

# Daniel Johns

## Curriculum Vitae

Department of Physics & Astronomy  
Georgia State University  
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### Education

- 2024 **PhD (expected)**, *Astronomy*, Georgia State University, Atlanta, GA.  
Advisors: Dr. Fabien Baron, Dr. Stuart Jefferies.
- 2020 **BS**, *Physics*, Kutztown University, Kutztown, PA.  
Summa cum laude

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### Experience

#### Research

- 2020-Present **Graduate Research Assistant**, *Georgia State University*, Atlanta, GA.,  
Advisor: Fabien Baron, Co-advisor: Stuart Jefferies.  
Dynamical Doppler Imaging & Hyperspectral Speckle Imaging.
- 2016-2020 **Undergraduate Research Assistant**, *Kutztown University*, Kutztown,  
PA., Advisor: Phill Reed.  
Observing and Modeling the Variable Accretion States of Interacting Algol-type  
Binaries.
- 2018 **Undergraduate Research Assistant**, *University of Southern Queensland*,  
Toowoomba, QLD, Australia., Advisor: Rob Wittenmyer.  
Revising Exoplanet Characteristics and Habitability using Gaia DR2.

#### Teaching

- 2020-Present **Graduate Teaching Assistant - Lab Instructor**, *ASTR 1010 - Solar  
System Astronomy, ASTR 1020 - Stellar & Galactic Astronomy, PHYS 1111  
- Introductory Physics I, PHYS 1112 - Introductory Physics II*, Georgia State  
University, Atlanta, GA.

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### Publications

#### First Author

- 2024 **Monitoring Spacecraft Materials In-Situ Using Hyper-Spectral  
Speckle Imaging**, *Johns et. al.*, 2024, Submitted to the VOLTRON 2024  
Special Edition of JASS.
- 2019 **KELT-23Ab: A Hot Jupiter Transiting a Near-Solar Twin Near  
the TESS and JWST Continuous Viewing Zones**, *Johns et. al.*, 2019,  
AJ, 158, 78.
- 2018 **Revised Exoplanet Radii and Habitability Using Gaia Data Re-  
lease 2**, *Johns et. al.*, 2018, ApJS, 239, 14.

#### Conference Papers

- 2023 **Performance of an Imaging Shack-Hartmann Wavefront Sensor**, *Johns et. al*, 2023, Proceedings of the Advanced Maui Optical and Space Surveillance (AMOS) Technologies Conference, 120.
- 2023 **Hyper-Spectral Speckle Imaging of Resolved Targets**, *Baron et. al*, 2023, Proceedings of the Advanced Maui Optical and Space Surveillance (AMOS) Technologies Conference, 46.
- 2023 **ARES: a versatile benchtop testbed for evaluating techniques for imaging through atmospheric turbulence**, *Abbott et. al*, 2022, Proceedings of the Advanced Maui Optical and Space Surveillance (AMOS) Technologies Conference.

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## Presentations

### Posters

- 2023 **Performance of an Imaging Shack-Hartmann Wavefront Sensor**, *24th Advanced Maui Optical and Space Surveillance Technologies Conference*, Wailea, HI.
- 2023 **Wavefront Sensing for Speckle Imaging**, *241st Meeting of the American Astronomical Society*, Seattle, WA.
- 2020 **Modeling the Mass-transfer Stream in the Interacting Algol-type Binary Star U Coronae Borealis**, *235th Meeting of the American Astronomical Society*, Honolulu, HI.
- 2019 **KELT-23Ab: A New Jupiter-like Exoplanet Discovered at Kutztown University**, *Pennsylvania State System of Higher Education 2019 STEM Conference*, Kutztown, PA.
- 2019 **Revised Exoplanet Radii and Habitability Using Gaia Data Release 2**, *233rd Meeting of the American Astronomical Society*, Seattle, WA.

### Talks

- 2024 **Hyperspectral Speckle Imaging for On-Orbit Materials Identification and Aging Studies**, *VOLTRON Meeting 2024*, GTRI, Atlanta, GA.
- 2024 **Benchtop Experiments for Wavefront Control**, *II LIOM Workshop*, IACTEC, Tenerife, Spain (virtual).
- 2022 **Wavefront Sensing for Speckle Imaging**, *NASA Jet Propulsion Laboratory, AO Group*, NASA JPL, Pasadena, CA (virtual).

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## Observing Proposals

- 2022B **Imaging Starspots with CHARA/MIRC-X**, *The CHARA Array*, 1 full night.

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## Honors, Awards, & Fellowships

- 2024 **Outstanding Senior Graduate Student in Astronomy**, *Georgia State University*, Atlanta, GA.

- 2022-2024 **Remote Sensing for Space Sciences Fellowship**, *Georgia State University*, Atlanta, GA.
- 2020–2024 **Second Century Initiative Fellowship**, *Department of Physics & Astronomy*, Georgia State University, Atlanta, GA.
- 2023 **Outstanding Junior Graduate Student in Astronomy**, *Georgia State University*, Atlanta, GA.
- 2023 **Chambliss Astronomy Achievement Award Honorable Mention**, *241st Meeting of the American Astronomical Society*.
- 2022 **NSF-GRFP Honorable Mention**, *Georgia State University*, Atlanta, GA.
- 2020 **Syed R-Ali Zaidi Award for Academic Excellence**, *Pennsylvania State System of Higher Education*.
- 2020 **Gold Chambliss Academic Achievement Award**, *Kutztown University*, Kutztown, PA.
- 2020 **NSF-GRFP Honorable Mention**, *Kutztown University*, Kutztown, PA.
- 2019 **Sigma Pi Sigma**, *Kutztown University Chapter*, Kutztown, PA.
- 2019 **Best Presentation in Physics, Astronomy, and Engineering**, *Pennsylvania State System of Higher Education STEM Conference 2019*.
- 2019 **Carole and Ray Neag Undergraduate Research Grant**, *Kutztown University*, Kutztown, PA.

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## Workshops

- 2021 **VLT School of Interferometry**, *Sophia-Antipolis, France* (virtual).
- 2019 **Physics of Eclipsing Binaries 2.0 (PHOEBE2)**, *Villanova University*, Villanova, PA.

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## Activities & Outreach

- 2023-2024 **Hard Labor Creek Observatory Public Observing Nights**, *Facilitated observing nights for the general public*, Georgia State University, Rutledge, GA.
- 2022-2023 **Machine Shop Committee**, *Astronomy graduate student member*, Department of Physics & Astronomy, Georgia State University, Atlanta, GA.
- 2021-2022 **Computing Committee**, *Astronomy graduate student member*, Department of Physics & Astronomy, Georgia State University, Atlanta, GA.
- 2021 **Atlanta Science Festival**, *Organized and moderated virtual event*, Department of Physics & Astronomy, Georgia State University, Atlanta, GA.
- 2018-2019 **Society of Physics Students**, *Treasurer*, Kutztown University, Kutztown, PA.

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## Skills

- Coding Writing data reduction, data analysis, and image reconstruction software in Julia and Python.

Instrumentation Building optical instruments for turbulence generation, wavefront sensing, adaptive optics, and high-cadence imaging.