KYLE K. ZHAO **kzhao@tulane.edu**

Contact Information

Mathematics Department
Tulane University
6823 St. Charles Avenue
New Orleans, LA 70118 USA

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Education

- Ph.D. in Mathematics, Georgia Institute of Technology 2004–2009
- M.S. in Mathematics, University of Science and Technology of China 2001–2004
- B.S. in Mathematics, University of Science and Technology of China 1997–2001

Employment

- Associate Professor, Mathematics Department, Tulane University 2018 – now
- Assistant Professor, Mathematics Department, Tulane University 2012–2018
- Visiting Assistant Professor, Department of Mathematics, University of Iowa 2011–2012
- Postdoctoral Researcher, Mathematical Biosciences Institute 2009–2011

Research Interests

- Analysis of Partial Differential Equations, Mathematical Biology, Fluid Dynamics

Publications

Works Published in Peer Reviewed Journals

1. T. Li, D. Wang, F. Wang, Z. Wang and **K. Zhao**, Large time behavior and diffusion limit for a system of balance laws from chemotaxis in multi-dimensions, *Communications in Mathematical Sciences*, Vol. 19, pp. 229-272, 2021.
2. D. Wang, Z. Wang and **K. Zhao**, Cauchy problem of a system of parabolic conservation laws arising from the singular Keller-Segel model in multi-dimensions, *Indiana University Mathematics Journal*, Vol. 70, pp. 1-47, 2021.
3. Z.-F. Feng, J. Xu, L. Xue and **K. Zhao**, Initial and boundary value problem for a system of balance laws from chemotaxis: global dynamics and diffusion limit, *Annals of Applied Mathematics*, Vol. 37, pp. 61-110, 2021.
4. F. Wang, L. Xue, **K. Zhao** and X. Zheng, Global stabilization and boundary control of generalized Fisher/KPP equation and application to diffusive SIS model, *Journal of Differential Equations*, Vol. 275, pp. 391-417, 2021.
5. N. Zhu, Z. Liu, F. Wang and **K. Zhao**, Asymptotic dynamics of a system of conservation laws from chemotaxis, *Discrete and Continuous Dynamical Systems*, Vol. 41, pp. 813-847, 2021.
6. B. Li, F. Wang and **K. Zhao**, Large time dynamics of 2D semi-dissipative Boussinesq systems, *Nonlinearity*, Vol. 33, pp. 2481-2501, 2020.
7. J. Fan, L. Jing, G. Nakamura and **K. Zhao**, Qualitative analysis of an integrated chemotaxis-fluid model: global existence and extensibility criterion, *Communications in Mathematical Sciences*, Vol. 18, pp. 809-836, 2020.
8. S. Li, J. Wu and **K. Zhao**, On the degenerate Boussinesq equations on surfaces, *Journal of Geometric Mechanics*, Vol. 12, pp. 107-140, 2020.

