

Fengwei Xu

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EMPLOYMENT

Max Planck Institute for Astronomy

Heidelberg, Germany

Independent postdoctoral fellow at Planet Formation and Exoplanet department

Sep 2025 – Present

- Main goal: *Hierarchical dynamics and magnetic fields from molecular clouds to dense cores and to protostellar disks using multiwavelength observations and numerical simulations.* (Host: Prof. Dr. Henrik Beuther)

EDUCATION

Peking University

Beijing, China

Graduate student in Kavli Institute for Astronomy and Astrophysics

Sep 2020 – June 2025

- Thesis: *Mass assembly in Massive Star Formation* (Advisor: Prof. Dr. Ke Wang)

Peking University

Beijing, China

Bachelor of Science in Department of Astronomy, School of Physics

Sep 2016 – Jun 2020

- Thesis: *Planck Galactic Cold Clumps at High Latitude* (Advisor: Prof. Dr. Yuefang Wu)

RESEARCH EXPERIENCE

University of Cologne

Cologne, German

Joint Ph.D. Program

Mar 2024 – Mar 2025

Xiamen University

Xiamen, China

Visiting Scholar

Jan 8 2024 – Jan 14 2025

Shanghai Astronomical Observatory

Shanghai, China

Visiting Scholar

Dec 2022 – Feb 2023

Yunnan University

Kunming, China

Visiting Scholar

Sept 30 2021 – Oct 7 2021

Shanghai Astronomical Observatory

Shanghai, China

Visiting Scholar

Jun 2020 – Sept 2020

PUBLICATIONS

- Full list: [ADS Link](#)

- Metrics (by now): in total 103 published or accepted refereed papers, including 10 first-authored ones. They have in total 1337 referred citations, and a referred h-index of 18.

- Highlights:

F. Xu, Q. Zhang, P. Sanhueza, and et al., Magnetic Fields in Massive Star-forming Regions (MagMaR). VII. On the dynamical importance of B-fields in massive protocluster W33 A, A&A, accepted for publication.

F. Xu, K. Wang, S. Nicola, and et al., Linear filament and nested cluster evolution tomography (LANCET) I. Capture the evolution of dense gas in 14-parsec filament G316.8, A&A, 708, A251.

F. Xu, X. Lu, K. Wang, and et al., Dual-band Unified Exploration of Three CMZ Clouds (DUET). Cloud-wide Census of Continuum Sources Showing Low Spectral Indices.

F. Xu, K. Wang, T. Liu, and et al., The ALMA-QUARKS Survey. II. The ACA 1.3 mm Continuum Source Catalog and the Assembly of Dense Gas in Massive Star-Forming Clumps, RAA, 24, 065011

F. Xu, K. Wang, T. Liu, and et al., On the Scarcity of Dense Cores ($n > 10^5 \text{ cm}^{-3}$) in High Latitude Planck Galactic Cold Clumps, ApJL, 963, L9.

F. Xu, K. Wang, T. Liu, and et al., The ALMA Survey of Star Formation and Evolution in Massive Protoclusters with Blue Profiles (ASSEMBLE): Core Growth, Cluster Contraction, and Primordial Mass Segregation, 2024, ApJS, 270, 9.

F. Xu, K. Wang, Y. He, and et al., Clump-scale Gas Infall in High-mass Star Formation: A Multitransition View with James Clerk Maxwell Telescope HCN (4-3) Mapping, 2023, ApJS, 269, 38.

F. Xu, K. Wang, T. Liu, and et al., ATOMS. XV. Steady accretion from global collapse to core feeding in massive hub-filament system SDC335, 2023, MNRAS, 520, 3259.

F. Xu, Y. Wu, T. Liu, and et al., Planck Galactic Cold Clumps at High Galactic Latitude-a Study with CO Lines, 2021, ApJ, 920, 103.

FUNDING PROJECTS

Tianma Telescope Key Project Cultivation Fund (天马望远镜重大成果培育项目) <i>Carbon Chain Molecules: Origin, Search, and Application (PI)</i>	Oct 2021 – Oct 2023
National Natural Science Foundation of China (国家自然科学基金) <i>High-resolution observations of physical and chemical environment in star formation regions (Co-I)</i>	Jan 2021 – Dec 2025

TELESCOPE PROPOSALS WITH TIME ASSIGNED (OBSERVING PROJECTS)

PI Atacama Large Millimeter/submillimeter Telescope in total over 500 hours	2023-2025
PI Northern Extended Millimetre Array in total 38 hours	2025-2026
PI Karl G. Jansky Very Large Array 22 hours	2023
PI Submillimeter Array in total 7 nights	2022-2023
PI Australia Telescope Compact Array 51 hours	2021
PI IRAM 30m telescope 73 hours	2025
PI Purple Mountain Observatory 13.7-m Millimeter Telescope 70 hours	2022
PI Five-hundred-meter Aperture Spherical Telescope 35 hours	2021

