

# Chih-Chi Hu

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## RESEARCH INTERESTS

Tropical Cyclones, Synoptic and Mesoscale Meteorology

Numerical Modeling, Data Assimilation, Atmospheric Predictability, Targeted Observations

Large-Scale Atmospheric Dynamics, Turbulence in Atmosphere and Ocean, Air-Sea Interaction

Cloud Dynamics, Cloud Microphysics, Cloud Parameterization

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## EDUCATION

**M.S., National Taiwan University (NTU), Taipei, Taiwan.**

Feb. 2016 – Jan. 2018

Major: Atmospheric Sciences

Overall GPA: 4.22/4.30 | Major GPA: 4.26/4.30

**B.S., National Taiwan University (NTU), Taipei, Taiwan.**

Sep. 2011 – Jan. 2016

Major: Atmospheric Sciences

Minor: Mathematics

Overall GPA: 3.97/4.30 | Major GPA: 4.13/4.30

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## AWARDS

Dean's Award of the College of Science

Jun. 2018

Best Student Poster Award in AOGS (Asia Oceania Geosciences Society)

Aug. 2017

Dean's Award of the College of Science

Jun. 2015

Presidential Award\* in NTU, Dept. of Atmospheric Science

Feb. 2012, Sep. 2014, Feb. 2015

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\* Awarded to students ranking top 5% of the class each semester.

## RESEARCH AND PROFESSIONAL EXPERIENCE

**Research Assistant, Typhoon Dynamics Research Center (TDRC)\***

Mar. 2018 – Apr. 2018

- Investigated the sensitivity of TC intensification rate to moisture and related thermodynamic variables

**Graduate Research Assistant, TDRC (Advisor: Prof. Chun-Chieh Wu)**

Sep. 2015 – Feb. 2018

- Thesis Topic: The sensitivity Analysis of Tropical Cyclone Track and Intensity – from the Aspect of Ensemble Forecast and Targeted Observation
- Adopted the ensemble statistics (modified from previous targeted observation technique) to infer implicit relations between physical factors and TC track and intensity
- Identified important relations between the distribution of the equivalent potential temperature and the TC intensification rate, especially in the developing stage of TC

**Teaching Assistant, Introduction to Physical Oceanography**

Sep. 2016 – Jan. 2017

- Mentored students with their assignments and final project

**Teaching Assistant, Introduction to Atmospheric Dynamics**

Feb. 2016 – Jun. 2016

- Instructed monthly MATLAB workshops and exam review sessions

**Independent Study (Advisor: Prof. Chun-Chieh Wu)**

Sep. 2014 – Jun. 2015

- Reviewed fundamental papers related to tropical cyclones structure and intensity
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- Summarized and understood the principals and the methods of targeted observation techniques, including the Adjoint-Derived Sensitivity Steering Vector (ADSSV), Singular Vector (SV), Conditional Nonlinear Optimal Perturbations (CNOP), and linear regression ensemble sensitivity like Typhoon-Position-Oriented Sensitivity (TyPOS)

**Internship**, Taiwan Typhoon and Flood Research Institute

Jul. 2014 – Aug. 2014

- Analyzed the rainfall data, using Fortran, of a real typhoon Soulik (2013) from a set of ensemble simulations

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\* Due to the mandatory military service (Apr. 2018 – Mar. 2019), I will resume as a research assistant after Apr. 2019

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## INTERNATIONAL CONFERENCES

**33<sup>rd</sup> Conf. on Hurricanes and Tropical Meteorology**

Apr. 2018

- C.-C. HU, and C.-C. WU, 2018: The Sensitivity of Tropical Cyclone Intensification Rate Based on Ensemble Method (Poster: 269)

**14<sup>th</sup> Annual Meeting of Asian Oceania Geosciences Society (AOGS)**

Aug. 2017

- C.-C. HU, and C.-C. WU, 2017: Sensitivity Analysis of Tropical Cyclone Track and Intensity Based on Ensemble Forecasts (Poster: AS10-A058)

**5<sup>th</sup> Kyoto University and National Taiwan University Program**

Nov. 2016

- C.-C. HU, and C.-C. WU, 2016: Typhoon Track Sensitivity Analysis Based on Ensemble Forecasts (Poster)
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## SKILLS

**Languages:** Mandarin Chinese (native) and English

**Programing Languages and Packages:** Fortran, Matlab, Python, GrADS, Linux shell script, WRF model

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## EXTRACURRICULAR ACTIVITIES

**Atmospheric Sciences Summer Camp**

Jul. 2012 – Jul. 2015

- Gave short talks in tropical cyclones and in atmospheric measurement and instrumentation
- Demonstrated fundamental fluid dynamics experiments

**Department Exposition in the University Fair**

Mar. 2012 – Mar. 2015

- Introduced the department to senior high school students

**Music Clubs: Pop Music Club, Keyboard Club, and Jazz Music Club**

Sep. 2012 – Sep. 2015

- Formed jazz/pop bands for the end of the year performance

**Director of Student Association of Department of Atmospheric Sciences**

Sep. 2013 – Jun. 2014

- Led student activities, including barbecues for all students along the riverside and the annual singing competition
  - Represented the Department for university-level meetings and events
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