9. Y. Zeng and **K. Zhao**, Erratum to "Optimal Decay Rates for a Chemotaxis Model with Logistic Growth, Logarithmic Sensitivity and Density-dependent Production/Consumption Rate" [J. Differential Equations (2020) 1379-1411], *Journal of Differential Equations*, Vol. 269, pp. 6359-6363, 2020.
10. L. Tao, J. Wu, **K. Zhao** and X. Zheng, Stability near hydrostatic equilibrium to the 2D Boussinesq equations without thermal diffusion, *Archive for Rational Mechanics and Analysis*, Vol. 237, pp. 585-630, 2020
11. N. Zhu, Z. Liu, F. Wang and **K. Zhao**, Explicit decay rates for a generalized Boussinesq-Burgers system, *Applied Mathematics Letters*, Vol. 100, 106054, 7 pp, 2020.
12. Y. Zeng and **K. Zhao**, Optimal decay rates for a chemotaxis model with logistic growth, logarithmic sensitivity and density-dependent production/consumption rate, *Journal of Differential Equations*, Vol. 268, pp. 1379-1411, 2020
13. Y. Zeng and **K. Zhao**, On the Keller-Segel-Fisher/KPP system, *Discrete and Continuous Dynamical Systems - Series A*, Vol. 39, pp. 5365–5402, 2019.
14. L. Rebholz, D. Wang, Z. Wang, C. Zerfas and **K. Zhao**, Initial boundary value problems for a system of parabolic conservation laws arising from chemotaxis in multi-dimensions, *Discrete and Continuous Dynamical Systems - Series A*, Vol. 39, pp. 3789-3838, 2019.
15. L. Guan, D. Li, K. Wang and **K. Zhao**, On a class of nonlocal SIR models, *Journal of Mathematical Biology*, Vol. 78, pp. 1581-1604, 2019.
16. N. Zhu, Z. Liu and **K. Zhao**, Non blowup of a generalized Boussinesq-Burgers system with nonlinear dispersion relation and large data, *Physica D: Nonlinear Phenomena*, Vol. 392, pp. 81-98, 2019.
17. J. Fan and **K. Zhao**, Improved extensibility criteria and long-time behavior of a coupled chemotaxis-fluid model, *Discrete and Continuous Dynamical Systems - Series B*, Vol. 23, pp. 3949-3967, 2018.
18. N. Zhu, Z. Liu, V. Martinez and **K. Zhao**, Global Cauchy problem of a system of parabolic conservation laws arising from a Keller-Segel type chemotaxis model, *SIAM Journal on Mathematical Analysis*, Vol. 50, pp. 5380-5425, 2018.
19. C. Doering, J. Wu, **K. Zhao** and X. Zheng, Long-time behavior of two-dimensional Boussinesq equations without buoyancy diffusion, *Physica D: Nonlinear Phenomena*, Vol. 376/377, pp. 144-159, 2018.
20. H. Peng, Z. Wang, **K. Zhao** and C. Zhu, Boundary layers and stabilization of the singular Keller-Segel model, *Kinetic and Related Models*, Vol. 11, pp. 1085-1123, 2018.
21. V. Martinez, Z. Wang and **K. Zhao**, Asymptotic and viscous stability of large-amplitude solutions of a hyperbolic system arising from biology, *Indiana University Mathematics Journal*, Vol. 67, pp. 1383-1424, 2018.
22. N. Zhu, Z. Liu, and **K. Zhao**, On the Boussinesq-Burgers equations driven by dynamic boundary conditions, *Journal of Differential Equations*, Vol. 264, pp. 2287-2309, 2018.
23. V. Martinez and **K. Zhao**, Analyticity and dynamics of a Navier-Stokes-Keller-Segel system on bounded domains, *Dynamics of Partial Differential Equations*, Vol. 14, pp. 125-158, 2017.
24. L. Rebholz, C. Zerfas and **K. Zhao**, Global in time analysis and sensitivity analysis for the reduced NS-α model of incompressible flow, *Journal of Mathematical Fluid Mechanics*, Vol. 19, pp. 445-467, 2017.
25. Q. Hou, Z. Wang and **K. Zhao**, Boundary layers on a hyperbolic system arising from chemotaxis, *Journal of Differential Equations*, Vol. 261, pp. 5035-5070, 2016.
26. T. Li and **K. Zhao**, Analysis of non-isentropic compressible Euler equations with relaxation,

Journal of Differential Equations, Vol. 259, pp. 6338-6367, 2015.

