

# Anastasios Tzanidakis

University of Washington, Department of Astronomy, Seattle, WA

☎ +1 347-703-9210 | ✉ atzanida@uw.edu | 🏠 andytza.github.io | 📺 AndyTza

## Education

### University of Washington

Doctorate Degree (Ph.D) in Astronomy

Seattle, WA

Sep. 2021 - Present

### University of Washington

Masters of Science (MSc) in Astronomy, GPA: 3.9

Seattle, WA

Sep. 2021 - Feb. 2023

### Columbia University, School of General Studies

Bachelors of Arts (BA) in Astronomy

New York, NY

Sep. 2016 - May 2019

### LaGuardia Community College, City University of New York (CUNY)

Honors Associate of Science (AS) in Natural Sciences and Mathematics

Long Island City, NY

Sep. 2013 - May 2016

## Research Experience

### University of Washington, Department of Astronomy

Researcher for the Vera C. Rubin Observatory Legacy Survey of Space and Time (LSST) Data Management and Alert Production team. The primary investigation includes multi-band time series feature classification and evaluation.

Seattle, WA

Sep. 2021 - Present

### California Institute of Technology (Caltech), Department of Astronomy and Astrophysics

Astronomical data analyst - post-baccalaureate researcher for the Zwicky Transient Facility (ZTF) survey. Co-leading Census of the Local of Universe (CLU) SNe project, with the largest spectroscopic complete SN sample at  $z < 0.05$ .

Pasadena, CA

June 2019 - Aug. 2021

### NASA Ames Research Center, Kepler Guest Observer Office (KGO)

Astronomy research and software developer for open-source package LIGHTKURVE. Investigation of AGN variability with K2, and developing tools for LIGHTKURVE.

Mountain View, CA

June 2018 - Aug. 2018

### Columbia University, Department of Astronomy and Astrophysics

Astrophysics undergraduate researcher galactic structure and Galactic archaeology with the *Gaia* spacecraft. Examining Galactic stellar substructure using M-giants and RR Lyrae.

New York, NY

Sep. 2016 - May 2019

## Highlighted Publications (ADS)

1. **A. Tzanidakis**, Davenport, J. R. A.; Bellm, E. et al. *Gaia17bpp: Discovery of a Giant Star with the Deepest and Longest Known Eclipse*, ApJ, accepted, 2023 (arXiv:2306.12409)
2. **A. Tzanidakis**, and Bellm, E.; *Periodicity Analysis in Alert Production*, Vera C. Rubin Observatory Data Management Technote, DMTN-221, 2023 ([dmtn-221](#))
3. H. Shivkumar, A. Jaodand, A. Balasubramanian, et al. (including **Tzanidakis A.**), *SN2019wxt: An Ultrastripped Supernova Candidate Discovered in the Electromagnetic Follow-up of a Gravitational Wave Trigger*, ApJ, 952, 86, 2023 (arXiv: 2208.09010)
4. K. Das, M. Kasliwal, J. Sollerman, et al. (including **Tzanidakis A.**), *Probing pre-supernova mass loss in double-peaked Type Ibc supernovae from the Zwicky Transient Facility*, ApJ, 2023 (arXiv:2306.04698)
5. T. Sit, M. Kasliwal, **A. Tzanidakis**, et al., *Long-rising Type II Supernovae in the Zwicky Transient Facility Census of the Local Universe*, ApJ, submitted, 2023 (arXiv:2306.01109)
6. A. Ho, D. Perley, A. Gal-Yam, et al. (including **Tzanidakis A.**), *A Search for Extragalactic Fast Blue Optical Transients in ZTF and the Rate of AT2018cow-like Transients*, ApJ, 949, 120, 2023 (arXiv: 2105.08811)
7. V. Karambelkar, M. Kasliwal, N. Blagorodnova, et al. (including **Tzanidakis A.**), *Volumetric Rates of Luminous Red Novae and Intermediate-luminosity Red Transients with the Zwicky Transient Facility*, ApJ, 948, 137, 2023 (arXiv: 2211.05141)
8. S. Anand, J. Barnes, S. Yang, et al. (including **Tzanidakis A.**), *Collapsars as Sites of r-process Nucleosynthesis: Systematic Near-Infrared Follow-up of Type Ic-BL Supernovae*, ApJ, arXiv:2302.09226, 2023 (arXiv: 2302.09226)
9. Z. Chen, L. Yan, T. Kangas, et al. (including **Tzanidakis A.**), *The Hydrogen-poor Superluminous Supernovae from the Zwicky Transient Facility Phase I Survey. I. Light Curves and Measurements*, ApJ, 943, 41, 2023 (arXiv: 2202.02059)

