# Brandon Radzom

PhD Candidate · Astronomy

*Indiana University, Department of Astronomy, 727 East 3rd Street, Swain West 324, Bloomington, IN 47405-7105, USA*

+1 (763)-898-2847 | bradzom@iu.edu | brandonradzom.github.io/ | github.com/BrandonRadzom

## Education

**Indiana University (IU) - Bloomington** *Bloomington, IN 47405-7000*

Ph.D. Astronomy *Aug. 2020 - May 2026*

- Thesis: *Observational and Numerical Constraints on the Origins of Short-period Gaseous Giants*
- Advisor: Prof. Songhu Wang

M.A. Astronomy *Aug. 2020 - May 2023*

- Minor: Scientific Computing

**University of Wisconsin (UW) - Madison** *Madison, WI 53706-1507*

B.S. Astronomy-Physics, B.S. Physics *Sept. 2016 - May 2020*

- Minor: Computer Science
- Thesis: *Characterizing AGN Activity in the SSA22 Field*
- Advisor: Prof. Amy Barger

## Professional Experience

| | |
|---|---|
| 2021- | **Graduate Research Assistant**, Dept. of Astronomy, IU-Bloomington |
| 2020-2024 | **Graduate Associate Instructor**, Dept. of Astronomy, IU-Bloomington |
| 2018-2022 | **Undergraduate Research Assistant**, Dept. of Astronomy, UW-Madison |
| 2017-2020 | **Undergraduate Research Assistant**, Dept. of Physics, UW-Madison |

## Awards & Grants

### Proposals

2025-2026 **Co-PI: Indiana Outreach Project Space Grant**, NASA *$4,800*

**Brandon T. Radzom**, Samir Salim, et al: "PyIU: Python Workshops to Forge Future Astronomers in Indiana"

### Fellowships & Honors

| | | |
|---|---|---|
| 2025-2026 | **College of Arts and Sciences Dissertation Research Fellowship**, IU-Bloomington | *$24,000* |
| 2025 | **Carl Sagan Workshop Travel Support Award**, NExSci/Caltech | |
| 2025 | **Joseph & Frances Morgan Swain Graduate Fellowship**, IU-Bloomington | *$1,000* |
| 2024 | **Frank and Margaret Edmondson Prize for Teaching**, IU-Bloomington | *$500* |
| 2023 | **Goethe Link Prize for Outreach and Public Education in Astronomy**, IU-Bloomington | *$500* |
| 2022 | **College of Arts and Sciences Travel Award**, IU-Bloomington | *$200* |
| 2020 | **Thesis of Distinction**, UW-Madison College of Letters & Science | |
| | **Lowell Doherty Award for Excellence in Astronomy**, Dept. of Astronomy, UW-Madison | *$500* |
| | **Member of the Dean's List**, College of Letters & Science, UW-Madison | |
| 2019 | **Member of the Dean's List**, College of Letters & Science, UW-Madison | |
| | **Liebenberg Family Undergraduate Research Scholarship**, UW-Madison | *$ 2,000* |
| | **David H. Durra Scholarship**, UW-Madison | *$ 3,000* |
| 2018 | **John Karl Scholz Sophomore General Scholarship**, UW-Madison | *$ 500* |
| 2017 | **Member of the Dean's List**, College of Letters & Science, UW-Madison | |
| 2016 | **Memorial Scholarship**, Anoka High School | *$ 500* |

## Software Skills

- Programming languages: Python, MATLAB, C++, Java, LabView
- Misc: git & GitHub, Linux shell, VS Code, HTML, LaTeX, Maple, Mathematica, Windows Office Suite

## Publications

### Refereed

**Brandon T. Radzom**, Songhu Wang, Bonan Pu, and Malena Rice 2025. *Post-disk Evolution of Short-Period Gas Giants in Compact Multi-planet Systems: A Mechanism to Produce the Observed Companionship Dichotomy*, submitted to ApJ

**Brandon T. Radzom**, Jiayin Dong, Malena Rice, Xian-Yu Wang, Kyle Hixenbaugh, George Zhou, Chelsea X. Huang, Songhu Wang 2025. *Evidence for Primordial Alignment II: Insights from Stellar Obliquity Measurements for Hot Jupiters in Compact Multi-planet Systems*, AJ 169 189

R. Kent Honeycutt, Jeff Robertson, **Brandon T. Radzom** 2025. *Stunted Outbursts and Z Cam–like Behaviors in the Long-term Light Curves of Novalike Cataclysmic Variables*, ApJS 277 29

