Section Meeting, Richmond, Virginia, Nov 6–7, 2010.
36. Co-organizer of *Fourth International Conference on Recent Advances in Applied Dynamical Systems*, Zhejiang Normal University, Jinhua, China, June 17–20, 2010.
37. Main organizer of *International Workshop on Reaction-Diffusion Models and Mathematical Biology*, Harbin, China, June 24–June 27, 2009.
38. Co-organizer of *International Conference on Nonlinear Partial Differential Equations and Geometric Analysis*, Harbin, China, June 30–July 4, 2008.
39. Organizer of special session *Nonlinear Elliptic and Parabolic PDEs with Applications*, The Seventh AIMS International Conference on Dynamical Systems and Differential Equations, University of Texas at Arlington, Arlington, TX, May 2008.
40. Co-Organizer of *International Workshop on Banach Space, Operator Theory and Applications in Nonlinear Analysis*, Y.Y. Tsengs Functional Analysis Research Center, Harbin Normal University, Harbin, China, July 25-27, 2007.
41. Co-organizer of *Second International Conference on Recent Advances in Applied Dynamical Systems*, Zhejiang Normal University, Jinhua, China, June 4-8, 2007.

42. Co-Organizer of *Workshop on Analysis and PDE*, Y.Y. Tsengs Functional Analysis Research Center, Harbin Normal University, Harbin, China, July 21–22, 2006.
43. Co-Organizer of AMS-SIAM Special Session on *Reaction Diffusion Equations and Applications*, Joint Mathematics Meetings, Atlanta, January 5-8, 2005.
44. Organizer of special session on *Recent Developments on Nonlinear Elliptic Equations and Variational Problems*, The Fifth AIMS International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona, CA, June 2004.
45. Co-organizer of mini-symposium on Steady States in *Reaction-Diffusion Systems*, SIAM Pacific Rim Dynamical Systems Conference, Maui, HI, August 2000.

HOST FOR
ACADEMIC VISITORS
(LONGER THAN 1
WEEK)

- Zhitao Zhang (Chinese Academy of Sciences, China, Spring 2004)
- Yuwen Wang (Harbin Normal University, China, Dec. 2005–Jan. 2006)
- Jiabao Su (Capital Normal University, China, March-April 2006)
- Jitao Sun (Tongji University, China, Nov. 2009–May 2010)
- Shanshan Chen (PhD student, Harbin Institute of Technology, China, Aug. 2010–Aug. 2011, Aug. 2018–Aug. 2019)
- Xiaorong Gan (Kunming University of Science and Technology, China, Dec. 2010–May 2011)
- Jibin Li (Zhejiang Normal University, China, Oct. 2010)
- Maoan Han (Shanghai Normal University, China, Oct. 2010)
- Chuncheng Wang (University of Wyoming, May 2011–June 2011)
- Ping Liu (Harbin Normal University, China, Aug. 2011–Aug. 2012, Dec. 2016–Dec. 2017, Jan. 2019–Feb. 2019)
- Qiang Mu (Harbin Normal University, China, Aug. 2011–Aug. 2013, Apr. 2017–Dec. 2017, Jan. 2019–Feb. 2019)
- Chan-Gyun Kim (National Pusan University, Korea, Sept. 2011–July 2013)
- Jeong-Mi Jeong (National Pusan University, Korea, Sept. 2011–July 2013)
- Jun Zhou (Southwest University, China, Jan. 2012–Jan. 2013)
- Fengqi Yi (Harbin Engineering University, China, March 2012)
- Jann-Long Chern (National Central University, Taiwan, May 2008 and July 2012)
- Yihong Du (University of New England, Australia, November 2012)
- Xiangping Yan (Lanzhou Jiaotong University, China, Aug. 2013–Aug. 2014)
- Leiga Zhao (Beijing Chemical Engineering University, China, Aug. 2013–Feb. 2014)
- Fukun Zhao (Yunnan Normal University, China, Aug. 2013–Feb. 2014)
- Hong Li (University of Electronic Science and Technology of China, Sept. 2013–Sept. 2014)
- Jun Wang (Jiangsu University, China, Dec. 2013–Dec. 2014, Jul. 2018–Jul. 2019)
- Yulian An (Shanghai Institute of Technology, China, Dec. 2013–Jan. 2015, Aug. 2019)
- Zhanping Liang (Shanxi University, China, Jan. 2014–Jan. 2015)
- Yujuan Chen (Nantong University, China, Jan. 2014, Oct. 2014, Sept.-Oct. 2015)
- Guohong Zhang (Southwest University, China, Aug. 2014–Aug. 2015)
- Xiaoli Wang (Southwest University, China, Aug. 2014–Aug. 2015, Aug. 2018–Aug. 2019)
- Shunyong Li (Shanxi University, China, Sept. 2014–Sept. 2015)
- Sainan Wu (PhD student, Harbin Institute of Technology, China, Sept. 2014–Sept. 2016)
- Fangfang Jiang (PhD student, Tongji University, China, Jan. 2015–Apr. 2015)
- Xiaoqin Zhang (Shanxi University, China, Feb. 2015–Feb. 2016)
- Yuhua Li (Shanxi University, China, Feb. 2015–Feb. 2016)

