Andrew W. Boyle

Graduate Student

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Research Interests

- Stellar rotation: gyrochronology, large-scale stellar variability surveys, mapping our local neighborhood.
- The evolution and dissolution of young open clusters.
- Computational methods in large-scale data analysis (statistics; machine learning; algorithms).

Professional Appointments

University of North Carolina at Chapel Hill — Chapel Hill, NC
Graduate Research Assistant. Supervisor: A. Mann — *05/2024–present*

University of North Carolina at Chapel Hill — Chapel Hill, NC
Graduate Teaching Assistant. Supervisor: A. Mann — *08/2023–05/2024*

National Park Service — Great Basin National Park, NV
Scientists in Parks Astronomy Ranger. Supervisor: B. Mills — *05/2023–08/2023*

California Institute of Technology — Pasadena, CA
Post-Baccalaureate Research Assistant. Supervisor: L. Bouma — *05/2022–05/2023*

California Institute of Technology — Pasadena, CA
Science Data Analyst, NASA Exoplanet Archive. Supervisor: J. Christiansen — *04/2019–05/2022*

Education

University of North Carolina at Chapel Hill — Chapel Hill, NC
Ph.D, Physics. Advisor: A. Mann — *08/2023–present*
M.Sc., Physics. Advisor: A. Mann — *08/2023–05/2025*

University of Colorado Boulder — Boulder, CO
B.A., Astrophysics; B.A, Physics. Advisor: G. Stringfellow — *08/2014-05/2018*

Publication Summary

Refereed publications: 30 (4 first author; 26 contributing author).

Non-refereed publications: 1 (1 first-author research note).

Total citations: 479. *h-index*: 13.

A full publication list is **available here**.

Distinctions

2024–28 NSF Graduate Research Fellowship

2025–27 LSST Data Science Fellowship Program

2014–18 University of Colorado Boulder Hale Scholarship

Grants (The † symbol denotes active or accepted pending awards)

† 07/2026 PI: NASA TESS Cycle 8 GI Program G08113.
The Origins of Initial Stellar Rotation: The Orion Opportunity ($90,000).

† 07/2025 PI: NASA TESS Cycle 7 GI Program G07140.
The TESS Sco-Cen Legacy Survey ($250,000).

† 08/2024 NSF Graduate Research Fellowship.
Unveiling the Unseen: Using Stellar Rotation to Reveal the Hidden Structure of Open Clusters within 300 pc ($159,000)

08/2017 Undergraduate Research Opportunities Grant.
Multiple individual grants ($4,500).

Advising

Undergraduate Students

Lindsey Kremer (UNC Chapel Hill): March 2026-present.

Adrienne Vescio (Arizona State University): May 2021 – July 2021.

Service & Public Engagement

- *Scientists in Parks*: May – August 2023. Developed and gave interpretive astronomy talks and stargazing lectures to park guests four times per week. Over the course of the summer, attendance at these talks totaled $> 10,000$ people from all ages and backgrounds. Additionally gave cave tours and assisted with park operations.
- *Astronomy on Tap*: Oct 2021 – present. Helped organize and manage Astronomy on Tap events in both Pasadena, CA and Chapel Hill, NC.

Professional Activities

Active referee for AAS Journals and Astronomy and Astrophysics (2025-present).

Talks and Posters

- Cool Stars 23 (Talk and Poster), *Uncovering the Greater Pleiades Complex with the TESS All-Sky Rotation Survey*, Tokyo, JP, June 2026.
- AAS Meeting #241 (Talk), *Calibrating Gyrochronology with the α Persei Open Cluster and Determining its Spatial Extent*, Seattle, WA, January 2023.

News and Media Coverage

- Related to Boyle et al. (2025), *Lost Sisters Found: TESS and Gaia Reveal a Dissolving Pleiades Complex*:
  - The New York Times, NASA, University of North Carolina, Carnegie, Scientific American, Sky & Telescope, Australian Broadcasting Corporation, Phys.org

Publication List [Link to ADS Library]

First author

5. Boyle, A., Bouma, L. and Mann, A. *The TESS All-Sky Rotation Survey: Periods for 1,046,317 Stars Within 500 pc*. ApJS, 284, 75 (2026).
4. Boyle, A., Bouma, L. and Mann, A. *Lost Sisters Found: TESS and Gaia Reveal a Dissolving Pleiades Complex*. ApJ, 994, 24 (2025).
3. Boyle, A., Mann, A. and Bush, J. *Quantifying the Limits of TESS Stellar Rotation Measurements with the K2-TESS Overlap*. ApJ, 985, 233 (2025).
2. Boyle, A. and Bouma, L. *Stellar Rotation and Structure of the α Persei Complex: When Does Gyrochronology Start to Work?*. AJ, 166, 14 (2023).
1. Boyle, A., Christiansen, J., et al. *An Updated Ephemeris for K2-138 d*. RNAAS, 6, 71 (2022).

