CURRICULUM VITAE

Jianchun Chu

School of Mathematical Sciences

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Personal Data

Date of birth: February 3, 1990 Sex: Male

Nationality: Chinese

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Research Interests

- Research areas: Differential Geometry, Partial Differential Equations.
- Some specific topics: Riemannian geometry, Kähler geometry, Hermitian geometry, almost-Hermitian geometry, nonlinear elliptic and parabolic equations, complex Monge-Ampère equations.

Employment

- Assistant Professor, Peking University, 2021–present.
- Boas Assistant Professor, Northwestern University, 2018–2021.
  Advisor: Valentino Tosatti and Ben Weinkove
- Postdoc, Chinese Academy of Sciences, 2017–2019 *(on leave 2018–2019)*.
  Advisor: Liqun Zhang

Education

- Ph.D. in Mathematics, Peking University, 2012-2017.
  Advisor: Gang Tian
  (Visiting Student, Northwestern University, September 2015 – September 2016.
  Advisor: Aaron Naber)
- B.S. in Mathematics and Applied Mathematics, Beijing Institute of Technology, 2008–2012.

Honors and Awards

- Chia Tai Fellowship (Peking University Fellowship), 2023.
- Outstanding Graduate (Beijing), 2017.
- Excellent Graduate (Peking University), 2017.
- Excellent Doctoral Dissertation (Peking University), 2017.
- National Scholarship for Graduate Student (China), 2016.
- National Scholarship for Graduate Student (China), 2015.
- National Scholarship for Graduate Student (China), 2013.
- Outstanding Graduate (Beijing), 2012.
- National Scholarship (China), 2010.
- National Scholarship (China), 2009.

Grants

- PI, National Key R&D Program of China (Grant No. 2024YFA1014800), *The fully nonlinear analysis in complex geometry and its applications*, 2024–2029.
- PI, National Natural Science Foundation of China (Grant No. 12471052), *Partial differential equations in complex geometry and applications*, 2025–2028.
- Participant (PI: Xiaohua Zhu), National Key R&D Program of China (Grant No. 2023YFA1009900), *The Ricci flow in higher dimensions and its applications*, 2023–2028.
- Participant (PI: Bin Zhou), National Natural Science Foundation of China (Grant No. 12271008), *Regularity and geometric inequalities of the complex Monge-Ampère equation and geometric inequalities*, 2023–2026.
- PI, The Fundamental Research Funds for the Central Universities, Peking University, *Partial differential equations in geometry*, 2021–2023.

Publications and Preprints

1. (With S. Chen and J. Zhu) *Interior control for surfaces with positive scalar curvature and its application*, preprint, arXiv: 2502.14216.

2. (With Z. Hao) *Spectral comparison results for the N-Bakry-Emery Ricci tensor*, preprint, arXiv: 2412.13465.

3. (With M.-C. Lee and J. Zhu) *Homological n-systole in $(n+1)$-manifolds and bi-Ricci curvature*, preprint, arXiv: 2410.20785.

4. (With M.-C. Lee and J. Zhu) *On Kähler manifolds with non-negative mixed curvature*, preprint, arXiv: 2408.14043.

5. (With M.-C. Lee and J. Zhu) *Llarull's theorem on punctured sphere with L^∞ metric*, preprint, arXiv: 2405.19724.

6. (With Y. Liu and N. McCleerey) *The Eigenvalue Problem for the Complex Hessian Operator on m-Pseudoconvex Manifolds*, preprint, arXiv: 2402.03098.

7. (With F. Wang and K. Zhang) *The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound*, preprint, arXiv: 2401.15830.
8. (With S. Chen and J. Zhu) *Positive scalar curvature metric and aspherical summands*, preprint, arXiv: 2312.04698.

9. (With S. Dinew) *Liouville theorem for a class of Hessian equations*, preprint, arXiv: 2306.13825.

10. (With J. Zhu) *A non-spin method to the positive weighted mass theorem for weighted manifolds*, J. Geom. Anal. **34** (2024), no. 9, Paper No. 272, 31 pp.