- Deqiong Ding (Harbin Institute of Technology at Weihai, China, Feb. 2015–Feb. 2016)
- Wenjie Zuo (China University of Petroleum (East China), Aug. 2015-Aug. 2016)
- Jinfeng Wang (Harbin Normal University, China, Oct. 2015-Oct. 2016, Oct. 2017-Dec. 2017, Jan. 2020-Mar. 2020)
- Xiaoyuan Chang (Harbin University of Science and Technology, China, Feb. 2016-Feb. 2017; Aug. 2019-Aug. 2020)
- Jimin Zhang (Heilongjiang University, China, Feb. 2016-Feb. 2017; Aug. 2019-Aug. 2020)
- Wenjie Ni (PhD student, Harbin Institute of Technology, China, Aug. 2016-Feb. 2018)
- Qingyan Shi (PhD student, Tongji University, China, Sept. 2016-Sept. 2018)
- Xiaoyan Zhang (Shandong University, Dec. 2016-Aug. 2017)
- Yingli Pan (PhD student, Harbin Institute of Technology, China, Feb. 2017-Aug. 2017)
- Toru Kan (Tokyo Institute of Technology, Japan, March 2017)
- Ying Su (Harbin Institute of Technology, China, March 2017-April 2017)
- Lu Xiao (Jiangsu University, China, Jul. 2018-Jul. 2019)
- Qi Zhang (Shanxi University, China, Dec. 2018-Jun. 2019)
- Xiaoli Zhu (Shanxi University, China, Dec. 2018-Jun. 2019)
- Yiwon Tao (PhD student, Zhengzhou University, China, Apr. 2019-Aug. 2019)
- Yongyan Huang (Shanxi University, China, Jun. 2019-Dec. 2019)
- Rong Cheng (Nanjing University of Information Science and Technology, China, May 2019-Nov. 2019)
- Penglong Shao (PhD student, Harbin Institute of Technology, China, Aug. 2019-Feb. 2021)
- Yuta Ishii (PhD student, Tokyo Metropolitan University, Japan, Nov. 2019-Dec. 2019)

REFEREEING FOR
JOURNALS

Totally > 500 manuscripts for > 100 journals in mathematics, physics and biology (2000-2021), about 30 – 50 each year since 2008

1. Abstract and Applied Analysis
2. Acta Applicandae Mathematicae
3. Acta Mathematica Applicatae Sinica
4. Advances in Mathematics (China)
5. Advances in Nonlinear Analysis
6. Advanced Nonlinear Studies
7. Applicable Analysis
8. Applied Mathematics Letters
9. Archive for Rational Mechanics and Analysis
10. Automatica
11. Boundary Value Problems
12. Bulletin of the Malaysian Mathematical Sciences Society
13. Bulletins of Mathematical Biology
14. Chaos
15. Chaos, Solitons & Fractals
16. Communications in Contemporary Mathematics
17. Communications of Partial Differential Equations
18. Communications on Pure and Applied Analysis
19. Complex Variables and Elliptic Equations

