



ZIHAO LI (黎子豪)

✉ zihao.li@nbi.ku.dk  [0000-0001-5951-459X](https://orcid.org/0000-0001-5951-459X)  <https://lizihao1008.github.io/>

Education

University of Copenhagen

Ph.D. in Astronomy.

Advisor: Lise Christensen and Koki Kakiichi

Aug. 2024 –

Copenhagen, Denmark

Tsinghua University

M.Sc. in Astronomy. GPA: 3.85/4.00

Advisor: Zheng Cai

Sep. 2021 – Jun. 2024

Beijing, China

Sichuan University

B.Eng. in Aerospace Engineering. GPA: 3.80/4.00 rank: 2/28

Honors Degree in Top-notch Program.

Sep. 2017 – Jun. 2021

Chengdu, China

Research Interests & Experience

- Origin of the first stars.
- (Spatially resolved) metal enrichment of high- z galaxies.
- Environmental dependence of galaxy formation and evolution.
- Probe large scale structure through IGM tomography.

Honors & Awards

- Outstanding Presentation Award for Graduate Research | Nanjing University. 2023
- 1st Scholarship for Comprehensive Performance (10k CNY) | Tsinghua University. 2022
- Award for Excellent Thesis | Chinese National Level in Aeronautics & Astronautics. 2021
- MITACS Research Fellow (\$6k, cancelled due to COVID) | University of Victoria. 2020
- 1st Scholarship for Academic Performance | Sichuan University. 2020
- Summer Abroad Subsidy (10k CNY) | Sichuan University. 2019
- 1st Scholarship of China Space Foundation (8k CNY) | Sichuan University. 2018
- 1st Scholarship for Comprehensive Performance (2.5k CNY) | Sichuan University. 2018

Publications

1st/2nd Author Papers:

- Li, Z., Kakiichi, K., et al. A Very Metal-poor Galaxy Overdensity Near the End of Reionization Enriched by the First Stars? *Nature Astronomy in Revision*.
- He, X. Li, Z., et al. Revisiting the fundamental metallicity relation of dwarf galaxies at cosmic noon with NIRISS. Submitted.
- Li, Z., Cai, Z., et al. A 13-Billion-Year View of Galaxy Growth: Metallicity Gradient Evolution from the Local Universe to $z = 9$ with JWST and Archival Surveys. 2025, [ApJS](#)
- Li, Z., Kakiichi, K., et al. Insights on Metal Enrichment and Environmental Effect at $z \approx 5 - 7$ with JWST ASPIRE/EIGER and Chemical Evolution Model. 2025, [A&A](#)
- Li, Z., Cai, Z., et al. MAGNIF: A Tentative Lensed Rotating Disk at $z = 8.34$ detected by JWST NIRCам WFSS with Dynamical Forward Modeling. 2023, [arXiv:2310.09327](#)
- Li, Z., Wang, X., Cai, Z., et al. First Census of Gas-phase Metallicity Gradients of Star-forming Galaxies in Overdense Environments at Cosmic Noon. 2022, [ApJL](#), 929, L8
- Wang, X., Li, Z., Cai, Z., et al. The Mass–Metallicity Relation at Cosmic Noon in Overdense Environments: First Results from the MAMMOTH–Grism HST Slitless Spectroscopic Survey. 2022, [ApJ](#), 926, 70
- Li, Z., Horowitz, B. and Cai, Z. Improved Ly α Tomography Using Optimized Reconstruction with Constraints on Absorption (ORCA). 2021, [ApJ](#), 916, 20

Full list in [ADS](#).

Talks

- May. 2026. *Linking Metal-Poor Environments and Pop III Star Formation within a $z \sim 6$ Galaxy Overdensity*, contributed talk at STScI 2026 Spring Symposium. (Baltimore, US)
- June. 2025. *Environments and Metal Enrichment of Early Galaxies in Quasar Fields*, contributed talk at EAS 2025. (Cork, Ireland)
- May. 2025. *Metal enrichment and environmental effect in large scale structures at $z = 5 - 7$* , contributed talk at COSMOS 2025. (Marseille, France)
- May. 2025. *Environments and galaxy Formation from cosmic dawn to cosmic noon with slitless spectroscopy*, Cake talk at Technical University of Denmark. (Lyngby, Denmark)
- Jan. 2025. *JWST NIRCcam WFSS data reduction workshop*, lecturer at NAOC. (Remote)
- Aug. 2024. *“Insights into cosmic evolution of gas-phase metallicity gradients with JWST”*, contributed talk at Santa Cruz Galaxy Workshop. (Santa Cruz, US)
- Dec. 2023. *Galaxy metal enrichment and gas dynamics with JWST*, seminar at NAOC. (Beijing, China)
- Nov. 2023. *“JWST insights on mass-metallicity relation and metallicity gradients of early galaxies”*, contributed talk at Nanjing University. (Nanjing, China)
- May. 2023. *“The metal-enrichment of low mass galaxies from cosmic dawn to noon in the JWST era”*, contributed talk at Chinese Astronomical Society Guoshoujing Symposium on Galaxies and Cosmology. (Huangshan, China)
- Mar. 2023. *“Research progress with HST/JWST slitless spectrograph and science preparation for CSST”*, contributed talk at China Space Station Telescope Conference 2023. (Huairou, China)

Teaching Experience

- TA of *Advanced Observational Astrophysics* at Tsinghua University. Spring 2023
- TA of *Electromagnetism Lab* at University of Copenhagen. Fall 2025

Professional Service

- Reviewer for ApJ, A&A, Nat. Commun.

Outreach Activities

- Founder of Astronomical Research Scholarship of Sichuan University (30,000 CNY). 2025–
- Department Director of Sichuan University Astronomy Society. 2018–2019
- Co-Captain/Pilot/Technician of Sichuan University Students Aeromodel Team. 2018–2019

References

Prof. Lise Christensen

Niels Bohr Institute, University of Copenhagen

✉ lichrist@nbi.ku.dk

Prof. Zheng Cai

Department of Astronomy, Tsinghua University

✉ zcai@mail.tsinghua.edu.cn

Prof. Xin Wang

NAOC, Chinese Academy of Sciences

✉ xwang@ucas.ac.cn

Dr. Benjamin Horowitz

IPMU, Tokyo University

✉ ben.horowitz@ipmu.jp