Zhipeng Yang

| **Contact Information** | Department of Mathematics
Yunnan Normal University
650500 Kunming, China. | E-mail: yangzhipeng326@163.com.
zhipengyangmath@gmail.com.
Website: https://yzpmath.com. |

Personal Information

- Date of Birth   March 26, 1993.
- Place of Birth   Harbin, Heilongjiang Province, China.
- Citizenship   China.

Research Interests

- Nonlinear/Noncommutative Analysis.
- Partial Differential Equations.
- Nilpotent Lie Group.

Employment

- 2022.05–Now   Assistant Professor, Yunnan Normal University, China.
- 2019.10–2022.04 Wissenschaftliche Mitarbeiter (TV-L E13), Georg-August Universität Göttingen, Germany.
- 2018.07–2019.06 Visiting Scholar, Yunnan Normal University, China.

Education

- 2019.10–2022.04 Ph.D. Mathematics, Georg-August Universität Göttingen, Germany.
  Dissertation: Harmonic analysis on 2-step stratified Lie groups without the Moore-Wolf condition.
  > Advisor: Prof. Ingo Witt.
- 2015.09–2018.06 M.S. Mathematics, Yunnan Normal University, China.
  Dissertation: The existence and concentration of solutions for fractional Schrödinger-Poisson system via variational methods.
  > Advisor: Prof. Fukun Zhao.
- 2011.09–2015.06 B.S. Mathematics, Harbin Normal University, China.
  > Advisor: Prof. Renhao Cui.

Publications and Preprints

1. Zhipeng Yang*,
   Local uniqueness of multi-peak positive solutions to a class of fractional Kirchhoff equations. submitted 2021.

2. Zhipeng Yang* and Yuanyang Yu,
   Critical fractional Kirchhoff problems: uniqueness and nondegeneracy. submitted 2021.

3. Vicentiu D. Rădulescu and Zhipeng Yang*,
   A singularly perturbed fractional Kirchhoff problem. submitted 2021.

4. Vicentiu D. Rădulescu and Zhipeng Yang*,
   Local uniqueness of semiclassical bounded states for a singularly perturbed fractional Kirchhoff problem. submitted 2021.

5. Ingo Witt and Zhipeng Yang*,
   Weyl-Hörmander symbolic calculus on step two nilpotent Lie groups I: Basic properties. submitted 2021.

6. Zhipeng Yang*,
   Harmonic analysis on the step two nilpotent Lie group II: Laguerre functions. submitted 2021.

7. Zhipeng Yang*,
   Harmonic analysis on the step two nilpotent Lie group I: Hermite functions. submitted 2021.

8. Zhipeng Yang*,
   Weyl transform and Heat kernel of sub-Laplacian on step two nilpotent Lie groups. submitted 2021.

9. Zhipeng Yang*,
   A note on the heat kernel for the rescaled harmonic oscillator from step two nilpotent Lie groups. submitted 2021.

10. Zhipeng Yang*,
    Critical Fujita exponent and blow-up results for the Rockland heat equation. submitted 2021.

11. Zhipeng Yang, Fukun Zhao* and Shunneng Zhao,
    Existence and multiplicity of normalized solutions for a class of fractional Schrödinger-Poisson equations. **to appear in Annales Fennici Mathematici** 2022.

12. Guangze Gu, Xianyong Yang and Zhipeng Yang*,
    Infinitely many sign-changing solutions for nonlinear fractional Kirchhoff equations. **to appear in Applicable Analysis.** 2021.

13. Guangze Gu and Zhipeng Yang*,
    On the singularly perturbation fractional Kirchhoff equations: Critical case. **Adv. Nonlinear Anal. 11**, no.1, 1097-1116, 2022.

14. Zhipeng Yang*,
    Non-degeneracy of positive solutions for fractional Kirchhoff problems: High dimensional cases. **J. Geom. Anal. 32**, 139, 2022.

15. Guangze Gu and Zhipeng Yang*,
    Positive eigenfunctions of a class of fractional Schrödinger operator with a potential well. **Differential Integral Equations. 35**, no.1-2, 123-150, 2022.

16. Yongpeng Chen and Zhipeng Yang*,
    Multiplicity of solutions for a class of critical Schrödinger-Poisson system with two parameters. **Acta Math. Sci. Ser. A (Chin. Ed.) 41**, no.6, 1750-1767,2021.

17. Zhipeng Yang and Yuanyang Yu*,
    Existence and concentration of solution for Schrödinger-Poisson system with local potential. **Partial Differ. Equ. Appl. 2**, no. 47, 2021.

18. Zhipeng Yang*,
    Fujita exponent and nonexistence result for the Rockland heat equation. **Appl. Math. Lett. 121**, 107386, 2021.

19. Zhipeng Yang, Wei Zhang and Fukun Zhao*,
    Existence and concentration results for fractional Schrödinger-Poisson system via penalization method. **Electron. J. Differential Equations 2021**, no.14, 1-31, 2021.

20. Zhipeng Yang and Fukun Zhao*,
    Multiplicity and concentration behaviour of solutions for a fractional Choquard equation with critical growth. **Adv. Nonlinear Anal. 10**, no.1, 732-774, 2021.

21. Zhipeng Yang and Yuanyang Yu*,
    Geometrically distinct solutions of nonlinear elliptic systems with periodic potentials. **Arch. Math. 115**, no.6, 703-716, 2020.

22. Tiankun Jin and Zhipeng Yang*,
    The fractional Schrödinger-Poisson systems with infinitely many solutions. **J. Korean Math. Soc. 57**, no.2, 489-506, 2020.

