

Andrew Couperus

Curriculum Vitae

Department of Physics and Astronomy
Georgia State University
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Education

- 2018–present **PhD (in progress)**, Astronomy, Georgia State University, Atlanta, GA.
Expected May 2023 graduation
Advisor: Dr. Todd Henry
- 2020 **MS**, Physics, Georgia State University, Atlanta, GA.
Advisor: Dr. Todd Henry
- 2017 **BS**, Physics, Clarkson University, Potsdam, NY.
Minor in Mathematics
Advisor: Dr. Joshua Thomas

Experience

Teaching

- 2018–present **Graduate Teaching Assistant - Lab Instructor**, ASTR 1010 - Solar System Astronomy, ASTR 1020 - Stellar & Galactic Astronomy, Georgia State University.

Research

- 2019–present **Graduate Research Assistant**, Georgia State University.
Investigating photometric variability, stellar cycles, magnetic activity, twin binaries, and magnetic predictability, all focused on nearby M dwarfs.
Member of the REsearch Consortium On Nearby Stars (RECONS - www.recons.org).
- 2016–2017 **Undergraduate Research Assistant**, Clarkson University.
Implementation, calibration, and use of the LHIRES III Spectrograph.
Carried out routine CCD and spectroscopic data reduction in IRAF for 40 nights of data.

Observing

- 2020 **Cerro Tololo Inter-American Observatory - SMARTS 0.9m**, La Serena, Chile.
12 nights Accepted NOAO proposal targeting rotation rates of M dwarf wide binary stars. Observations pending.
- 2019 **Cerro Tololo Inter-American Observatory - SMARTS 0.9m**, La Serena, Chile.
12 nights Carried out a 12-night observing run, obtaining data for the RECONS long-term program.
- 2019 **Apache Point Observatory - ARC 3.5m**, Sunspot, NM.
3 half-nights Trained on site using the ARCES instrument, obtaining spectra of visual binaries and Be stars.
- 2019 **Hard Labor Creek Observatory - Miller 0.61m**, Rutledge, GA.
3 nights Obtained photometric observations of Boyer, a rotating asteroid.
- 2016–2017 **Reynolds Observatory - 12in Meade**, Potsdam, NY.
20 nights Obtained spectroscopic observations of the colliding-wind binary WR140, other Wolf-Rayet stars, and binary star systems.

Work

- 2017–2018 **Frazer Computing**, Canton, NY.
Worked in a team-based technical environment to identify, characterize, and resolve software issues.

Publications

- 2020 Gilbert, Emily A., Barclay, Thomas, Schlieder, Joshua E., Quintana, Elisa V., Hord, Benjamin J., et al. 2020, *The First Habitable Zone Earth-sized Planet from TESS. I: Validation of the TOI-700 System*, submitted to AAS journals.
- 2018 Johnson, Rachel A., Richardson, Noel D., Moffat, Anthony F. J., Thomas, Joshua D., Bohlsen, Terry, et al. 2018, *An Updated Ephemeris for the Single-lined Orbit of the Supergiant μ Sagittarii*, RNAAS, 2, 3, 138.

Presentations

Talks

- 2020 **Couperus, A. A.**, Henry, T. J., Vrijmoet, E. H., & Jao, W. 2020, *M Dwarf Magnetic Activity: Stellar Cycles and Twin Binaries*, American Astronomical Society #236, id. 319.01.
- 2016 **Couperus, Andrew A.** & Thomas, Joshua D. 2016, *Benchmarking of Shelyak LHIRES III Spectrograph*, Clarkson SURE Conference.

Posters

- 2020 Vrijmoet, E. H., Henry, T. J., **Couperus, A. A.**, Jao, W., & Tokovinin, A. 2020, *Orbital Architectures of M dwarfs with Stellar, Brown Dwarf, and Planetary Companions*, American Astronomical Society #235, 52, 274.12.
- 2016 **Couperus, Andrew A.**, Maki, Courtney R., & Thomas, Joshua D. 2016, *The Science at Clarkson's Reynolds Observatory*, Astronomical Society of New York, Fall 2016 Conference.

Awards

- 2020 **Honorable Mention**, NSF Graduate Research Fellowship Program.
- 2015–2017 **Clarkson Merit Scholarship**, Clarkson University.

Technical skills

- Proficient Python, LaTeX, IRAF, DS9, Windows, Linux
- Introductory IDL, Bash scripting, C++, MATLAB
- 2012 Certified Microsoft Office Specialist in Word, PowerPoint, and Excel.

Outreach

- 2018–present **Open Night Assistant**, Hard Labor Creek Observatory, Georgia State University.
Regularly aid and volunteer for open nights, supporting public participation in astronomy among kids and adults alike
- 2019 **Science Demonstration Leader**, Trip Elementary School Science Night.
Engaged elementary and middle school students via science activities and demonstrations.
- 2017 **Color Images of the Orion Nebula**, Reynolds Observatory, Clarkson University.
Used images I acquired at Reynolds Observatory to create composite color images of the Orion Nebula, for use in public engagement and on department documents.
- 2016–2017 **Open Night Assistant**, Reynolds Observatory, Clarkson University.
Helped operate and manage observatory open night events to facilitate public engagement.
- Summer 2016 **Student Mentor - Leader**, IMPETUS High School Science Program, Clarkson University.