

# Federica Chiti

GRADUATE STUDENT

Institute for Astronomy, University of Hawai'i at Mānoa

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## Research Interests

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Stellar evolution modeling; gyrochronology; machine learning; computational astrophysics; star formation; protoplanetary disks; astrochemistry.

## Education

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### Institute for Astronomy, University of Hawai'i at Mānoa

MSc Astronomy

Honolulu, US

Aug 2021 - Current

### University of Dundee

BSc (Hons) Physics with Astrophysics

Dundee, UK

Sept 2017 - June 2021

- First Class with Honors
- Thesis: When a Star Breaks Self-Isolation: Clusters around "Isolated" B Stars as seen by Gaia
- Advisor: Aurora Sicilia-Aguilar

## Research Experience

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### Graduate Researcher

Institute for Astronomy, University of Hawai'i at Mānoa

Honolulu, US

Aug 2022 - present

- Summary: developing a stellar rotation-based tools to infer precise ages for old (> 4 Gyr) K and M type stars by using wide, coeval, white dwarf + main sequence binaries as calibrators.
- Advisor: Jennifer van Saders

### Graduate Researcher

Institute for Astronomy, University of Hawai'i at Mānoa

Honolulu, US

Jan 2022 - present

- Summary: IRTF/iSHELL high-resolution spectroscopy analysis of protoplanetary disks to search for molecular emission and absorption from ro-vibrational transitions of organic molecules.
- Advisor: Adwin Boogert

### Carnegie Vacation Scholar

University of Pisa, University of Dundee

Pisa, Italy - Dundee, UK

June 2020 - Aug 2020

- Summary: testing spectrophotometry as a tool to detect transiting Hot Jupiters and study their atmospheric chemical composition.
- Advisors: Aurora Sicilia-Aguilar; Veronica Roccatagliata

### Cormarck Undergraduate Vacation Scholar

University of Dundee

Dundee, UK

June 2019 - Aug 2019

- Summary: developed a pipeline that determines the magnetic null points in a magnetic field to understand the effects of electric current on magnetic field structures in the solar corona
- Advisors: David Pontin; Roger Scott

### Undergraduate DEBRA Intern

University of Dundee

Dundee, UK

June 2018 - Aug 2018

- Summary: formulated therapeutic approaches to develop a cooling footwear technology that eases the discomfort for people suffering from Pachyonychia Congenita.
- Advisor: Paul Campbell

## Honors

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2023	<b>Chambliss Astronomy Achievement Award</b> , Honorable Mention, 241 <sup>st</sup> AAS meeting	Honolulu
2021	<b>British Association 1939 Prize</b> , Most Distinguished Senior Student in the Faculty of Science & Engineering	Dundee
2021	<b>Peter Le Comber Prize</b> , Top Level 4 Physics Student	Dundee
2020	<b>James Durham Bursary</b> , Top Level 3 Physics Student	Dundee
2019	<b>Winifred Mackie Smith Prize</b> , Top Level 2 Physics Student	Dundee
2019	<b>RSE Award</b> , Top RSE Cormarck Vacation Scholar	Edinburgh
2018	<b>1<sup>st</sup> place: Enterprise Challenge</b> , Best Business Idea, Center of Entrepreneurship	Dundee
2018	<b>SSE Departmental Award</b> , Top Level 1 Physics Student	Dundee
2017	<b>Rotary Club</b> , Outstanding Commitment Award	Florence

## Teaching Experience

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### ASTR 301 Observational Astronomy Projects

University of Hawai'i at Mānoa

Honolulu, US

Jan 2022 - May 2022

### ASTR 300/300L Observational Astronomy and Laboratory

University of Hawai'i at Mānoa

Honolulu, US

Aug 2021 - Dec 2021

### EG21007 Introduction to Programming

University of Dundee

Dundee, UK

Sept 2018 - Dec 2020

## Outreach

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2022/23	<b>IfA Undergraduate Representative</b> , University of Hawai'i at Mānoa	Honolulu
2022-	<b>Maunakea Scholars Mentor</b> , Mentee: Jahnea Ordoná, Kealahou High School, Kailua-Kona	Honolulu
2022	<b>Hawai'i Geek Meet</b> , Magic Island, Ala Moana	Honolulu
2022	<b>IfA Open House</b> , Institute for Astronomy	Honolulu
2022	<b>AstroDay at Prince Kuhio Plaza</b> , Maunakea Observatories	Hilo
2022	<b>Waimanalo Public Library Stargazing Night</b> , Ohana Kilō Hōkū and NOIRLab	Waimanalo

## Observing Experience

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2022/23	<b>IRTF/iSHELL</b> , 17.5 hours
2021	<b>IRTF/SpEx</b> , 2 hours

## Publications

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### CO-AUTHOR

Spatially Separated Electron and Proton Beams in a Simulated Solar Coronal Jet  
Ross Pallister, Peter F. Wyper, David I. Pontin, C. Richard DeVore, Federica Chiti  
*The Astrophysical Journal* 923.2, 163 (Dec. 2021) p. 163. 2021

### SOFTWARE

Null\_Finder: Null Finder - Release 1  
Federica Chiti  
*Zenodo*, 10.5281/zenodo.4308622 (Dec. 2020). Zenodo, 2020

## Talks

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2022	<b>Chiti F.</b> , Boogert A.; High-Resolution Spectroscopy of Organics in Protoplanetary Disks, Institute for Astronomy	Honolulu
2018	<b>Chiti F.</b> , Chatzitheodorou A., Campbell P., Conneely M., Hickerson R., Cooling Footwear Technologies, Pachyonychia Congenita Project Symposium	London

## Posters

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2023	<b>Chiti F.</b> , Boogert A., Banzatti A., Richter M.; IRTF/iSHELL High-Resolution Spectroscopy of Organics in Protoplanetary Disks; 241 <sup>st</sup> American Astronomical Society Meeting;	Seattle
2020	<b>Chiti F.</b> , Roccatagliata V., Sicilia-Aguilar A.; Searching for Signatures of Hot Jupiters: The Potentiality of Spectrophotometry for Transiting Planets Detection and the Study of Their Atmospheres; Carnegie Trust/RAS Symposium	Dundee

## Languages

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<b>English</b>	Professional proficiency
<b>Italian</b>	Native proficiency

References available upon request.