23. Shaoxiong Chen, Yue Li and Zhipeng Yang*,
    Multiplicity and concentration of nontrivial nonnegative solutions for a fractional Choquard equation with critical exponent. **Rev.R.Acad.Cienc.Exactas Fís.Nat.Ser.A Mat. RACSAM. 114**, no.1, 2020.

24. Zhipeng Yang, Yuanyang Yu and Fukun Zhao*,
    The concentration behavior of ground state solutions for a critical fractional Schrödinger-Poisson system with competing potentials. **Math. Nachr. 292**, no.8, 1837-1868, 2019.

25. Zhipeng Yang, Yuanyang Yu and Fukun Zhao*,
    Concentration behavior of ground state solutions for a fractional Schrödinger-Poisson system involving critical exponent. **Commun. Contemp. Math. 21**, no.6, 1850027, 2019.

26. Xianyong Yang and Zhipeng Yang*,
    Existence of multiple non-trivial solutions for a nonlocal problem. **AIMS Math. 4**, 299-307, 2019.

27. Zhipeng Yang and Fukun Zhao*,
    Three solutions for a fractional Schrödinger equation with vanishing potential. **Appl. Math. Lett. 76**, 90-95, 2018.

Grants, Fellowships

1. *Multiplicity and property analysis of solutions of nonlocal elliptic equations*, No.11771385, National Natural Science Foundation of China, 2018-2021, Co-PI.

2. *A variational problem with the fractional Laplace operator*, No.yjs201677, Innovation Fund Project for Graduate Students of Yunnan Normal University , 2016-2017, PI.

3. *Application of Differential Equation in chemical reaction models*, Innovation Fund Project for undergraduate Students of Harbin Normal University , 2013-2014, PI.

Scientific and Administrative Responsibilities

- Referee for:
  Applied Mathematics Letters;
  Complex Variables and Elliptic Equations;
  Journal of Mathematical Physics
  Mathematical Methods in the Applied Sciences
  Zeitschrift für angewandte Mathematik und Physik
  The Journal of Geometric Analysis.
- Reviewer for: zbMATH and Mathematical Reviews.
- Organizer of: Göttingen Webinar on Analysis and PDEs weekly (Zoom).

Honors and Awards

1. Excellent Thesis Award, Yunnan Province, 2020.
2. Excellent Thesis Award, Yunnan Normal University, 2018.
3. Yunnan Provincial Government Scholarship, Yunnan Normal University, 2017.
4. The Wu Daguan Scholarship for graduate students, Yunnan Normal University, 2017.
5. National Scholarship for graduate students, Yunnan Normal University, 2016.
6. Outstanding Graduates Awards, Harbin Normal University, 2015.
7. National Encouragement Scholarship, Harbin Normal University, 2012, 2013, 2014.

Talks

1. Harmonic analysis on 2-step stratified Lie groups, Conference on Microlocal and Global Analysis in Geometry and Mathematical Physics, University of Potsdam, Potsdam, Germany, Feb 21-25, 2022.

2. Existence and concentration behavior of solutions for some fractional Schrödinger-Poisson systems, Conference on Microlocal and Global Analysis in Geometry and Mathematical Physics, University of Potsdam, Potsdam, Germany, Feb 10-14, 2020.

3. On fractional Schrödinger-Poisson system, University of Göttingen, Göttingen, Germany, Jan 10-12, 2020.

Conference Attended

1. International Conference on Nonlinear Analysis and 21th National Conference on Nonlinear Functional Analysis,Yunnan Normal University, Kunming, China, July 23-26, 2021.

2. Conference on Microlocal and Global Analysis in Geometry and Mathematical Physics, University of Potsdam, Potsdam, Germany, Feb 15-19, 2021.

3. Summer School on L^2-Torsion and Symmetric Spaces, University of Göttingen, 30 Sep-4 Oct, 2019.

4. Workshop on Dynamics of PDEs from Fluids and Nonlinear Waves, Nanjing University, Nanjing, China, Aug 7-8, 2019.

5. International Workshop on Nonlinear Analysis and Reaction-Diffusion equation, Harbin Normal University, Harbin, China, June 15-17, 2019.

6. Workshop on Nonlinear Analysis and its Applications of Young Scholars, Central China Normal University, Wuhan, China, May 10-12, 2019.

7. Workshop on Emerging Areas in Reaction-diffusion Systems: Mathematical Theory and Applications to Physics, Biology and the Social Sciences, East China Normal University, Shanghai, China, April 22-26, 2019.

8. Workshop on Nonlinear Analysis of Young Scholars 2018, Yunnan Normal University, Kunming, China, Nov 30-Dec 3, 2018.

9. International Conference on Variational Methods (ICVAM-4), Chern Institute of Mathematics, Nankai University, Tianjin, China, May 14-18, 2018.

10. International Conference on Nonlinear Analysis and 20th National Conference on Nonlinear Functional Analysis, Shanxi University, Taiyuan, China, May 11-14, 2018.

11. 11th East China Partial Differential Equations Conference, East China Normal University, Shanghai, China, June 14-17, 2017.

12. International Conference on Nonlinear Functional Analysis, Yunnan Normal University, Kunming, China, May 25-27, 2017.

13. International Conference on Nonlinear Analysis and 19th National Conference on Nonlinear Functional Analysis, Central China Normal University, Wuhan, China, May 20-22, 2016.

14. International Conference on Nonlinear Analysis and 18th National Conference on Nonlinear Functional Analysis, Harbin Normal University, Harbin, China, July 14-16, 2014.