

Natalie Allen

University of Rochester
206 Bausch & Lomb Hall
P.O. Box 270171
(206) 265-0789
nallen7@u.rochester.edu

- EDUCATION**
- Johns Hopkins University** Expected Graduation: 2026
- Ph.D. in Astrophysics
- University of Rochester** Graduation: May 2020
- B.S. in Physics and Astronomy
 - Minor in Mathematics
 - *Cum Laude* with Highest Distinction (GPA: 3.86/4.0)
 - Deans List for all eligible semesters
 - Senior Thesis: *A Study of the Emission Line Structure of HH 7-11 with Hubble and Spitzer*
 - Advisor: Dan Watson
- Bainbridge Island High School** Graduation: June 2016
- GPA: 3.96/4.0
- Olympic College**
- GPA: 3.91/4.0
 - Dual Enrollment with Bainbridge High School during senior year

RESEARCH INTERESTS Exoplanets: observation, atmospheres, habitability, biosignatures, astrobiology

- RESEARCH**
- University of Rochester**
- Research Assistant* (Advisor - [Dr. Dan Watson](#)) Spring 2017 - Summer 2020
- Research in star formation and outflows, primarily NGC 1333
 - Ran shock simulations using MAPPINGS V and wrote code in Python to match observational data from both the Spitzer and Hubble Space Telescopes to simulated data
 - Reduced data from Hubble Space Telescope observations
- Research Assistant* (Advisor - [Dr. Miki Nakajima](#)) Spring 2019 - Summer 2020
- Research in terrestrial impact craters
 - Ran simulations of the Vredefort crater impact in iSALE
 - Made comparisons of simulation results with geophysical evidence and compared to past studies
- NASA Jet Propulsion Lab** Summer 2019
- Research Intern* (Advisor - [Dr. Karl Stapelfeldt](#))
- Analyzed data from a number of different telescopes to explore HH 7-11

- Began work on first-authored paper (will be submitted for peer review in winter)
- Attended [Sagan Summer Workshop on Astrobiology](#)

Space Telescope Science Institute

Summer 2018

Visiting Scientist (Guest of [Dr. Joel Green](#))

- Shared research pertaining to HST Proposal 15153 with collaborators at Johns Hopkins University and Space Telescope Science Institute
- Wrote python code to analyze data from GGD 37
- Continued collaboration after summer position finished

**CONFERENCE
TALKS/
POSTERS**

N. Allen, K. Stapelfeldt, D. Watson, T. Bergin, A. Frank, T.N. Gautier. J. Green, S.T. Megeath, G. Melnick, D. Neufeld, A. Rubinstein. [A Study of the Infrared Emission Line Structure of HH 7-11 with *Hubble* and *Spitzer*](#). *American Astronomical Society, AAS Meeting #235*, Honolulu, HI, January 6, 2020.

N. Allen, T. Bergin, A. Frank, T.N. Gautier. J. Green, S.T. Megeath, G. Melnick, D. Neufeld, K. Stapelfeldt, D. Watson. [Outflows and star-formation feedback from young stellar objects in NGC1333](#). *American Astronomical Society, AAS Meeting #233*, Seattle, WA, January 7, 2019.

N. Allen, D. Watson. [Outflows and star-formation feedback from young stellar objects in NGC1333](#). *Maria Mitchell Women in Science Symposium*, Wellesley, MA, October 6, 2018.

N. Allen, T.P. Jacques. [Outflows and star-formation feedback from young stellar objects in NGC1333](#). *Conference for Undergraduate Women in Physics*, Rochester, NY, January 13, 2018.

**HONORS AND
AWARDS**

National Science Foundation Graduate Research Fellowship	2020-2023
Stoddard Senior Thesis Prize , U. of Rochester Physics and Astronomy	2020
Janet Fogg Prize , U. of Rochester Physics and Astronomy	2020
Undergraduate Teaching Award , U. of Rochester Physics and Astronomy	2020
Barry M. Goldwater Scholarship	2019-20
USRA Distinguished Undergraduate Award – Frederick A. Tarantino Scholarship	2019
Outstanding Chapter Award - Society of Physics Students National	2017-18, 2018-19
Blake Lily Prize , Society of Physics Students National	2017-18, 2018-19
Women in Physics Grant , American Physical Society	2018
Excellence in Cosponsorship - Society of Physics Students , U. of Rochester	2018
Whipple Science & Research Scholarship , U. of Rochester	2016-2020

**TEACHING
EXPERIENCE**

University of Rochester

Department of Physics and Astronomy - Peer Advisor Fall 2019 - Spring 2020
College Center for Advising Services

- Advise Physics and Astronomy students on classes, research opportunities, etc.
- Hold office hours, coordinate events with Physics and Astronomy Department and Society of Physics Students

Department of Physics and Astronomy - Teaching Assistant Fall 2017 - Spring 2020

- Astronomy 142: Elementary Astrophysics (Honors) Spring 2019, 2020

- Astronomy 111: The Solar System & Its Origin Fall 2017, 2018, 2019
- Astronomy 102: Relativity, Black Holes, and the Big Bang Spring 2018

Society of Physics Students Workshops Fall 2017 - Spring 2020

- Taught workshops on Mathematica to college students
- Gave talks on research and college to high school students at Brighton High School

LEADERSHIP POSITIONS

University of Rochester

Society of Physics Students Fall 2017 - Spring 2020
(Secretary Fall 2017 - Spring 2018, President Fall 2018 - Spring 2019)

- Coordinated physics and astronomy intro level class tutoring
- Delegated executive board chairs and committees
- Helped plan outreach, social, and professional development events

Society of Women in Astronomy and Physics Fall 2017 - Spring 2020
(President, Fall 2017 - Spring 2019, Secretary Fall 2019 - Spring 2020)

- Co-founder, successfully proposed and accepted as official student organization
- Held social and professional development events to create a community for an underrepresented group in physics and astronomy
- Created outreach events to promote the development of women in STEM

C.E.K. Mees Observatory Tour Guide Summer 2017

- Led tour groups at the University of Rochester affiliated Mees Observatory
- Operated the 24 inch Cassegrain Telescope

MEMBERSHIPS

Phi Beta Kappa (ΦBK)
Sigma Pi Sigma ($\Sigma\Pi\Sigma$)
American Physical Society (APS)
American Astronomical Society (AAS)
Society of Physics Students (SPS)

COMPUTER SKILLS

Python	Igor Pro
UNIX shell scripting (Bash)	TheSky6
SAOImage DS9	CCDSOFT
Mathematica	CCDStack
L ^A T _E X	Microsoft Office Suite