Gabrielle R. Leung

Ph.D. Candidate
Colorado State University
gabrielle.leung@colostate.edu

Education

July 2024 *(expected)*	Ph.D. Atmospheric Science **Colorado State University** (CSU), Fort Collins, CO, USA
2022	M.S. Atmospheric Science **Colorado State University** (CSU), Fort Collins, CO, USA
2019	B.S. Physics, *magna cum laude* **Ateneo de Manila University** (ADMU), Quezon City, Philippines

Grant and Fellowship Funding

Future Investigators in NASA Earth and Space Science and Technology Fellowship 2022

CSU Walter Scott Jr. College of Engineering Graduate Fellowship 2020

Achievements and Awards

JPL Center for Climate Sciences Summer School 2023

Herbert Riehl Memorial Award
CSU Department of Atmospheric Science, for best publication based on thesis work 2023

David L. Dietrich Honorary Scholarship
CSU Department of Atmospheric Science, for outstanding aerosol & air quality research 2022

2nd Place Student Oral Presentation, 19th Conference on Mesoscale Processes 2022

NASA Group Achievement Award (CAMP^{2}Ex) 2020

Field Experience

2022	Operations Manager *BioAerosols and Convective Storms – Phase II* **BACS-II**, Fort Collins, Colorado, USA
2021	Radiosonde Operator, Drone Pilot *BioAerosols and Convective Storms – Phase I* **BACS-I**, Fort Collins, Colorado, USA
Summer 2019	Flight Scientist, Ground Controller, Weather Forecaster *Cloud, Aerosol, and Monsoon Processes Philippines Experiment* **CAMP^{2}Ex**, Clark, Philippines
2019 – 2020	Instrumentation Set-up & Maintenance *CAMP^{2}Ex Weather and Composition Monitoring* **CHECSM**, Quezon City, Philippines

Teaching Experience

GTA for Thermodynamics and Cloud Physics (ATS620)

Publications

8. **Leung, G.R.**, S.M. Saleeby, G.A. Sokolowsky, S.W. Freeman, and S.C. van den Heever, 2023: Aerosol-cloud impacts on aerosol detrainment and rainout in shallow maritime tropical clouds. *Atmos. Chem. Phys.* doi: 10.5194/acp-23-5263-2023
7. **Leung, G.R.**, and S.C. van den Heever, 2023: Aerosol breezes drive cloud and precipitation increases. *Nat. Comm.* doi: 10.1038/s41467-023-37722-3
6. Sokolowsky, G.A.*, S.W. Freeman*, [and 13 others, including **G.R. Leung**], 2023. *tobac* v1.5: Introducing Fast 3D Tracking, Splits and Mergers, and Other Enhancements for Identifying Meteorological Phenomena. *these authors contributed equally to this work. In review at *Geoscientific Model Development*
5. Reid, J.S., [and 76 others, including **G.R. Leung**], 2023. The coupling between tropical meteorology, aerosol lifecycle, convection, and radiation, during the Clouds, Aerosol and Monsoon Processes Philippines Experiment (CAMP^{2}Ex). *Bull. Am. Metero. Soc.*. doi: 10.1175/BAMS-D-21-0285.1
4. **Leung, G.R.**, S.C. van den Heever, 2022. Controls on the development and circulation of terminal and transient congestus clouds and implications for midlevel aerosol transport. *J Atmos. Sci.*. doi: 10.1175/JAS-D-21-0314.1
3. Crosbie, E., [and 23 others, including **G.R. Leung**], 2022. Measurement report: Closure analysis of aerosol-cloud composition in tropical maritime warm convection. *Atmos. Chem. Phys*. doi: 10.5194/acp-22-13269-2022
2. Stahl, C., [and 20 others, including **G.R. Leung**], 2021. Total organic carbon and the contribution from speciated organics in cloud water: airborne data analysis from the CAMP2Ex field campaign. *Atmos. Chem. Phys*. doi: 10.5194/acp-21-14109-2021
1. Lorenzo, G.R., [and 20 others, including **G.R. Leung**], 2021. Measurement report: Firework impacts on air quality in Metro Manila, Philippines, during the 2019 New Year revelry. *Atmos. Chem. Phys*. doi: 10.5194/acp-21-6155-2021

First-Author Conference Presentations

- **Leung, G.R.,** S.C. van den Heever, 2023. "Aerosol breezes" from mesoscale aerosol gradients drive precipitation increases. *AMS 3rd Symposium on Mesoscale Processes.* Denver, CO. Oral.
- **Leung, G.R.,** S.C. van den Heever, 2022. Thermal circulations and precipitation increases driven by mesoscale aerosol gradients. *AMS 16th Conference on Cloud Physics*. Madison, WI. Oral.
- **Leung, G.R.,** S.C. van den Heever, 2022. Updraft structure and detrainment in transient and terminal congestus clouds. *AMS 19th Conference on Mesoscale Processes*. Virtual. Oral.
- **Leung, G.R.,** S.C. van den Heever, J.S. Reid, 2021. Convective transport and midlevel detrainment from congestus clouds. *AGU Fall Meeting*. New Orleans, LA. Oral.

- **Leung, G.R.**, [and 8 others], 2018: Volatile organic compound emissions in the South China Sea during the 2011 *Vasco* cruise: sources, emission rates, and ozone formation. *15th International Global Atmospheric Chemistry (IGAC) Science Conference*. Takamatsu, Japan. Poster.
- **Leung, G.R.**, [and 8 others], 2018: Volatile organic compound emissions in the South China Sea during the 2011 *Vasco* cruise: emission ratios and source apportionment. *AOGS 14th Annual Meeting*. Singapore. Poster.

Service/Outreach Activities

Atmospheric Chemistry and Physics, reviewer	2023 – Present
CSU/*CIRA Diversity, Equity, and Inclusion Committee*, member	2022 – Present
CSU ATS International Student and Scholar Association, board member	2022 – 2023
CSU Little Shop of Physics, science demonstration volunteer	2022 – 2023
The Mind Museum, science communicator	2018
Ateneo Mathematics Olympiad, tutor	2015 – 2016