

Amanda Wasserman

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EDUCATION

University of Illinois Urbana-Champaign

- Ph.D. Candidate, Department of Astronomy
- M.S. in Astronomy
- *GPA: 4.00/4.00*
- Advisor: Gautham Narayan

Champaign, Illinois

Expected May 2027

Dec 2023

University of Rochester

Bachelor of Science in Physics and Astronomy
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

Rochester, New York

May 2021

RESEARCH INTERESTS

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

RESEARCH EXPERIENCE

Graduate Researcher | University of Illinois Urbana Champaign

Advisor: Gautham Narayan

Champaign, Illinois

Aug 2021 – Present

- Improving LSST spectroscopic follow-up in the time-domain with an active learning loop

Undergraduate Researcher | University of Rochester

Advisor: Segev BenZvi

Rochester, New York

Aug 2018 – May 2021

- Utilized machine learning techniques to identify transients in the Dark Energy Spectroscopic Instrument Survey

Undergraduate Researcher | Columbia University

Advisor: Elena Aprile

Gran Sasso, Italy

May 2019 – Aug 2019

- Modeled liquid xenon purification for XENONnT

PUBLICATIONS

- Aleo, P. D., et al. incl. **Wasserman, A.** "The Young Supernova Experiment Data Release 1 (YSE DR1): Light Curves and Photometric Classification of 1975 Supernovae" *ApJ*, 266, 2023.
- Kilpatrick, C., et al. incl. **Wasserman, A.** "Type II-P Supernova Progenitor Star Initial Masses and SN 2020jfo: Direct Detection, Light Curve Properties, Nebular Spectroscopy, and Local Environment" *MNRAS*, 524, 2023.
- Jacobson-Galán, W. V., et al. incl. **Wasserman, A.** "Final Moments II: Observational Properties and Physical Modeling of CSM-Interacting Type II Supernovae" arXiv:2403.02382, 2024 submitted.

FELLOWSHIPS AND GRANTS

- Center for Astrophysical Surveys Graduate Fellow (\$66,000) *2022, 2024*
- DOE Science Graduate Student Research Program (\$15,000) *2024*
- LSSTC Wasabi Enabling Science Grant (\$25,000) *2022*

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 (17 nights)
- University of Rochester C.E.K. Mees Observatory 24 inch Cassegrain Telescope (6 nights)

SUMMER SCHOOL

- AIAFI Summer School (*Boston, MA*) *Aug 2024*
- LSST Data Science Fellowship Program (*Champaign, IL*) *Jun 2024*
- La Serena School for Data Science (*La Serena, Chile*) *Aug 2023*
- Michigan Cosmology Summer School (*Ann Arbor, MI*) *Jun 2023*
- Zwicky Transient Facility Summer School (*Minneapolis, MN*) *Jul 2022*

CONFERENCES AND PRESENTATIONS

- **A. Wasserman**, *The LSST Spectroscopic Recommendation System*, Astroinformatics 2024, talk, Dec 2024
- **A. Wasserman**, *The Time Domain Spectroscopic Recommendation System Pipeline*, LSST DESC Collaboration Meeting, plenary talk, Jul 2024
- **A. Wasserman**, *Uncovering Transient Physics and Optimizing Cosmological Inference with a Recommendation Engine for Rapid-Response Spectroscopy*, AAS, talk, Dec 2023
- **A. Wasserman**, *Uncovering Transient Physics and Optimizing Cosmological Inference with a Recommendation Engine for Rapid-Response Spectroscopy*, NOIRLab AURA La Serena, talk, Oct 2023 (invited)
- **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
- **A. Wasserman**, *Liquid Xenon Purification Modeling for XENONnT*, CUWiP Pittsburgh, talk, Jan 2020

MENTORING, TEACHING, AND ADVISING EXPERIENCE

Undergraduate Students

Henna Abunemeh, (University of Illinois Chicago) May 2023 – present
Graduate Research Mentor

- Graduated May 2024, beginning PhD at University of Illinois Urbana Champaign Fall 2024
- Reduced supernova spectra, studied supernova uniqueness and population diversity

University of Illinois Urbana-Champaign

Teaching Assistant, Department of Astronomy

Champaign, Illinois

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

LEADERSHIP, SERVICE, AND OUTREACH

LSST DESC Collaboration Meeting Science Organizing Committee

Zurich, Switzerland

Member

Apr 2024 – Jul 2024

- Organized poster presentations and junior member lightning talks. Aided in planning the schedule.

Graduate Admissions Committee

Champaign, Illinois

Member

Jan 2024 – May 2024

- Read applications to the UIUC Astronomy Department. Interviewed applicants. Provided input to make final admissions decisions.

Astronomy on Tap, Urbana-Champaign

Champaign, Illinois

Organizer

Apr 2022 – May 2023

- Coordinated speakers and location, advertised, and set up for monthly outreach talks

Girls' Astronomy Summer Camp

Champaign, Illinois

Organizer

Mar 2022 – Present

- Planned camp activities, presented introductory astronomy topics, led coding activities

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 for Equity in Astronomy, University of Illinois Urbana-Champaign

Champaign, Illinois

Chair, Member

Aug 2021 – Present

- Organized graduate to undergraduate mentorship program, outreach, and colloquium teas
- Mentored four undergraduate students; aided in research involvement, class selection, and graduate school planning

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 (ΦBK)
- Phi Kappa Phi Honor Society ($\Phi K \Phi$)
- Sigma Pi Sigma, National Physics Honor Society ($\Sigma \Pi \Sigma$)
- American Astronomical Society (AAS)

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)
- Git, Docker
- SAOImage DS9, CCDSoft, CCDStack, TheSkyX, Igor Pro

Document Editing:

- LaTeX, Microsoft Office, Google Workspace

Technical Skills:

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

Languages:

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