Amanda Wasserman

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EDUCATION

University of Illinois Urbana-Champaign — **Champaign, Illinois**
- PhD Candidate, Department of Astronomy — *Aug 2021 – Present*
- *GPA: 4.00/4.00*
- Advisor: Gautham Narayan

University of Rochester — **Rochester, New York**
Bachelor of Science in Physics and Astronomy — *Aug 2017 – May 2021*
Minor in Mathematics
- *GPA: 3.88/4.00*
- *Cum Laude* with Highest Distinction
- Thesis Title: *Using Machine Learning to Identify Transients in the DESI Survey*
- Thesis Advisor: Segev BenZvi

RESEARCH INTERESTS

Time-domain astronomy; Transients in large surveys; SN Ia Cosmology; Machine learning

RESEARCH EXPERIENCE

Graduate Researcher | University of Illinois Urbana Champaign — **Champaign, Illinois**
Advisor: Gautham Narayan — *Aug 2021 – Present*
- Improving LSST spectroscopic follow-up in the time-domain with an active learning loop

Undergraduate Researcher | University of Rochester — **Rochester, New York**
Advisor: Segev BenZvi — *Aug 2018 – May 2021*
- Utilized machine learning techniques to identify transients in the Dark Energy Spectroscopic Instrument Survey

Undergraduate Researcher | Columbia University — **Gran Sasso, Italy**
Advisor: Elena Aprile — *May 2019 – Aug 2019*
- Modeled liquid xenon purification for XENONnT

PUBLICATIONS

- Aleo, P. D., et al. incl. **A. Wasserman** 2022, ApJ, arXiv:2211.07128 — *Nov 2022*
- Kilpatrick, C., et al. incl. **A. Wasserman** 2022, MNRAS — *Aug 2022 (Submitted)*

FELLOWSHIPS AND GRANTS

- Center for Astrophysical Surveys Graduate Fellow — *2022-2023*
- LSSTC Wasabi Enabling Science Grant — *2022*

HONORS AND AWARDS

- Janet Fogg Prize for department service, University of Rochester — *2021*
- Undergraduate Teaching Award, University of Rochester — *2021*
- Chambliss Astronomy Achievement Student Award Honorable Mention, AAS — *2021*
- Joseph C. Wilson "Change" Scholarship, University of Rochester — *2017*
- Ruth Weltman Memorial Begun Scholarship, JFSA of Cleveland — *2017*

TELESCOPE PROPOSALS

- Gemini Observatory – 22 hours awarded (PI) - The Young Supernova Experiment: Creating the Reference low-z Supernova Sample for Cosmology

OBSERVING EXPERIENCE

- Cerro-Tololo Inter-American Observatory with DECam (6 nights)
- University of Rochester C.E.K. Mees Observatory 24 inch Cassegrain Telescope (6 nights)

SUMMER SCHOOL

- Zwicky Transient Facility Summer School (*Minneapolis, MN*) *Jul 2022*
- Michigan Cosmology Summer School (*Ann Arbor, MI*) *Jun 2023*

CONFERENCES AND PRESENTATIONS

- **A. Wasserman**, *Spectroscopic Follow-up in the Time Domain*, LSSTC Board Meeting, talk, Oct 2022
- **A. Wasserman**, *Selecting LSST Transients for Spectroscopic Follow-up with an Active Learning Loop*, LSST Project and Community Workshop, poster, Aug 2022
- **A. Wasserman**, V. Tiwari, S. BenZvi, *Developing a Transient Identification Pipeline for DESI Using Machine Learning*, CUWiP Virtual, talk, Jan 2021
- **A. Wasserman**, V. Tiwari, S. BenZvi, *Using Machine Learning to Develop a Transient Identification Pipeline for DESI,* AAS 237th Meeting, poster, Jan 2021
- **A. Wasserman**, D. Gandhi, S. BenZvi, *Using Machine Learning to Identify Astrophysical Transients in the DESI Survey*, APS April Meeting, poster, 2020
- **Wasserman**, *Liquid Xenon Purification Modeling for XENONnT*, CUWiP Pittsburgh, talk, Jan 2020

TEACHING AND ADVISING EXPERIENCE

University of Illinois Urbana-Champaign **Champaign, Illinois**
Teaching Assistant, Department of Astronomy *Aug 2021 – May 2022*

