TIM JOHNS CURRICULUM VITAE

◇ Atlanta, GA
tjohns6@gsu.edu

EDUCATION

PhD in Astronomy, Georgia State University — Expected 2027

Masters in Astronomy, Georgia State University — Expected 2024

Bachelor of Physics, University of North Florida — 2016 - 2020

Concentration in Astrophysics
Minor in Mathematical Science
Graduated Summa Cum Laude

RESEARCH EXPERIENCE

SMARTS 1.5m Fellow — Jan 2023 - Current
Cerro Tololo Interamerican Observatory — *Cerro Tololo, Vicuña, Coquimbo, Chile*

- Lead the data pipelining, archiving, and distribution of spectroscopic data taken with CHIRON at the SMARTS 1.5m telescope.
- Notify users and troubleshoot issues when data are distributed and available.

Graduate Research Assistant — Aug 2022 - Current
Department of Physics and Astronomy at Georgia State University — *Atlanta, GA*

- A member of the RECONS (REsearch Consortium On Nearby Stars) group. Working on the statistics of Jupiters and stellar companions to K dwarf primaries within the 40 pc equatorial sample between declinations of -30° to +30° with the CHIRON spectrograph on the SMARTS 1.5m telescope.
- Studying Jupiters in binary or multiple star systems. Exploring the possibility of multiple solar systems in a binary or multiple star system. Evaluating the complex interplay between star formation and planet formation in solar system construction.

Post-Baccalaureate Research Assistant — Dec 2020 - Aug 2022
Department of Physics and Astronomy at University of Utah — *Salt Lake City, UT*

- Incorporated Python and Linux code to find pairs and clusters of stars from ESA's Gaia early Data Release 3 (eDR3). Set a goal to compare the clusters and pairs foud with Fermi-LAT Gamma Ray data that are unassociated with any known objects, theoretically dark matter minihalos.
- Cross-matched data with Bailer-Jones distances to refine distance calculations from a previous project for sources with large distances and errors.
- Remotely utilized CHPC's computational resources to speed up the calculation process on hundreds of gigabytes of data with parallel computing.

Undergraduate Research Assistant — May 2019 - Aug 2020
Department of Physics at University of North Florida — *Jacksonville, FL*

- Utilized Python and Linux software to search for clusters of comoving stars from ESA's Gaia Spacecraft's First and Second Data Release (DR1 and DR2). For DR1, a dataset of about 600,000 stars, roughly 13,000 candidate pairs were found with the largest being Pleiades with 151 members. For DR2, a dataset of 90 million stars found roughly 19 million paired stars and numerous clusters.
- Wrote Python software to divide up files hundreds of gigabytes in size. Tasks were able to be completed simultaneously with high performance computing resources, thus reducing time on calculations tremendously.

TEACHING EXPERIENCE

Teaching Assistant Aug 2022 - Current
Department of Physics and Astronomy at Georgia State University *Atlanta, GA*

- Taught introductory first and second semester Astronomy 1010/1020 labs once a week per section for a class of 24 students each.
- Provided timely feedback on work students complete to assist their understanding of course material.
- Tracked student grades in a database, allowing them to view updates on a weekly basis.
- Prepared a guest lecture for an undergraduate Astronomy 1020 on the topic Binary Stars.

Subject Tutor, ACT/SAT Exam Prep Teacher Feb 2021 - Jul 2022
Huntington Learning Center *Jacksonville, FL*

- Assisted students (K-12 College) with classwork and exam preparation in a multitude of grade school subjects (Elementary Math, Pre-Calculus, Algebra I II, Calculus I-III, Calculus Physics I-II, Statistics).
- Oversaw multiple students over the course of a few months to review all types of mathematics seen on the ACT/SAT. Made adjustments to student programs to focus on individual weaknesses. Additionally, gave insight on time management, study habits, and strategies to improve their scores on college-entrance examinations.
- • Awarded Teacher of the Month in March 2021 for providing excellent service and increasing student engagement.

Supplemental/PASS Instructor May 2019 - Dec 2020
Department of Physics and Astronomy at University of North Florida *Jacksonville, FL*

- Attended and led SI/PASS sessions two-three times weekly up to an hour and a half long for groups of 15-90 students.
- Created activities to encourage discussion among students centered around course content and exam preparation.
- Attended training workshops focused on improving organizational strategies, material presentation, and student engagement facilitation.

PRESENTATIONS

Rocky Mountain Computing Consortium: May 2020
Searching for Star Systems with Gaia DR2

Conference for Undergraduate Women in Physics: Jan 2020
Gaia DR1: Searching for Comoving Stars

HONORS & AWARDS

Ashland-Hercules Water Technologies Scholarship May 2019

University of North Florida Outstanding Research Award Apr 2020

OUTREACH

Astronomy Night Telescope Assistant 2018-2020

Astronomy Club Secretary 2019-2020

Society of Physics Students Member 2018-2020