

# Rayna Rampalli

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## EDUCATION

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- 2020-Present **Dartmouth College**  
Ph.D. Physics & Astronomy  
Advisor: Elisabeth Newton
- 2014-2018 **Wellesley College**  
B.A. Astrophysics with Honors  
Senior Honors Thesis: *Planet Candidate Validation in Crowded Fields*

## AWARDS & HONORS

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- 2022 LSST Data Science Fellow  
2022 NSF Graduate Research Fellow  
2022 Finalist - P.D. Soros Fellowship  
2021 E.E. Just Graduate Fellow  
2018, 2020 Honorable Mention - NSF Graduate Fellowship  
2019 Voted Best Talk Columbia's annual Bridge to the Ph.D. Program in STEM symposium  
2018 Sigma Xi  
2015 Honorable Mention - Ethel L. Hersey Prize in American Studies

## PUBLICATIONS

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11. **Rampalli, R.**; Smock, A.; Newton, E.; Daniel, K.; Curtis, J.; “Wrinkles in Time I: Rapid Rotators Found in Eccentric Orbits.” Accepted in ApJ (2023).
10. Heitzman, A.; **including Rampalli, R.**; et al. “TOI-4562b: A highly eccentric cool Jupiter analog orbiting a young star.” AJ 165, 121 (2023).
9. Newton, E.; **Rampalli, R.**; et al. “TESS Hunt for Young and Maturing Exoplanets (THYME) VII : Membership, rotation, and lithium in the young cluster Group X and a new young exoplanet” AJ 164, 115 (2022).
8. Núñez, A. et al., **including Rampalli, R.** “The Factory and the Beehive. IV. A Comprehensive Study of the Rotation–X-ray Activity Relation in Praesepe and the Hyades” ApJ 931, 45 (2022).
7. Dong, J. et al., **including Rampalli, R.** “NEID Rossiter-McLaughlin Measurement of TOI-1268b: A Young Warm Saturn Aligned with Its Cool Host Star” ApJL 926, L7 (2022).
6. Anthony, F. et al., **including Rampalli, R.** “Activity and Rotation of Nearby Field M Dwarfs in the TESS Southern Continuous Viewing Zone” AJ 163, 257 (2022).
5. **Rampalli, R.**; Agüeros, M.; Curtis, J.; Douglas, S.; Núñez, A.; et al. “Three K2 Campaigns Yield Rotation Periods for 1013 Stars in Praesepe” ApJ 921, 167 (2021).
4. **Rampalli, R.**; Ness, M.; Wylie, S. “The Astrophysical Variance in Gaia-RVS spectra” ApJ, 921, 78 (2021).
3. Watkins, J. et al., **including Rampalli, R.** “The H $\alpha$  Dots Survey. IV. A Fourth List of Faint Emission-line Objects” ApJS, 253, 39 (2021).
2. **Rampalli, R.**; Vanderburg, A.; Bieryla, A.; Latham, D.; Quinn, S.; et al. “A Hot Saturn Near (but Not Associated with) the Open Cluster NGC 1817” AJ, 158, 62 (2019).
1. Newton, E. et al., **including Rampalli, R.** “TESS Hunt for Young and Maturing Exoplanets (THYME): A Planet in the 45 Myr Tucana Horologium Association” ApJL, 880, L17 (2019).

## RESEARCH APPOINTMENTS

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- Present* | **Graduate Student Researcher**, Dartmouth College (Hanover, NH)
- 2018-2020 | **Bridge to the Ph.D. Program in STEM Scholar**, Columbia University (New York, NY)
- 2017-2018 | **Research Intern**, Center for Astrophysics | Harvard & Smithsonian (Cambridge, MA)
- 2016 | **NSF REU Intern**, SETI Institute, NASA Ames (Mountain View, CA)
- 2015 | **NSF REU Intern**, Maria Mitchell Observatory (Nantucket, MA)
- 2012-2013 | **Research Intern**, Massachusetts Institute of Technology (Cambridge, MA)

