**Gabrielle R. Leung**

Ph.D. Candidate

Colorado State University

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**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 (CAMP2Ex) 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*

**CAMP2Ex**, Clark, Philippines

2019 – 2020 Instrumentation Set-up & Maintenance

*CAMP2Ex Weather and Composition Monitoring* **CHECSM**, Quezon City, Philippines

**Teaching Experience**

GTA for Thermodynamics and Cloud Physics (ATS620)

**Publications**

1. **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
2. **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
3. 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*
4. 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 (CAMP2Ex). *Bull. Am. Metero. Soc..* doi: 10.1175/BAMS-D-21-0285.1
5. **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](https://doi.org/10.1175/JAS-D-21-0314.1)
6. 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
7. 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
8. 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