

# Hua-Shan Shih / 施驊珊

## Personal Information

E-mail

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Current Location

- National Central University (NCU), Taiwan  
(No. 300, Zhongda Rd., Zhongli District, Taoyuan City 32001, Taiwan)

## Education

**Ph.D. in Space Science and Engineering** (Sep. 2018 – current)

- National Central University (NCU), Taiwan
- Advisor: Prof. Wing-Huen Ip

**M.A. in Space Science** (Sep. 2016 – June 2018)

- National Central University (NCU), Taiwan
- Advisor: Prof. Wing-Huen Ip
- Thesis: *The Seasonal Evolution of the Atmosphere of Pluto and Other Dwarf Planets*

**B.S. in Atmospheric Sciences** (Sep. 2011 – June 2015)

- Advisors: Prof. Wing-Huen Ip & Prof. Tang-Huang Lin
- National Central University (NCU), Taiwan

## Awards & Fellowship

Annual Meeting of the Physical Society of Taiwan 2022

- Honorable Mention Winner of the Poster Competition
- Topic: *On Non-thermal Escape of Hot Oxygen Atoms from the atmosphere of Callisto*

Annual Meeting of the Physical Society of Taiwan 2020

- Honorable Mention Winner of the Poster Competition
- Topic: *The Icing on Saturnian Rings – in the Past and Present*

Annual Meeting of the Physical Society of Taiwan 2019

- Honorable Mention Winner of the Poster Competition
- Topic: *The Long-Term Evolution of Pluto's Seasonal Atmosphere*

Annual Meeting of the Physical Society of Taiwan 2018

- Honorable Mention Winner of the Poster Competition

- Topic: *The Atmosphere of Pluto and Other Icy Dwarf Planets*  
College Student Research Fellowship, National Science Council, Taiwan (2014 – 2015)
- Advisor: Prof. Wing-Huen Ip
- Project: *The Nucleus Model of C/2012 S1 (ISON)*

## Research Experience

### **Graduate Research Assistant** (Aug. 2016 – current)

- Institute of Astronomy, National Central University, Taiwan
- Advisor: Prof. Wing-Huen Ip
- Topic: *Particles dynamic on planetary atmosphere, thermal model of planets and satellites, ejecta from the impact event of small objects, etc.*

### **Visiting Scholar** (Feb. 2024)

- Beihang University, Beijing, China
- Advisor: Prof. Haoyu Lyu
- Topic: *Mars' atmospheric escape in the presence of a 3D MHD model.*

### **Visiting Scholar** (Summer in 2019)

- Southwest Research Institute, Boulder, United States
- Advisor: Dr. Leslie A. Young
- Topic: *Interaction between Pluto's Atmosphere and Surface*

### **Full-time Research Assistant** (Mar. 2016 – July 2016)

- Institute of Space Science, National Central University, Taiwan
- PI: Prof. Chien-Ming Huang
- Project: *Investigation the Ionosphere during Magnetic Substorm through C/NOFS Data*

### **Full-time Research Assistant** (July 2015 – Dec. 2015)

- Environmental Remote Sensing Laboratory, Center for Space and Remote Sensing Research, National Central University, Taiwan
- PI: Prof. Tang-Huang Lin
- Project: *Taiwan Integrated Research Program on Climate Change Adaptation Technology*

## Programming Language

Matlab, C, Python

## Teaching & Outreach

Guest lecture, Astronomy Carnival by Taiwan Space Union (Jul. 2024)

- Topic: *The Martian Atmosphere Terminator: The Solar Wind's Conspiracy*

TV Interview, TTV Discovery Science (台視--發現科學) (Jan. 2024)

- Topic: *The Mysteries of Saturn's Rings*

Guest lecture, High School Astronomy Camp by Taipei Astronomical Museum (Oct 2022)

- Topic: *My Research Odyssey: A Journey Through Planetary Science*

Teaching Assistant in Dept. of Space Science and Engineering, NCU (Spring 2022)

- SS3026: *Introduction to Lunar Science*

Teaching Assistant in Dept. of Space Science and Engineering, NCU (Fall 2021)

- SS3025: *Introduction to Planetary Science*

Teaching Assistant in Dept. of Space Science and Engineering, NCU (Spring 2021)

- SS3026: *Introduction to Lunar Science*

Teaching Assistant in Dept. of Space Science and Engineering, NCU (Fall 2020)

