PROF. JINGANG XIONG

CONTACT INFORMATION

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EMPLOYMENT

2020.10-	Professor, Beijing Normal University
2016.9-2020.9	Associate Professor, Beijing Normal University
2015.1-2016.8	Assistant Professor, Beijing Normal University
2012.7-2015.1	Postdoc, Simons Postdoctoral Fellow, BICMR, Peking University Mentor: Gang Tian (Peking University and Princeton University)

PERSONAL INFORMATION

Date of Birth	October 28, 1984
Place of Birth	Jiujiang, Jiangxi Province, China
Marital status	Married, 2 Children

EDUCATION

2007-2012	Ph. D. in Mathematics, Beijing Normal University Dissertation: *A fractional Nirenberg Problem* Advisor: Jiguang Bao, YanYan Li (Rutgers University, USA)
2010-2012	Visiting student, Rutgers University
2003-2007	B.S. in Mathematics, Changchun Normal University

RESEARCH INTERESTS

- Nonlinear Analysis and Partial Differential Equations

Visiting Experience

2019/8/13 – 2020/7/30	Rutgers University, USA
2018/3/12 – 2018/3/16	National University of Singapore
2017/7/14 – 2017/7/20	The Hong Kong University of Science and Technology
2017/5/20 – 2017/6/2	International Center for Theoretical Physics (ICTP), Trieste, Italy
2013/11/10 – 2013/12/10	Université Paris VII and Université Paris XII
2013/4/15 – 2013/5/19	Rutgers University, USA

Awards and Honors

2023	NSFC for Distinguished Young Scholars
2019	NSFC for Excellent Young Scholars
2013	Beijing City Excellent Doctoral Dissertation Award
2013	5,000 EUR Support for Visiting Paris, Fondation Mathématique Jacques Hadamard (FMJH)

Grants

2024 – 2028	NSFC for Distinguished Young Scholars, No. 12325104, (PI)
2020 – 2022	NSFC for Excellent Young Scholars, No. 11922104, (PI)
2017 – 2021	Key Project of NSFC No. 11631002 (Co-PI)
2016 – 2018	NSFC No. 11501034 (PI)
2016 – 2019	NSFC No. 11501034 (Co-PI)
2014 – 2017	Beijing Municipal Commission of Education for the Supervisor of Excellent Doctoral Dissertation No. 20131002701
2012 – 2014	First Class Postdoctoral Science Foundation of China No. 2012M520002

Publications/Preprints

1. Hölder regularity for the linearized porous medium equation in bounded domains (with T. Jin). Preprint.

2. Asymptotic analysis of harmonic maps with prescribed singularities (with Q. Han, M. Khuri and G. Weinstein). Preprint.

3. Stability of the separable solutions for a nonlinear boundary diffusion problem (with T. Jin and X. Yang). Preprint.

4. Optimal regularity and fine asymptotics for the porous medium equation in bounded domains (with T. Jin and X. Ros-Oton). Preprint.

5. Regularity of solutions to the Dirichlet problem for fast diffusion equations (with T. Jin). Preprint.

6. Regularity of viscosity solutions of the σ_k-Loewner-Nirenberg problem (with Y.Y. Li and L. Nguyen). Proc. London Math. Soc. 127 (2023), no. 4, 1–34.

7. Asymptotic behavior of solutions to the Yamabe equation with an asymptotically flat metric (with Z.-C. Han and L. Zhang). J. Funct. Anal. 285 (2023), 109982.

8. Bubbling and extinction for some fast diffusion equations in bounded domains (with T. Jin). Trans. Amer. Math. Soc. Ser. B 10 (2023), 1287–1332.

9. Blow up limits of the fractional Laplacian and their applications to the fractional Nirenberg problem (with X. Du, T. Jin and H. Yang). Proc. Amer. Math. Soc. 151 (2023), no. 11, 4693–4701.

10. Optimal boundary regularity for fast diffusion equations in bounded domains (with T. Jin). Amer. J. Math. 145 (2023), no. 1, 151–220.

11. Singular extinction profiles of solutions to some fast diffusion equations (with T. Jin). J. Funct. Anal. 283 (2022), 109595.

12. Isolated singularities of solutions to the Yamabe equation in dimension 6 (with L. Zhang). Int. Math. Res. Not. (IMRN) Vol. 2022, No. 12, 9571 – 9597.

13. On a Rayleigh-Faber-Krahn inequality for the regional fractional Laplacian (with T. Jin and D. Kriventsov). Ann. Appl. Math. 37 (2021), 363–393.

14. Sharp Sobolev inequalities involving boundary terms revisited (with Z. Tang and N. Zhou).Calc. Var. Partial Differential Equations 60 (2021), no. 6, Paper No. 160, 26 pp.

15. Asymptotic symmetry and local behavior of solutions of higher order conformally invariant equations with isolated singularities (with T. Jin). Ann. Inst. Henri Poincare, Analyse Nonlineaire 38 (2021), 1167–1216.

16. Existence of entire solutions of Monge-Ampère equations with prescribed asymptotic behaviors (with J. Bao, Z. Zhou). Calc. Var. Partial Differential Equations 58 (2019), no. 6, Paper No. 193, 12 pp.