11. (With M.-C. Lee and J. Zhu) *Singular positive mass theorem with arbitrary ends*, preprint, arXiv: 2210.08261.

12. (With M.-C. Lee and K.-K. Kwong) *Rigidity on non-negative intermediate curvature*, Math. Res. Lett. **31** (2025), no. 6, 1693–1714.

13. (With M.-C. Lee) *Hypercritical deformed Hermitian-Yang-Mills equation revisited*, J. Reine Angew. Math. **801** (2023), 161–172.

14. (With M.-C. Lee) *Ricci-Deturck flow from rough metrics and applications*, preprint, arXiv: 2204.05843.

15. (With N. McCleerey) *Lelong Numbers of m-Subharmonic Functions Along Submanifolds*, J. Inst. Math. Jussieu **23** (2024), no. 4, 1797–1820.

16. (With P.-Y. Chan, M.-C. Lee and T.-Y. Tsang) *Monotonicity of the p-Green functions*, Int. Math. Res. Not. IMRN (2024), no. 9, 7998–8025.

17. (With M.-C. Lee) *Kähler tori with almost non-negative scalar curvature*, Commun. Contemp. Math. **25** (2023), no. 7, Paper No. 2250030, 13 pp.

18. (With L. Huang and J. Zhang) *Fully non-linear elliptic equations on compact almost Hermitian manifolds*, Calc. Var. Partial Differential Equations **62** (2023), no. 3, Paper No. 105, 34 pp.

19. (With M.-C. Lee) *Hypercritical deformed Hermitian-Yang-Mills equation*, preprint, arXiv: 2107.13192.

20. (With M.-C. Lee and R. Takahashi) *A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation*, J. Differential Geom. **126** (2024), no. 2, 583–632.

21. (With M.-C. Lee) *On the Hölder estimate of Kähler-Ricci flow*, Int. Math. Res. Not. IMRN (2023), no. 6, 4932–4951.

22. (With M.-C. Lee) *Conformal tori with almost non-negative scalar curvature*, Calc. Var. Partial Differential Equations **61** (2022), no. 3, Paper No. 114, 20 pp.

23. (With N. McCleerey) *Fully non-linear degenerate elliptic equations in complex geometry*, J. Funct. Anal. **281** (2021), no. 9, Paper No. 109176, 45 pp.

24. (With M.-C. Lee and L.-F. Tam) *Kähler manifolds with negative k-Ricci curvature*, Trans. Amer. Math. Soc. **375** (2022), no. 11, 7925–7944.

25. (With H. Jiao) *Curvature estimates for a class of Hessian type equations*, Calc. Var. Partial Differential Equations **60** (2021), no. 3, 90.

26. *A simple proof of curvature estimate for convex solution of k-Hessian equation*, Proc. Amer. Math. Soc. **149** (2021), no. 8, 3541–3552.

27. (With T. C. Collins and M.-C. Lee) *The space of almost calibrated $(1,1)$ forms on a compact Kähler manifold*, Geom. Topol. **25** (2021), no. 5, 2573–2619.

28. (With N. McCleerey) *$C^{1,1}$ regularity of geodesics of singular Kähler metrics*, J. Lond. Math. Soc. (2) **104** (2021), no. 1, 66–96.

29. *$C^{1,1}$ regularity of degenerate complex Monge-Ampère equations and some applications*, Anal. PDE **14** (2021), no. 6, 1671–1700.

30. *$C^{1,1}$ regularity of geodesics in the space of volume forms*, Calc. Var. Partial Differential Equations **58** (2019), no. 6, Art. 194, 7 pp.

31. (With L. Huang and X. Zhu) *The Fu-Yau equation on compact astheno-Kähler manifolds*, Adv. Math. **346** (2019), 908–945.

32. (With L. Huang and X. Zhu) *The Fu-Yau equation in higher dimensions*, Peking Math. J. **2** (2019), no. 1, 71–97.

