# WUJI WANG

—Curriculum Vitae—

◇ ZAH Astronomisches Recheninstitut, Mönchhofstr. 12-14, 69120 Heidelberg, Germany
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## RESEARCH INTERESTS

I am interested in the feedback from the most energetic AGN at and near Cosmic Noon ($z$∼2-3). I study the impact from both jet-mode and radio-mode AGN processes on the interstellar medium to cirumgalactic medium scales using observations from various instruments.

## SKILLS

Expert in the analysis of data from multi-wavelength IFU instruments on both ground-based and space telescopes: MUSE/VLT, JWST NIRSpec IFU and ALMA.

## EDUCATION & RESEARCH

• **PhD, Astrophysics, Heidelberg University/IMPRS-HD, DE** Oct. 2020 –
**Thesis**: *Mapping the circum-galactic medium around high-redshift radio galaxies in 3D*
**Supervisors**: Dominika Wylezalek, Joël Vernet, Carlos De Breuck

• **MSc, Astrophysics, Munich University (LMU)/ESO, DE** Apr. 2018 – Jul. 2020
**Thesis**: *MUSE View of the CGM around a $z \sim 4.5$ Radio Galaxy*
**Supervisors**: Dominika Wylezalek, Joël Vernet, Carlos De Breuck, Benjamin Moster
**Grade**: 1.26 – German system

• **BSc, Astronomy, Nanjing University, CN** Sep. 2013 – Jul. 2017
**Thesis**: *Investigating the high-z tidal disruption event candidate in the Chandra Deep Field*
**Supervisor**: Bin Luo
**Grade**: 4.38/5

• **Summer Intern, ESO, DE** Jun. 2016 – Aug. 2016
**Project:** *Research on White Dwarfs Polluted by Planetary Debris*
**Supervisor**: Siyi Xu

## AWARDED TELESCOPE TIME

• **JWST NIRSpec/IFU, PID: GO-1970**, Cycle1:
**PI**, Zooming into the Monster's Mouth: Tracing Feedback from Their Hosts to Circumgalactic Medium in $z = 3.5$ Radio-loud AGN (24.5h)

• **ALMA Band8, PID: 2021.1.00576.S**, Cycle8:
**PI**, Pushing the frontier with ALMA: star formation at sub-kpc scale in distant radio-loud AGN hosts (13.9h)

• **UVES/VLT, PID: 108.21WL.001**, P108:
**PI**, Spectrally Resolving the Complex CGM of High-redshift Radio-loud AGN using UVES (20h)

• **NOEMA** 2023:
**Co-I**, Molecular gas in slightly windy, quenching AGN, PID: S23BT (30h, partially executed)

## PUBLICATIONS

List of publications attached at the end.

• Link to ADS library of Wuji Wang's published papers.
• Link to accepted first author paper.

## TEACHING & MENTORING

• **Co-advisor** of Jelena Ritter, Heidelberg University — Jun. 2023 –
MSc Thesis/Ritter et al. in prep.

• **Co-advisor** of Yu-Ruei Wang, Heidelberg University — Oct. 2022 – Jun. 2023
BSc Project & Thesis

• **Co-advisor** of Chuanming Mao, Heidelberg University — Mar. 2021 – Jul. 2021
BSc Thesis

• Lab Experiment **tutor**, Heidelberg University — Oct. 2021 – Jun. 2022
CCD photometry in modern astronomy (FP30)

• Lecture **tutor**, Heidelberg University — Mar. 2021 – Jul. 2021
Galactic and Extragalactic Astronomy (MVastro3)

## TALKS & MEDIA

### Media

- Apr. 20th 2021, ZAH Press release
- Aug. 1st 2021, UNI SPIEGEL

### Invited talks & Workshops

- Jun. 30th 2021, Group meeting talk at Tsinghua High-z Team, online
- Oct. 2023, The importance of jet-induced feedback on galaxy scales, workshop, NL

### Conferences & seminars

- Jun.17th/2021, ARI Institute Colloquium, Seminar talk, DE
- Jun.28th–July.2nd/2021, EAS 2021, ePoster, online
- Nov.3rd/2021, 1st KooGiG-Junior, Contributed talk, online
- Jan.26th/2022, Quasars and Galaxies through Cosmic Time, Contributed talk, online
- Jan.27th/2022, MPIA Galaxy Coffee, Seminar talk, DE

