Bingyi Chen

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RESEARCH INTERESTS

Algebraic geometry, birational geometry, singularity theory. In particular, minimal model program, boundedness results in birational geometry, the theory of complements, the moduli theory of varieties of general type and of non-negative Kodaira dimension, applications of the theory of mixed Hodge modules.

EXPERIENCE

Yau Mathematical Sciences Center, Tsinghua University   Sep. 2021 -

- Postdoc
- Mentor: Caucher Birkar

Tsinghua University   Aug. 2016 - Jun. 2021

- Ph.D. in Pure Mathematics
- Advisor: Stephen Shing-Toung Yau

Northwestern University   Oct. 2019 - Mar. 2020

- Visiting student at Department of Mathematics
- Mentor: Mihnea Popa

Tsinghua University   Aug. 2012 - Jun. 2016

- B.S. in Mathematics

PUBLICATIONS

12. Boundedness of klt complements on Fano fibrations over surfaces, preprint 2024, arXiv:2403.01154.

11. Explicit bound for singularities on toric fibrations, preprint 2023, arXiv:2311.00985.

10. Vanishing theorems for generalized pairs (with Jihao Liu and Lingyao Xie), preprint 2023, arXiv:2305.12337.

9. Explicit bound for singularities on the base of a Fano type fibration of relative dimension one, preprint 2022, arXiv:2210.08469.

8. Upper bound of discrepancies of divisors computing minimal log discrepancies on surfaces, preprint 2020, arXiv:2009.03613.

7. Vanishing for Hodge ideals of $\mathbb{Q}$-divisors, *Int. Math. Res. Notices* (2023), no.1, 185-209.

6. Bergman functions and the equivalence problem of singular domains (with Stephen Yau), *Commun. Anal. Geom.* **31** (2023), no. 2, 449-483.

5. Variation of complex structures and variation of Lie algebras II: new Lie algebras arising from singularities (with Naveed Hussain, Stephen Yau and Huaiqing Zuo), *J. Diff. Geom.* **115** (2020), no. 3, 437-473.

4. The nonexistence of negative weight derivations on positive dimensional isolated singularities: Generalized Wahl conjecture (with Hao Chen, Stephen Yau and Huaiqing Zuo), *J. Diff. Geom.* **115** (2020), no. 2, 195-224.

3. 4d $\mathcal{N} = 2$ SCFT and singularity theory part IV: Isolated rational Gorenstein non-complete intersection singularities with at least one-dimensional deformation and nontrivial T^2 (with Shing-Tung Yau, Stephen Yau and Huaiqing Zuo), *Math. Res. Lett.* **28** (2021), no. 1, 1-23.

2. 4d $\mathcal{N} = 2$ SCFT and singularity theory Part III: Rigid singularity (with Dan Xie, Shing-Tung Yau, Stephen Yau and Huaiqing Zuo), *Adv. Theor. Math. Phys.* **22** (2018), no. 8, 1885-1905.

1. 4d $\mathcal{N} = 2$ SCFT and singularity theory Part II: complete intersection (with Dan Xie, Shing-Tung Yau, Stephen Yau and Huaiqing Zuo), *Adv. Theor. Math. Phys.* **21** (2017), no. 1, 121-145.

HONORS & AWARDS		
	- Gold Medal of Doctor Thesis for ICCM Best Thesis Award	2022
	- China National Scholarship	2020
	- Excellent Postgraduate Award, Yau Mathematical Sciences Center	2018
	- China National Scholarship	2018
	- Silver Award for ICCM Best Paper Award	2017
	- Gold Medal of Bachelor Thesis for ICCM Best Thesis Award	2017