Cassandra Seltzer, Rudi Lien, **Brandon T. Radzom**, et al. 2025.*THUNDER: A Titan orbiter mission concept for the New Frontiers program*, PSJ 6 45

**Brandon T. Radzom**, Jiayin Dong, Malena Rice, Xian-Yu Wang, Samuel W. Yee, Tyler R. Fairnington, Cristobal Petrovich, Songhu Wang 2024. *Evidence for Primordial Alignment: Insights from Stellar Obliquity Measurements for Compact Sub-Saturn Systems*, AJ, 168 116

Jack Lubin, Xian-Yu Wang, Malena Rice, Jiayin Dong, Songhu Wang, **Brandon T. Radzom**, et al. 2023. *TOI-1670 c, a 40 day Orbital Period Warm Jupiter in a Compact System, Is Well Aligned*, ApJL, 959 L5

**Brandon T. Radzom**, Anthony J. Taylor, Amy J. Barger, Lennox L. Cowie 2022. *X-ray Sources in the Chandra Field SSA22*, ApJ, 940 114

Xian-Yu Wang, Malena Rice, Songhu Wang, Bonan Pu, Gudmundur Stefánsson, Suvrath Mahadevan, **Brandon T. Radzom**, et al. 2022. *The Aligned Orbit of WASP-148 b, the Only Known Hot Jupiter with a Nearby Warm Jupiter Companion, from NEID and HIRES*, ApJL, 926 L8

### Non-Refereed

W. Garrett Levine, **Brandon T. Radzom** et al. 2025. *Emerging Researchers in Exoplanetary Science (ERES) Symposium: Developing Community-Driven Mission & Vision Statements*, to be submitted to BAAS

**Brandon T. Radzom** 2020. *Characterizing AGN Activity in the SSA22 Field*, UW-Madison Dept. of Astronomy Senior Thesis

## Presentations

### Professional Talks

Seminar Talk (scheduled). *To High-e or Not to High-e: Hot Jupiter Formation Revealed By Simulations and Stellar Obliquity Measurements*. Stars and Exoplanets Seminar Series, Yale, October 22, 2025.

Seminar Talk (scheduled). *To High-e or Not to High-e: Hot Jupiter Formation Revealed By Simulations and Stellar Obliquity Measurements*. Exoplanet Seminar Series, NASA GSFC, September 11, 2025.

Seminar Talk (scheduled). *To High-e or Not to High-e: Hot Jupiter Formation Revealed By Simulations and Stellar Obliquity Measurements*. ESPF Seminar Series, Space Telescope Science Institute, September 9, 2025.

Flash Talk. *Evidence for Primordial Alignment: Insights from Stellar Obliquity Measurements for Compact Giant Systems*. Carl Sagan Summer Workshop, Caltech, July 21–25 2025.

Contributed Talk. *Evidence for Primordial Alignment: Insights from Stellar Obliquity Measurements for Compact Giant Systems*. ERES IX, Cornell University, July 2024.

Seminar Talk. *NASA PSSS: A Lightning-Fast Lesson in Mission Design and the THUNDER That Follows*. Astronomy Seminar, IU, January 2024.

Contributed Talk. *Post-formation Dynamics: A Mechanism to Explain the Companionship Properties of Hot and Warm Jupiters*. Great Lakes Exoplanet Area Meeting (GLEAM), IU, October 27-28, 2023.

Invited Talk. *Measuring Stellar Obliquities To Constrain the Origins of Exoplanets*. Virtual WIYN Board Meeting, October 2023.

Contributed Talk. *Post-disk Dynamical Evolution: A Mechanism to Explain the Companionship Dichotomy Between Hot Jupiters and Warm Jupiters*. Division on Dynamical Astronomy Meeting #54, Michigan State University, May 2023.

Contributed Talk. *In Situ Origins of Hot Jupiter Isolation*. GLEAM 2022, The Ohio State University, November 2022.

Seminar Talk. *The X-ray Luminosity Function of Optically Narrow and Broad-line AGNs Out To* $z \sim 4$. Astronomy Seminar, IU, September 2020.

### Public Talks

*Exoplanets in the Media: Fact or Fantasy?* Astronomy on Tap, Bloomington, IN, September 2024.

*Astronomy in the News: NASA's DART Mission.* Astronomy on Tap, Bloomington, IN, March 2024.

