

# FEDERICA CHITI

Astronomy PhD Candidate, University of Hawaii at Mānoa

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## Education

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| <b>Institute for Astronomy, University of Hawai‘i at Mānoa</b><br>PhD, Astronomy — Advisor: Jennifer van Saders | <b>2024 - Present</b><br>Honolulu, USA |
| <b>Institute for Astronomy, University of Hawai‘i at Mānoa</b><br>MSc, Astronomy                                | <b>2021 - 2023</b><br>Honolulu, USA    |
| <b>University of Dundee</b><br>BSc (Hons), Physics with Astrophysics — Advisor: Aurora Sicilia-Aguilar          | <b>2017 - 2021</b><br>Dundee, UK       |

## Research Experience

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| <b>Graduate Research Assistant</b><br>University of Hawai‘i at Mānoa - Advisor: Jennifer van Saders <ul style="list-style-type: none"><li>Dissertation: The Impact of Magnetic Field Morphology on Stellar Rotational Evolution</li><li>Project: Anchoring Rotational Evolutionary Models at the Fully Convective Boundaries using Wide Binary Systems</li></ul> | <b>2022-Present</b><br>Honolulu, USA |
| <b>Graduate Researcher</b><br>University of Hawai‘i at Mānoa - Advisor: Adwin Boogert <ul style="list-style-type: none"><li>Project: IRTF/iSHELL High-resolution Spectroscopy of Protoplanetary Disks</li></ul>                                                                                                                                                  | <b>2021-2022</b><br>Honolulu, USA    |
| <b>Carnegie Vacation Scholar</b><br>University of Pisa, University of Dundee - Advisors: Aurora Sicilia-Aguilar, Veronica Roccatagliata <ul style="list-style-type: none"><li>Project: Testing Spectrophotometry as a Tool for Hot Jupiters Transit Detection</li></ul>                                                                                          | <b>2020</b><br>Italy, UK             |
| <b>Cormarck Undergraduate Vacation Scholar</b><br>University of Dundee - Advisors: David Pontin, Roger Scott <ul style="list-style-type: none"><li>Project: Investigating the Effect of Electric Current in The Solar Corona through Magnetic Null Points of Stellar Magnetic Fields</li></ul>                                                                   | <b>2019</b><br>Dundee, UK            |
| <b>Undergraduate DEBRA Researcher</b><br>University of Dundee - Advisor: Paul Campbell <ul style="list-style-type: none"><li>Project: Cooling footwear technology for Pachyonychia Congenita Patients.</li></ul>                                                                                                                                                 | <b>2018</b><br>Dundee, UK            |

## Grants & Awards

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| Amelia Earhart Fellowship, Zonta International   One of 30 recipients selected globally in aerospace sciences | <b>2026</b> |
| NSF Astronomy and Astrophysics Research Grant, Collaborative Research   Key Person                            | <b>2025</b> |
| Aloha Data: AI Hackathon for Hawai‘i’s Resilience, UH   First Place                                           | <b>2025</b> |
| Hannah Liebreich Merit Based Award for Excellence in Teaching, , UH                                           | <b>2023</b> |
| Leadership Exchange Advanced Degree Fellow, East-West Center, Honolulu                                        | <b>2023</b> |
| Chambliss Astronomy Achievement Award, 241st AAS meeting, Seattle, WA   Honorable Mention                     | <b>2023</b> |
| British Association 1939 Prize, UoD   Top graduating undergraduate in the Faculty of Science & Engineering    | <b>2021</b> |
| Peter Le Comber Prize, UoD   Top graduating physics undergraduate                                             | <b>2021</b> |
| James Durham Bursary, UoD   Top junior physics student                                                        | <b>2020</b> |
| Winifred Mackie Smith Prize, UoD   Top sophomore physics student                                              | <b>2019</b> |
| Royal Society of Edinburgh Award   Top RSE Cormarck Vacation Scholar                                          | <b>2019</b> |
| Enterprise Challenge - Best Business Idea at UoD   First Place                                                | <b>2018</b> |
| School of Science & Engineering Award, UoD   Top freshman physics student                                     | <b>2018</b> |
| Rotary Club Outstanding Committment Award, Italy                                                              | <b>2017</b> |

## Telescope Time

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Total awarded time:  $\sim$  155 hours

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| “The magnetic field morphology of K dwarfs during spin-down stalling”   CFHT/ESPaDOnS (PI, 104 hours)       | 2026 |
| “Constraints on the Magnetic Morphology of K-dwarfs During Spin-Down Stalling”   LBT (Co-PI, 16 hours)      | 2025 |
| “Probing Surface Activity of K-dwarfs in the Hyades During Stalled Braking”   CFHT/SPIRou (PI, 12 hours)    | 2025 |
| “Probing the Magnetic Field Morphology of the Grand Minimum Star...”   CFHT/ESPaDOnS, SPIRou (PI, 11 hours) | 2025 |
| “Organic Inventory of Protoplanetary Disks”   NASA IRTF/iSHELL (Co-PI, 11.5 hours)                          | 2023 |

