

# WING YU SIU

## Research Assistant

Academia Sinica Institute of Astronomy and Astrophysics, Taiepi, Taiwan

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## PROFILE

A research assistant at Academia Sinica Institute of Astronomy and Astrophysics (ASIAA) specializing in disk modelling using RADMC-3D, with an educational foundation including an MSc in Space Science and Engineering from University College London and a BSc (Hons) in Physics with Astrophysics from the University of Glasgow. My research interests center on exoplanets and star and planet formation processes. My academic journey has equipped me with strong programming and data analysis skills through research positions at ASIAA and previously at Glasgow University Students for the Exploration and Development of Space (GUSEDs). At UCL, I conducted research investigating the detectability of Lagrangian points in protoplanetary disks. At ASIAA, I continue to advance my technical expertise while contributing to innovative astronomical research in disk dynamics and structure.

## EDUCATION

❖ **University College London** ..... Sep 2022 — Sep 2023  
*Space Science and Engineering (MSc)* London, UK

Relevant modules

- Astronomy Research Project; Planetary Atmospheres; Solar Physics; Machine Learning with Big Data

❖ **University of Glasgow** ..... Sep 2018 — Jun 2022  
*Physics with Astrophysics (BSc Hons)* Glasgow, UK

Relevant modules

- Astronomy Lab Project; Hons Physics Lab; Stellar Structure and Evolution; High Energy Astrophysics; Cosmology; Instruments for Optical and Radio Astronomy

## RESEARCH EXPERIENCE

❖ **Research Project** ..... Nov 2022 — Jul 2023  
London, UK

Conducted a research project as part of my master's programme at UCL on the potential detectability of Lagrangian points produced by massive exoplanets in protoplanetary disks with ALMA. The project involved using the software package RADMC-3D to perform radiative transfer simulations with varying disk and stellar properties.

❖ **Research Team Member** ..... Jul 2021 — Nov 2022  
Glasgow, UK

Conducted research for the energy and material team of GUSEDs, an organization focused on space development. The project explored the use of thermoelectric generators on Mars to convert waste heat into electrical power to support space missions.

❖ **Research Intern** ..... Jul 2022 — Sep 2022  
Taipei, Taiwan

Conducted a research project at ASIAA on the determination of exoplanet orbits. Specifically, investigated whether the spin-orbit angles in exoplanetary systems could be imprinted during the star and planet formation process by comparing stellar and disk inclination angles. This research project is still ongoing, with findings currently being prepared for publication.

## EMPLOYMENT HISTORY

- ♣ **Research Assistant, Academia Sinica Institute of Astronomy and Astrophysics** ..... Mar 2025 — Present  
Taipei

Conducting modelling of protoplanetary disks using RADMC-3D radiative transfer code to simulate disk structures and observational outputs. Responsible for developing models, analyzing and comparing simulated results with observational data to advance understanding of planet formation processes.

- ♣ **Project Assistant, The Chinese University of Hong Kong** ..... Oct 2023 — Dec 2024  
Hong Kong

Assisted in the execution of an educational project focused on integrating Jupyter Notebooks and AI tools for physics undergraduate students. Produced more than 10 tutorial videos and delivered a poster presentation at the Teaching and Learning Innovation Expo.

## SKILLS

Knowledge of various programming languages, including Python, C++, and MATLAB

Data analytics

Technical skills in software packages for astronomy research, such as RADMC-3D

Technical skills in software systems, such as LaTeX and Microsoft Office Suite (Excel, Words, and PowerPoint)

## RESEARCH INTERESTS

*Star and planet formation*  
*Protoplanetary disks*  
*Exoplanets*  
*Planetary Science*