- Sep.12–16th/2022, What matter(s) around galaxies 2022, Contributed talk, IT
- Sep.26–30th/2022, What drives the growth of black holes, Poster, IS
- Dec.1st/2022, ARI Institute Colloquium, Seminar talk, DE
- Feb.23rd 2023, MPIA Galaxy Coffee, Seminar talk, DE
- Jul.10–14th/2023, EAS 2023, Contributed talk, PL
- Sep.11–15th/2023, AGN on the beach, Contributed talk, IT
- Nov.2nd/2023, MPIA Galaxy Coffee, Seminar talk, DE

## SERVICE & EXPERIENCE

- Referee, Monthly Notices of the Royal Astronomical Society (MNRAS)
- Scientific assistant, ESO Observing Programmes Committee (OPC) 104, 105

## LANGUAGES

Native speaker of Mandarin Chinese; Fluent in English (TOEFL 106/120); Basic German

## ADDITIONAL INFORMATION

Proficient in Python, Linux/Mac OS programming and data reduction using ESO Recipe Execution Tool and JWST pipeline; Experienced in reduction of data from Chandra, echelle spectrograph on Magellan telescope and Arizona Radio Observatory (ARO)

## REFERENCES AVAILABLE TO CONTACT

**Dr. Dominika Wylezalek** — PhD supervisor
*Emmy-Noether Group Leader, ARI Heidelberg University, Germany*
**Email**: dominika.wylezalek@uni-heidelberg.de

**Dr. Joël Vernet** — PhD co-supervisor/collaborator
*ELT Instrumentation project scientist, ESO, Germany*
**Email**: jvernet@eso.org

**Dr. Carlos De Breuck** — PhD co-supervisor/collaborator
*Full astronomer and ALMA development scientist, ESO, Germany*
**Email**: cdebreuc@eso.org

**Dr. Matthew Lehnert** — collaborator
*Director, Centre de Recherche Astrophysique de Lyon - CRAL, France*
**Email**: matthew.lehnert@univ-lyon1.fr

LIST OF PUBLICATIONS

**First author**

- **Wang, W.**, Wylezalek, D., De Breuck C., Vernet J., Humphrey, A., Villar Martín, M., Lehnert, M., and Kolwa S. (2021) Mapping the "invisible" circumgalactic medium around a $z \sim 4.5$ radio galaxy with MUSE, *Astronomy and Astrophysics*, 654, A88
- **Wang, W.**, Wylezalek, D., Vernet J., De Breuck C., Gullberg, B., Swinbank, M., Villar Martín, M., Lehnert, M., Drouart, G., Arrigoni Battaia F., Humphrey, A., Noirot, G., Kolwa S., Seymour N., and Lagos, P. (2023) 3D tomography of the giant intrinsic Ly$\alpha$ nebulae of $z\approx$3–5 radio-loud AGN, *Astronomy and Astrophysics*, accepted
- **Wang, W.**, Wylezalek, D., De Breuck C., Vernet J., and et al. (2023) *JWST* discovers an AGN ionization cone but no radiative-driven feedback in a powerful $z\approx$3.5 radio-loud AGN, submitted.

**Co-author**

- Kolwa, S., ..., **Wang, W.**, ... (2023) Faint [CI](1-0) emission in $z\sim$3.5 radio galaxies, MNRAS, 525, 5831
- Zhang, S., ..., **Wang, W.**, ... (2023) Revealing the Gas Recycling in the Circumgalactic Medium (CGM) Utilizing a Luminous Ly$\alpha$ nebula around a Type-II Quasar at $z = 2.6$ with the Keck Cosmic Web Imager (KCWI), ApJ, 952, 124Z
- Bertemes, C., ..., and **Wang, W.** (2023) MASCOT: Molecular gas depletion times and metallicity gradients – evidence for feedback in quenching active galaxies, MNRAS, 518, 5500
- Wylezalek, D., ..., **Wang, W.**, ... (2022) MASCOT – An ESO-ARO legacy survey of molecular gas in nearby SDSS-MaNGA galaxies: I. first data release, and global and resolved relations between $H_2$ and stellar content, MNRAS, 510, 3119
- Falkendal, T., ..., and **Wang, W.** (2021) ALMA and MUSE observations reveal a quiescent multi-phase circumgalactic medium around the $z \sim 3.6$ radio galaxy 4C 19.71, A&A, 645, A120