17. Compactness of conformal metrics with constant Q-curvature. I (with Y.Y. Li). Adv. Math 345 (2019), 116–160.

18. On the isoperimetric quotient over scalar-flat conformal classes (with T. Jin). Comm. Partial Differential Equations 43 (2018), no. 12, 1737–1760.

19. A derivation of the sharp Moser-Trudinger-Onofri inequalities from the fractional Sobolev inequalities. Peking Math J. 1 (2018), no. 2, 221–229.

20. On a conformally invariant integral equation involving Poisson kernel. Acta Mathematica Sinica, English Series 34 (2018), no. 4, 681–690.

21. Minimizers for the fractional Sobolev inequality on domains (with R. L. Frank, T. Jin). Calc. Var. Partial Differential Equations 57 (2018), no. 2, Art. 43, 31 pp.

22. Compactness of solutions to nonlocal elliptic equations (with M. Niu, Z. Peng). J. Funct. Anal. 275(2018), 2333–2372.

23. The critical semilinear elliptic equation with boundary isolated singularities. J. Differential Equations 263 (2017), no. 3, 1907–1930.

24. On local behavior of singular positive solutions to nonlocal elliptic equations (with T. Jin, O S. de Queiroz, Y. Sire). Calc. Var. Partial Differential Equations 56 (2017), no. 1, Art. 9, 25 pp.

25. Classification theorems for solutions of higher order boundary conformally invariant problems, I (with L. Sun). J. Funct. Anal. 271 (2016), 3727–3764.

26. The Nirenberg problem and its generalizations: A unified approach (with T. Jin, Y.Y. Li). Math. Ann. 369 (2017), no. 1-2, 109–151.

27. Schauder estimates for nonlocal fully nonlinear equations (with T. Jin). Ann. Inst. Henri Poincare, Analyse Nonlineaire. 33 (2016), 1375–1407.

28. Schauder estimates for solutions of linear parabolic integro-differential equations (with T. Jin). Discrete Contin. Dyn. Syst. 35 (2015), no 12, 5977–5998.

29. Solutions of some Monge-Ampère equations with isolated and line singularities (with T. Jin). Adv. Math 289 (2016), 114–141.

30. Boundary Gradient Estimates for Parabolic and Elliptic Systems from Linear Laminates (with H. Dong). Int. Math. Res. Not. (IMRN) 2015 (2015), 7734–7756.

31. A sharp Sobolev trace inequality involving the mean curvature on Riemannian manifolds (with T. Jin). Trans. Amer. Math. Soc. 367 (2015), 6751–6770.

32. On a fractional Nirenberg problem, part II: existence of solutions (with T. Jin, Y.Y. Li). Int. Math. Res. Not. (IMRN) 2015 (2015), no. 6, 1555–1589.

33. Existence and asymptotics for solutions of a non-local Q-curvature equation in dimension three (with T. Jin, A. Maalaoui, L. Martinazzi). Calc. Var. Partial Differential Equations 52 (2015), no. 3-4, 469–488.

34. A fractional Yamabe flow and some applications (with T. Jin). J. Reine Angew. Math. 696 (2014), 187–223.

35. On a fractional Nirenberg problem, part I: blow up analysis and compactness of solutions (with T. Jin, Y.Y. Li). J. Eur. Math. Soc. (JEMS) 16 (2014), no. 6, 1111–1171.

36. Local analysis of solutions of fractional semi-linear elliptic equations with isolated singularities (with L. Caffarelli, T. Jin, Y. Sire). Arch. Ration. Mech. Anal. 213 (2014), no. 1, 245–268.

37. A Liouville theorem for solutions of degenerate Monge-Ampère equations (with T. Jin). Comm. Partial Differential Equations 39 (2014), no. 2, 306–320.

38. Sharp constants in weighted trace inequalities on Riemannian manifolds (with T. Jin). Calc. Var. Partial Differential Equations 48 (2013), no. 3-4, 555–585.

39. Sharp regularity for elliptic systems associated with transmission problems (with J. Bao). Potential Anal. 39 (2013), no. 2, 169–194.

40. $C^{1,1}$ estimates for elliptic equations with partial and piecewise continuous coefficients. Methods Appl. Anal. 18 (2011), no. 4, 373–389.

41. A Harnack inequality for fractional Laplace equations with lower order terms (with J. Tan). Discrete Contin. Dyn. Syst. 31 (2011), no. 3, 975–983.

42. The obstacle problem for Monge-Ampère type equations in non-convex domains (with J. Bao). Commun. Pure Appl. Anal. 10 (2011), no. 1, 59–68.

43. On Jörgens, Calabi, and Pogorelov type theorem and isolated singularities of parabolic Monge-Ampère equations (with J. Bao). J. Differential Equations 250 (2011), no. 1, 367–385.

Professional Services

- Reviewer of MathSciNet

- Referee of Journals: **A**dv. Math.; **A**mer. J. Math.; **A**nalysis & PDE; **A**nn. SNSPCS.; **C**alc. Var. PDE.; **C**omm. PDE; **I**nt. Math. Res. Notices.; **J**. Diff. Equations.; **J**. Funct. Anal.; **J**. London Math. Soc.; **N**onlinearity; **P**eking Math. J.; **R**ev. Mat. Iberoam.; **S**ciences China Math. etc

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