## PRESENTATIONS

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- 2022 | **“Wrinkles in Time: Age-dating Young Stars in Kinematic Overdensities Using Gyrochronology.”**  
Poster Presentations: Cool Stars 22 (Toulouse, France); 2022 Sagan Workshop (Pasadena, CA).
- 2019, 2020 | **“Examining Rotation and Light Curve Evolution For Low-Mass Stars in the Open Cluster Praesepe.”**  
Oral Presentations: Bridge to the PhD Program in STEM 2019 Symposium; THYME Collaboration Workshop (virtual). Poster Presentations: Kepler & K2 Science Conference V (Glendale, CA); 235th AAS Meeting (Honolulu, HI).
- 2018 | **“Planet Candidate Validation in Crowded Fields.”**  
Oral Presentations: 2018 Wellesley College Ruhlman Conference; Wellesley College Physics Department Colloquium. Poster Presentation: 231st AAS Meeting (Washington D.C.).
- 2018 | **“Perspectives on the Wellesley College Department: Where We’ve Been and Where We’re Going.”**  
Oral Presentation: Wellesley College Ruhlman Conference.
- 2016, 2017 | **“The Occurrence Rate of Hot Jupiters.”**  
Oral Presentations: SETI Institute REU Colloquium; Keck Northeast Astronomy Consortium (KNAC): 2016 Symposium (Wesleyan University). Poster Presentation: 229th AAS Meeting (Grapevine, Texas).
- 2015, 2016 | **“Exploring Extragalactic Emission: The H $\alpha$  Dot Survey.”**  
Oral Presentation: Maria Mitchell Observatory Summer Colloquium. Poster Presentations: KNAC 2015 Symposium (Williams College); 227th AAS Meeting (Kissimmee, Florida).

## SERVICE & OUTREACH

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### Professional

- Present* | **AAS CSWA Working Group Volunteer**  
Analyzing and interpreting results from AAS demographics survey on astronomy faculty retention rates.
- Present* | **AAS Journals Referee**

### Institutional

- 2021-Present | **E.E. Just Graduate Fellow (Dartmouth College)**  
Near-peer mentor for undergraduates and designer and facilitator of programming in Dartmouth’s [E.E. Just Program](#), established to support minoritized students pursuing STEM.
- 2014-Present | **Observatory Public Night Volunteer (Dartmouth College; Columbia University; Wellesley College; Maria Mitchell Observatory)**  
Used telescopes, provided tours of the observatory, and explained astronomical concepts on public nights.

### Departmental

- 2020-Present | **Physics/Astronomy DEI Working Group member (Dartmouth College)**

Organize annual graduate school q & a panel for the undergraduates. Wrote up findings of graduate student exit survey data and suggested recommendations.

2016-2022 **Retention & Student Success Advocate (Wellesley College)**

Co-organizer of Wellesley astronomy and physics departments' post-baccalaureate dialogues. Identified and invited speakers. Currently participating and informally advising in graduate school panels for physics/astronomy students. Initiated the project *Perspectives on the Wellesley College Physics Department* to formally document the history of physics at Wellesley College to advocate for curriculum change. Results were presented at the 2018 Wellesley College Ruhlman Conference, curriculum restructured Fall 2018.

## Other

2009-2016 **STEM Advocate (Sacramento, CA)**

Conducted forums on STEM education with focus on inclusion of marginalized groups in under-resourced high schools, the Museum of Science & Curiosity, and California State University Sacramento.

Congressional internships for Rep. Ami Bera and Rep. Doris Matsui including advocacy for STEM education.

## TEACHING

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Winter 2023 **Teaching Assistant:** Astronomy 25

Fall 2021 **Teaching Assistant:** Astronomy 2/3

Spring, Summer 2021 **Teaching Assistant:** Astronomy 1

Winter 2021 **Teaching Assistant:** Physics 4

## OBSERVING

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2018-2019 **Cerro Tololo Inter-American Observatory (Cerro Pachón, Chile remote from Chapel Hill, NC)**

Conducted remote spectroscopic observations of M-Dwarfs in the TESS Continuous Viewing Zone using SOAR 4.1m in collaboration with Andrew Mann.

2015-2017 **Whitin Observatory (Wellesley, MA)**

Conducted observations of KELT exoplanet candidates and Koronis family asteroids as paid observer.

2015 **Maria Mitchell Observatory (Nantucket, MA)**

Conducted observations of variable stars in open clusters for over 30 nights.

2011, 2012 **Kitt Peak National Observatory (Kitt Peak, AZ)**

Conducted observations of TrEs 4b and Cy Aqr using 20" Visitor's Center telescope and WIYN 0.9m under supervision of Don McCarthy, Vanessa Bailey, and Nathan Stock (Advanced Astronomy Camp).

## ADVISING

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2023 Jack Duranceau: "The Discovery and Characterization of Exoplanetary System TOI 3353" (Undergraduate Honors Thesis)

## PROPOSALS & GRANTS (PI UNLESS NOTED)

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SALT 2023-II RSS Spectroscopy: The Ages of Stars in Galactic Wrinkles

TESS Cycle 6 Tracing the Milky Way's Dynamical History with Gyrochronologic Ages (\$70,000)

## WORKSHOPS ATTENDED

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2022-Present **LSST Data Science Fellowship Program (various locations)**

2022 **2022 Sagan Workshop (attended virtually, Pasadena, CA)**

2019 **TESS Data Workshop (STSci, Baltimore, MD)**