- SS3025: *Introduction to Planetary Science*

Teaching Assistant in Dept. of Atmospheric Sciences, NCU (Fall 2019)

- AP3057: *Introduction to Planetary Science I*

Teaching Assistant in Dept. of Atmosphere, NCU (Spring 2018)

- AP2052: *Computer Programming and Graphics II*

## Invited Talk

Astrophysics Lunch Seminar (Apr. 2022)

- National Center for Theoretical Science (NCTS), Taipei, Taiwan

- Topic: *Dynamics and formation of the Hydrogen Plume in the Vicinity of the Saturn's Ring*

Lunch Talk (Aug. 2018)

- Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taipei, Taiwan

- Topic: *The Seasonal Evolution of the Atmospheres of Pluto and Other Dwarf Planets*

## Conferences & Workshop

2024:

- Astronomical Society of the Republic of China 2024, Changhua, Taiwan (Jun. 2024) -- **Poster**

- Annual Meeting of the Physical Society of Taiwan 2024, Taoyuan, Taiwan (Jan. 2024) -- **Poster**
- 2023:**
- American Geophysical Union Fall Meeting 2023, San Francisco, United State (Dec 2023) -- **Oral**
  - Astronomical Society of the Republic of China 2023, Kaohsiung, Taiwan (May 2023) -- **Poster**
  - Annual Meeting of the Physical Society of Taiwan 2023, Tainan, Taiwan (Jan. 2023) -- **Poster**
- 2022:**
- Astronomical Society of the Republic of China 2022, Chiayi, Taiwan (Sep. 2022) -- **Poster**
  - The 19<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society, Virtual (Aug. 2022) -- **Poster**
  - Annual Meeting of the Physical Society of Taiwan 2022, Tainan, Taiwan (Jan. 2022) -- **Poster**
- 2021:**
- The 18<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society, Virtual (Aug. 2021) -- **Poster**
- 2020:**
- Astronomical Society of the Republic of China 2020, Taipei, Taiwan (Sep. 2020) -- **Poster**
  - Annual Meeting of the Physical Society of Taiwan 2020, Pingtung, Taiwan (Jan. 2020) -- **Poster**
- 2019:**
- The 16<sup>th</sup> Annual Meeting of the Asia Oceania Geosciences Society, Singapore (Aug. 2019) -- **Poster**
  - Pluto System After New Horizons, United States (July 2019) -- **Poster**
  - Astronomical Society of the Republic of China 2019, Taichung, Taiwan (May 2019) -- **Poster**
  - Planetary Atmospheric Dynamics - From Mars, Titan to Pluto, Taiwan (May 2019) -- **Oral**
  - Annual Meeting of the Physical Society of Taiwan 2019, Hsinchu, Taiwan (Jan. 2019) -- **Poster**
- 2018:**
- Serendipities in the Solar System and Beyond, Taiwan (July 2018) -- **Poster**
  - International Symposium on Lunar & Planetary Science 2018, Macao (June 2018) -- **Oral**
  - Astronomical Society of the Republic of China 2018, Kinmen, Taiwan (May 2018) -- **Poster**
  - Space Exploration and Scientific Observations with CubeSats, Taiwan (Mar 2018) -- **Oral**
  - Annual Meeting of the Physical Society of Taiwan 2018, Taipei, Taiwan (Jan. 2018) -- **Poster**
- 2017:**
- Asian-Pacific Regional IAU Meeting 2017, Taipei, Taiwan (July 2017) -- **Poster**
  - Serendipities in the Solar System and Beyond, Taoyuan, Taiwan (July 2017) -- **Poster**
  - Astronomical Society of the Republic of China 2017, Miaoli, Taiwan (May 2017) -- **Poster**
  - Physical Society of the Republic of China 2017, Taipei, Taiwan (Jan. 2017) -- **Poster**
- 2016:**

– Physical Society of the Republic of China 2016, Kaohsiung, Taiwan (Jan. 2016) -- **Poster**

2015:

– Climate Change in Taiwan for Adaptation Technology, Taoyuan, Taiwan (Sep. 2015) -- **Oral**

## **Publications**

Hua-Shan Shih & Wing-Huen Ip, 2023. *Infalling of nano-dust because of air drag on Uranus*. Planetary and Space Science, 237, 105782.