# WENJUN CHANG

Email: wchan148@ucr.edu, wenjun.chang@email.ucr.edu
https://w-chang-astro.github.io

## EDUCATION

**University of California, Riverside** *Sept 2020 - Present*
Ph.D. in Physics and Astronomy
Advisor: Prof. Gillian Wilson

**University of California, Riverside** *Sept 2020 - June 2021*
M.Sc. in Physics and Astronomy
GPA: 3.98/4.0

**University of Science and Technology of China** *Aug 2016 - June 2020*
B.Sc. in Astronomy
Advisors: Prof. Xu Kong and Prof. Stijn Wuyts
Honors Thesis: *Cold Gas Properties and Dust Attenuation of Nearby Galaxies*

## RESEARCH EXPERIENCE

**Graduate Student Researcher** *Oct 2020 - June 2021*
University of California, Riverside (with Prof. Gillian Wilson)
Lead Proj I: Far-Infrared and Radio Insights into the Nature of Ultra-Massive Galaxies at $z \gtrsim 3$.
Lead Proj II: Confirming Quiescent Ultra-Massive Galaxies Using ALMA Dust Continuum.
Lead Proj III: Statistical Analysis of a Large Sample of Ultra-Massive Galaxies at $z > 3$.

**Research Assistant** *June 2020 - Sept 2020*
University of Science and Technology of China (with Prof. Guanwen Fang and Prof. Xu Kong)
Lead Proj: The Effect of Environment on Properties of Massive Green Valley Galaxies at $0.5 < z < 2.5$.

**Undergraduate Summer Researcher** *July 2020 - Sept 2020*
University of Bath, U.K. (with Prof. Stijn Wuyts)
Collaborative Project: Cold Gas Properties in Nearby 10k Galaxies in MaNGA survey.

**Undergraduate Researcher** *July 2018 - June 2020*
University of Science and Technology of China (with Prof. Xu Kong and Dr. Zhixiong Liang)
Lead Project: The IRX–$\beta$ Relation of HII Regions in Galaxy M33

## PUBLICATIONS

**Chang, W.**, Wilson, G., Forrest, B., Muzzin. A., et al., *Dust-poor Quiescent Ultra-Massive Galaxies at* $3 < z < 4$ *with ALMA Observation*, manuscript in internal circulation, anticipated submission to The Astrophysical Journal.

**Chang, W.** et al. 2025. *MAGAZ3NE: Far-IR and Radio Insights into the Nature and Properties of Ultramassive Galaxies at* $z \gtrsim 3$, submitted to The Astrophysical Journal, with editor feedback received.

**Chang, W.** et al. 2022. *The Physical Properties of Massive Green Valley Galaxies as a Function of Environment at* $0.5 < z < 2.5$ *in 3D-HST/CANDELS Fields*, The Astrophysical Journal, 936, 47.

Forrest, B. (*incl.* **Chang, W.**) et al. 2025. *A Massive, Evolved Slow-Rotating Galaxy in the Early Universe*, submitted to Nature Astronomy

McConachie, I. (*incl.* **Chang, W.**) et al. 2025. *Excavating The Ruins: An Ancient z=2.675 Galaxy Which Formed in the First 500 Myr*, submitted to The Astrophysical Journal.

McConachie, I. (*incl.* **Chang, W.**) et al. 2025. *MAGAZ3NE: Evidence for Galactic Conformity in $z > 3$ Protoclusters*, The Astrophysical Journal, 978, 17.

Forrest, B. (*incl.* **Chang, W.**) et al. 2024. *Environmental Effects on the Stellar Mass Function in a $z \sim 3.3$ Overdensity of Galaxies in the COSMOS Field*, The Astrophysical Journal, 971, 169.

Forrest, B. (*incl.* **Chang, W.**) et al. 2024. *MAGAZ3NE: Massive, Extremely Dusty Galaxies at $z \sim 2$ Lead to Photometric Overestimation of the Most Massive Galaxies at $3 < z < 4$*, The Astrophysical Journal, 977, 51.

Stawinski, S. (*incl.* **Chang, W.**) et al. 2024. *Spectroscopic Confirmation of an Ultra-Massive Galaxy in a Protocluster at $z \sim 4.9$*, The Open Journal of Astrophysics, 7 (June).

Forrest, B. (*incl.* **Chang, W.**) et al. 2023. *Elentari: A Massive Proto-Supercluster at $z \sim 3.3$ in the COSMOS Field*, Monthly Notices of the Royal Astronomical Society: Letters, 526, L56–L62.