33. (With L. Huang and X. Zhu) *The 2-nd Hessian type equation on almost Hermitian manifolds*, Front. Math. **19** (2024), no. 6, 961–988.

34. (With V. Tosatti and B. Weinkove) *$C^{1,1}$ regularity for degenerate complex Monge-Ampère equations and geodesic rays*, Comm. Partial Differential Equations **43** (2018), no. 2, 292–312.

35. (With B. Zhou) *Optimal regularity of plurisubharmonic envelopes on compact Hermitian manifolds*, Sci. China Math. **62** (2019), no. 2, 371–380.

36. (With V. Tosatti and B. Weinkove) *On the $C^{1,1}$ regularity of geodesics in the space of Kähler metrics*, Ann. PDE **3** (2017), no. 2, Art. 15, 12 pp.

37. *Quantitative stratification of F-subharmonic functions*, Comm. Anal. Geom. **29** (2021), no. 6, 1335–1389.

38. *The parabolic Monge-Ampère equation on compact almost Hermitian manifolds*, J. Reine Angew. Math. **761** (2020), 1–24.

39. (With V. Tosatti and B. Weinkove) *The Monge-Ampère equation for non-integrable almost complex structures*, J. Eur. Math. Soc. (JEMS) **21** (2019), no. 7, 1949–1984.

40. *$C^{2,\alpha}$ regularities and estimates for nonlinear elliptic and parabolic equations in geometry*, Calc. Var. Partial Differential Equations **55** (2016), no. 1, Art. 8, 20 pp.

41. *The complex Monge-Ampère equation on some compact Hermitian manifolds*, Pacific J. Math. **276** (2015), no. 2, 369–386.

Invited Talks

1. Differential Geometry Seminar, School of Mathematical Sciences, Beihang University, China, February 20th, 2025.
   Title: On Kähler manifolds with non-negative mixed curvature

2. The 9th Japan-China Geometry Conference, Department of Applied Mathematics, Faculty of Science, Fukuoka University, Japan, December 23th–27th, 2024.
   Title: On Kähler manifolds with non-negative mixed curvature (December 24th, 2024)

3. Workshop on Geometric Analysis for Youth, School of Mathematics and Statistics, Wuhan University, China, December 6th–9th, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound (December 7th, 2024)

4. Seminar, School of Mathematical Sciences, Capital Normal University, China, October 22nd, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound

5. Informal Complex Geometry and PDE Seminar, Department of Mathematics, Columbia University, USA, October 17th, 2024.
   Title: On Kähler manifolds with non-negative mixed curvature (Online)

6. Forum on Geometry for Youth 2024, School of Mathematics and Statistics, Nanjing University of Science & Technology, China, August 27th–30th, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound (August 28th, 2024)

7. Workshop on Geometry and Nonlinear Equation 2024, School of Data Science and Artificial Intelligence, Dongbei University of Finance and Economics, China, June 15th–21th, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound (June 20th, 2024)

8. Workshop on Geometric Analysis in Hangzhou 2024, School of Mathematical Sciences, Zhejiang University, China, April 26th–29th, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound (April 28th, 2024)

9. Analysis Seminar, Department of Mathematics, Syracuse University, USA, April 3rd, 2024.
   Title: The rigidity of eigenvalues on Kähler manifolds with positive Ricci lower bound (Online)

10. 2024 International Conference on Geometric Analysis of Ricci Curvature, Guangxi Center for Mathematical Research, Guangxi University, China, January 8th–12th, 2024.
    Title: A Liouville theorem for p-Monge-Ampère equation (January 12th, 2024)

11. Workshop on Geometric Analysis, School of Mathematics and Statistics, Beijing Institute of Technology, China, December 5th–8th, 2023.
    Title: A Liouville theorem for p-Monge-Ampère equation (December 8th, 2023)

12. Workshop on Geometric Analysis, School of Mathematical Sciences, Capital Normal University, China, November 25th–27th, 2023.
    Title: Fully non-linear elliptic equations on compact almost Hermitian manifolds (November 26th, 2023)

