

# Yu-Wen Chen

PHD CANDIDATE OF ATMOSPHERIC AND OCEANIC SCIENCE AT CU BOULDER

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## Education

### University of Colorado Boulder

Phd candidate of Atmospheric and Oceanic Sciences

Boulder, CO

Aug. 2021 - PRESENT

- Got a NASA FINESST award which is given to for graduate student-designed and performed research projects.

### University of Colorado Boulder

M.S. in Atmospheric and Oceanic Sciences

Boulder, CO

Aug. 2021 - May 2023

### National Taiwan University

M.S. in Chemistry

Taipei, Taiwan

Aug. 2016 - June 2018

### National Taiwan University

B.S. in Chemistry

Taipei, Taiwan

Aug. 2013 - June 2016

- Minor in Atmospheric Science

## Publications

### PUBLISHED

1. **Yu-Wen Chen**, K. Sebastian Schmidt, Hong Chen, Steven T. Massie, Susan S. Kulawik, and Hironobu Iwabuchi (2025), Mitigation of satellite OCO-2 CO<sub>2</sub> biases in the vicinity of clouds with 3D calculations using the Education and Research 3D Radiative Transfer Toolbox (EaR3T), *Atmos. Meas. Tech.*, 18, 1859–1884.
2. **Yu-Wen Chen**, Sourav Medya, Yi-Chun Chen (2022), Investigating variable importance in ground-level ozone formation with supervised learning, *Atmos. Environ.*, 119148.
3. Min-Ken Hsieh, **Yu-Wen Chen**, Yi-Chun Chen, Chien-Ming Wu (2022), The Roles of Local Circulation and Boundary Layer Development in Tracer Transport over Complex Topography in Central Taiwan, *J. Meteorol. Soc. Japan*, 100, 555-573.
4. **Yu-Wen Chen**, Arun P. Periasamy, Huan-Tsung Chang, Chien-Fu Chen (2019), Quantification of glucose via in situ growth of Cu<sub>2</sub>O/Ag nanoparticles, *Sens. Actuator B-Chem.*, 285, 224-231.
5. Arun P. Periasamy, Pavithra Sriram, **Yu-Wen Chen**, Chien-Wei Wu, Ta-Jen Yen, Huan-Tsung Chang (2019), Porous aluminum electrodes with 3D channels and zig-zag edges for efficient hydrogen evolution, *Chem. Commun.*, 55, 5447-5450.
6. Rini Ravindranath, Arun P. Periasamy, Prathik Roy, **Yu-Wen Chen**, Huan-Tsung Chang (2018), Smart app-based on-field colorimetric quantification of mercury via analyte-induced enhancement of the photocatalytic activity of TiO<sub>2</sub>-Au nanospheres. *Anal Bioanal Chem.* 2018, 410, 4555-4564.
7. Rini Ravindranath, Prathik Roy, Arun P. Periasamy, **Yu-Wen Chen**, Chi-Te Liang, Huan-Tsung Chang (2017), Fe<sub>2</sub>O<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> microboxes for efficient removal of heavy metal ions, *New J. Chem.*, 41, 7751-7757.

### IN REVIEW

1. Patrick C. Taylor, Armin Sooroshian, Rei Ueyama, Sebastian Schmidt, ... **Yu-Wen Chen**, ... and Paquita Zuidema. (2026), The Arctic Radiation-Cloud-Aerosol-Surface Interaction Experiment (ARCSIX) airborne campaign dataset, *Earth Syst. Sci. Data. Discuss.*
2. Sebastian Becker, Konrad Sebastian Schmidt, Hong Chen, **Yu-Wen Chen**, Kerry G. Meyer, Colten A. Peterson, and Manfred Wendisch. (2026), Bias in satellite-derived cloud radiative effect over Arctic

sea ice relative to aircraft measurements during ARCSIX, Atmos. Chem. Phys. Discuss.

IN PREP

1. **Yu-Wen Chen**, Ken Hirata, Hong Chen, Vikas Nataraja, and K. Sebastian Schmidt (2026), High Arctic Sea Ice Albedo Shifts Cloud Radiative Effect Toward Surface Warming, Geophys. Res. Lett.

## Presentation

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*\* presenting author*

### ORAL PRESENTATIONS

1. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, Ken Hirata, and Vikas Nataraja. May 2026. Introduction and Demonstration of the Education and Research 3D Radiative Transfer Toolbox (EaR3T). Netherlands Institute for Space Research (SRON), Leiden, Netherlands.
2. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, and Steven T. Massie. May 2026. Mitigation of Cloud-induced Biases in CO<sub>2</sub> Remote Sensing. Netherlands Institute for Space Research (SRON), Leiden, Netherlands.
3. Ken Hirata, **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, and Vikas Nataraja. April 2026. Spring- and Summertime Airborne Observations in the Arctic Suggest Prolonged Cloud-Induced Surface Melt. ARCSIX Science Team Meeting 2026, Hampton, VA, US.
4. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, Ken Hirata, and Vikas Nataraja. April 2026. Spring- and Summertime Airborne Observations in the Arctic Suggest Prolonged Cloud-Induced Surface Melt. University of Colorado Boulder, CO, US.
5. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, and Steven T. Massie. January 2026. Correcting Cloud-induced Biases in CO<sub>2</sub> Remote Sensing. National Taiwan University, Taipei, Taiwan.
6. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. November 2024. The Impact of Polarization on OCO-2 Bias Mitigation in the Vicinity of Clouds. 4th Advancement of POLarimetric Observations: instruments, calibration, and improved aerosol and cloud retrievals (APOLO), Kyoto, Japan.
7. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. July 2022. Satellite 3D Radiance Simulator for the OCO-2 Mission and its Application to the Mitigation of Spectroscopy Retrieval Biases in the Vicinity of Clouds. International Radiation Symposium 2022, Thessaloniki, Greece.
8. **Yu-Wen Chen**<sup>\*</sup>, Sourav Medya, and Yi-Chun Chen. May 2021. Investigating Ground-level Ozone Formation: A Case Study in Taiwan. AI: Modeling Oceans and Climate Change (AIMOCC 2021) Workshop at ICLR 2021, virtual.
9. **Yu-Wen Chen**<sup>\*</sup>, Arun P. Periasamy, and Huan-Tsung Chang. May 2018. Quantitation of glucose through its manipulation of the growth of Cu<sub>2</sub>O/Ag nanoparticles. Analytical Chemistry Technology Conference, Keelung, Taiwan.

