Yan-Ting Chen, Ph.D.

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Position

2024/10– **Postdoctoral Research Associate**, Program in Atmospheric and Oceanic Sciences, Princeton University. New Jersey, USA.

Education

2024 **PhD in Atmospheric & Oceanic Sciences**, McGill University. Montreal, Canada.

2023/8 – 2024/7 **Visiting Student Research Collaborator**, Princeton University. New Jersey, USA.

2018 **MSc in Atmospheric Sciences**, National Taiwan University (NTU). Taipei, Taiwan.

2016 **BSc in Physics**, National Tsing Hua University (NTHU). Hsinchu, Taiwan.

Referred Publication

In prep

- **Chen, Y.-T.**, T. M. Merlis, and Y. Huang. Instantaneous atmospheric forcing differentiates tropical high cloud adjustments across greenhouse gases. In prep.
- **Chen, Y.-T.**, T. M. Merlis, T. Dinh, S. M. Griffies, J. Krasting, R. Dussin, and S. A. Fueglistaler. Assessing the variability of Earth's energy imbalance in the early 21st century with two high-resolution coupled models. In prep.

Published

- Merlis, T. M., I. Guendelman, K.-Y. Cheng, L. Harris, **Y.-T. Chen**, C. S. Bretherton, M. Bolot, L. Zhou, A. Kaltenbaugh, S. K. Clark, and S. Fueglistaler. The vertical structure of tropical temperature change in global storm-resolving model simulations of climate change. *Geophysical Research Letters*, **51**, e2024GL111549. [Official version]
- **Chen, Y.-T.**, T. M. Merlis, and Y. Huang (2024). The cause of negative CO_2 forcing at the top-of-atmosphere: the role of stratospheric vs. tropospheric temperature inversions. *Geophysical Research Letters*, **51**, e2023GL106433. [Official version]
- **Chen, Y.-T.**, Y. Huang, and T. M. Merlis (2023). The global patterns of instantaneous CO_2 forcing at the top-of-atmosphere and surface. *J. Climate*, **36**, 6331–6347, doi:10.1175/JCLI-D-22-0708.1 [Official version]
- **Chen, Y.-T.**, and C.-M. Wu (2019). The role of interactive SST in the cloud-resolving simulations of aggregated convection. *J. Adv. Model. Earth Syst.*, **11**, 3321-3340. doi:10.1029/2019MS001762 [Official version]

Honors and Awards

- **Graduate Mobility Award** – McGill University, 04/2023.
- **Outstanding Student Oral Presentation Award** – 16th Conference on Atmospheric Radiation, American Meteorological Society, 08/2022.
- **Stephan & Anastasia Mysak Fellowship** – McGill AOS Department Award, 09/2021–08/2024.
- **Graduate Excellence Award** – McGill University, 09/2019–08/2021.
- **Travel Grant** – 2nd ICTP Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: Convective Organization and Climate Sensitivity, 07/2019.
- **Student Poster Award** – Second Place, APEC Typhoon Symposium, 05/2018.
- **Student Research Fellowship** – Summer Student Program, Institute of Physics, Academia Sinica, 07/2015–09/2015.

Invited Talk

- How Low can CO_2 Forcing Go, ECS Virtual Symposia, 08/2023.
- A Minimal Recipe of Instantaneous CO_2 Forcing, National Taiwan University, 06/2023.

Professional Services

- Journal Reviewer for *Journal of Advances in Modeling Earth Systems*, *Journal of Climate*.
- Department seminar student organizer, 09/2021-04/2022.

Teaching Experience

Fall 2020–Winter2023	**TA**, Natural Disasters, Science of Storms, Introduction to Physics of the Atmosphere, Introduction to Atmospheric Science (all undergraduate-level), McGill University.
Fall 2017	**TA**, Atmospheric Thermodynamics, NTU.
Spring 2016	**TA**, General Physics Laboratory, NTHU.

Selective Conference Presentations

- Chen, Y.-T., T. M. Merlis, and Y. Huang. Instantaneous atmospheric forcing differentiates tropical high cloud adjustments across greenhouse gases, Gordon Research Conference, 07/2025.
- Chen, Y.-T., T. M. Merlis, and Y. Huang. Instantaneous atmospheric forcing differentiates tropical high cloud adjustments across greenhouse gases, CFMIP Meeting, 07/2025.
- Chen, Y.-T., T. M. Merlis, and Y. Huang. The cause of negative CO_2 forcing at the top-of-atmosphere: the role of stratospheric vs. tropospheric temperature inversions, AGU Fall Meeting, 12/2024.
- Chen, Y.-T., T. M. Merlis, and Y. Huang. Understanding the direct CO_2 radiative effect in an atmospheric model: heating rate forcing and responses, CFMIP Meeting, 06/2024.
- Chen, Y.-T., T. M. Merlis, and Y. Huang. Understanding the direct CO_2 radiative effect in an atmospheric model: heating rate forcing and responses, AGU Fall Meeting, 12/2023.

- Chen, Y.-T., T. M. Merlis, and Y. Huang. Understanding the direct CO_2 radiative effect in an atmospheric model: land surface temperature and heating rate change, Gordon Research Conference, 07/2023.
- Chen, Y.-T., Y. Huang, and T. M. Merlis. A systematic examination of the spatial pattern of instantaneous CO_2 radiative forcing, Princeton Center for Theoretical Science Workshop: From Spectroscopy to Climate, 08/2022.
- Chen, Y.-T., Y. Huang, and T. M. Merlis. A systematic examination of the spatial pattern of instantaneous CO_2 radiative forcing. AMS Collective Madison Meetings, 08/2022.
- Chen, Y.-T., Y. Huang and T. M. Merlis, The spatial and spectral structure of instantaneous CO_2 radiative forcing. AMS Annual Meeting, 01/2022.
- Chen, Y.-T., Y. Huang and T. M. Merlis, The spatial and spectral structure of instantaneous CO_2 radiative forcing. AGU Fall Meeting, 12/2021.
- Chen, Y.-T., Y. Huang and T. M. Merlis, The spatial and spectral structure of instantaneous CO_2 radiative forcing. CFMIP Virtual Meeting, 09/2021.
- Chen, Y.-T., C.-M. Wu, The role of interactive SST in the cloud-resolving simulations of aggregated convection, 2^{nd} ICTP Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: Convective Organization and Climate Sensitivity, 07/2019.