Forrest, B. (*incl.* **Chang, W.**) et al. 2022. *MAGAZ3NE: High Stellar Velocity Dispersions for Ultra-Massive Quiescent Galaxies at $z > 3$*, The Astrophysical Journal, 938, 109.

Avery, C. R. (*incl.* **Chang, W.**) et al. 2021. *Incidence, Scaling Relations, and Physical Conditions of Ionized Gas Outflows in MaNGA*, Monthly Notices of the Royal Astronomical Society, 503, 5134–5160.

## APPROVED PROPOSAL AS CO-I.

**JWST Cycle 2** (GO 2913)
*Dissecting the Monsters: Resolved IFU Spectroscopy of the Most Massive Quiescent Galaxies at $z > 3$, 19.4 hours* (PI: Forrest, B.)
**ALMA Cycle 8** (2021.1.00501.S)
*Do Truly Quiescent Massive Galaxies Exist at $3 < z < 4$?*, 19.7 hours. (PI: Forrest, B.)
**W. M. Keck 2023B** (U085), **2022B** (U021)
*Do Super-Ultramassive Galaxies Exist at $3 < z < 4$?* (PI: Wilson, G.)

## OBSERVATIONAL EXPERIENCE

**Keck I Telescopes** MOSFIRE *10 nights, 2021-2025*
**Lick Observatory** *Oct 14-18, 2021*
Muench-Woltjer Observational Astronomy Workshop

## TEACHING EXPERIENCE

**Professional Development Program (PDP), UC Santa Cruz** *Apr 2024 - Dec 2024*
**Institute for Scientist and Engineer Educators (ISEE)**
Independently designed and implemented an optical physics lab for college students.
Location: Las Positas College, Livermore, CA.
90-hour development program focused on inclusive STEM teaching and curriculum design.

**Teaching Assistant, University of California, Riverside**
PHYS 037 — The Origins (Instructor: Bahram Mobasher) *Fall 2025*
PHYS 006 — The Violent Universe (Instructor: Gabriela Canalizo) *Winter 2025*
PHYS 018 — Energy and the Environment (Instructor: Brian Siana) *Fall 2024*
PHYS 020 — Exploring the Universe (Instructor: Laura Sales) *Spring 2024, Spring 2025*
General Physics Labs & Discussion *2021 - 2025*
PHYS 2LA, 2LB, 2LC, 40A, 40B, 40C

**Teaching Assistant, University of Science and Technology of China** *Feb - June 2020*
General Physics Lab - Waves, Vibrations, and Sound

## TALKS AND PRESENTATIONS

Poster, The 247th AAS meeting, Phoenix, Arizona *Jan 2026*
Poster, Keck Science Meeting, UCLA, CA *Sept 2025*
*Dusty or Dead? Far-Infrared Insights on the Nature of Ultramassive Galaxies*
Talk, Keck Science Meeting, Berkeley, CA *Sept 2023*
*The Role of AGN and Gas Depletion in the Quenching of Ultramassive Galaxies at $z \sim 3$*
Talk, Physics & Astronomy Student Seminar (PASS), UCR *Mar 2023*
Talk, Astro Jamboree, UCR *Oct 2022*

## TECHNICAL STRENGTHS

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| Computer Languages | C/C++, Python, IDL, bash, Linux |
| Software & Tools | CASA, IRAF, SExtractor, MATLAB, Mathematica, LaTeX |
| SED Modelling | CIGALE, MAGPHYS, EAZY, BAGPIPES |
| Languages | English, Mandarin Chinese |

## WORKSHOPS & ACTIVITIES

Professional Development Program (ISEE, UCSC) *Apr–Dec 2024*
ALMA Proposal Workshop, Caltech *Apr 2023*
Lick Observatory Muench-Woltjer Workshop, Mt. Hamilton *Oct 2021*
Internship, Purple Mountain Observatory, Nanjing *Dec 2019*
Internship, Shanghai Astronomical Observatory, Shanghai *Jan 2019*
Future Physicist Summer Camp, USTC *July 2018*

## FUNDING & AWARDS

Dissertation Completion Fellowship Award (DCFA), UCR *2025-2026*
The Graduate Student Association (GSA) Travel Grants, UCR *2023*
Outstanding 1st Graduate Student (Benjamin C. Shen Memorial Award), UCR *June 2021*
Dean's Distinguished Fellowship, UCR *2020-2021*
Outstanding Undergraduate Thesis, USTC *June 2020*
Outstanding Undergraduate Student Award, USTC *Sept 2019*
USTC Summer Research Funding *2019*
National Astronomy Science Training Project Grant *2018-2020*
USTC Undergraduate Science Research Program