HONORS & AWARDS

President Scholarship (校长奖学金): Annual scholarship of 2023-2024, Peking University	Jun 2024
Merit Student (三好学生): Annual honor of 2023-2024, Peking University	Jun 2024
National Scholarship (国家奖学金): Annual scholarship of 2022–2023, Ministry of Education of the People's Republic of China	Sept 2023
Merit Student Pacesetter (三好学生标兵): The utmost annual accolade of 2022–2023, Peking University	Sept 2023
Academic Innovation Award (学术创新奖): Annual honor of 2022–2023, Peking University	Sept 2023
Qin Jin Scholarship (秦宛顺靳云汇奖学金): Annual scholarship of 2021-2022, Peking University	Sept 2022
President Scholarship (校长奖学金): Annual scholarship of 2022-2023, Peking University	Jun 2022
Merit Student (三好学生): Annual honor of 2021-2022, Peking University	Jun 2022
President Scholarship (校长奖学金): Annual scholarship of 2021-2022, Peking University	Jun 2021
Merit Student (三好学生): Annual honor of 2020-2021, Peking University.	Jun 2021
Lee Wai Wing Scholarship (李惠荣奖学金): Annual scholarship of 2020-2021, Peking University	Sept 2021
Excellent Student Cadre (优秀学生干部): Annual honor of 2020-2021, School of Physics, Peking University	Jun 2021
Excellent League Member (优秀团员): Annual honor of 2020-2021, Peking University	Jun 2021
Lin Chao Price for Excellent Undergraduate Research (林桥奖学金): Department of Astronomy, Peking University	Sept 2020
Award for Outstanding Research (优秀科研奖): Annual honor of 2018-2019, Peking University	Dec 2019
NAOC Scholarship (国家天文台奖学金): Annual scholarship of 2017-2018, National Astronomical Observatory of China	Dec 2018

PROFESSIONAL SERVICES

Referee:

Astrophysical Journal Jan, 2024 – Present

Advisor and Mentor:

Supervisor of the 2023 Elite Program Jun 2023 – Nov 2023

Supervisor of the 2022 Elite Program Jun 2022 – Nov 2022

Co-supervision of Jiahang Zhou's undergraduate thesis Nov 2021 – Jun 2022

Co-supervision of Zhentao Liu's undergraduate thesis Nov 2021 – Jun 2022

Teaching Assistant:

Modern Astronomy (现代天文学) Feb 2022 – Jun 2022

OUTREACH

LOC Member of 2023 Annual Conference on Molecular Clouds and Star Formation Nov 2023

Counselor of Undergraduate Student, School of Physics Jun 2022 – Jun 2023

Chair of the Badminton Club, Kavli Institute for Astronomy and Astrophysics Jun 2022 – Jun 2023

Vice President of the Graduate Student Association, School of Physics Jun 2021 – Jun 2022

Volunteer for COVID-19 Nucleic Acid Testing, Peking University May 2022

Chair of the Badminton Club, Kavli Institute for Astronomy and Astrophysics Jun 2021 – Jun 2022

Member of the Sports Department of the Graduate Student Association, School of Physics Sept 2020 – Jun 2021

Member of the Publicity Department of the Graduate Student Association, School of Physics Sept 2020 – Jun 2021

Volunteer for Peking University 120th Anniversary Jun 2018

Volunteer for Clay House Construction in Thailand, the Green Lion Jul 31th 2017 – Aug 4th 2017

CONFERENCE TALKS

Contributed Talk Perspectives of Planet and Star Formation, *Heidelberg, Germany* June 2026

Contributed Talk CMF2IMF - The Origin of the Stellar Initial Mass Function , *Garching, Germany* June 2026

Contributed Talk Perspectives in Star Formation - Senior Insights, Young Visions, *Shanghai, China* Oct 2025

Contributed Talk Stellar Origin, *Vienna, Austria* Sep 2025

Invited Talk Annual Conference on Molecular Clouds and Star Formation, *Sichuan, China* Aug 2025

Contributed Talk Annual Meeting of the Astronomische Gesellschaft, *Cologne, Germany* Sep 2024

Contributed Talk The Second Cross-trait Workshop on Radio Astronomy, *Shanghai, China* Feb 2024

Contributed Talk 10th Five-University Alliance Doctoral Academic Forum (PFUNT), *Shanghai, China* Dec 2023

Contributed Talk Annual Conference on Molecular Clouds and Star Formation, *Chongqing, China* Nov 2023

Contributed Talk Chinese Astronomical Society Annual Meeting, *Weihai, China* Sept 2023

Contributed Talk The 21st Zhong Shengbiao Education Fund Graduate Academic Forum, *Beijing, China* May 2023

Contributed Talk JCMT User Meeting *online* May 2023

Contributed Poster Protostars and Planets VII, *Kyoto, Japan* Mar 2023

Contributed Talk 9th Five-University Alliance Doctoral Academic Forum (PFUNT), *online* Dec 2022

Invited Talk Astronomical Frontier Conference of Xinjiang Astronomical Observatory, *online* Nov 2022

Contributed Talk Annual Conference on Molecular Clouds and Star Formation, *online* Aug 2022

Contributed Talk The First ATOMS Meeting for Star Formation, *Shanghai, China* Mar 2021

Contributed Talk Chinese Astronomical Society Annual Meeting, *Delingha, China*

Sept 2019

Contributed Talk 2019 Annual Conference on Molecular Clouds and Star Formation, *Altay, China*

Jul 2019

SKILLS

Languages: Chinese, English

Programming: Python, Shell (Proficient); HTML, C++ (Experienced)

Softwares:

- CASA: the Common Astronomy Software Applications package, is the primary data processing software of interferometric data
- GILDAS/CLASS: a collection of state-of-the-art software oriented toward (sub)millimeter astronomical applications