13. Beijing Mathematical Society 2023 Annual Conference, School of Science, Beijing University of Posts and Telecommunications, China, November 25th, 2023.
    Title: A Liouville theorem for p-Monge-Ampère equation

14. Seminar for Loo-Keng Hua Class, School of Mathematical Sciences, University of Science and Technology of China, China, November 17th, 2023.
    Title: A brief introduction of the Calabi-Yau theorem (Online)

15. The 10th Conference on Geometry and Topology of Submanifolds, Chern Institute of Mathematics, Nankai University, China, October 27th–31st, 2023.
    Title: A Liouville theorem for p-Monge-Ampère equation (October 28th, 2023)

16. Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, September 28th, 2023.
Title: Fully non-linear elliptic equations in almost Hermitian geometry (Online)

17. Forum on Differential Geometry for Youth 2023, School of Mathematics, Hunan University, China, August 27th–31st, 2023.
Title: A Liouville theorem for p-Monge-Ampère equation (August 29th, 2023)

18. Workshop on Geometric Analysis 2023, School of Mathematical Sciences, Xinjiang Normal University, China, June 26th–30th, 2023.
Title: Fully non-linear elliptic equations in almost Hermitian geometry (June 27th, 2023)

19. Geometric Analysis Seminar, School of Mathematical Sciences, Zhejiang University, China, June 2nd, 2023.
Title: A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation

20. Geometric Analysis Seminar, School of Mathematical Sciences, Xiamen University, China, March 21st, 2023.
Title: Fully non-linear elliptic equations in almost Hermitian geometry (Online)

21. Seminar, School of Mathematics and Statistics, Beijing Institute of Technology, China, December 14th, 2022.
Title: Kähler tori with almost non-negative scalar curvature (Online)

22. Forum on Complex Geometry for Youth 2022, Chern Institute of Mathematics, Nankai University, China, December 3rd–5th, 2022.
Title: A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation (Online, December 3rd, 2022)

23. Shanghai Maths Seminar 2022 (Communication in Analytic and Complex Geometry) (ShanghaiTech University, University of Chinese Academy of Sciences, University of Science and Technology of China, Tongji University), School of Mathematical Sciences, Tongji University, China, December 2nd, 2022.
Title: Fully non-linear elliptic equations on compact almost Hermitian manifolds (Online)

24. Workshop on Geometric Analysis in Hangzhou 2022, School of Mathematical Sciences, Zhejiang University, China, November 23th–24th, 2022.
Title: k-Ricci curvature in Kähler geometry (Online, November 24th, 2022)

25. Seminar, School of Mathematics, Hunan University, China, November 10th, 2022.
Title: A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation (Online)

26. Complex Analysis and Elliptic PDE's Seminar, Faculty of Mathematics and Computer Science, Jagiellonian University, Poland, October 24th, 2022.
Title: Fully non-linear elliptic equations on compact almost Hermitian manifolds (Online)

27. Geometric Analysis Seminar, Institute for Theoretical Sciences, Westlake University, China, October 12th, 2022.

Title: The solvability of hypercritical deformed Hermitian-Yang-Mills equation (Online)

28. Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, September 26th, 2022.
Title: A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation (Online)

29. Workshop on Geometric Analysis 2022, Research Center for Mathematics and Interdisciplinary Sciences, Shandong University, China, September 5th–9th, 2022.
Title: A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation (Online, September 5th, 2022)

30. 2022 International Conference on PDEs and Geometric Analysis, School of Mathematical Sciences, Shanghai Jiao Tong University, China, June 20th–24th, 2022.
Title: Hypercritical deformed Hermitian-Yang-Mills equation (Online, June 23th, 2022)

31. Workshop on Nonlinear Elliptic Equation and Geometric Analysis, School of Mathematics and Institute for Advanced Study in Mathematics, Harbin Institute of Technology, China, June 3rd–5th, 2022.
Title: k-Ricci curvature in Kähler geometry (Online, June 3rd, 2022)

