

Levi Walls

EDUCATION

UNIVERSITY OF MICHIGAN	Department of Astronomy & Astrophysics
PhD in ASTROPHYSICS GPA (US): 4.00	Expected graduation: SUMMER 2027
U-M GRADUATE TEACHER CERTIFICATE	JAN 2026
DIVERSITY, EQUITY, AND INCLUSION CERTIFICATE	MAY 2025
LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN	Fakultät für Physik
M.Sc. in ASTROPHYSICS GPA (DE/US): 1.42/3.89	Graduated: AUGUST 2021
UNIVERSITY OF MINNESOTA–TWIN CITIES	School of Physics & Astronomy
B.Sc. in ASTROPHYSICS & MATHEMATICS GPA (US): 3.45	Graduated: MAY 2017

PUBLICATIONS

- Following the Water Trail in Planet-Forming Disks (*in preparation*)
Walls, L. G., Li, S., Bergin, E., Li, H., & van 't Hoff, M. L. R.
[Chemical abundance gradients of organic molecules within a protostellar disk.](#)
Walls, L. G., van 't Hoff, M. L. R., & Bergin, E. A., 2024, ApJ, 973, 84
[Constraining SIDM with halo shapes: Revisited predictions from realistic simulations of early-type galaxies](#)
Despali, G., **Walls, L.G.**, Vegetti, S., Sparre, M., Vogelsberger, M., Zavala, J., 2022, MNRAS, 516, 3
[Ring Morphology with Dust Coagulation in Protoplanetary Disks](#)
Laune, JT, Li, H., Li, S., Li, Y., **Walls, L.G.**, Drążkowska, J., Stammer, S., Birnstiel, T., 2020, ApJL, 889, L8
[Testing the uniqueness of gravitational lens mass models](#)
Walls, L.G., Williams, L.L.R. 2018, MNRAS, 481, 655

AWARDED OBSERVATIONS

ALMA (2022.1.01649.S) *Water cycles: tracing D/H in an embedded protostellar disk* (B) 2022

RESEARCH EXPERIENCE

- Los Alamos National Lab Graduate Student Researcher** AUG 2023 – APR 2024
– Expanding capabilities of hydrodynamical code, LA-COMPASS, to include chemistry
University of Michigan Rackham Merit Fellow AUG 2021 – DEC 2025
– Using large-baseline radio observations and radiative transfer to study Class O/I disks
Max Planck Institute for Astrophysics Student Researcher JUNE 2019 – OCT 2020
– Investigated role self-interacting dark matter and baryons have on galaxy shape and evolution
Los Alamos National Lab Student Fellow JUNE – AUG 2018
– Investigated the role dust coagulation and long-lasting vortices play in planetesimal formation
University of Minnesota Research Assistant MAY 2016 – SEP 2018
– Investigated how degeneracies potentially affect observations of gravitationally-lensed sources
University of Minnesota Senior Lab Technician AUG 2017 – MAY 2018
– Prepared and analyzed cell-free TXTL reactions
Undergraduate Research Assistant MAY 2015 – JUNE 2017
– Used parameter estimation to characterize seismic environment for LIGO-like detectors

TEACHING EXPERIENCE

My aim in each course I teach is to guide students in learning relevant problem-solving skills that will help them develop a sense of autonomy.

Preparing Future Faculty Seminar

MAY 2026

- Intensive 5-week seminar for senior graduate students transitioning to faculty positions

University of Michigan Graduate Student Instructor

ASTRO 115: Introductory Astrobiology:

WINTER 26

- Efficiently graded 25 homework assignments for 100 students

ASTRO 361: Astronomical Techniques:

FALL 22, WINTER 25, FALL 25

- Led students through 10 labs involving optical and radio astronomical techniques
- Anonymized student evaluations:

“Effective, friendly, able to walk you through a misunderstanding, able to motivate.”

“[...] If I could take every class with Levi and [this Lead Instructor] I would. Their care about advancing students’ knowledge and their passion for the subject clearly shows through their methods of teaching. I really appreciated the extra steps that these instructors took to ensure that the students took every step towards success. [...]”

“What I can say about Levi as a GSI is that he was very nice and he made sure that we knew things thoroughly. He didn’t just care that something worked, he cared about why/how it worked. He wanted to make sure that we understood why the code worked and not just that it worked.”

ASTRO 127: Naked-eye Astronomy:

SPRING/SUMMER 25

- Designed and taught my own planetarium course for observing the night sky
- Anonymized student evaluations:

“I think that Levi did an absolutely phenomenal job instructing this course. He was very engaging, super helpful, and explained the material super well. If given the opportunity I would definitely take another course with him. His passion for the subject also was very clear throughout the course which was refreshing to see as well”

“The quality of instruction provided by Levi was superb, as he often explained material clearly, while also constantly double checking to see if people understood what he was talking about. To me, that is a very important characteristic of a person, as it tells me he’s self-aware of people not understanding the content like he does. This aspect allows him to maximize his teaching ability.”