27. D. Li, R. Pan and **K. Zhao**, Quantitative decay of a hybrid type chemotaxis model with large data, *Nonlinearity*, Vol. 28, pp. 2181-2210, 2015.
28. H. Li and **K. Zhao**, Initial boundary value problems for a system of hyperbolic balance laws arising from chemotaxis, *Journal of Differential Equations*, Vol. 258, pp. 302-338, 2015.
29. J. Fan and **K. Zhao**, Global dynamics of a coupled chemotaxis-fluid model on bounded domains, *Journal of Mathematical Fluid Mechanics*, Vol. 16, pp. 351-364, 2014.
30. J. Fan and **K. Zhao**, A note on a 3D haptotaxis model of cancer invasion, *Applied Mathematics Research Express*, Vol. 2014, 74-86, 2014.
31. J. Fan and **K. Zhao**, Global Cauchy problem of 2D generalized MHD equations, *Journal of Mathematical Analysis and Applications*, Vol. 420, pp. 1024-1032, 2014.
32. J. Lowengrub, E.S. Titi and **K. Zhao**, Analysis of a mixture model of tumor growth, *European Journal of Applied Mathematics*, Vol. 24, pp. 691-734, 2013.
33. S. Dai, D. Li and **K. Zhao**, Finite-time quenching of competing species with constrained border evaporation, *Discrete and Continuous Dynamical Systems - Series B*, Vol. 18, pp. 1275-1290, 2013.
34. Z. Wang and **K. Zhao**, Global dynamics and diffusion limit of a parabolic system arising from repulsive chemotaxis, *Communications on Pure and Applied Analysis*, Vol. 12, pp. 3027-3046, 2013.
35. J. Fan and **K. Zhao**, Blow up criteria for a hyperbolic-parabolic system arising from chemotaxis, *Journal of Mathematical Analysis and Applications*, Vol. 394, pp. 687-695, 2012.
36. T. Li, R. Pan and **K. Zhao**, Global dynamics of a chemotaxis model on bounded domains with large data, *SIAM Journal on Applied Mathematics*, Vol. 72, pp. 417-443, 2012.
37. **K. Zhao**, Large time behavior of density-dependent incompressible Navier-Stokes equations on bounded domains, *Journal of Mathematical Fluid Mechanics*, Vol. 14, pp. 471-483, 2012.
38. **K. Zhao**, Long-time dynamics of a coupled Cahn-Hilliard-Boussinesq system, *Communications in Mathematical Sciences*, Vol. 10, pp. 735-749, 2012.
39. T. Li and **K. Zhao**, Global existence and long-time behavior of entropy weak solutions to a quasilinear hyperbolic blood flow model, *Networks and Heterogeneous Media*, Vol. 6, pp. 625-646, 2011.
40. D. Li, T. Li and **K. Zhao**, On a hyperbolic-parabolic system modeling repulsive chemotaxis, *Mathematical Models and Methods in Applied Sciences*, Vol. 21, pp. 1631-1650, 2011.
41. T. Li and **K. Zhao**, On a quasilinear hyperbolic system in blood flow modeling, *Discrete and Continuous Dynamical Systems - Series B*, Vol. 16, pp. 333-344, 2011.
42. **K. Zhao**, Global regularity for a coupled Cahn-Hilliard-Boussinesq system on bounded domains, *Quarterly of Applied Mathematics*, Vol. 69, pp. 331-356, 2011.
43. **K. Zhao**, Large time behavior for Cahn-Hilliard-Boussinesq equations on bounded domains, *Electronic Journal of Differential Equations*, Vol. 2011, No. 46, pp. 1-21, 2011.
44. M. Lai, R. Pan and **K. Zhao**, Initial boundary value problem for 2D viscous Boussinesq equations, *Archive for Rational Mechanics and Analysis*, Vol. 199, pp. 739-760, 2011.
45. **K. Zhao**, 2D inviscid heat conductive Boussinesq system in a bounded domain, *Michigan Mathematical Journal*, Vol. 59, pp. 329-352, 2010.
46. **K. Zhao**, On the isothermal compressible Euler equations with frictional damping, *Communications in Mathematical Analysis*, Vol. 9, pp. 77-97, 2010.
47. K. Fakhar, T. Hayat, Y. Cheng and **K. Zhao**, Symmetry transformation of solutions for the

Navier-Stokes equations, *Applied Mathematics and Computation*, Vol. 207, pp. 213-224, 2009.

48. R. Pan and **K. Zhao**, 3D compressible Euler equations with damping in a bounded domain, *Journal of Differential Equations*, Vol. 246, pp. 581-596, 2009.
49. R. Pan and **K. Zhao**, Initial boundary value problem for compressible Euler equations with damping, *Indiana University Mathematics Journal*, Vol. 57, pp. 2257-2282, 2008.
50. Z. Chen and **K. Zhao**, Global bifurcation from the eigenvalues of the p-Laplacian operator in weighted Sobolev spaces, *Acta Mathematica Scientia*, Vol. 25, pp. 145-157, 2005.
51. Z. Chen and **K. Zhao**, On bifurcation problem for a semilinear biharmonic equation, *J. Univ. Sci. Tech. China*, Vol. 34, pp. 283-294, 2004.
52. Z. Chen and **K. Zhao**, Global bifurcation from eigenvalues of some biharmonic equations, *Inter. J. Diff. Equ. Appl.*, Vol. 7, pp. 181-193, 2003.