32. Differential Geometry Seminar, Department of Mathematics, Zhejiang Normal University, China, May 17th, 2022.
Title: k-Ricci curvature and positivity of canonical bundle (Online)

33. Seminar, Faculty of Mathematics and Statistics, Hubei University, China, March 29th, 2022.
Title: Kähler tori with almost non-negative scalar curvature (Online)

34. Convergence or Scalar Curvature Seminar (Organized by Brian Allen, Edward Bryden, and Demetre Kazaras), USA, March 25th, 2022.
Title: Kähler tori with almost non-negative scalar curvature (Online)

35. Differential Geometry Seminar, School of Mathematics and Systems Science, Beihang University, China, March 4th, 2022.
Title: Kähler tori with almost non-negative scalar curvature (Online)

36. Complex Analysis, Harmonic Analysis, and Complex Geometry seminar, Department of Mathematics, Rutgers University - New Brunswick, USA, January 21st, 2022.
Title: On k-Ricci curvature for Kähler manifolds (Online)

37. Workshop on Complex Geometry, Beijing International Center for Mathematical Research, Peking University, China, January 11th, 2022.
Title: Hypercritical deformed Hermitian-Yang-Mills equation

38. Seminar, School of Mathematical Sciences, University of Electronic Science and Technology of China, China, December 3rd, 2021.
Title: k-Ricci curvature in Kähler geometry (Online)

39. Seminar, School of Mathematical Sciences, Peking University, China, November 11th, 2021.
Title: Degenerate complex Hessian equation on compact Kähler manifolds

40. Seminar, School of Mathematical Sciences, Shanghai Jiao Tong University, China, November 10th, 2021.
Title: k-Ricci curvature and positivity of canonical bundle (Online)

41. Beijing-Saint Petersburg Mathematics Colloquium (Online), School of Mathematical Sciences, Peking University, China, November 04, 2021.
Title: Kähler manifolds with quasi-negative k-Ricci curvature (Online)

42. Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, November 2nd, 2021.
Title: The solvability of hypercritical deformed Hermitian-Yang-Mills equation

43. Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, October 27th, 2021.
Title: On the Hölder estimate of Kähler-Ricci flow

44. Workshop on Geometric Analysis 2021, School of Statistics and Mathematics, Yunnan University of Finance and Economics, China, May 24th–28th, 2021.
Title: On the Hölder estimate of Kähler-Ricci flow (Online, May 28th, 2021)

45. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, April 29, 2021.
Title: $C^{1,1}$ estimate for degenerate complex Hessian equation (Online)

46. Geometric Analysis Seminar, Department of Mathematics and Statistics, McGill University, Canada, March 24th, 2021.
Title: The k-Ricci curvature in Kähler geometry (Online)

47. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, February 4th, 2021.
Title: The k-Ricci curvature in complex geometry (Online)

48. Seminar, School of Mathematics and Statistics, Beijing Institute of Technology, China, December 29th, 2020.
Title: Some fully non-linear PDEs in complex geometry (Online)

49. PDE Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, December 4th, 2020.
Title: Fully non-linear PDEs and geometric applications (Online)

50. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, September 24th, 2020.
Title: The deformed Hermitian-Yang-Mills equation and the space of almost calibrated $(1,1)$ forms (Online)

51. Geometric Analysis Seminar, Beijing International Center for Mathematical Research, Peking University, China, April 29th, 2020.
Title: The space of almost calibrated $(1,1)$ *forms on a compact Kähler manifold (Online)*

52. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, April 9th, 2020.
Title: A priori estimate for the complex Monge-Ampère equation (Online)

53. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, January 9th, 2020.
Title: A Liouville Theorem for the complex Monge-Ampère equation

54. Geometric Analysis Seminar, School of Mathematical Sciences, Peking University, China, September 6th, 2019.
Title: $C^{1,1}$ *regularity of geodesics of singular Kähler metrics*

