

Cheng-An, Hsieh

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Citizenship: Taiwan

EDUCATION

National Taiwan University	Taipei, Taiwan
<i>Undergraduate in Department of Physics</i>	<i>Sep. 2023 – Present</i>
<i>Double major in Data Science and Applications in Planetary Science</i>	<i>Sep. 2024 – Present</i>
Graduated level courses	Grades
• Data Analysis in Astronomy	A+
• Diffuse Interstellar Medium	A+
• Continental Lithosphere	A+
• Computational Astrophysics	A

PUBLICATION

Obscured Cosmic Black Hole Accretion History from AGN Found by JWST/MIRI CEERS Survey
C.A. Hsieh, T. Goto, C.T. Ling, S.J. Kim, T. Hashimoto, C. C. Chien, Y. A. Chen, PASA (2025)

RESEARCH EXPERIENCE

Caltech Summer Undergraduate Research Fellowships (SURF)	Jul. 2025 – Present
<i>Advisor: Yuk L. Yung</i>	<i>GPS, Caltech</i>
<i>The influence of transport on chemistry in the middle atmosphere of Venus</i>	
* Developed a 2D chemical transport model(CTM) and couple the dynamic and photochemistry to simulate the D/H vertical profile on Venus atmosphere.	
Taiwan Astronomical Observatories Alliance Summer Student Program	Jul. 2024 – Jun. 2025
<i>Advisor: Tomotsugu, Goto</i>	<i>IOA, NTHU</i>
<i>Inferring Obscured Cosmic Black Hole Accretion History from AGN Found by JWST/MIRI CEERS Survey</i>	
* This study use AGN candidates identified from the Cosmic Evolution Early Release Science (CEERS) Survey with the JWST to study the history of black hole accretion.	
Academia Sinica Institute of Astronomy and Astrophysics	Nov. 2023 – Jun. 2025
<i>Advisor: Chan-Kao Chang</i>	<i>ASIAA, Taiwan</i>
<i>FOSSIL Survey: Identify the binary asteroid lightcurves in the main-belt by machine learning</i>	
* Developed a simulation model for asteroid light curves and applying machine learning techniques to identify the binary asteroids.	

RESEARCH INTERESTS

- Data analysis of Solar System objects, including asteroids, evolution of solar system and planetary characteristics.
- Optical and infrared astronomy for cosmic observations, focusing on AGN evolution and luminosity functions.
- The processes of planetary formation, evolution, geological characteristics, and atmosphere.

AWARDS AND HONORS

High School

Sep. 2020 – Jun. 2023

- * **Silver Medal, International Earth Science Olympiad - Data Mining Test**
Personal ranked 25th.
- * **Silver Medal, International Earth Science Olympiad - National Team Field Investigation**
Evaluating Human Impacts and Marine Environment by Listening to Snapping Shrimps.
- * **Third Prize, Taiwan International Science Fair**
Investigating the Cause and Distribution of Binary Asteroids.

National Taiwan University

Sep. 2023 – Present

- * **Caltech Summer Undergraduate Research BaBar Fellow**
Caltech SURF Fellow, awarded to NTU undergraduate. (Jun. 2025 – Aug. 2025)
- * **Taiwan Astronomical Observatories Alliance**
Summer Research Internship, awarded to Taiwanese undergraduate. (Jul. 2024 – Aug. 2024)
- * **First Prize, Competition for Innovative Experiment in General Physics.**
Designed experiment to investigate the phenomenon of a marble on a rotating track.
- * **2023 NASA Hackathon SpaceApps Challenge**
CAVES Cosmos Communicator Award (Taichung)
- * **2025 Student Altruism Award**

CONFERENCE

Oral Session Presenter

2025 Caltech SURF Summer Seminar *Aug. 2025*

Poster Session Presenter

2025 Annual Meeting of the Physical Society of Taiwan *Jan. 2025*

2025 Annual Meeting of the Astronomical Society of Republic of China *Jun. 2025*

Participant

33rd Meeting of the NASA Small Bodies Assessment Group (SBAG) *Jun. 2025*

Earth and Planetary Cloud Workshop 2025 *Jun. 2025*

TNO 2024 The Trans-Neptunian Solar System *Jun. 2024*

10th Galaxy Evolution Workshop *Aug. 2024*

CAMPUS ACTIVITIES

Astronomy Club

Sep. 2020 – Present

President of Astronomy Club

Student Association of Physics Department

Sep. 2023 – Jun. 2025

Vice President of Student Association

Science Writer & Short Story Author

Sep. 2021 – Present

- Authored popular science articles on Science Monthly, the longest-standing popular science magazine in Taiwan.
- First Prize, NTU Literature Award Short Story Category.

SKILLS & INTERESTS

Skills: Python, L^AT_EX, Observatory control**Interests:** Photography, Writing, Gamingdidymos65803@gmail.com