HODARI-SADIKI HUBBARD-JAMES

hjames@agnesscott.edu ◇ ☎+1 404 471 5180 ◇ www.hodarijames.github.io
Department of Physics and Astronomy, Agnes Scott College
141 E College Ave ◇ Decatur, GA 30030

RESEARCH INTERESTS

Astrobiology, Stellar Activity and Ages, and the Search for Technosignatures. My research explores three interconnected areas that advance our understanding of life in the universe. I investigate astrobiology with focus on photosynthesis under non-solar light sources, particularly how life might adapt to K and M dwarf stars. I characterize nearby K dwarf stars through spectroscopy to identify older, quieter systems that could host habitable planets. I also analyze potential technosignatures by investigating unexplained astronomical phenomena to distinguish natural processes from possible artificial origins.

ACADEMIC APPOINTMENTS

Assistant Professor of Astronomy *July 2023- Present*
Agnes Scott College Decatur, GA

Co-Director *July 2024- Present*
Bradley Observatory at Agnes Scott College Decatur, GA

EDUCATION

Ph.D. in Astronomy *2023*
Georgia State University Atlanta, GA

Dissertation: Spectral Characterization of a Complete Equatorial Sample of 615 K Dwarfs

Advisor: Todd J. Henry

M.S. in Physics with Astronomy Concentration *2020*
Georgia State University Atlanta, GA

M.S. in Biomedical Engineering *2014*
University of Cincinnati Cincinnati, OH

B.A. in Physics minor Biology *2012*
Berea College Berea, KY

GRANTS & EXTERNAL FUNDING TOTAL: $2.4M+ AWARDED/PENDING

Funded Awards ($69,000 awarded)

Professional Development (PDC) Award ($3,000) 2024–2026
Agnes Scott College

NASA Space Grant – AsTropaLooza: The Astronomy of ATL Showcase ($27,000) Spring 2025
Georgia Space Grant Consortium (NASA) *Co-Investigator on public outreach event at the Bradley Observatory with undergraduate-led programming.*

Professional Development (PDC) Award ($4,000) 2023–2024
Agnes Scott College

SREB Dissertation Year Award ($20,000) 2022–2023
Southern Regional Education Board

Provost's Dissertation Fellowship ($15,000) 2022–2023
Georgia State University

Graduate Student Scholarship 2020
Georgia State University Alumni Association

University of Cincinnati SEED Grant Recipient 2014
University of Cincinnati

Pending Proposals ($2.4M+ pending)

IAU-OAD Grant Proposal – Stars Without Borders (€13,000, pending) 2025–2026
International Astronomical Union, Office of Astronomy for Development *PI on proposal for collaborative astronomy outreach project.*

NSF S-STEM Grant Proposal – STEMPOWER ($2,000,000, pending) 2025–2030
National Science Foundation *Co-PI on Track 2 proposal supporting team mentoring and STEM persistence among underrepresented women at Agnes Scott College.*

NSF AAG Grant Proposal – Planetary Structure and Evolution ($300,000, pending) 2025
National Science Foundation *Collaborator on proposal with PI Dr. Gongjie Li (Georgia Tech), modeling tidal heating and migration of close-in planets.*

PIN Georgia Grant Proposal – Digital Inclusion for Climate Resilience ($99,897.50, pending) 2025–2026
Partnership for Inclusive Innovation (PIN Georgia) *Co-Investigator on collaborative grant with Agnes Scott faculty and the City of Decatur to co-develop climate resilience workshops using AI and GIS.*

AWARDS & HONORS

Beth Brown Memorial Award (Honorable Mention) Nov. 2022
National Society of Black Physicists (NSBP)

Chambliss Astronomy Achievement Award at AAS 240 Jun. 2022
American Astronomical Society

Most Inspirational Alumnus Award 2016
Berea College African Students Association

Waldemar Noll Prize in Physics 2012
Berea College

PUBLICATIONS * * ORCID:0000-0003-4568-2079

First-Author & Lead Publications

1. The Solar Neighborhood LV: A Spectroscopic Census of K Dwarf Activity and Age Indicators
Hubbard-James, H.-S., ... **Arbogast, A. (Student Mentee)**, et.al., 2025, AJ, Submitted.
2. Spectral Characterization of a Complete Equatorial Sample of 615 K Dwarfs
Hubbard-James, H.-S.., IAU Symposium 393, Planetary Science and Exoplanets in the Era of the James Webb Space Telescope, Oct. 2024.
3. The Solar Neighborhood L: Spectroscopic Discovery of K Dwarfs Younger than 1 Gyr and New Binaries within 30 Parsecs
Hubbard-James, H.-S., Lesley, D.X., Henry, T.J., et al., 2022, AJ 164 174.

