

WUJI WANG

—Curriculum Vitae—

◇ Caltech/IPAC Keith Spalding, M/C 314-6, 1200 E. California Blvd. Pasadena, CA91125, USA
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RESEARCH INTERESTS

I am interested in galaxy evolution and AGN feedback beyond cosmic noon ($z \gtrsim 3$). I study star formation, AGN processes, and their impact on interstellar medium to circumgalactic medium and stars of high- z galaxies 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, ALMA and JWST NIRSpec IFU.

CAREER & EDUCATION & RESEARCH

• **Postdoctoral Researcher, Caltech, Pasadena/CA, USA** Sep. 2024 – 2027

Projects: *Multiwavelength analysis of $z \sim 4 - 6$ star forming galaxies (JWST+ALMA)*

Supervisors: Andreas Faisst, Kyle Finner

• **PhD, Astronomy, Heidelberg University/IMPRS, DE** Oct. 2020 – Jul. 2024

Thesis: *3D view of the circumgalactic to interstellar medium around distant radio galaxies – magna cum laude*

Supervisors: Dominika Wylezalek, Joël Vernet, Carlos De Breuck

• **MSc, Astronomy, 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)

PUBLICATIONS

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- Link to [ADS library](https://ui.adsabs.harvard.edu/public-libraries/BRKFteavQGK2qrtljtTo_w) of Wuji Wang’s publications: https://ui.adsabs.harvard.edu/public-libraries/BRKFteavQGK2qrtljtTo_w

Publication list (refereed papers):

First-author

- **Wang, W.**, De Breuck, C., Wylezalek, D., Vernet, J., and et al. (2025) *JWST + ALMA ubiquitously discover companion systems within $\lesssim 18$ kpc around four $z \approx 3.5$ luminous radio-loud AGN*, A&A, in press.
- **Wang, W.**, Wylezalek, D., De Breuck, C., Vernet, J., Rupke, D., Zakamska, N., Vayner, A., Lehnert, L., Nesvadba, N., and Stern, D. (2024) *JWST discovers an AGN ionization cone but only weak radiatively driven feedback in a powerful $z \approx 3.5$ radio-loud AGN*, A&A, 683, A169.
- **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 α nebulae of $z \approx 3-5$ radio-loud AGN*, A&A, 680, A70
- **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*, A&A, 654, A88

Co-author

- Solimano, M., ..., **Wang, W.**, ... (2024) *A hidden AGN powering bright [O III] nebulae in a protocluster core at $z=4.5$ revealed by JWST*, A&A
- Kolwa, S., ..., **Wang, W.**, ... (2023) *Faint [CII](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 H₂ 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

TEACHING & MENTORING

- **Co-advisor** of Julian Groth, Heidelberg University
MSc Thesis Mar. 2024 –
- **Co-advisor** of Jelena Ritter, Heidelberg University Jun. 2023 – Jul. 2024
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

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

Conferences & seminars

- Dec.4th/2023, Caltech Tea talk, Seminar talk, CA USA

- Dec.1st/2023, Steward Observatory UA [EURECA](#), Seminar talk, AZ USA
- Nov.28th/2023, STScI & JHU Galaxy Journal Club, Seminar talk, MD USA
- Sep.11–15th/2023, AGN on the beach, Contributed talk, IT
- Jul.10–14th/2023, EAS 2023, Contributed talk, PL
- Feb.23rd 2023, MPIA Galaxy Coffee, Seminar talk, DE
- Dec.1st/2022, ARI Institute Colloquium, Seminar talk, DE
- Sep.26–30th/2022, What drives the growth of black holes, Poster, IS
- Sep.12–16th/2022, What matter(s) around galaxies 2022, Contributed talk, IT
- Jan.27th/2022, MPIA Galaxy Coffee, Seminar talk, DE
- Jan.26th/2022, Quasars and Galaxies through Cosmic Time, [Contributed talk](#), online
- Nov.3rd/2021, 1st KooGiG-Junior, Contributed talk, online
- Jun.28th–July.2nd/2021, EAS 2021, [ePoster](#), online
- Jun.17th/2021, ARI Institute Colloquium, Seminar talk, DE

SERVICE & EXPERIENCE

- Referee MNRAS, A&A, and ApJ
- 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, JWST pipeline and CASA; 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

Director, Centre de Recherche Astrophysique de Lyon - CRAL, France

Email: matthew.lehnert@univ-lyon1.fr

collaborator