

## EDUCATION

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**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 – May 2022

City College of New York; New York, NY

Advisor: Dr. Prathap RamamurthyThesis: *Closure of the Urban Surface Energy Budget using GOES-R Satellite Data*Overall GPA: 3.87/4.00**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

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**NOAA-CESSRST Graduate Research Assistant**, 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

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**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

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**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

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**Rios, G.** and Ramamurthy, P.: Estimating Urban Sensible Heat Flux using Satellite-Based Data, *10<sup>th</sup> 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

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

## ADDITIONAL WORK EXPERIENCE

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

## PROFESSIONAL ORGANIZATIONS

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

## VOLUNTEER EXPERIENCE

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

## TECHNICAL SKILLS

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### Proficient

Python, MATLAB, HTML5, CSS3

### Intermediate

JavaScript, Git, LaTeX, handling netCDF  
& GRIB files

### Basic

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