Contributing Author Publications

3. Arecibo Wow! II: Revised Properties of the Wow! Signal from Archival Ohio SETI Data
Méndez A., Ortiz Ceballos K. N., Zuluaga J. I., ... **Hubbard-James, H.-S.**, **Le, M. (Student Mentee)**, et al., 2025, ApJ, Submitted.

4. A Radio Loud Quiescent K Dwarf
Frail, D., Hyman, S., Silverstein, M., ... **Hubbard-James, H.-S.**, **Byam, J. (Student Mentee)**, et al., 2025, ApJ, 989, 186.

5. Mind the Gap. I. Hα Activity of M Dwarfs Near the Partially/Fully Convective Boundary and a New Hα Emission Deficiency Zone on the Main Sequence
Jao, W.-C., Henry, T. J., White, R. J., ... **Hubbard-James, H.-S.**, et al., 2023, AJ, 166, 63.

6. Visual Orbits of Spectroscopic Binaries with the CHARA Array. IV. HD 61859, HD 89822, HD 109510, and HD 191692
Lester K. V., Schaefer G. H., ... **Hubbard-James, H.-S.**, et al., 2022, AJ, 164, 228.

7. The Solar Neighborhood XLVIII: Nine Giant Planets Orbiting Nearby K Dwarfs, and the CHIRON Spectrograph's Radial Velocity Performance
Paredes L. A., Henry T. J., Quinn S. N., Gies D. R., Hinojosa-Goñi R., **James H.-S.**, Jao W.-C., et al., 2021, AJ, 162, 176.

8. Mapping out the Stellar Populations of IC 2602 and IC 2391
Nisak, A.H., White, R.J., Yep, A., ... **James, H.-S.**, et al., 2022, AJ, 163, 278.

9. TOI 564 b and TOI 905 b: Grazing and Fully Transiting Hot Jupiters Discovered by TESS
Davis A. B., Wang S., Jones M., Eastman J. D., ... **James, H.-S.**, et al., 2020, AJ, 160, 229.

10. TOI 694b and TIC 220568520b: Two Low-mass Companions near the Hydrogen-burning Mass Limit Orbiting Sun-like Stars
Mireles I., Shporer A., Grieves N., Zhou G. ... **James, H.-S.**, et al., 2020, AJ, 160, 133.

11. KELT-25 b and KELT-26 b: A Hot Jupiter and a Substellar Companion Transiting Young A Stars Observed by TESS
Rodríguez Martínez R., Gaudi B. S., ... **James, H.-S.**, et al., 2020, AJ, 160, 111.

12. A Well-aligned Orbit for the 45 Myr-old Transiting Neptune DS Tuc Ab
Zhou G., Winn J. N., Newton E. R., Quinn S. N., ... **James, H.-S.**, et al., 2020, ApJL, 892, L21.

13. TESS Spots a Hot Jupiter with an Inner Transiting Neptune
Huang C. X., Quinn S. N., Vanderburg A., ... **James, H.-S.**, et al., 2020, ApJL, 892, L7.

14. MASCARA-4 b/bRing-1 b: A retrograde hot Jupiter around a bright A-type star
Dorval P., Talens G. J. J., Otten G. P. P. L., ... **James, H.-S.**, et al., 2020, A&A, 635, A60.

15. TESS discovery of an ultra-short-period planet around the nearby M dwarf LHS 3844
Vanderspek R., Huang C. X., Vanderburg A., Ricker G. R., Latham D. W., Seager S., Winn J. N., ... **James, H.-S.**, et al., 2019, ApJL, 871, L24.

16. HD2685 b: A Hot-Jupiter orbiting an early F-type star detected by TESS
Jones M. I., Brahm R., Espinoza N., Wang S., ... **James, H.-S.**, et al., 2019, A&A, 625, A16.

17. HD 202772A b: A Transiting Hot Jupiter around a Bright, Mildly Evolved Star in a Visual Binary Discovered by TESS
Wang S., Jones M., Shporer A., Fulton B. J., ... **James, H.-S.**, et al., 2019, AJ, 157, 51.

18. Rare earth doped downshifting glass ceramics for photovoltaic applications
Leonard, R.L., Gray, S.K., **James, H.-S.**, et al., 2013, Journal of non-crystalline solids, 366, pp.1-5.