Works Published in Conference Proceedings

53. Y. Zeng and **K. Zhao**, Optimal time decay rates for a chemotaxis model with logarithmic sensitivity, *Proceedings of AMMCS 2019*, in press.
54. Y. Zeng and **K. Zhao**, Recent results for the logarithmic Keller-Segel-Fisher/KPP system, *Boletim da Sociedade Paranaense de Matemática*, Vol. 38, pp. 37-48, 2020.
55. R. Pan and **K. Zhao**, Initial boundary value problems for compressible Euler equations with damping, *Hyperbolic problems: theory, numerics and applications*, pp. 825-834, *Proceedings of Symposia in Applied Mathematics*, 67, Part 2, American Mathematical Society, Providence, RI, 2009.
56. Z. Chen and **K. Zhao**, Global bifurcation from the eigenvalues of some semilinear biharmonic equations, *Nonlinear Evolution Equations and Dynamical Systems*, pp. 13-23, World Scientific Publication, River Edge, NJ, 2003.

Ph.D. Thesis

57. **K. Zhao**, *Initial-boundary value problems in fluid dynamics*, PhD Thesis, Georgia Institute of Technology. 2009. 157 pp. ISBN: 978-1109-62174-7, ProQuest LLC.

Works Submitted to Peer Reviewed Journals

58. R.M. Fuster-Aguilera, V. Martinez and **K. Zhao**, Initial boundary value problem of a PDE model for chemotaxis with logarithmic sensitivity and logistic growth. Submitted to *Contemporary Mathematics and its Applications: Monographs, Expositions and Lecture Notes*.
59. H.-L. Zhang and **K. Zhao**, On 3D Hall-MHD equations with fractional Laplacians: global well-posedness. Submitted to *Journal of Mathematical Fluid Mechanics*.

Works in Preparation

60. J. Xu, Z.-F. Feng, L. Xue and **K. Zhao**, On a system of parabolic balance laws from chemotaxis: existence and uniqueness of time-periodic solutions.
61. B. Li, F. Wang, K. Yang and **K. Zhao**, Energy critical Cahn-Hilliard-Brinkman equations: global well-posedness.
62. X. Zheng, **K. Zhao**, T. Jackson and J. Lowengrub, Tumors growing according to Darcy's law move towards regions of low extracellular matrix conductivity under steady morphology.
63. L. Xue and **K. Zhao**, On a system of balance laws from chemotaxis: stability under unmatched dynamic boundary data.
64. R.M. Fuster-Aguilera, V. Martinez and **K. Zhao**, Global stabilization of a PDE model for chemotaxis with logistic growth and dynamic boundary conditions.

Short Term Academic Visits

- Department of Mathematics, Harbin Engineering University, Harbin, China, 2020
- Department of Mathematics, Changsha University of Science and Technology, Changsha, China, 2020
- Department of Mathematics, Hunan Normal University, Changsha, China, 2020
- Center for Applied Mathematics, Tianjin University, Tianjin, China, 2019
- Department of Mathematics, Harbin Engineering University, Harbin, China, 2019
- Center for Applied Mathematics, Tianjin University, Tianjin, China, 2018
- Department of Applied Mathematics, Hong Kong Polytechnic University, 2018
- Department of Mathematics, Hong Kong University of Science and Technology, 2018
- Department of Mathematics, University of Alabama, Birmingham, AL, 2017
- Center for Applied Mathematics, Tianjin University, Tianjin, China, 2017
- Center for Applied Mathematics, Tianjin University, Tianjin, China, 2016
- Department of Mathematics, South China University of Technology, Guangzhou, China, 2016
- Department of Mathematics, Hong Kong University of Science and Technology, 2016
- Department of Mathematics, City University of Hong Kong, 2016
- Department of Applied Mathematics, Hong Kong Polytechnic University, 2016
- Department of Mathematics, University of British Columbia, Vancouver, Canada, 2016
- Mathematical Biosciences Institute, The Ohio State University, Columbus, OH, 2015
- Center for Applied Mathematics, Tianjin University, Tianjin, China, 2015
- Department of Mathematics, University of Pittsburgh, Pittsburgh, PA, 2014
- Department of Mathematics, University of British Columbia, Vancouver, Canada, 2014
- Department of Mathematics, Central Michigan University, Mount Pleasant, MI, 2014
- Courant Institute of Mathematical Sciences, New York University, New York, NY, 2014