## Publications

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### First Author

1. **Chiti F.**, van Saders J. L., Pinsonneault, M. H., Strassmeier K., Ilyn I., Kochukhov O., Metcalfe T. S., Cao L., *Do K-dwarfs Really Stope Spinning Down? Insights from Zeeman Doppler Imaging of Hyades Stars*; 2026b, Submitted to ApJL.
2. **Chiti F.**, van Saders J. L., Kochukhov O., Metcalfe T. S., [Spectropolarimetric Constraints on the Maunder Minimum Analog HD 166620: Evidence for Weakened Magnetic Braking](#), 2026a, ApJ, 1000, 175.
3. **Chiti F.**, Kochukhov O., van Saders J. L., Metcalfe T. S., [Zeeman Doppler Imaging of  \$\tau\$  Ceti: The Weakest Magnetic Field Detected in a Sun-like Star](#), 2025, ApJL, 991, L13.
4. **Chiti F.**, van Saders J. L., Heintz T. M., Hermes J. J. et al., [Rotation at the Fully Convective Boundary: Insights from Wide WD + MS Binary Systems](#), 2024, ApJ, 977, 15.

### Co-Author

1. Lee R., Dai F., Price E.M. et al. including **Chiti F.**, Revisiting the Exo-Mercury Candidate GJ 367 b with ESPRESSO and a Self-Consistent Tidal Distortion Model, 2026, AJ, vol. 172, no. 1, Art. no. 39.
2. Pallister R., Wyper P.F., Pontin D. I. et al. including **Chiti F.** [Spatially Separated Electron and Proton Beams in a Simulated Solar Coronal Jet](#), 2021, ApJ, 923, 163.

## Software

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1. [PlotFinder](#), 2026 (prototye); **Chiti, F.**, Desai D.D.
2. [Hawaii Climate Explorer](#), 2025 (developed for *Aloha Data: AI Hackathon for Hawaii Resilience*); **Chiti, F.**, Desai D.D., Yasir F., Rivera-Tello G., Ponpittayalert Y.
3. [Null Finder](#), **Chiti, F.**, 2020, Zenodo (code associated with Pallister+2021).

## Advising

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| <b>Advisor</b> , Reina Mae Lana   HI STAR Research, Baldwin High School              | June 2025               |
| <b>Advisor</b> , Lyngel Paguel   HI STAR Research, Baldwin High School               | June 2025               |
| <b>Advisor</b> , Anthony Phillips   HI STAR Research, Montessori School of Maui      | June 2025               |
| <b>Advisor</b> , Jahnea Ordoná   Maunakea Scholars & NASA Earth System Project Award | October 2022 - May 2023 |

## Teaching & Outreach

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|----------------------------------------------------------------------------------------------|------------------|
| Graduate Teaching Assistant   ASTR 300L/301 Observational Astronomy, University of Hawaii    | 2021-2022        |
| Undergraduate Teaching Assistant   PH21002 Introduction to Programming, University of Dundee | 2019-2021        |
| “Search for Habitable Worlds”, Public lecture, Da Shop Honolulu                              | September 2023   |
| Institute for Astronomy Open House, Honolulu                                                 | April 2022/23/25 |
| AstroDay at Prince Kuhio Plaza, Maunakea Observatories                                       | May 2022/24      |
| Hawaii Geek Meet                                                                             | September 2022   |

## Service & Leadership

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| Journal Referee (AAS Journals)                                                        | <b>2026 - Present</b> |
| Reviewer for the UH Mānoa GSO Merit Based Awards                                      | <b>2026</b>           |
| LOC Member, TESS/Kepler Asteroseismic Science Consortium, University of Hawaii        | <b>2023</b>           |
| Graduate Representative of the Undergraduate Students, University of Hawai'i at Mānoa | <b>2022-2023</b>      |
| Student Voice Support Officer, University of Dundee                                   | <b>2019 - 2021</b>    |

## Talks

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### Invited Talks

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| "The Power and Puzzles of Stellar Rotation as a Chronometer", Seminar at Uppsala University, Sweden   | <b>2025</b> |
| "The Power and Puzzles of Stellar Rotation as a Chronometer", Seminar at Stockholm University, Sweden | <b>2025</b> |

### Contributed Talks

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| "Do K-dwarfs Really Stop Spinning-Down? Insights from ZDI ...", Cool Stars 23, Tokyo, TOC Ariake             | <b>June 2026</b>      |
| "The Impact of Magnetic Field Morphology on Stellar...", Dissertation Proposal, University of Hawai'i        | <b>September 2024</b> |
| "Stellar spin-down and Magnetic Activity at the Fully Convective...", Cool Stars 22, University of San Diego | <b>June 2024</b>      |
| "Rotation at the Fully-Convective Boundary: New Insights from...", TASC7 / KASC14, University of Hawai'i     | <b>July 2023</b>      |
| "Gyrochronology Challenges at the Fully-Convective Boundary:...", University of Hawai'i                      | <b>May 2023</b>       |
| "High-Resolution Infrared Spectroscopy of Organics...", University of Hawai'i                                | <b>September 2022</b> |

## Posters

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| "IRTF/iSHELL High-Resolution Spectroscopy of Organics in Protoplanetary Disks", AAS 241, Seattle, WA | <b>2023</b> |
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## Professional Development & Certifications

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| ISEE Professional Development Program, University of California Observatories | <b>2026</b> |
| Fundamentals of Deep Learning, NVIDIA                                         | <b>2025</b> |
| Applications of AI for Anomaly Detection, NVIDIA                              | <b>2025</b> |