TEACHING EXPERIENCE

Instructor of Record *Fall 2023- Present*
Agnes Scott College Decatur, GA

Astronomy Courses:

- AST 200L: Intermediate Observational Techniques *(Spring 2024, 2025, 2026)*
- AST 300: Astrophysics I: Radiation *(Fall 2023)*
- AST 301: Astrophysics II: Dynamics *(Fall 2024)*
- GBL 102: Global Journeys: Astronomy and Local Communities– Puerto Rico *(Spring 2026)*

Physics & Mathematics Courses:

- PHY/MAT 131: Intro to Computer Programming *(Fall 2023 & Spring 2025)*
- PHY/MAT 231: Think Like a Data Scientist *(Spring 2024, 2026)*
- PHY 205: Math for Physicists & Engineers *(Spring 2025)*
- PHY 400: Physics Capstone Colloquium *(Fall 2024)*
- PHY 420: Advanced Seminar in Physics & Astronomy *(Fall 2024)*
- PHY 503L: Elements of Physics II Lab *(Spring 2024, 2025, 2026)*

Joint Instructor *Spring 2022*
Georgia State University Atlanta, GA

- Co-Lecturer for a Synchronous (Online and In-Person Instruction) Introductory Astronomy Course ASTR 1000 (Introduction to the Universe)

Graduate Teaching Assistant *Aug 2017 - Jul 2021*
Georgia State University Atlanta, GA

- Instructor for Introductory Astronomy Lab ASTR 1010 (Astronomy of the Solar System) Fall 2017, 2018, 2019, & 2020, Spring 2019, & 2021
- Instructor for Introductory Astronomy Lab ASTR 1020 (Stellar and Galactic Astronomy) Fall 2020, Spring 2018, & 2020

SERVICE & PROFESSIONAL ACTIVITIES

Professional Service

SARA Institutional Representative 2024–Present
Southeastern Association for Research in Astronomy (SARA)

Co-Organizer, AAS Division on Dynamical Astronomy Meeting 2024–2025
Georgia Institute of Technology *Assisted in planning and organizing national scientific meeting held at Georgia Tech.*

Judge, NSBP/NSHP Joint National Meeting Nov. 2024
National Society of Black Physicists / National Society of Hispanic Physicists *Served as judge for undergraduate and graduate research presentations.*

Astronomy Curriculum Committee Member Sept 2021 - June 2023
Georgia State University

CHIRON Data Manager Dec 2018 - June 2023
Georgia State University

Institutional Service

NCAA III - Faculty Athletics Representative (FAR) Sept. 2024- Present
Agnes Scott College

Co-Director Bradley Observatory July 2024 - Present
Agnes Scott College

Faculty Advisor, Agnes Scott College SPS Aug 2023 - Present
Agnes Scott College

Research Advisor, STEM Scholars Program Jan 2024- Present
Agnes Scott College

Physics Faculty Search Committee Aug 2023 - May 2024
Agnes Scott College

Outreach & Public Engagement

Co-Organizer, AsTropaLooza: The Astronomy of ATL Showcase Spring 2025
Bradley Observatory, Agnes Scott College *Public outreach event funded by NASA Space Grant with student-led programming.*

Organizer & Participant, Planetary Reach Workshop Fall 2024
Bradley Observatory, Agnes Scott College *Workshop focused on developing equitable STEM outreach strategies for Black and Brown youth.*

STEM Hands Summer Camp Jun 2022
Georgia Outreach Team for Space (GOT Space)

NASA Science Activation Planetary Reach Workshop Apr 2022
Arizona State University

Volunteer Lecturer & Mentor Aug 2015 - Aug 2019
Freedom University

STUDENT MENTORING & SUPERVISION

Current Undergraduate Mentees:

Sasha Arbogast - Undergraduate Student, Agnes Scott College. May 2025 - Present
Research focus: Radial velocity confirmation of K dwarf companions and exoplanets

Kayla Gossett Roper - Undergraduate Student, Agnes Scott College. May 2025 - Present
Research focus: Astrobiology and photosynthesis under non-solar illumination

Mai Le - Undergraduate Student, Agnes Scott College. August 2024 - Present
Research focus: Technosignature analysis and optical follow-up of the Wow! Signal

Jacinda Byam - Undergraduate Student, Agnes Scott College. May 2024 - Present
Research focus: K dwarf stellar age estimation using Hβ line diagnostics
Co-author on ApJ publication

