

Xiangyu Jin

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Summary

Research Interests: Cosmic reionization, quasar Ly α forest, intergalactic medium, high-redshift galaxies and quasars

Grants: Science PI on four grants (totaling **\$670,070**) awarded through NASA (Roman, JWST, and XMM-Newton)

Publications: 6 first-author (154 citations), 2 second-author (44 citations), 37 co-author (~900 citations), as of Oct 2026

Employment

Postdoctoral Research Fellow – University of Michigan

Sept 2025 – present

Education

Ph.D., Astronomy – University of Arizona Advisors: Prof. Xiaohui Fan & Prof. Jinyi Yang

Aug 2020 – Aug 2025

M.Sc., Physics – McGill University Advisors: Prof. Daryl Haggard & Prof. John Ruan

Sept 2018 – Aug 2020

B.Sc., Physics (Minor: Astronomy) – Nanjing University Advisor: Prof. Zhiyuan Li

Sept 2014 – July 2018

Summer Student – University College London Advisor: Prof. Kinwah Wu

May 2017 - Aug 2017

Selected Awards, Scholarships, and Honors

- Student Observing Support, NRAO (2023) – The NRAO Fellowship supporting student research projects
- La Serena School of Data Science Full Scholarship (2022)
- Chandra Golden Ticket (2019) – Poster award at Twenty Years of Chandra Science Symposium
- MSI Trottier Award, McGill Space Institute (2018, 2019)
- Outstanding Graduate, Nanjing University (2018)
- National Scholarship, Ministry of Education of China (2017) – Awarded to the top 0.2% students nationwide
- UCL MAPS Dean's Summer Student Scholarship (2017) – Scholarship for summer research at University College London

Proposals & Observing

Selected Proposals as PI:

- Roman Cycle 1 19053, **medium analysis program (\$450,000)**. *Anatomizing the Epoch of Reionization with Roman HLWAS*
- JWST Cycle 4 GO 7436, **18.4 hours & 2 Keck nights (\$153,070)**. *The Last Neutral Islands at the End of Reionization? Characterizing the Nature of the Longest Dark Gaps in IGM Transmission at $z \sim 5.3$*
- XMM-Newton AO-22 **299 ks (\$15,000)**, AO-23 **110 ks (\$52,000)**, AO-25 **71 ks**. *An XMM Legacy Survey of JWST ASPIRE Quasars: Panchromatic View of $z \sim 6.5$ Quasars*
- Gemini/GMOS-N/S 2023B, **36.5 hours**. *Deep Gemini/GMOS Observations of ASPIRE Quasars: Probing the Dominant Sources of Reionization*
- MMT BINOSPEC 2022B–2025B, **15 nights**. *Deep MMT/BINOSPEC Observations of ASPIRE Quasars: Probing the Dominant Sources of Reionization*
- Magellan IMACS/LDSS3 2025B–2026B, **6.5 nights**. *Probing Late Reionization with Magellan Telescopes*

Selected Proposals as Co-I:

- Roman Cycle 1 19044, **medium analysis program** (PI: J. Champagne). *Definitive Answers on Environmental Pre-processing in Cosmic Noon Protoclusters*
- Roman Cycle 1 19042, **medium analysis program** (PI: J. Yang). *Revealing Supermassive Black Hole Growth Through the Synergy of Roman and LSST*
- Roman Cycle 1 19005, **small analysis program** (PI: Y. Zhu). *Establishing the Post-Reionization Ly α Transmission-Environment Baseline*
- JWST Cycle 5 GO 11687, **10.2 hours** (PI: X. Xiang). *EXHALE: Expelling the X-ray High-energy winds to InfrAred-traced galactic scale fFeedback - Tracing multiphase outflows in Mrk 877*
- JWST Cycle 5 GO 11371, **107.2 hours** (PI: R. Meyer). *Mapping Reionisation in 3D in the COSMOS field*
- JWST Cycle 5 GO 10898, **71.0 hours** (PI: J. Champagne). *Ecosystems in the Early Universe: Aspiring to Grow in Quasar Neighborhoods*
- JWST Cycle 5 GO 10703, **46.6 hours** (PI: B. Jin). *Revealing the Hidden Engines of Little Red Dots: A Statistical Study of BH* Candidates at $6 < z < 9$*
- JWST Cycle 5 GO 10631, **51.7 hours** (PI: T. Hsiao). *Aurora's Testimony of Extremely Metal-Poor Galaxies at Cosmic Dawn*
- JWST Cycle 5 GO 9841, **58.4 hours** (PI: F. Wang). *Growing the most distant radio-loud quasars in the structure formation paradigm*
- JWST Cycle 4 GO 9180, **94.1 hours** (PI: J. Hennawi). *Ushering in the JWST Era of Precision Constraints on Reionization: A Survey of Faint Quasar IGM Damping Wings at $6.5 < z < 7.4$*