55. Geometric Analysis Seminar, School of Mathematics and Systems Science, Beihang University, China, September 5th, 2019.
Title: Complex Monge-Ampère equation and its geometric applications

56. Geometric Analysis Seminar, School of Mathematical Sciences, Zhejiang University, China, August 26th, 2019.
Title: Complex Monge-Ampère equation

57. Geometric Analysis Workshop – Some Topics in Differential Geometry, School of Mathematical Sciences, Peking University, China, July 10th, 2019.
Title: $C^{1,1}$ *regularity of geodesics of singular Kähler metrics*

58. International Conference on Partial Differential Equations and Applications, In Honor of 75th Birthday of Professor Haïm Brezis, School of Mathematical Sciences, Beijing Normal University, China, July 1st-3rd, 2019.
Title: $C^{1,1}$ *regularity of geodesics of singular Kähler metrics (July 2nd, 2019)*

59. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, April 4th, 2019.
Title: Stability of solutions of complex Monge-Ampère equations

60. AMS Sectional Meeting (Spring Central and Western Joint Sectional Meeting), Special Session on Analysis of Nonlinear Geometric Equations, Department of Mathematics, University of Hawai'i at Mañoa, USA, March 22nd–24th, 2019.
Title: $C^{1,1}$ *regularity of geodesics of singular Kähler metrics (March 24th, 2019)*

61. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, October 11th, 2018.
Title: Geometric estimates for complex Monge-Ampère equations

62. Geometric Analysis Seminar, School of Mathematical Sciences, Zhejiang University, China, April 2nd, 2018.
Title: The local $C^{1,1}$ *regularity of quasi-psh envelopes in nef and big classes*

63. Workshop on Geometric Analysis 2018 (Peking University, University of Science and Technology of China, Zhejiang University), School of Mathematical Sciences, Zhejiang University, China, March 31st–April 1st, 2018.
Title: The Fu-Yau equation on compact astheno-Kähler manifolds (March 31st, 2018)

64. Differential Geometry and Geometric Analysis Seminar, Department of Mathematics, Nanjing University, China, March 17th, 2018.
Title: Degenerate complex Monge-Ampère equation and its geometric applications

65. Workshop in Complex Geometry, Department of Mathematics, Southern University of Science and Technology, China, December 3rd, 2017.
Title: The Fu-Yau equation with negative slope parameter

66. Complex Analysis Seminar, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China, November 21st, 2017.
Title: Optimal regularity of Plurisubharmonic envelopes on compact Hermitian manifolds

67. Geometric Analysis Seminar, School of Mathematical Sciences, Peking University, China, November 1st, 2017.
Title: Second order estimate for general complex Monge-Ampère equations

68. Chinese Mathematical Society 2017 Annual Conference, Special Session on Geometry and Topology, School of Mathematics and Computational Science, Xiangtan University, China, October 20th–24th, 2017.
Title: The $C^{1,1}$ regularity of geodesics in the space of Kähler metrics (October 21st, 2017)

69. Workshop on Geometric Analysis for Youth 2017, School of Mathematical Sciences, Zhejiang University, China, July 4th–5th, 2017.
Title: The $C^{1,1}$ regularity of geodesics in the space of Kähler metrics (July 4th, 2017)

70. Workshop on Geometric Analysis, School of Mathematical Sciences, Capital Normal University, China, May 22nd–26th, 2017.
Title: The Monge-Ampère equation on compact almost Hermitian manifolds (May 22nd, 2017)

71. Colloquium, School of Mathematical Sciences, Beijing Normal University, China, December 18th, 2016.
Title: The Monge-Ampère equation for non-integrable almost complex structures

72. Geometric Analysis Seminar, School of Mathematical Sciences, Peking University, China, September 30th, 2016.
Title: The Monge-Ampère equation for non-integrable almost complex structures

73. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, April 14th, 2016.
Title: Complex Monge-Ampère equations with right hand side in L^p

74. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, February 26th, 2016.

