

Madyson Barber

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Education

University of North Carolina at Chapel Hill
Class of 2022
Chapel Hill, NC

Astrophysics BS & Computer Science BA
GPA: 3.863

Dean's List

Millbrook High School, Raleigh, NC (Class of 2018)
IB Diploma Programme Graduate

GPA: 5.281 weighted / 4.0 unweighted
Class Rank: 10 out of 549

Honors and Awards

[Phi Beta Kappa](#) 2020-present

Sigma Xi 2020-present

[North Carolina Space Grant Undergraduate Research Scholarship](#) 2021-2022

[UNC Chancellor's Science Scholar](#) (CSS) Cohort Six 2018-present

Distinguished Scholar 2020-present, Mentor for first-year students 2020-present
Summer Research Funding Award 2021

UNC Summer Undergraduate Research Funding (SURF) 2021

William W. and Ida W. Taylor Honors Mentored Research Fellowship Distinction

Selected, but declined in favor of CSS Summer Research Funding Award

International Baccalaureate Programme Diploma Recipient 2018

Presentations

NASA Summer Intern Presentation Symposium - August 2020

Sigma Xi Annual Meeting and Student Research Conference - November 2020

UNC Summer Undergraduate Pipeline Presentation - August 2021

UNC CSS Annual Research Symposium - October 2021

Upcoming: AAS Winter Conference Poster Presentation - January 2022

Publications

[*"TESS Hunt for Young and Maturing Exoplanets \(THYME\) VI: an 11 Myr giant planet transiting a very low-mass star in Lower Centaurus Crux"*](#)

Mann, Andrew W.; Wood, Mackenna L.; Schmidt, Stephen P.; **Barber, Madyson G.**; et al.; 2021.

In Prep: *"Transit Hunt for Young and Maturing Exoplanets (THYME) VIII: a Pleiades-age association harboring a transiting planet detected by Kepler"*

Barber, Madyson G.; Mann, Andrew W.; Tofflemire, Benjamin M.; et al.; 2021

In Prep: *"TESS Hunt for Young and Maturing Exoplanets (THYME) VII: the 23 Myr extended population of LCC with a transiting planet"*

Wood, Mackenna L.; et al.; 2021

Articles

Bieltz, Brandon. "#GDTBATH: Madyson Barber." The University of North Carolina at Chapel Hill, July 19, 2021.

<https://www.unc.edu/discover/gdtbath-madyson-barber/>.

"Discovering the Answers." University of

North Carolina at Chapel Hill | The Campaign for Carolina, October 2021.

<https://campaign.unc.edu/story/discovering-the-answers/>.

Activities

CSS Recruitment Committee (2018 - present) and Volunteer Committee (2021 - present)

Visibility in Physics 2019-present - Student organization supporting marginalized groups studying physics

UNC Glee Club Choir 2019-present

PackHacks 2021 - Hackathon hosted by NCSU. My team created a computer app that suggested when the user should work on their assignments based on their scheduled events for the day and how much homework they had.

Carolina Women in STEM 2019

Pearl Hacks 2019 - All female and non-binary hackathon hosted by UNC. My team created an app for helping to break language barriers between doctors and patients in emergency situations

National Honor Society 2017-2018

Experiences

University of North Carolina Department of Physics and Astronomy, Chapel Hill, North Carolina

Undergraduate Research Assistant, January 2020-present

*Work with Dr. Andrew Mann's astrophysics lab to write a code that compiles a useful database of astronomical data from various systems. Currently working on identifying and characterizing young exoplanets. **Experience observing with SOAR***

University of North Carolina Department of Computer Science, Chapel Hill, North Carolina

Undergraduate Teaching Assistant, August 2019-present

Work with students in the introductory Computer Science class for majors and non-majors (~600 students per semester). Assist in office hours answering conceptual questions and helping with homework. Mentor for first-year TAs.

NASA Goddard Space Flight Center Exoplanet and Stellar Astrophysics Lab, Greenbelt, Maryland

Summer Intern, June 2020-August 2020

Worked with Dr. Joshua Schlieder analyzing and vetting new exoplanet candidates from TESS full-frame imaging utilizing a Monte-Carlo based modeling approach.

Presented research at Sigma Xi Annual Meeting and Student Research Conference - November 2020

L'SPACE Mission Concepts Academy

Science Lead of team during virtual class provided by NASA during Fall Semester 2019

Twelve-week virtual class. Worked on a virtual team to design a Near-Earth Asteroid research mission.

ERIRA, Green Bank Observatory, West Virginia

Educational Research in Radio Astronomy, Summer 2019

Worked with Dr. Dan Reichart to learn about radio astronomy through hands-on research.

Chancellor's Science Scholars Summer EXCEerator, Chapel Hill, North Carolina Summer 2018

Summer experience for first-year Chancellor's Science Scholar students. Took classes and participated in workshops, lab tours, and inclusivity and diversity trainings.

NCSU Engineering Camp, Raleigh, North Carolina

Assistant Camp Counselor/**Materials Manager**, June 2016-August 2016

Helped campers with activities, made sure all materials were ready for each activity, walked students to and from locations, & helped with carpool