

HANNAH HASSON

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EDUCATION

University of Rochester

May 2021

Master of Arts in Physics

University of Texas at Austin

May 2018

Bachelor of Physics, Bachelor of Astronomy Honors

Overall GPA: 3.6805/4.0

Special Honors in Astronomy

TECHNICAL STRENGTHS

Computer Languages

Python, Mathematica, MATLAB, Bash

Software & Tools

VisIT, LaTeX, ImageJ, AutoCAD, Excel

Hard skills

Soldering, mill, lathe, basic and high-voltage electronics

Experience w/ handling contained radioactive sources

Communication

Comfortable with public speaking, intermediate Spanish speaker

EXPERIENCE

University of Rochester Physics & Astronomy Dept

August 2018 - present

Graduate Research Assistant under P. Gourdain

Rochester, NY

- Simulating novel 3D printed loads for pulsed power plasma jet experiment
- Constructing and testing Thomson scattering diagnostic with 1J green laser
- Constructed shearing interferometer plasma diagnostic

Sandia National Lab

June - August 2019

Graduate Research Intern under C. Myers

Albuquerque, NM

- Wrote MATLAB scripts to test b-dot calibration methods for Z Machine
- Helped construct shadowgraphy plasma diagnostic for Mykonos driver

University of Texas Astronomy Department

August 2016 - August 2018

Undergraduate Researcher under K. McQuinn

Austin, TX

- Observed for 3 nights on the 107" telescope at McDonald Observatory
- Used IRAF code to reduce CCD data and calculate star formation rates of dwarf galaxies

Rice University Physics & Astronomy Department

June 2014 - Jan 2018

Undergraduate Researcher under E. Liang

Houston, TX

- Built and tested novel scintillator gamma-ray spectrometer
- Collected spectral data and served as co-lead for positron experiment at Texas Petawatt Laser
- Conducted filter stack spectrometer calibration tests with Na-22 source

University of Texas at Austin Astronomy Department

January 2015- December 2015

Student in Freshman Research Initiative under M. Montgomery

Austin, TX

- Reduced streaked spectra from white dwarf experiment at Sandia National Lab
- Implemented MESA stellar evolution software for hydrogen flashes in extremely low-mass white dwarf stars
- Observed on 30", 36", and 82" telescopes at McDonald Observatory

PUBLICATIONS

Design of a 3-D Printed Experimental Platform for Studying the Formation and Magnetization of Turbulent Plasma Jets

H. R. Hasson, M. B. Adams, M. Evans, R. Shapovalov, I. West-Abdallah, J. Young, J. Greenly, D. Hammer, B. Kusse, C. Seyler, A. Frank, P.-A. Gourdain

DOI: 10.1109/TPS.2020.3020000

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TALKS & POSTERS

The Generation of Magnetized Jets Using 3D Printed Loads on a Pulsed-Power Driver

Poster presented at the 2020 ZNetUS conference

The Generation of Magnetized Jets Using 3D Printed Loads on a Pulsed-Power Driver

Poster presented at the 2019 APS Division of Plasma Physics conference

A Study of Magnetized Jet Stability Using High Energy Density Plasmas

Talk given at the 2019 Pulsed Power and Plasma Science conference

A Study of Magnetized Jet Stability Using High Energy Density Plasmas

Poster presented at the 2019 Women in Space conference

A Study of Disk-Jet Transitions Using Pulsed-Power Generators

Poster presented at the 2018 APS Division of Plasma Physics conference

TEACHING

Gourdain lab summer internship

Graduate mentor, curriculum developer

August 2020, July 2021

University of Rochester

- Developed and implement month-long high school internship with other members of Gourdain lab
- Developed and taught three-day introductory Python course in-person and online
- Mentored small group of high school students through experimental laser interferometry project

PHY 122P (Electricity & Magnetism), PHY 121P (Mechanics)

Graduate Teaching Assistant

August 2018 - May 2019

University of Rochester

- Head TA for two semesters of flipped-classroom undergraduate introductory physics courses. Worked one-on-one teaching students, graded exams, met with students needing guidance

AST 307 (Intro Astronomy)

Undergraduate teaching assistant

Fall 2017

University of Texas at Austin

- Provided in-class assistance for students
- Shared grading of assignments and exams with graduate TA

Freshman Research Initiative

Peer Mentor

January 2016 - May 2016

UT Austin

- Led students in research project with MESA stellar evolution code
- Helped teach students Python coding and other astronomy research tools

Algebra and Precalculus tutoring

Volunteer tutor

Fall 2014-Spring 2018

Gonzalo Garza High School

- Volunteered 2-3 hours per week tutoring high school students in various math courses

AWARDS & HONORS

APS CUWiP Research Poster Award	<i>Jan 2018</i>
Barry Goldwater National Scholarship-Honorable Mention	<i>Spring 2017</i>
APS CUWiP Research Poster Award	<i>Jan 2017</i>
Kemp-Forman Memorial Endowed Presidential Scholarship	<i>Fall 2016-Spring 2017</i>
Merner Scholarship in Natural Sciences	<i>Fall 2016-Spring 2017</i>
Darrell W. Moffitt, Jr. Endowed Presidential Scholarship	<i>Spring 2016</i>
Walter E. Millet Scholarship	<i>Fall 2015-Spring 2016</i>
National Instruments Endowed Scholarship for Excellence	<i>Fall 2015-Spring 2016</i>

LEADERSHIP

Physics & Astronomy Graduate Student Association	August 2019 - present
<i>Board Member, President</i>	<i>University of Rochester</i>

- Conducting events for career development, outreach, and community building among physics graduate students

Graduate Women in Physics & Astronomy	October 2018 - present
<i>Board Member</i>	<i>University of Rochester</i>

- Organizing mentorship and community among women graduate students in physics

Undergraduate Women in Physics	August 2014 - May 2018
<i>Treasurer, Vice President, President, Senior Board Member</i>	<i>UT Austin</i>

- Mentored and provided resources to fellow undergraduate women in physics and astronomy
- Presented science demonstrations at outreach events for local youth

Deans Scholars Honors Program	August 2014-May 2016
<i>Council Member</i>	<i>UT Austin</i>

- Coordinating with team of 10 students responsible for planning social and mentoring events