20. Computers and Mathematics with Applications
21. Discrete and Continuous Dynamical Systems A
22. Discrete and Continuous Dynamical Systems B
23. Discrete and Continuous Dynamical Systems S
24. Dynamical Systems
25. Dynamics of PDE
26. Ecological Complexity
27. Ecological Modelling
28. Ecosystems
29. Electronic Journal of Differential Equations
30. Electronic Journal of Qualitative Theory of Differential Equations
31. Estuaries and Coasts
32. European Journal of Applied Mathematics
33. Frontiers Marine Science
34. Frontier of Mathematics in China
35. Global Journal of Pure and Applied Mathematics
36. IMA Journal Applied Mathematics
37. IMA Journal Mathematical Medicine and Biology
38. International Journal of Bifurcation and Chaos
39. International Journal of Biomathematics
40. International Journal of Differential Equations
41. International Journal of Dynamical Systems and Differential Equations
42. International Journal of Mathematics and Mathematical Sciences
43. Journal of Applied Analysis and Computation
44. Journal of Biological Dynamics
45. Journal of Difference Equations and Applications
46. Journal of Differential Equations
47. Journal of Dynamics and Differential Equations
48. Journal of European Mathematical Society
49. Journal of Fixed Point Theory and Applications
50. Journal of Franklin Institute
51. Journal of Functional Analysis
52. Journal of London Mathematical Society
53. Journal of Mathematical Analysis and Applications
54. Journal of Mathematical Biology
55. Journal of Nonlinear Science
56. Kinetic and Related Models
57. Mathematical Biosciences
58. Mathematical Biosciences and Engineering
59. Mathematical and Computer Modeling
60. Mathematics and Computers in Simulation
61. Mathematical Methods in the Applied Sciences

62. Mathematical Modelling and Analysis
63. Mathematics in Applied Science and Engineering
64. Memoir of American Mathematical Society
65. MDPI Mathematics
66. Modelling and Simulation in Engineering
67. Natural Resource Modeling
68. Networks and Heterogeneous Media
69. New Journal of Physics
70. Nonlinear Analysis, Hybrid Systems
71. Nonlinear Analysis, Real World Applications
72. Nonlinear Analysis, Theory, Methods & Applications
73. Nonlinear Dynamics
74. Nonlinearity
75. Numerical Algorithms
76. Numerical Methods for Partial Differential Equations
77. Physica A
78. Physica D
79. PLOSone
80. Proceedings of American Mathematical Society
81. Proceedings of London Mathematical Society
82. Proceeding of Royal Society, A
83. Proceedings of Royal Society of Edinburgh
84. Qualitative Theory of Dynamical Systems
85. Rendiconti dell'Istituto di Matematica dell'Universit di Trieste
86. Rocky Mountain Journal of Mathematics
87. Science in China (Mathematics)
88. SIAM Journal of Applied Mathematics
89. SIAM Journal of Applied Dynamical Systems
90. SIAM Journal of Mathematical Analysis
91. SN Partial Differential Equations and Applications
92. Studies in Applied Mathematics
93. Taiwanese Journal of Mathematics
94. Theoretical Ecology
95. Theoretical Population Biology
96. Theory in Biosciences
97. Topological and Mathematical Nonlinear Analysis
98. Transactions of American Mathematical Society
99. ZAMP

OTHER REVIEW
ACTIVITIES

1. Panelist of NSF panels (Nov 2009, April 2011, April 2015, Nov 2016, Feb 2018, Oct 2019)
2. Reviewer for Fulbright Scholar Program (2015)
3. Reviewer for Changjiang Professorship, China (2014)
4. Reviewer for Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (2015, 2017, 2018, 2019)
5. Reviewer for Alberta Innovates Strategic Research Projects (2016)
6. Reviewer for Jeffress Trust Awards Program in Interdisciplinary Research (2020)
7. External reviewer of tenure/full professor promotion (2015, 2017, 2018, 2019)
8. Reviewer for *Mathematical Reviews* (MathSciNet). (40+ reviews since 2000)
9. Reviewer for PSC-CUNY research Award (2008, 2009)
10. Reviewer for Book: a collection of essays in spatial ecology (2008)
11. Reviewer for Conference: ICNAAM 2008 (2008)
12. Reviewer for textbooks: (a) *Differential Equations Manuscript*, Cengage Learning, Inc. (2007); (b) *Applied Differential Equations* text by Michael Greenberg, Addison Wiley (2008); (c) *Calculus For the Life Sciences: A Modeling Approach*, by James L. Cornette and Ralph A. Ackerman, John Wiley & Sons (2008); (d) *Biocalculus*, Brooks/Cole& Cengage Learning, (2009).