*The Night Sky.* Indiana Master Naturalist Astronomy Event, Bloomington, IN, October 2021.

### Conference Posters

**Brandon T. Radzom**, et al. (2025) "Evidence for Primordial Alignment: Insights from Stellar Obliquity MEasurements for Compact Giant Systems", Carl Sagan Summer Workshop. July 21-25, 2025.

**Brandon T. Radzom**, et al. (2025) "PyIU Python Workshops: Forging Future Astronomers in Indiana", Spring 2025 Statewide Engagement Institute. March 13, 2025. 10.5281/zenodo.15015534

**Brandon T. Radzom**, et al. "Evidence for Primordial Alignment: Insights from Stellar Obliquity Measurements for Compact TESS Systems", (2024), TESS Science Conference 3, July 29-August 2, 2024. 10.5281/zenodo.13117605

Cassandra Seltzer, Rudi Lein, **Brandon T. Radzom**, et al. (2024) "THUNDER: A New Frontiers-class Titan orbiter mission concept from the NASA JPL Planetary Science Summer School", 55th Lunar and Planetary Science Conference, March 11-15, 2024.

**Brandon T. Radzom**, Songhu Wang, and Bonan Pu (2022) "In Situ Origins of Hot Jupiters", Emerging Researchers in Exoplanet Science (ERES) VII, July 31-August 2, 2022. 10.5281/zenodo.6944743

**Brandon T. Radzom**, Amy J. Barger, and Anthony J. Taylor. (2020) "Characterizing AGN Activity in the SSA22 Field", American Astronomical Society Meeting #236, June 1-3, 2020. id.137.03

Minho Kwon, Christopher Young, Matthew Ebert, Sebastian Malewicz, **Brandon Radzom**, et al. (2018) "Progress toward entanglement of atomic ensemble qubits via Rydberg blockade", International Conference on Atomic Physics, July 22-27, 2018.

## Teaching Experience

**Instructor of Record** *IU Astronomy Dept.*

- Astronomy 100: The Solar System (Summer 2023 & 2024)

**Associate Instructor** *IU Astronomy Dept.*

- Astronomy 451: Stellar Astrophysics (Spring 2024)
- Astronomy 305: Modern Observational Techniques (Fall 2023)
- Astronomy 100: The Solar System (Spring 2023)
- Astronomy 107: The Art of Astronomy (Spring 2023, Fall 2020)
- Astronomy 103: Search For Life In The Universe (Fall 2021)
- Astronomy 222: General Astronomy II (Spring 2021)

**Guest Lecturer** *IU Astronomy Dept.*

- Astronomy 222: General Astronomy II (Spring 2025)
- Astronomy 100: The Solar System (Spring 2024)
- Astronomy 103: Search for Life in the Universe (Spring 2024)
- Astronomy 515: Exoplanets and Orbital Dynamics (Fall 2023)
- Astronomy 100: The Solar System (Spring 2023)

## Community Involvement & Leadership

## Service

| | | |
|---|---|---|
| 2025 | **Steering Committee Member**, Concerned Scientists at IU/Advocates for Science at IU | *Bloomington, IN* |
| 2025 | **AAS Advocacy Representative**, AAS Congressional Visits Day | *Washington, D.C.* |
| 2024-2025 | **Task Lead**, ERES Mission & Vision Committee | |
| 2024, 2025 | **Informal Mentor**, Alice-Palma Undergraduate Research Program | *Bloomington, IN* |
| 2023-2025 | **Seminar Talk Coordinator**, IU Astronomy Graduate Leadership | *Bloomington, IN* |
| 2022-2025 | **Founder and Lead Organizer**, PyIU: A Workshop Series on Python Essentials | *Bloomington, IN* |
| 2022-2025 | **Undergraduate Research Coordinator**, IU Astronomy Graduate Leadership | *Bloomington, IN* |
| 2023 | **SOC & LOC Member, Session Chair**, GLEAM 2023 Conference | *Bloomington, IN* |
| 2023 | **Formal Mentor (Arnob Rasul)**, Alice-Palma Undergraduate Research Program | *Bloomington, IN* |
| 2019-2020 | **Vice President**, UW-Madison Astronomy Club | *Madison, WI* |
| 2018-2019 | **Volunteer Coordinator**, UW-Madison Astronomy Club | *Madison, WI* |