### POSTER PRESENTATIONS

1. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, and Steven T. Massie. May 2026. The Impact of 3D Cloud Radiative Effect on Trace Gas Retrievals: Bridging the Gap from Low Earth Orbit to Geostationary Missions. EGU General Assembly 2026, Vienna, Austria.
2. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidt, Hong Chen, Ken Hirata, Vikas Nataraja, and Sebastian Becker. July 2025. Cloud-Induced Warming of Spring and Summer Arctic Sea Ice is Likely Underestimated by Passive Satellite Imagery Derived Products. Radiation and Climate Gordon Research Conference 2025, Lewiston, ME, US.
3. **Yu-Wen Chen**<sup>\*</sup>, Sebastian Schmidta, Steven T. Massieb, and Susan S. Kulawik. Nov. 2024. The Impact of Polarization on OCO-2 Bias Mitigation in the Vicinity of Clouds. 4th Advancement of POLarimetric Observations: instruments, calibration, and improved aerosol and cloud retrievals, Kyoto, Japan.

4. **Yu-Wen Chen\***, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. May 2024. Mitigation of OCO-2 CO<sub>2</sub> Biases in the Vicinity of Cloud. 20th International Workshop on Greenhouse Gas Measurements from Space, Boulder, CO, US.
5. **Yu-Wen Chen\***, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. Dec. 2023. Mitigating the Impact of Three-Dimensional Cloud Effects on CO<sub>2</sub> Retrievals for Various Surface and Cloud Types Using a 3D Radiance Simulator. AGU Fall Meeting 2023, San Francisco, CA, US.
6. **Yu-Wen Chen\***, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. Oct. 2023. Mitigation of Satellite OCO-2 CO<sub>2</sub> Biases in the Vicinity of Clouds with 3D Calculations. OCO-2/3 Science Team Meeting-Oct 2023, Boulder, CO, US.
7. **Yu-Wen Chen\***, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. May. 2023. The Impact of Clouds on the Orbiting Carbon Observatory-2 Satellite Trace Gas Retrievals. Workshop Lille on recent advancements in remote sensing and modeling of aerosols, clouds and surfaces 2023, Lille, France.
8. **Yu-Wen Chen\***, Sebastian Schmidt, Steven T. Massie, and Susan S. Kulawik. Oct. 2022. Mitigation of OCO-2 Spectroscopy Retrieval Biases in the Vicinity of Clouds. OCO-2/3 Science Team Meeting-Oct 2022, Boulder, CO, US.
9. **Yu-Wen Chen\***, Yi-Chun Chen, Charles C.-K. Chou, Lisa Eirenschmalz, Hans Schlager, Helmut Ziereis, Katharina Kaiser, Stephan Borrmann, Johannes Schneider, John P. Burrows, and Pao-Kuan Wang. Dec. 2018. Intercomparison of aircraft and ground based measurements of pollutants and aerosols near major pollution sources over Taiwan. 18th Asian Chemical Congress, Taipei, Taiwan.
10. **Yu-Wen Chen\***, Arun P. Periasamy, and Huan-Tsung Chang. June 2018. Quantitation of Glucose through its Manipulation of the growth of Cu<sub>2</sub>O/Ag Nanoparticles. Graduate Student Poster Session of Department of Chemistry at National Taiwan University, Taipei, Taiwan.

## Teaching Experience

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### Weather and the Atmosphere

*University of Colorado Boulder*

*Teaching assistant*

*Fall 2021*

- Assisted in general affairs for 350 undergraduate students
- Led weekly lecture review and exam study guide

### High School Student Research

*National Taiwan University*

*Research Instructor*

*Sept. 2016 - July 2018*

- Instructed three high school students on fuel cell research to receive Advanced Honor in Young Scientists Development Program

### Analytical Chemistry Lecture

*National Taiwan University*

*Teaching assistant*

*Spring 2017*

- Assisted in general affairs for 160 undergraduate students
- Led weekly lecture review and discussion for study groups

### Analytical Chemistry Lab

*National Taiwan University*

*Teaching assistant*

*Fall 2016, Spring 2017*

- Led weekly experiment review and guided laboratory experiments

## Honors & Awards

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2024	<b>NASA FINESST Award</b> , University of Colorado Boulder	<i>Colorado, US</i>
2024	<b>Summer School for Inverse Modeling of Greenhouse Gases</b> , Colorado State University	<i>Colorado, US</i>
2023	<b>Government scholarship to study abroad</b> , Taiwan Ministry of Education	<i>Taipei, Taiwan</i>
2023	<b>NASA Workshop Lille travel support</b> , University of Oklahoma	<i>Oklahoma, US</i>
2018	<b>Best Popularity Award of Poster</b> , Graduate Student Poster	<i>Taipei, Taiwan</i>
2017	<b>Teaching Excellence Award</b> , National Taiwan University	<i>Taipei, Taiwan</i>
2014	<b>National Taiwan University - Kanagawa University Chemistry Workshop</b> , Kanagawa University	<i>Kanagawa, Japan</i>