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EDUCATION

2008/08 – 2013/06	Ph.D.	Environmental Science and Engineering, California Institute of Technology, Pasadena, CA, US Advisor: John H. Seinfeld
2002/08 – 2006/06	B.S.	Atmospheric Sciences, National Taiwan University, Taipei, Taiwan

EMPLOYMENT

2024/04 – present	Associated Research Fellow	RCEC, Academia Sinica, Taiwan
2017/11 – 2024/04	Assistant Research Fellow	RCEC, Academia Sinica, Taiwan
2016/03 – 2016/06	Post-doc Scholar	RCEC, Academia Sinica, Taiwan
2013/09 – 2015/12	Post-doc Scholar	Jet Propulsion Laboratory, NASA/Caltech
2008/08 – 2013/06	Graduate Research Assistant	California Institute of Technology
2006 – 2007	Research Assistant	Atmospheric Sciences, National Taiwan University

HONORS & AWARDS

2023	Excellent Thesis Award in Atmospheric Science Journal, Meteorological Society of the Republic of China – Taiwan
2022	Outstanding Thesis of Prof. Chia-Chung Yu Scholarship, Meteorological Application and Development Foundation, Taiwan
2013 – 2015	NASA Postdoc Fellowship (NASA Postdoctoral Program)
2011	NCAR Advanced Study Program Graduate Student Visitor Program 2011 Award
2007	Studying Abroad Scholarship, Ministry of Education, Taiwan
2006	Dean's Award in the College of Science, National Taiwan University, Taiwan
2003– 2005	Presidential Award, National Taiwan University, Taiwan

RESEARCH INTERESTS

- Characterize air pollutants in urban areas and relate the atmospheric compounds to their sources.
- Investigate the influences of aerosol precursor emissions and atmospheric dynamics on aerosol variability.

- Understand the physical and chemical processes that govern the interplay between aerosol, cloud, precipitation, and environment.

PUBLICATIONS (*: corresponding author)

- Valerio, A., **Chen, Y.-C.***, Liu, C.-Y., Chen, Y.-Y., and Lin, C.-Y (2025). A Hybrid Regression–Kriging–Machine Learning Framework for Imputing Missing TROPOMI NO2 Data over Taiwan. *Remote Sens.* 2025, *17*, 2084. https://doi.org/10.3390/rs17122084
- Tseng, W.-L., **Chen, Y.-C.***, Wang, Y.-C., Tseng, H.-Y., and Hsu, H.-H. (2024). Compound spatial extremes of heatwaves and downstream air pollution events in East Asia, *Atmospheric Research*, 312, 107772, https://doi.org/10.1016/j.atmosres.2024.107772.
- Chuang, M.-T., Chou, C. C.-K., Lin, C.-Y., Lin, W.-C., Lee, J.-H., Li, M.-H., Chen, W.-N., Chang, C.-C., Liu, C.-Y., and **Chen, Y.-C.** (2024). Source apportionment of PM2.5 episodes in the Taichung metropolitan area, Taiwan, *Atmospheric Research*, 311, 107666, https://doi.org/10.1016/j.atmosres.2024.107666.
- Lin, M.-H., Lin, Y.-T., Tsai, M.-L., Chen, Y.-Y., **Chen, Y.-C.**, Wang, H.-C., and Wang, C.-K. (2024). Mapping land-use and land-cover changes through the integration of satellite and airborne remote sensing data, *Environmental Monitoring and Assessment*, 196, 246. https://doi.org/10.1007/s10661-024-12424-5.
- **Chen, Y.-C.***, Tseng, W.-L., Wu, C.-M., Chen, W.-T., Chang, C.-H., and Tseng, H.-Y. (2023). Influence of synoptic weather on aerosol variability over East Asia: present and future, *Atmospheric Research,* 295, 107023*,* https://doi.org/10.1016/j.atmosres.2023.107023.
- **Chen, Y.-C.***, Chou, C. C.-K., Liu, C.-Y., Chi, S.-Y., and Chuang, M.-T. (2023). Evaluation of the nitrogen oxide emission inventory with TROPOMI observations, *Atmospheric Environment*, 298, 119639, https://doi.org/10.1016/j.atmosenv.2023.119639.
- Chen, Y.-W., Medya, S., and **Chen, Y.-C.*** (2022). Investigating variable importance in ground-level ozone formation with supervised learning, *Atmospheric Environment*, 282, 119148, https://doi.org/10.1016/j.atmosenv.2022.119148.
- Hsieh, M.-K., Chen, Y.-W., **Chen**, **Y.-C.**, and C.-M. Wu (2022). The roles of local circulation and boundary layer development in tracer transport over complex topography in central Taiwan. *J. Meteor. Soc. Japan*, **100**, https://doi.org/10.2151/jmsj.2022-028.
- Chang, C.-W., Chen, W.-T., and **Chen, Y.-C*** (2021). Susceptibility of east asian marine warm clouds to aerosols in winter and spring from co-located A-Train satellite observations. *Remote Sens.* 2021, *13*, 5179. https://doi.org/10.3390/rs13245179
- Liang, M.-C., **Chen, Y.-C.**, Gao, Y.-Q., Zhang, X., and Yung, Y.L. (2021). Atmospheric effects on the isotopic composition of ozone. *Atmosphere* 2021, *12*, 1673. doi: 10.3390/atmos12121673