Title: Regularity of psh envelopes

75. Informal Geometric Analysis Seminar, Department of Mathematics, Northwestern University, USA, October 1st, 2015.
Title: $C^{2,\alpha}$ estimates for some nonlinear elliptic equations of second order in geometry

76. Workshop on Geometric Analysis, School of Mathematical Sciences, Xiamen University, China, May 17th–21st, 2015.
Title: $C^{2,\alpha}$ estimates for some nonlinear elliptic equations in complex geometry (May 19th, 2015)

77. Mini-conference in Complex Geometry, Department of Mathematics, Nanjing University, China, April 10th–11th, 2015.
Title: Soliton-type metrics and Kähler-Ricci flow on symplectic quotients (April 10th, 2015)

78. Autumn Workshop on Complex Geometry and Singularity Theory, Department of Mathematics, Nanjing University, China, November 1st–2nd, 2014.
Title: $C^{2,\alpha}$ estimates for nonlinear elliptic equations of second order in geometry (November 1st, 2014)

79. Geometric Analysis Seminar, Beijing International Center for Mathematical Research, Peking University, China, October 21st, 2014.
Title: $C^{2,\alpha}$ estimates for some nonlinear elliptic equations of second order in geometry

Mini-courses and Lecture series

1. 2023 Summer School on Differential Geometry, Beijing International Center for Mathematical Research, Peking University, China, July 31st-August 11th, 2023.
Introduction to second order linear elliptic PDEs (July 31st, August 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 10th, 11th, 2023).

2. 2022 Summer Short Course, Chern Institute of Mathematics, Nankai University, China, July 18th-August 11th, 2022.
Introduction to partial differential equations (July 18th, 20th, 22th, 26th, 28th, August 1st, 3rd, 5th, 9th, 11th, 2022).

3. 2020 Summer School on Differential Geometry, Beijing International Center for Mathematical Research, Peking University, China, August 3rd-14th, 2020.
Introduction to partial differential equations (August 3rd, 4th, 5th, 6th, 7th, 10th, 11th, 12th, 13th, 14th, 2020).

4. Lecture Series, Center for Applied Mathematics, Tianjin University, China, August 6th-8th, 2019.
Complex Monge-Ampère equation and its geometric applications (August 6th, 7th, 8th, 2019).

Mentoring

- PhD student: Zihang Hao (2023–).

Teaching and TA Experiences

Courses Taught at Peking University:

- Advanced Mathematics (B) (2), Spring, 2025.
- Advanced Mathematics (B) (1), Fall, 2024.
- Advanced Mathematics (B) (2), Spring, 2024.
- Advanced Mathematics (B) (1), Fall, 2023.
- Advanced Mathematics (B) (2), Spring, 2023.
- Advanced Mathematics (B) (1), Fall, 2022.
- Advanced Mathematics (B) (2), Spring, 2022.

Courses Taught at Northwestern University:

- Math 228-1, Multivariable Differential Calculus for Engineering, Winter, 2021.
- Math 228-1, Multivariable Differential Calculus for Engineering, Fall, 2020.
- Math 228-1, Multivariable Differential Calculus for Engineering, Winter, 2020.
- Math 228-1, Multivariable Differential Calculus for Engineering, Fall, 2019.
- Math 230-0, Differential Calculus of Multivariable Functions, Spring, 2019.
- Math 220-0, Differential Calculus of One Variable Functions, Fall, 2018.

Teaching Assistant at University of Chinese Academy of Sciences:

- Calculus, Spring, 2018.
- Calculus, Fall, 2017.

Teaching Assistant at Peking University:

- Calculus, Fall, 2016.
- Differentiable Manifolds, Spring, 2015.
- Calculus, Fall, 2014.
- Differentiable Manifolds, Spring, 2014.
- Differentiable Manifolds, Spring, 2013.

Professional Services

- Referee for: Acta Mathematica, Communications on Pure and Applied Mathematics, Inventiones Mathematicae, Journal of the European Mathematical Society and many others.