Honors and Awards

- (PI) Simons Collaboration Grant for Mathematicians, 2016-2022, Amount: $35,000
- Certificate of Outstanding Contribution in Reviewing, Journal of Differential Equations, 2015
- (PI) LA BoR Research Competitiveness Subprogram Award, 2015-2018, Amount: $58,242
- Certificate of Reviewing Excellence, Journal of Mathematical Analysis and Applications, 2014
- Research-in-Team at Banff International Research Station, Canada, March, 2014
- MBI Early Career Award, 2014, Amount: $15,550 (supported by NSF)
- (PI) LA EPSCoR Pilot Fund, Amount: $10,000 (supported by NSF)
- (PI) NSF Conference Grant DMS-1342607, 2013, Amount: $18,080
- CoR Research Fellowship, Office of Provost, Tulane University, 2013, Amount: $4,700

Memberships

- American Mathematical Society (AMS)
- Society for Industrial and Applied Mathematics (SIAM)
- Mathematical Association of America (MAA)

Presentations

- 2020
  - Invited Talk, International Workshop on Differential Equations and Applications in Biology, Central Florida University, Orlando, FL, March
  - Invited Talk, Department of Mathematics, Harbin Engineering University, Harbin, China, January
  - Invited Talk, Department of Mathematics, Changsha University of Science and Technology, Changsha, China, January

- Invited Talk, Department of Mathematics, Hunan Normal University, Changsha, China, January

- 2019
  - Invited Mini-Symposium Talk, SIAM Conference on Analysis of Partial Differential Equations, La Quinta, CA, December
  - Invited Mini-Symposium Talk, AMS Fall Southeastern Sectional Meetings, University of Florida, Gainesville, FL, November
  - Invited Talk, AMS/AWM Faculty Talk, Department of Mathematics, Tulane University, October
  - Invited Mini-Symposium Talk, Annual Meeting and Conference of the Society for Mathematical Biology, Montréal, Canada, July
  - Invited Mini-Symposium Talk, International Council for Industrial and Applied Mathematics, Valencia, Spain, July
  - Invited Talk, Center for Applied Mathematics, Tianjin University, Tianjin, China, July
  - Invited Talk, Workshop on Recent Mathematical Advances in Biological Models, Harbin Engineering University, Harbin, China, June
  - Invited Talk, The 2019 Summer Workshop on Nonlinear Partial Differential Equations, Harbin Engineering University, Harbin, China, June
  - Invited Talk, PDE Forum: Modeling and Analysis, University of Pittsburgh, Pittsburgh, PA, May

- 2018
  - Invited Talk, Workshop on Regularity and Blow-up of Navier-Stokes Type PDEs using Harmonic and Stochastic Analysis, Banff International Research Station, Banff, AB, Canada, August
  - Invited Seminar Talk, Department of Mathematics, Hong Kong University of Science and Technology, Hong Kong, June
  - Invited Talk, Conference on Frontiers of Mathematical Biology: Modeling, Computation and Analysis, University of Central Florida, Orlando, FL, May
  - Invited Seminar Talk, Department of Mathematics, University of Pittsburgh, Pittsburgh, PA, April
  - Invited Seminar Talk, Department of Mathematics, University of Kansas, Lawrence, KS, April
  - Invited Seminar Talk, Department of Mathematics and Statistics, Clemson University, Clemson, SC, March

- 2017
  - Invited Mini-Symposium Talk, AMS Fall Western Sectional Meeting, University of California, Riverside, CA, November
  - Invited Seminar Talk, Department of Mathematics, Louisiana State University, Baton Rouge, LA, October
  - Invited Mini-Symposium Talks, AMS Fall Central Sectional Meeting, University of North Texas, Denton, TX, September
  - Invited Talk, Graduate Student Colloquium, Mathematics Department, Tulane University, LA, March
  - Invited Talk, Workshop on Nonlinear Waves: Analysis and Applications, University of Pittsburgh, PA, March
  - Invited Mini-Symposium Talks, AMS-MAA Joint Mathematics Meetings, Atlanta, GA, January

- 2016
  - Invited Keynote Talk, Lloyd Roeling Mathematics Conference, University of Louisiana at Lafayette, November

- Invited Colloquium Talk, Center for Applied Mathematics, Tianjin University, Tianjin, China, June
- Invited Colloquium Talk, Department of Mathematics, South China University of Technology, Guangzhou, China, June
- Invited Mini-Symposium Talk, AMS Spring Southeastern Sectional Meeting, University of Georgia, Athens, GA, March

