

S. Reece Boston  
University of North Carolina  
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## Education

**Ph.D., Physics** University of North Carolina-Chapel Hill, 2022

**M.S., Physics** University of Georgia, 2015

**B.S., Mathematics and Physics** Georgia College, 2010

## Published Work

- Alejandro H. Córscico, [S. Reece Boston](#), Leandro G. Althaus, Mukremin Kilic, S. O. Kepler, María E. Camisassa and Santiago Torres, “General relativistic pulsations of ultra-massive ZZ Ceti stars,” *Monthly Notices of the Royal Astronomical Society*, [submitted June 1, 2023].
- Boston, S. Reece, C. R. Evans and J. C. Clemens, “Relativistic Corrections in White Dwarf Asteroseismology.” [Astrophysical Journal](#), (2023).
- Boston, S. Reece, *Newtonian and Relativistic White Dwarf Asteroseismology*, [Ph.D. dissertation](#), UNC, (2022).
- de Souza, Rafael, [S. Reece Boston](#), Alain Coc, and Christian Iliadis, “Thermonuclear fusion rates for tritium+deuterium using Bayesian methods.” [Physical Review C](#), (2018).
- Boston, S. Reece, “Time Travel in Transformation Optics.” [Physical Review D](#), (2015).

## Research Codes

**GRPulse:** High-precision asteroseismology code for Newtonian, post-Newtonian, and General Relativistic stellar models. Built-in capability for several basic stellar backgrounds.

**Thrain:** Asteroseismology code for simple analytic models of white dwarf stars, using analytic equations of state for high numerical accuracy.

## Research Experience

**Scientific Software Engineer** at Oak Ridge National Laboratories, Mar 2023 - present

Topic: data reduction for neutron scattering in the Spallation Neutron Source

Responsibilities: design, create, and test code for data reduction from scattering experiments; update and maintain existing community code for new purposes; coordinate with stakeholder researchers.

**Research Assistant** at University of North Carolina - Chapel Hill, Fall 2016 - Spring 2022

Research Advisor: Charles R. Evans

Topic: The numerical calculation of pulsation frequencies for white dwarf and other stellar objects in classical and general relativistic settings. Calculations performed in C++.

## Industry Experience

**Quant Researcher** at Anchorage Digital, Oct 2022 - Present

**R&D Data Scientist** at [Community](#), Sept 2021 - June 2022

Responsibilities: causal inference; market archotyping; analyze big data for product insights; transforming data for data lakehouse; natural language processing.

Technology: python [pandas, numpy, sklearn, spaCy]; github; Snowflake SQL; Docker; AWS.

## Languages

- English (native)
- C++ (advanced)
- python (intermediate)
- Spanish (spoken in home)
- R (advanced)
- SQL (advanced)

## Teaching Experience

**University of North Carolina – Chapel Hill**

**Teaching Professor** Summer 2019, Summer 2020

Course: Physics for Life Sciences (PHYS 115), lecture/studio format

Lectured on physics. Setup online homework, wrote exams for courses, coordinated lab section, and organized student absences. Recorded many of [the online lectures](#) during COVID-19 response (Lec 7-10,14,26-27).

**Research Mentor** Summer 2020-Summer 2021

Role: Acting mentor for REU/Senior Honor's Thesis in relativistic pulsation of neutron stars and white dwarfs (LOI: python).

**Research Mentor** Fall 2018 - Summer 2019

Role: Mentoring NCCMS high school student in guided research project on relativistic pulsation of neutron stars. Student won [Regeneron STS 2019 Scholarship](#).

**Teaching Assistant** Fall 2016 - Fall 2020

Courses: Numerical Methods (LOI: python), Electronics Lab, Physics for Life Sciences

**University of Georgia**

**Teaching Assistant** Fall 2010 - Spring 2015

Courses: Physics Labs, Scale-Up Physics for Engineers

**Mount Pisgah Christian School**

**STEM Teacher** Fall 2015 - Spring 2016

Courses: AP Physics 1, High School Physics, Introductory Programming (LOI: C++)

Coach: FIRST Robotics Competition, FIRST Lego League

## Awards and Honors

### **Hamilton Award** 2021, UNC

Monetary award given by the Physics and Astronomy department at UNC.

### **NC Space Grant** [2020](#), UNC

Monetary grant awarded through NASA for promising graduate student work related to NASA missions.

### **Outstanding Physics TA** 2018, UNC

Awarded for performance as teaching assistant. Included monetary award.