
EDUCATION**Ph. D., Atmospheric and Oceanic Sciences**

Aug 2022 – May 2027 (expected)

Princeton University; Princeton, NJ

Advisor: Dr. Yi Ming**Master of Engineering, Mechanical Engineering**

August 2020 – Jun 2022

City College of New York; New York, NY

Advisor: Dr. Prathap RamamurthyThesis: *Understanding the relationship between urban areas and the boundary layer using remote sensing methods*Overall GPA: 3.90/4.00**Bachelor of Engineering, Mechanical Engineering**

August 2014 – May 2018

Vanderbilt University; Nashville, TN

Minors: Scientific Computing, Materials ScienceOverall GPA: 3.46/4.00Major GPA: 3.67/4.00

RESEARCH EXPERIENCE**NOAA-CESSRST Graduate Research Fellow**, City College of New York; New York, NY

Jun 2020 – Present

- Developed surface heat flux estimation models for urban areas using GOES-R satellite data
- Performed analysis of boundary layer structural anomalies in urban areas during heatwave events
- Assisted with scintillometry campaign setup and planning for Manhattan urban heat flux observations

Undergraduate Research Assistant, Vanderbilt University; Nashville, TN

Jun 2017 – Aug 2018

- Conducted computational fluid dynamics simulations to assist surgical procedure selection
- Modeled flow behavior in to observe effects of tracheal stenoses on breathing patterns

TEACHING EXPERIENCE**Graduate Teaching Assistant, ME 35600: Fluid Mechanics**, City College of New York; New York, NY

Jan 2021 – May 2021

- Primary instructor for undergraduate fluid mechanics course
- Held twice-weekly classes (lecture and recitation components) and weekly office hours
- Prepared original lectures, presentations, practice problems, and exam material

PUBLICATIONS

Rios, G. and Ramamurthy, P., 2022: Observations of boundary layer structure and dynamics over a coastal urban area during extreme heat events. *International Journal of Climatology* (submitted).

Rios, G. and Ramamurthy, P., 2022: A novel model to estimate sensible heat fluxes in urban areas using satellite-derived data. *Remote Sensing of Environment*, 270. <https://doi.org/10.1016/j.rse.2021.112880>.

Rios, G., Morrison, R.J., Song, Y., Fernando, S.J., Wootten, C., Gelbard, A. and Luo, H., 2020: Computational Fluid Dynamics Analysis of Surgical Approaches to Bilateral Vocal Fold Immobility. *The Laryngoscope*, 130: E57-E64. <https://doi.org/10.1002/lary.27925>.

PRESENTATIONS

Rios, G. and Ramamurthy, P.: Estimating Urban Sensible Heat Flux using Satellite-Based Data, *10th Biennial NOAA EPP/MSI Education and Science Forum*, 6-8 Apr 2022, Tallahassee, FL.

Rios, G., Ramamurthy, P., Arend, M.: Observations of urban boundary layer characteristics during extreme heat episodes, *AGU Fall Meeting 2021*, 13-17 Dec 2021, B15G-1507, 2021. ([link to presentation](#))

Rios, G. and Ramamurthy, P.: Estimating Urban Sensible Heat Flux using Satellite-Based Data, *EGU General Assembly 2021*, online, 19–30 Apr 2021, EGU21-6079, <https://doi.org/10.5194/egusphere-egu21-6079>, 2021.

Rios, G., and Luo, H., 2020: Computational Fluid Dynamics Analysis of Surgical Approaches to Bilateral Vocal Fold Immobility, *Vanderbilt Institute for Surgery and Engineering Assembly*, 26 Apr 2018.

AWARDS & FELLOWSHIPS

Princeton University President's Fellowship	Apr 2022
GEM Ph. D. Engineering and Science Fellowship	Apr 2022
NSF Graduate Research Fellowship , Honorable Mention	Apr 2022
NOAA-CESSRST Professional Development Award	Apr 2021
NOAA-CESSRST Graduate Fellowship	Aug 2020 – May 2022

ADDITIONAL WORK EXPERIENCE

Engineer II, Mechanical , Collins Aerospace; Windsor Locks, CT	Jun 2018 – Aug 2020
<ul style="list-style-type: none"> Design lead for Mitsubishi Regional Jet pneumatic valves product line during qualification effort Supported design & analysis efforts for KF-X Environmental Control pneumatic components Provided design consultation to Material Review Board for supplier and quality control support 	

PROFESSIONAL ORGANIZATIONS

American Meteorological Society (AMS)	Jan 2021 – Present
<ul style="list-style-type: none"> Student Ambassador, AMS Committee for Hispanic and Latinx Advancement (CHALA) 	Jun 2021 – Present
European Geophysical Union (EGU)	Jan 2021 – Present
Society of Hispanic Professional Engineers (SHPE)	Sep 2014 – Present
<ul style="list-style-type: none"> President, Vanderbilt University Chapter <ul style="list-style-type: none"> ⇒ Created chapter volunteering programs to increase participation in Metro Nashville ⇒ Organized & led professional development events (e.g. resume preparation, interview drills) ⇒ Recruited chapter sponsors to provide donations & host professional development events 	May 2017 – May 2018
<ul style="list-style-type: none"> Academic Chair, Vanderbilt University Chapter <ul style="list-style-type: none"> ⇒ Created chapter volunteering programs to increase participation in Metro Nashville ⇒ Organized & led professional development events (e.g. resume preparation, interview drills) 	May 2016 – May 2017

VOLUNTEER EXPERIENCE

Mentor , <i>HGS-NSBP Mentoring Program</i> , Hamilton Grange Middle School; New York, NY	Oct 2021 - Present
<ul style="list-style-type: none"> Hosted weekly mentoring sessions with middle schoolers with focus on STEM discussions Chaperoned group outings to STEM and art-focused events and exhibits Coordinated academic and extracurricular activities to address mentee needs 	
Graduate Scientist Helper , <i>HGMS Scientist Support</i> , Hamilton Grange Middle School; New York, NY	Sep 2020 – Sep 2021
<ul style="list-style-type: none"> Led small group bilingual discussions in STEM topics with middle school students Assisted with lesson planning and delivery to align with Regents-oriented curriculum goals 	
Group Lead , <i>Vanderbilt Scientists Volunteering for Science</i> , Vanderbilt University; Nashville, TN	Mar 2015 – May 2018
<ul style="list-style-type: none"> Integrated STEM lessons into multiple curricula, taught lessons to 100+ middle school students Served as liaison between Vanderbilt and select Metro Nashville schools to create lesson plans Coordinated multiple groups of student volunteers to execute lesson plans 	

TECHNICAL SKILLS

Proficient

Python, MATLAB, HTML5, CSS3

Intermediate

JavaScript, Git, LaTeX, handling netCDF
& GRIB files

Basic

FORTRAN, R, Java, Bash, Machine
Learning (Scikit-Learn, TensorFlow)