• 2015

- Invited Mini-Symposium Talk, Canadian Mathematical Society Winter Meeting, Montreal, Quebec, Canada, December
- Invited Mini-Symposium Talk, International Congress on Industrial and Applied Mathematics, Beijing, China, August
- Invited Mini-Symposium Talk, International Symposium on Application of Nonlinear Partial Differential Equations in Life Science, Nankai University, Tianjin, China, August
- Invited Colloquium Talk, Center for Applied Mathematics, Tianjin University, Tianjin, China, June
- Invited Colloquium Talk, Department of Mathematics, Capital Normal University, Beijing, China, June
- Invited Talk, Workshop on Hyperbolic Conservation Laws and Related Problems, Chinese Academy of Sciences, Beijing, China, June
- Visitor Seminar Talk, Mathematical Biosciences Institute, The Ohio State University, May
- Invited PDE Seminar Talk, Department of Mathematics, The Ohio State University, April
- Invited Mini-Symposium Talk, AMS Spring Western Sectional Meetings, Las Vegas, Nevada, April
- Invited Mini-Symposium Talk, 39th SIAM Southeastern Atlantic Section Conference, Birmingham, Alabama, March
- Invited PDE Seminar Talk, Department of Mathematics, Indiana University Bloomington, January

• 2014

- Invited PDE Seminar Talk, Department of Mathematics, University of Pittsburgh, November
- Invited Colloquium Talk, Department of Mathematics, University of Louisiana - Lafayette, November
- Invited Mini-Symposium Talk, AMS Fall Western Sectional Meetings, San Francisco State University, San Francisco, California, October
- Invited Mini-Symposium Talk, SIAM Conference on Life Sciences, Charlotte, North Carolina, August
- PDE Seminar Talks, Mathematics Department, Tulane University, Spring
- Invited Mini-Symposium Talk, AMS Spring Southeastern Sectional Meetings, University of Tennessee, Knoxville, TN, March
- Invited PDE Seminar Talk, Department of Mathematics, University of Pittsburgh, February

• 2013

- Invited Colloquium Talk, Department of Mathematics, Florida State University
- Invited Colloquium Talk, Department of Mathematics, Central Michigan University
- PDE Seminar Talks, Mathematics Department, Tulane University

• 2012

- Invited Mini-Symposium Talk, AMS Fall Sectional Meetings, New Orleans, LA
- PDE Seminar Talks, Mathematics Department, Tulane University
- Poster Presentation, Math Biology: Looking At the Future, MBI, OSU
- Invited Mini-Symposium Talks (with travel award), The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, FL

- Invited Colloquium Talk, Department of Mathematics, City University of Hong Kong
- Invited Colloquium Talk, Department of Mathematics and Statistics, Oakland University
- Invited Colloquium Talk, Department of Mathematical Sciences, Clemson University
- Invited Colloquium Talk, Department of Mathematics, University of Alabama at Birmingham
- Invited Colloquium Talk, Mathematics Department, Tulane University
- Invited Mini-Symposium Talk, MAA-AMS Joint Mathematics Meetings, Boston, MA

Synergistic Activities

- Editorial Service
  - Annals of Applied Mathematics
- Invited Reviewer
  - MathReview
  - Zentralblatt MATH
- Referee
  - PLOS ONE
  - AMS Contemporary Mathematics
  - Journal of European Mathematical Society
  - Journal of Differential Equations
  - SIAM Journal on Mathematical Analysis
  - Nonlinearity
  - Indiana University Mathematics Journal
  - Journal of Nonlinear Science
  - Pacific Journal of Mathematics
  - Journal of Mathematical Physics
  - Mathematical Models and Methods in Applied Sciences
  - Discrete and Continuous Dynamical Systems - Series A
  - Discrete and Continuous Dynamical Systems - Series B
  - Discrete and Continuous Dynamical Systems - Series S
  - Zeitschrift für angewandte Mathematik und Physik (ZAMP)
  - Zeitschrift für angewandte Mathematik und Mechanik (ZAMM)
  - Kinetic and Related Models
  - Mathematical Biosciences and Engineering
  - Mathematical Biosciences
  - Acta Applicandae Mathematicae
  - Communications on Pure and Applied Analysis
  - Pure and Applied Mathematics Quarterly
  - Journal of Mathematical Analysis and Applications
  - Journal of Hyperbolic Differential Equations
  - Journal of Dynamics and Differential Equations
  - Communications in Mathematical Sciences
  - Nonlinear Analysis - Real World Applications
  - Journal of Applied Mathematics
  - Dynamics of Partial Differential Equations
  - Mathematical Methods in Applied Sciences
  - Acta Mathematica Scientia
  - Applicable Analysis
  - Applied Mathematics Letter
  - Applied Mathematical Modelling
  - Annales Polonici Mathematici
  - Advances in Mathematics (China)