- ASTR 310: Computing in Astronomy, Spring 2022
- ASTR 350: The Big Bang, Black Holes, and the End of the Universe, Fall 2021

University of Rochester **Rochester, New York**
Teaching Intern, Department of Physics & Astronomy *Jan 2019 – May 2021*

- AST 104: Planets, Life and Civilizations, Spring 2021
- AST 105: Introduction to the Milky Way Galaxy, Fall 2020
- PHY 113P: General Physics I (Self Paced), Spring 2020
- AST 111: The Solar System and its Origin, Fall 2019
- AST 102: Relativity, Black Holes, and the Big Bang, Spring 2019

University of Rochester **Rochester, New York**
Peer Advisor (Physics & Astronomy), College Center for Advising Services *Aug 2020 – May 2021*

- Advised and counseled undergraduate students on course selection, major declaration, research involvement, independent study, study abroad, and any other academic queries

University of Rochester **Rochester, New York**
Pre-College Experience in Physics Instructor, Department of Physics & Astronomy *May 2018 – Aug 2018*

- Created and implemented a three-week physics curriculum for twenty high school girls teaching mechanics, electricity & magnetism, and other physics topics through lectures, demonstrations, and activities

LEADERSHIP, SERVICE, AND OUTREACH

Astronomy on Tap, Urbana-Champaign **Champaign, Illinois**
Organizer *Apr 2022 – Present*
- Coordinated speakers and location, advertised, and set up for monthly outreach talks

Girl's Astronomy Summer Camp **Champaign, Illinois**
Organizer *Mar 2022 – Present*
- Planned camp activities, presented introductory astronomy topics, led coding activities

Society for Equity in Astronomy, University of Illinois Urbana-Champaign **Champaign, Illinois**
Chair *Aug 2021 – Present*
- Organized graduate to undergraduate mentorship program, outreach, and colloquium teas
- Mentored three undergraduate students; aided in research involvement, class selection, and graduate school planning

Astrofest, University of Illinois Urbana-Champaign **Champaign, Illinois**
Organizer *Feb 2022 – Apr 2022*
- Organized speakers and poster presenters, coordinated poster judging, and advertised for an annual showcase of research in astronomy

Society of Physics Students, University of Rochester **Rochester, New York**
President, Secretary, Social Chair, Freshman Ambassador *Aug 2017 – May 2021*
- Presided over meetings, implemented ideas for events, coordinated co-sponsorships and grants, and collaborated with the department and school to fund and hold events

Tutor *Aug 2019 – Dec 2019*
- Tutored introductory physics classes once a week for two hours

Society of Women in Astronomy and Physics, University of Rochester **Rochester, New York**
Business Manager, Member *Aug 2018 – May 2021*
- Co-founded the organization; managed funding

C.E.K. Mees Observatory University of Rochester **Naples, New York**
Student Tour Guide *May 2018 – Aug 2018*
- Presented to the public on the history of the observatory, astronomy facts, and current events
- Led observation tours by operating a 24-inch Cassegrain telescope and giving constellation tours

ARTICLES

- **A. Wasserman**, *Using Machine Learning to Identify Transients in the DESI Survey*, Astrobites, 2021
- M. Griston, **A. Wasserman**, *University of Rochester SPS Chapter Responds to Black Lives Matter: How We Need to Change*, SPS Observer, 2020

PROFESSIONAL MEMBERSHIPS

- Phi Beta Kappa Academic Honor Society (ΦΒΚ)
- Phi Kappa Phi Honor Society (ΦΚΦ)
- Sigma Pi Sigma, National Physics Honor Society (ΣΠΣ)

ACTIVE COLLABORATIONS

- Dark Energy Science Collaboration (LSST/DESC)
- Young Supernova Experiment (YSE)

SKILLS

Computer Programming and Data Analysis:

- Python, Java, Fortran, C++, C#, Mathematica, SQL, ROOT
- UNIX shell scripting (Bash)
- SAOImage DS9, CCDSoft, CCDStack, TheSkyX, Igor Pro

Document Editing:

- LaTeX, Microsoft Office, Google Workspace

Technical Skills:

- Working in a clean room, soldering, working with photomultipliers
- Operating a 24-inch computerized Cassegrain telescope

Languages:

- English (native), Chinese (Mandarin, basic)