Minnesota Institute for Astrophysics Teaching Specialist

AUG 2018 – MAY 2019

AST 1001: Exploring the Universe:

- Prepared, taught, and graded 3 lab sections each containing 24 students performing 12 labs

Minnesota Institute for Astrophysics Grader

SPRING 2017 – 2019

AST 4002: Galactic Astronomy:

- Graded the regular homework of 20 Astrophysics students in a timely manner

MENTORING EXPERIENCE

I strive to meet each student where they are, actively listen to their struggles and concerns, and work collaboratively to advance them towards their goals.

Graduate

Grad Buddy Program AUG 2024 – PRESENT
– Paired 1st- or 2nd-year graduate students to ease transition to graduate school

Undergraduate & Post-baccalaureate ...included here with their permission

Caden Burkhardt SEP 2025 – PRESENT
– Currently an undergraduate student at University of Michigan
– Weekly meetings aimed at demystifying the grad school application process
– Going to Penn State for grad school!

Kiki Gonglewski AUG 2023 – APR 2024
– Met as needed while at LANL to guide on usage of LA-COMPASS
– Currently a graduate student in the Lunar and Planetary Lab at the University of Arizona

CONFERENCES & PRESENTATIONS

Gas Giant Planet Formation: Clues from Composition (*Poster*) MAY 2026

Following the Water Trail in Planet-forming Disks

Gordon Research Conference: Origins of Solar Systems (*Poster*) JUNE 2025

Following the Water Trail in Planet-forming Disks

Rice University: Physics & Astronomy Seminar (*Invited talk*) NOV 2024

Following the Water Trail in Planet-forming Disks

DustBusters: New Heights in Planet Formation (*Poster*) JULY 2024

Tracing the Origins of Water in Planetary Systems

Kavli-IAU Astrochemistry Symposium: Astrochemistry VIII (*Poster*) JULY 2023

Constraining the Distribution and Abundance of Organics in Hot Gas of a Young Protostellar Disk

Gordon Research Conference: Origins of Solar Systems (*Poster*) JUNE 2023

Constraining the Distribution and Abundance of Organics in Hot Gas of a Young Protostellar Disk

SELECTED AWARDS AND HONORS

Rackham PACE Fellowship for Graduate Student-Faculty Mentor Pairs JUNE 2026

Recognizes scholarly accomplishments and efforts to increase student climate, success, and community

Rackham Conference Travel Grant 2023, 2024

Awarded as part of the university-wide commitment to advancing international research and training.

Rackham Science Award FEBRUARY 2021

Awarded on the basis of merit for students of diverse experiences, goals, and upbringings

Chambliss Astronomy Achievement Student Award JUNE 2020

Top 3 of 60 graduate student entrants. Award recognizes exemplary research presented at AAS Meetings

X Computational Physics Summer Workshop Fellow 2018

Computational Physics Student Workshop wherein I studied dust coagulation in protoplanetary disks

SPS Outstanding Chapter Award 2016 – 2017

Recognizes outstanding success in promoting Physics in the community and the collegiate level

Sigma Xi Undergraduate Research Award MAY 2017

For my poster presentation on gravitational lensing at the UMN Undergrad Research Symposium

Top Poster Presentation APRIL 2017

Placed above 100+ students at the UMN Undergrad Research Symposium

Top Oral Presentation APRIL 2016

Earned a perfect score at the Winchell Symposium, placing above 35 other undergraduate speakers

COMMUNITY AND OUTREACH INVOLVEMENT

*I am committed to doing the necessary work to make whatever community I am
a member of more just and equitable.*

Service

- Opportuni-tea & Cookies Leader SEP 2024 – PRESENT
- Gas Giant Planet Formation: Clues from Composition Workshop LOC Member MAY 2026
- Graduate Admissions Committee Member JAN 2026
- Kavli-IAU Astrochemistry LOC Member JULY 2023
- Anti-racism Media Group Leader AUG 2022 – MAY 2023

Outreach

- Chelsea Elementary’s PTO Science Night JAN 2026
- U-M Department of Astronomy representative at the NSBP annual meeting 2021, 2024
- Public Night Presenter: Minnesota Institute for Astrophysics FALL 2018
- President: Society of Physics Students MAY 2016 — MAY 2017
- Vice President: Society of Physics Students MAY 2015 — MAY 2016
- Society of Physics Students Projects and Volunteering MAY 2014 — MAY 2017

CURRENT PROFESSIONAL MEMBERSHIPS

AMERICAN ASTRONOMICAL SOCIETY
DIVISION OF PLANETARY SCIENCE
THE HONOR SOCIETY OF PHI KAPPA PHI