## Outreach

| | | |
|---|---|---|
| 2025 | **Kirkwood Observatory Community & School Partnerships Tour**, Tour guide | *Bloomington, IN* |
| 2025 | **Kirkwood Observatory Media School Staff Tour**, Tour guide | *Bloomington, IN* |
| 2025 | **Kirkwood Observatory Sustainability Class Tour**, Tour guide | *Bloomington, IN* |
| 2022-2025 | **PyIU: A Workshop Series on Python Essentials**, Instructor, Lecturer, Code Developer | *Bloomington, IN* |
| 2021-2025 | **Kirkwood Observatory Open Nights**, Telescope operator & tour guide | *Bloomington, IN* |
| 2024 | **Astronomy on Tap**, Public Speaker: *Exoplanets in the Media* | *Bloomington, IN* |
| 2024 | **Boy Scout Astronomy Night**, Observatory Tour Guide | *Bloomington, IN* |
| 2024 | **Astronomy on Tap**, Public Speaker: *NASA's DART Mission* | *Bloomington, IN* |
| 2024 | **Eclipse IU**, Solar eclipse viewing aid and guide | *Bloomington, IN* |
| 2021-2024 | **IU Science Fest**, Astronomy demo leader | *Bloomington, IN* |
| 2023 | **Kirkwood Observatory High School Class Tour**, Telescope operator & tour guide | *Bloomington, IN* |
| 2023 | **STEAM Night at McCormick's Creek Elementary**, Astronomy demo leader | *Spencer, IN* |
| 2023 | **International Day of Women and Girls in Science**, Astronomy demo leader | *Bloomington, IN* |
| 2022, 2023 | **Indianapolis Children's Museum STEM Exploration Day**, Astronomy demo leader | *Indianapolis, IN* |
| 2022 | **Boys and Girls Club: *Streets Paved With Gold* (Alpha Phi Alpha)**, Astronomy demo leader | *Bloomington, IN* |
| 2021 | **Indiana Master Naturalist Event**, Guest speaker, telescope operator | *Bloomington, IN* |
| 2020 | **Girl Scout Astronomy Night**, UW-Madison Astronomy Club volunteer | *Madison, WI* |
| 2019 | **Moon Over Monona Terrace**, UW-Madison Astronomy Club volunteer | *Madison, WI* |
| 2019 | **My UW Days**, UW-Madison Astronomy & Physics Dept. representative | *Madison, WI* |
| 2019 | **UW Space Place OAO-2 Anniversary Event**, Orbital Astronomical Observatory (OAO) guide | *Madison, WI* |
| 2018 | **UW STEM Immersion Day**, UW Astronomy/ Astronomy Club representative | *Madison, WI* |
| 2017 | **UW Space Place Family Science Night**, Physics and Astronomy demo leader | *Madison, WI* |

## Professional Development

**Fall 2022-Present: PyIU: A Workshop Series on Python Essentials**, *IU Astronomy Dept.* Founder and lead organizer of the PyIU program: a free, graduate student-led Python workshop series intended to equip undergraduate and high school students of diverse backgrounds to engage in astronomy and physics research. All content is posted to a public GitHub repository: github.com/BrandonRadzom/pyiu.

**Summer 2023: JPL Planetary Science Summer School**, *JPL*. Was selected to participate in an 11-week planetary mission design school. Received training on mission formulation from NASA mentors and worked with a multi-disciplinary cohort of 17 other early-career scientists and engineers to design a New Frontiers-class orbiter at Saturn's moon, Titan. Assumed the role of Deputy PI and Science Objective Lead throughout the program. During the culminating week, also served as Science Chair and worked with NASA's Team-X at JPL to finalize the mission design before presenting it to a NASA review panel. The concept study is published in the Planetary Science Journal. Media interview: news.iu.edu/college/live/news/35938-graduate-students-summer-experience-at-nasas-jet

**Summer 2023: Code/Astro Software Engineering Workshop**, *Northwestern University*. Was selected to participate in the week-long 2023 Code/Astro Workshop which covered best practices for producing and publishing open-source astron-

omy software. Topics included managing Python environments, git and GitHub, de-bugging tools, releasing code to PyPI and GitHub, documentation of code (using docstrings & `Sphinx`), and software testing. In parallel, worked with a small group to develop a pip-installable package for planning observations at IU's Kirkwood Observatory called `kirkwoodnight` (GitHub: github.com/ag161920/kirkwoodnight, PyPI: pypi.org/project/kirkwoodnight). Program link: semaphorep.github.io/codeastro.

## Professional Memberships

American Astronomical Society (2020-2025)