- **Chen, Y.-C.***, J.-L. F. Li, W.-L. Lee, D. Diner, M. Garay, J. Jiang, Y.-H. Wang, J.-Y. Yu, O. Kalashnikova (2020). Evaluation of sea salt aerosols in climate systems: global climate modeling and observation-based analyses, *Environ. Res. Lett*., 15, 034047, doi: 10.1088/1748-9326/ab751c.

- Lin, C.-A., **Chen, Y.-C.***, Liu, C.-Y., Chen, W.-T., Seinfeld, J. H., Chou, C. C.-K. (2019). Satellite–derived correlation of SO_2, NO_2, and aerosol optical depth with meteorological conditions over East Asia from 2005 to 2015, *Remote Sens*., 2019, 11, 1738.

---------- Appointed as an Assistant Research Fellow in RCEC ----------

- Christensen, M. W., **Y.-C. Chen**, and G. L. Stephens (2016). Aerosol indirect effect dictated by liquid clouds, *J. Geophys. Res. Atmos*., 121, 14,636–14,650, doi:10.1002/2016JD025245.

- Li, J.-L. F., Y.-H. Wang, T. Lee, D. Waliser, W.-L. Lee, J.-Y. Yu, **Y.-C. Chen**, E. Fetzer, and A. Hasson (2016). The impacts of precipitating cloud radiative effects on ocean surface evaporation, precipitation, and ocean salinity in coupled GCM simulations, *J. Geophys. Res. Atmos*., 121, doi:10.1002/2016JD024911.

- Li, J.-L. F., W.-L. Lee, J.-Y. Yu, G. Hulley, E. Fetzer, **Y.-C. Chen**, and Y.-H. Wang (2016). The impacts of precipitating hydrometeors radiative effects on land surface temperature in contemporary GCMs using satellite observations, *J. Geophys. Res. Atmos*., 120, doi:10.1002/2015JD023776.

- **Chen, Y.-C.*,** Christensen, M. W., Diner, J. D., and Garay, M. J. (2015). Aerosol-cloud interactions in ship tracks using Terra MODIS/MISR, *J. Geophys. Res. Atmos.,* 120, doi:10.1002/2014JD022736.

- Jung, E., Albrecht, B. A., Jonsson, H. H., **Chen, Y.-C.**, Seinfeld, J. H., Sorooshian, A., Metcalf, A. R., Song, S., Fang, M., and Russell, L. M. (2015). Precipitation effects of giant cloud condensation nuclei artificially introduced into stratocumulus clouds, *Atmos. Chem. Phys*., 15, 5645-5658, doi:10.5194/acp-15-5645-2015.

- **Chen, Y.-C**., Christensen, M. W., Stephens, G. L., and Seinfeld, J. H. (2014). Satellite-based estimate of global aerosol–cloud radiative forcing by marine warm clouds, *Nature Geoscience*, doi:10.1038/ngeo2214.

- **Chen, Y.-C.**, Christensen, M. W., Xue, L., Sorooshian, A., Stephens, G. L., Rasmussen, R. M., and Seinfeld, J. H. (2012). Occurrence of lower cloud albedo in ship tracks, *Atmos. Chem. Phys*., 12, 8223-8235, doi:10.5194/acp-12-8223-2012.

- Russell, L. M., Sorooshian, A., Seinfeld, J. H., Albrecht, B. A., Nenes, A., Ahlm, L., **Chen, Y.-C.**, Coggon, M., Craven, J. S., Flagan, R. C., Frossard, A. A., Jonsson, H., Jung, E., Lin, J. J., Metcalf, A. R., Modini, R., Muelmenstaedt, J., Roberts, G. C., Shingler, T., Song, S., Wang, Z., and Wonaschuetz, A. (2012). Eastern Pacific Emitted Aerosol Cloud Experiment

(E-PEACE), *B. Am. Meteorol. Soc.*, **94**, 709–729, doi: http://dx.doi.org/10.1175/BAMS-D-12-00015.1.

- **Chen, Y.-C.**, Xue, L., Lebo, Z. J., Wang, H., Rasmussen, R. M., and Seinfeld, J. H. (2011). A comprehensive numerical study of aerosol-cloud-precipitation interactions in marine stratocumulus, *Atmos. Chem. Phys*., 11, 9749-9769, doi:10.5194/acp-11-9749-2011.