- Chaos, Solitons and Fractals

- Organizing
  - International Conference on Dynamical Modeling, Analysis, and Applications in Mathematical Biosciences, Harbin Engineering University, Harbin, June 2021
  - International Conference on Dynamical Modeling, Analysis, and Applications in Mathematical Biosciences, Harbin Engineering University, Harbin, June 2020
  - Mini-Symposium in AMS Spring Eastern Sectional Meetings, Tufts University, Medford MA, March 2020
  - Mini-Symposium in International Council for Industrial and Applied Mathematics, Valencia, Spain, July 2019
  - Mini-Symposium in Louisiana-Texas SIAM Meeting, Louisiana State University, October 2018
  - Applied and Computational Math Seminar, Mathematics Department, Tulane University, 2017 - 2019
  - Mini-Symposium in International Congress on Industrial and Applied Mathematics, Beijing, China, August 2015
  - Mini-Symposium in AMS Spring Western Sectional Meetings, Las Vegas, Nevada, April 2015
  - Visitors Seminar, Mathematical Biosciences Institute, The Ohio State University, January - May 2015
  - Applied and Computational Math Seminar, Mathematics Department, Tulane University, 2013 - present
  - Clifford Lectures, Mathematics Department, Tulane University, Fall 2013
  - PDE Seminar, Mathematics Department, Tulane University, Spring 2013

Supervising at Tulane University

- Postdoctoral Scholars
  - Vincent Martinez, January 2015-August 2017
    Current Position: Assistant Professor, Hunter College, City University of New York

- Ph.D. Students
  - Sinchita Lahiri, 2022-present
  - Rosa Fuster-Aguilera, October 2016-May 2021
    Current Position: Postdoctoral Researcher, University of Colorado at Boulder

- Ph.D. Students
  - Tian Dai, 2019-2021
    Current Position: Ph.D. Student at University of Pittsburgh
  - Yao Tang, 2019-2021
    Current Position: Ph.D. Student at York University, Canada

- Master's Students
  - Ying Bi, 2016-2019
    Current Position: Ph.D. Student at Tulane University

- Undergraduate Students
  - Robert Johnson, Spring 2021
    Current Position: Ph.D. Student in Physics at Rochester University
  - Zhen Hao, Fall 2019-Spring 2020
  - Anne Nygard, Fall 2016-Spring 2017
  - Troy Ward, Fall 2015-Spring 2016
  - Nicole Florack, Fall 2014-Spring 2015
  - Kaixiang Yao, Fall 2014-Spring 2015

Visitors Hosted at Tulane University

- Jiao Xu (Graduate Student at South China University of Technology, Guangzhou, Guangdong Province, China), September 2019-August 2020
  Current Position: Postdoctoral Researcher at Southern University of Science and Technology, Shenzhen, Guangdong Province, China
- Zefu Feng (Graduate Student at South China University of Technology, Guangzhou, Guangdong Province, China), September 2019-February 2021
  Current Position: Assistant Professor at Chongqing Normal University, Chongqing, Sichuan Province, China
- Jiahong Wu (Regent's Professor at Oklahoma State University, Stillwater, OK), September 2017-December 2017
- Fang Wang (Associate Professor at Changsha University of Science and Technology, Changsha, Hunan Province, China), December 2017-December 2018
- Neng Zhu (Graduate Student at South China University of Technology, Guangzhou, Guangdong Province, China), September 2016-August 2017
  Current Position: Associate Professor, Department of Mathematics, Nanchang University, Nanchang, Jiangxi Province, China

Services at Tulane University

- Committee Members
  - Graduate Admissions Committee (coordinator), Mathematics Department, 2018-2021
  - Hiring Committee, Mathematics Department, 2015-2016, 2017-2019, 2020-2021
  - Curriculum Committee, Newcomb-Tulane College, 2016-2018
  - Executive Committee, Mathematics Department, 2015-2016