Current Graduate Student Mentees:

Sebastian Carrazco Gaxiola - PhD Candidate, Georgia State University. Aug 2022 - Present
Research focus: Stellar spectroscopy and K dwarf characterization

Former Mentees:

Nia Suitt - Graduate Student, University of Central Florida. Jan 2024 - May 2025

Daniela Garcia-Lara - Undergraduate Student, Agnes Scott College. May 2024 - May 2025

Tim Johns - Graduate Student, Georgia State University. May 2022 - July 2023

D. Xavier Lesley - Graduate Student, Ohio State University. Jan 2021 - July 2023
Co-author on AJ publication

Dan Johns - Graduate Student, Georgia State University. Sep 2020 - May 2022

Andrey Brevett - Undergraduate Student, Berea College. Aug 2018 - Aug 2022

Edgar Ortiz - High School Student, Freedom University. Aug 2015 - Aug 2016

Chukwuemeka Chikelu - Graduate Student, University of Cincinnati. Aug 2014 - Aug 2015

PROFESSIONAL AFFILIATIONS

Southern Regional Education Board (SREB) Aug 2022 - Present

National Society of Black Physicists (NSBP) Aug 2021 - Present

American Astronomical Society (AAS) Oct 2017 - Present

International Astronomical Union (IAU) Aug 2023 - Present

Biomedical Engineering Society (BMES) May 2015 - May 2017

TECHNICAL PROFICIENCY

Programming Languages

- Expert: Python, Matlab, bash
- Intermediate Proficiency: IDL, R, HTML/CSS
- Limited Proficiency: C++, Julia

Software and Packages

- Astronomy: Astropy, IRAF/PyRAF, TOPCAT, DS9
- Telescope Operation: CTIO 1.5 telescope (computerized), CTIO 0.9 telescope (computerized), Multiple Tripod & Table Top Telescopes (manual)
- Others: LaTeX, MS Office, Git Repository

INVITED TALKS & PRESENTATIONS

Invited Talk: Dept Physics & Astronomy Colloquium Sept. 2025
Georgia State University

Invited Talk: Planetary Science & Astrobiology Seminar Oct. 2024
Georgia Institute of Technology

Invited Talk: Dept Physics & Astronomy Colloquium June 2024
Georgia College & State University

Invited Talk at the Bradley Observatory Open House Dec. 2022
Agnes Scott College

SELECTED CONFERENCE PRESENTATIONS

1. Spectral Characterization of a Complete Equatorial Sample of 615 K Dwarfs
Hubbard-James, H., Gaxiola, S., Henry, T., Lesley, D.X., Paredes, L. A., Nisak, A., 2024, Poster presentation, 32nd General Assembly International Union (IAUGA 2024).

2. Spectral Characterization of a Complete Equatorial Sample of 615 K Dwarfs
Hubbard-James, H., Gaxiola, S., Henry, T., Lesley, D.X., Paredes, L. A., Nisak, A., 2024, Oral presentation, 2024 Astrobiology Science Conference (AbSciCon 2024).

3. Spectral Characterization of a Complete Equatorial Sample of 665 K Dwarfs within 33 Parsecs — Active Stars, Calm Stars, and the Best Places for Habitable Worlds
Hubbard-James, H., 2023, Oral presentation, American Astronomical Society 242nd Meeting.

4. Spectroscopic Identification of Young and Active K Dwarfs Within 25 Parsecs
Hubbard-James, H., Lesley, D.X., Henry, T.J., Paredes, L. A., Nisak, A., 2022, Poster presentation, American Astronomical Society 240th Meeting Abstracts.

5. Spectroscopic Identification of Young and Active K Dwarfs Within 25 Parsecs
Hubbard-James, H., Lesley, D.X., Henry, T.J., Paredes, L. A., Nisak, A., 2022, Oral presentation, 2022 Astrobiology Science Conference (AbSciCon 2022).

6. Spectroscopic Identification of Five K Dwarfs Younger than 1 GYR Within 30 parsecs
Hubbard-James, H., Lesley, D.X., Henry, T.J., 2021, Oral presentation, 2021 National Society of Black Physicists Conference.

OTHER PROFESSIONAL EXPERIENCE

GRE and SAT Instructor, University of Georgia/Educational Testing Consultants	2019-2020
Lab Technologist, Labsolutions	2017
Biomedical Engineer, Castle Medical	2015-2016
Graduate Research Assistant, University of Cincinnati	2012-2014