- JWST Cycle 4 GO 7935, **37.9 hours** (PI: F. Sun). *Efficient Measurement of the Emergence Rate of AGN in Legacy Deep Field*
- JWST Cycle 4 GO 7390, **26.4 hours** (PI: Y. Wu). *Probing Pair-Instability Supernovae through the Triply-lensed MACS0647-JD at $z=10.17$*
- JWST Cycle 3 GO 5893, **263.19 hours** (PI: K. Kakiichi). *COSMOS-3D: A Legacy Spectroscopic/Imaging Survey of the Early Universe*
- JWST Cycle 3 SURVEY 5645, **625.5 hours** (PI: E. Farina). *A 3D view of the first QSOs: A JWST/NIRSpec survey program*
- JWST Cycle 3 GO 5221, **12.86 hours** (PI: M. Pudoka). *Mapping Cosmic Structure Evolution: Characterizing Two Massive Galaxy Protoclusters Anchored by $z > 7.5$ Luminous Quasars*
- JWST Cycle 3 GO 4691, **17.7 hours** (PI: J. Yang). *Investigating an Extreme [OIII] Outflow Discovered in a Reionization-era Luminous Quasar*
- JWST Cycle 2 SURVEY 3428, **106 hours** (PI: W. Liu). *Quasar Feedback and Supermassive Black Hole Demographics at $z \sim 4 - 6$*
- JWST Cycle 2 GO 3325, **44.51 hours** (PI: F. Wang and J. Yang). *Mapping the Most Extreme Protoclusters in the Epoch of Reionization*
- JWST Cycle 2 GO 2883, **38.73 hours** (PI: F. Sun). *MAGNIF: Medium-band Astrophysics with the Grism of NIRCам in Frontier Fields*
- ALMA Cycle 11 (PI: Y. Zhu). *Galaxy over/under-densities around IGM transmission at $z=5.7$: a robust constraint on reionization*
- Keck 2024A–2024B, **2.5 nights** (PI: F. Wang). *Mapping the $Ly\alpha$ emissions of a large sample of galaxies in the EoR*
- VLT/X-Shooter P109, **36.4 hours** (PI: J. Yang). *Probing Cosmic Reionization and Supermassive Black Hole Growth with Three New $z \sim 7$ Luminous Quasars*

Observing Experience:

- Magellan Baade: 32 nights (IMACS, FOURSTAR, FIRE)
- Magellan Clay: 2 nights (LDSS3)
- Keck II: 6 nights (KCWI, DEIMOS)

Media Coverage

<i>Discovering the Most Ancient Quasars in the Universe</i>	July 2026
<i>Chandra Finds Stellar Duos Banished from Galaxies</i>	May 2019

Selected Talks and Presentations

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- **Contributed Talk** – *Charting the Late Stages of Reionization with JWST NIRCам Wide Field Slitless Spectroscopy*
Surveying the University in 4D Workshop at STScI, Baltimore Aug 2026
 - **Contributed Talk** – *Investigating the Role of Galaxies in Cosmic Reionization: Insights from the JWST COSMOS-3D Survey*
EREBUS Collaboration Meeting, Ann Arbor Aug 2026
 - **Dissertation Talk** – *High-redshift Quasars as Probes of Cosmic Reionization*
The 247th AAS meeting, Phoenix Jan 2026
 - **Colloquium Talk** – *Investigating the Late Stages of Reionization using IGM-galaxy Connections in JWST Quasar Fields*
University of Michigan, Department of Astronomy Oct 2025
 - **Contributed Talk** – *Exploring IGM-galaxy Connections during EoR using JWST Quasar Fields: ASPIRE and beyond*
EREBUS Collaboration Meeting, Bologna June 2025
 - **Invited Talk** – *Exploring the IGM-galaxy Connections during Cosmic Reionization using JWST Quasar Fields*
IFPU workshop “The Galaxy-IGM interplay in the first billion years of the Universe”, Trieste May 2025
 - **DAWN Cake Talk** – *Constraining the Epoch of Reionization with Ground-based and JWST Observations of $z > 6$ Quasars*
Cosmic Dawn Center, Copenhagen July 2024
 - **Contributed Talk** – *Probing the Connection between IGM Transmission and Galaxies during Cosmic Reionization using JWST ASPIRE Quasar Fields*
Cosmic Dawn at High Latitudes Conference, Stockholm June 2024
 - **Contributed Talk** – *Probing the Connection between IGM Transmission and Galaxies during Cosmic Reionization*
First Stars VII, New York City May 2024
 - **Contributed Talk** – *Probing the Connection between IGM Transmission and Galaxies during Cosmic Reionization*
Resolving the Extragalactic Universe with ALMA & JWST, Tokyo Nov 2023
 - **Contributed Talk** – *New Model-independent Constraints on the Neutral Hydrogen Fraction in the Intergalactic Medium during Reionization*
Reionisation in the Summer, Heidelberg June 2023
 - **Contributed Talk (Remote)** – *New Model-independent Constraints on the IGM Neutral Hydrogen Fraction up to $z = 6.8$*
Summer All-Zoom Epoch of Reionization Astronomy Conference (SAZERAC) 2.0 June 2021
 - **Contributed Talk** – *Connecting Changing-Look Quasars’ Optical/X-ray Spectral Shapes and Accretion Rates*
Twenty Years of Chandra Science Symposium, Boston Dec 2019
 - **Research Talk** – *X-ray Source Populations in Galaxies*
University College London, London Aug 2017