- Ph.D. Dissertation Defense Committee
  - Zhe Qu, Spring 2019
  - Benjamin Boniece, Spring 2018
  - Asma Boroujeni, Spring 2018
  - Hui Li, Spring 2017
  - Xiao Guan, Spring 2017
  - Forest Mannan, Spring 2017
  - Yuanzhen Cheng, Fall 2016
  - Zhuolin Qu, Spring 2016
  - Tong Wu, Spring 2016
  - Qiang Yang, Fall 2015
  - Franz Hoffmann, Spring 2015
  - Jianjun Huang, Summer 2014
  - Jeremy Dewar, Fall 2013

- Ph.D. Oral Exam Committee
  - Zachery Bradshaw, Spring 2021
  - Kristina Vandusen, Fall 2018
  - Zhe Qu, Spring 2018
  - Benjamin Boniece, Spring 2016
  - Asma Boroujeni, Fall 2014
  - Xiao Guan, Fall 2014
  - Forest Mannan, Fall 2014
  - Yuanzhen Cheng, Fall 2013
  - Qiang Yang, Spring 2013
  - Franz Hoffmann, Spring 2013

- Ph.D. Qualifying Exam Committee
  - Analysis Exam, 2013-2016, 2018-2021
  - Placement Exam, Fall 2014

Teaching Experience

Tulane University, Mathematics Department 2012 - now

- Lecturer for Math 7540 Partial Differential Equations II (graduate level) Spring 2020
  - Took full responsibility of the course with 8 students.
- Lecturer for Math 7980 Sobolev Spaces in PDEs (graduate level reading course) Spring 2020
  - Took full responsibility of the course with 1 student.
- Lecturer for Math 1310 Consolidated Calculus (undergraduate level) Fall 2019
  - Took full responsibility of the course with 35 students.
- Lecturer for Math 7530 Partial Differential Equations I (graduate level) Fall 2019
  - Took full responsibility of the course with 10 students.
- Lecturer for Math 3090 Linear Algebra (undergraduate level) Fall 2018
  - Took full responsibility of the course with 35 students.
- Lecturer for Math 3050 Real Analysis I (undergraduate level) Fall 2018
  - Took full responsibility of the course with 25 students.
- Lecturer for Math 7220 Analysis II (graduate level) Spring 2018
  - Took full responsibility of the course with 11 students.
- Lecturer for Math 2240 Introduction to Applied Mathematics (undergraduate level) Fall 2017
  - Took full responsibility of the course with 70 students.
- Lecturer for Math 7210 Analysis I (graduate level) Fall 2017
  - Took full responsibility of the course with 16 students.
- Lecturer for Math 7980 Selected Topics in Nonlinear PDEs Fall 2017
  (graduate reading course)
  - Selected reading materials for and held regular meeting with 1 graduate student.
- Lecturer for Math 7530 Partial Differential Equations (graduate level) Fall 2016
  - Took full responsibility of the course with 8 students.
- Lecturer for Math 1310 Consolidated Calculus (undergraduate level) Fall 2016
  - Took full responsibility of the course with 30 students.
- Lecturer for Math 7220 Analysis II (graduate level) Spring 2016
  - Took full responsibility of the course with 11 students.
- Lecturer for Math 7210 Analysis I (graduate level) Fall 2015
  - Took full responsibility of the course with 9 students.
- Lecturer for Math 1310 Consolidated Calculus (undergraduate level) Fall 2015
  - Took full responsibility of the course with 24 students.
- Lecturer for Math 7530 Partial Differential Equations I (graduate level) Fall 2014
  - Took full responsibility of the course with 10 students.
- Lecturer for Math 2210 Calculus III (undergraduate level) Spring 2014

- Took full responsibility of the course with 20 students.

- Lecturer for Math 2210 Calculus III (undergraduate level) Fall 2013
  - Took full responsibility of the course with 40 students.

- Lecturer for Math 7220 Analysis II (graduate level) Spring 2013
  - Took full responsibility of the course with 10 students.

- Lecturer for Math 7210 Analysis I (graduate level) Fall 2012
  - Took full responsibility of the course with 16 students.

- Lecturer for Math 7980 Selected Topics in Applied PDEs Fall 2012
  (graduate reading course)
  - Selected reading materials for and held regular meeting with 1 graduate student.