Many author

For each of these articles, I contributed methods, data, code, and/or co-authored portions of the text.

26. Lopez Murillo, A., Mann, A., et al. *Searching for Transit Timing Variations in Young Transiting Systems*. AJ, 171, 63 (2026).
25. Carleo, I., Castro-González, A., et al. *TOI-3862 b: A dense super-Neptune deep in the hot Neptune desert*. A&A, 707, A4 (2026).
24. Carleo, I., Nowak, G., et al. *Precise mass and radius determination for two new and one known Neptune-sized planets around G Dwarf hosts*. MNRAS (2025).
23. Soubkiou, A., Barkaoui, K., et al. *TOI-1846 b: a super-Earth in the radius valley orbiting a nearby M dwarf*. MNRAS, 541, 3249-3268 (2025).
22. Barber, M., Mann, A., et al. *TESS Investigation—Demographics of Young Exoplanets (TI-DYE). III. An Inner Super-Earth in TOI 2076*. AJ, 170, 32 (2025).
21. Fields, M., Mann, A., et al. *Disc–star alignment I: pre-main-sequence stellar parameters and the statistical alignment between discs and stellar rotation*. RASTI, 4, 9 (2025).
20. Barber, M., Mann, A., et al. *A giant planet transiting a 3-Myr protostar with a misaligned disk*. Nature, 635, 574-579 (2024).
19. Peláez-Torres, A., Esparza-Borges, E., et al. *Validation of up to seven TESS planet candidates through multi-colour transit photometry using MuSCAT2 data*. A&A, 690, A62 (2024).
18. Pidhorodetska, D., Gilbert, E., et al. *The TESS-Keck Survey. XXII. A Sub-Neptune Orbiting TOI-1437*. AJ, 168, 135 (2024).
17. Lange, S., Murphy, J., et al. *The TESS-Keck Survey. VII. A Superdense Sub-Neptune Orbiting TOI-1824*. AJ, 167, 282 (2024).
16. Hori, Y., Fukui, A., et al. *The Discovery and Follow-up of Four Transiting Short-period Sub-Neptunes Orbiting M Dwarfs*. AJ, 167, 289 (2024).
15. Polanski, A., Lubin, J., et al. *The TESS-Keck Survey. XX. 15 New TESS Planets and a Uniform RV Analysis of All Survey Targets*. ApJS, 272, 32 (2024).
14. Eisner, N., Grunblatt, S., et al. *Planet Hunters TESS. V. A Planetary System Around a Binary Star, Including a Mini-Neptune in the Habitable Zone*. AJ, 167, 241 (2024).
13. Chontos, A., Huber, D., et al. *The TESS-Keck Survey XXI: 13 New Planets and Homogeneous Properties for 21 Subgiant Systems*. arXiv:2402.07893 (2024).
12. Luque, R., Osborn, H., et al. *A resonant sextuplet of sub-Neptunes transiting the bright star HD 110067*. Nature, 623, 932-938 (2023).
11. Mireles, I., Dragomir, D., et al. *TOI-4600 b and c: Two Long-period Giant Planets Orbiting an Early K Dwarf*. ApJL, 954, L15 (2023).
10. Dai, F., Schlaufman, K., et al. *A Mini-Neptune Orbiting the Metal-poor K Dwarf BD+29 2654*. AJ, 166, 49 (2023).
9. Rodriguez, J., Quinn, S., et al. *Another shipment of six short-period giant planets from TESS*. MNRAS, 521, 2765-2781 (2023).
8. Khandelwal, A., Sharma, R., et al. *Discovery of a massive giant planet with extreme density around the sub-giant star TOI-4603*. A&A, 672, L7 (2023).
7. Yee, S., Winn, J., et al. *The TESS Grand Unified Hot Jupiter Survey. II. Twenty New Giant Planets*. ApJS, 265, 1 (2023).

6. Murgas, F., Nowak, G., et al. *HD 20329b: An ultra-short-period planet around a solar-type star found by TESS*. A&A, 668, A158 (2022).
5. Chaturvedi, P., Bluhm, P., et al. *TOI-1468: A system of two transiting planets, a super-Earth and a mini-Neptune, on opposite sides of the radius valley*. A&A, 666, A155 (2022).
4. Yee, S., Winn, J., et al. *The TESS Grand Unified Hot Jupiter Survey. I. Ten TESS Planets*. AJ, 164, 70 (2022).
3. Luque, R., Fulton, B., et al. *The HD 260655 system: Two rocky worlds transiting a bright M dwarf at 10 pc*. A&A, 664, A199 (2022).
2. Chen, T., Schmitz, M., et al. *Best Practices for Data Publication in the Astronomical Literature*. ApJS, 260, 5 (2022).
1. Grunblatt, S., Saunders, N., et al. *TESS Giants Transiting Giants. II. The Hottest Jupiters Orbiting Evolved Stars*. AJ, 163, 120 (2022).