10. A. Corsi, A. Ho, S. Cenko, et al. (including **Tzanidakis A.**), *A search for relativistic ejecta in a sample of ZTF broad-lined Type Ic supernovae*, ApJ, accepted, 2022 (arXiv: 2210.09536)
11. K. Das, M. Kasliwal, C. Fremling, et al., *Probing the low-mass end of core-collapse supernovae using a sample of strongly-stripped Calcium-rich Type IIb Supernovae from the Zwicky Transient Facility*, ApJ, accepted, 2022 (arXiv: 2210.05729)
12. D. Perley, J. Sollerman, S. Schulze, et al., *The Type Icn SN 2021csp: Implications for the Origins of the Fastest Supernovae and the Fates of Wolf-Rayet Stars*, ApJ, 927, 180, 2022 (arXiv: 2111.12110)
13. E. Tsaprazi, J. Jasche, A. Goobar, et al., *The large-scale environment of thermonuclear and core-collapse supernovae*, MNRAS, 510, 366-372, 2022 (arXiv: 2109.02651)
14. J. Sollerman, S. Yang, S. Schulze, et al., *The Type II supernova SN 2020jfo in M 61, implications for progenitor system, and explosion dynamics*, ApJ, 655, A105, 2021
15. K. De, M. Kasliwal, M. Hankins, et al., *A Population of Heavily Reddened, Optically Missed Novae from Palomar Gattini-IR: Constraints on the Galactic Nova Rate*, ApJ, 912, 19, 2021 (arXiv: 2101.04045)
16. M. Kasliwal, S. Anand, T. Ahumada, et al., *Kilonova Luminosity Function Constraints Based on Zwicky Transient Facility Searches for 13 Neutron Star Merger Triggers during O3*, ApJ, 905, 145, 2020 (arXiv: 2006.11306)
17. K. De, M. Kasliwal, A. Tzanidakis, et al., *The Zwicky Transient Facility Census of the Local Universe. I. Systematic Search for Calcium-rich Gap Transients Reveals Three Related Spectroscopic Subclasses*, ApJ, 905, 58, 2020 (arXiv: 2004.09029)

## Software

---

Cardoso, J. V.; Barentsen, G.; Hedges, C. et al. (including **Tzanidakis, A.**) *Lightcurve: Kepler and TESS Time Series Analysis in Python*, Astrophysics Source Code Library, 2018 (ascl: 1812.013)

## Employment

---

### Graduate Student Teaching Assistant of Astronomy

Seattle, WA

Actively serving as a graduate student teaching assistant (TA) in the Department of Astronomy, contributing to the introductory and upper-level undergraduate astronomy and science outreach courses. Responsibilities also include one-on-one support with students, leading sections, grading, and providing support for teaching faculty.

Sep. 2021 - Present

### Undergraduate Teaching Assistant of Astronomy

Seattle, WA

Columbia University, Department of Astronomy and Astrophysics. Grading for upper-class Astrophysics class.

Jan. 2018 - May 2019

### Information Technology Specialist

Seattle, WA

Columbia University, Graduate School of Journalism. Providing general IT support for Graduate School of Journalism staff, faculty, and business intelligence group.

Nov. 2017 - May 2019

### Mathematics Lead Tutor and Mentor

Harlem, NY

Columbia University, Tutoring and Learning Center (TLC), Wadleigh Secondary School. Algebra tutoring for middle school students with a focus on numeracy and studying techniques. The role also expanded for 4 months leading a team of mathematics undergraduate tutors.

Sep. 2016 - Sep. 2017

## Observing

---

### Characterization of Long Deep Stellar Eclipses in Gaia Photometric Alerts (PI)

Apache Point Observatory (APO), ARC 3.5m. Instruments used: KOSMOS, ARCTIC

### Supernovae Classification for the ZTF Survey (Co-I)

Hale 200-inch Telescope, Palomar Observatory. Instruments used: DBSP, WIRC

### AGN Variability with Kepler/K2 (PI)

Directors Discretionary Time (DDT), Kepler Space Telescope/K2 (terminated mission)

### RR Lyrae in the Galactic Halo (Co-I)

MDM Observatory at the Kitt Peak National Observatory, Hiltner 2.5m. Instruments used: Echelle, KOSMOS

# Outreach and Leadership

---

## Director of the University of Washington Planetarium

Seattle, WA

Successfully directed and organized over 300 public free planetarium shows, engaging with the greater Seattle community, with an annual visit rate of nearly 5,000 students. My role also includes the active facilitation of science communication resources for planetarium presenters and programs to strengthen the communication skills of the planetarium presenters. Responsibilities have also expanded to forge valuable partnerships within the broader UW community and other departments, leveraging the UW planetarium space to promote workshops on wellness, physical health, history, and culture.

Sep. 2022 - Present

## DiRAC Summer Undergraduate Research Mentor

Seattle, WA

Proposed, and awarded \$4,000 for undergraduate mentee. Currently supervising one senior undergraduate student for summer research on the calibration of the Gaia Photometric Science Alerts BP/RP epochal spectra.

June 2023 - Present

## Pre-Major in Astronomy Undergraduate Research Mentor

Seattle, WA

Co-mentored a team of three undergraduate freshman students on self-lensing techniques for the discovery of black holes in the Milky Way. Department of Astronomy, University of Washington.

June 2023 - Present

## Global Relay of Observatories Watching Transients Happen (GROWTH) Research Mentor

Virtual

Virtually mentored one MSc student from the University of Amsterdam on transients and supernovae using data from the Zwicky Transient Facility (ZTF) survey.

Sep. 2020 - Sep. 2021

## Founder of Astronomy Podcast: StarBites

Sep. 2017 - May 2019

Undergraduate astronomy podcast developed with colleagues at Columbia University. StarBites successfully united and provided a safe space for our undergraduate student community to practice science communication and learn about the history of astronomy by developing unique and compelling science-history stories.

# Highlighted Talks & Posters

---

## Discovery of the Deepest and Largest Known Giant Blinking Star: Gaia17bpb

AMERICAN ASTRONOMICAL SOCIETY MEETING 241, PRESS RELEASE AND SCIENCE TALK, 2023 (TALK)

## Anomalous Stellar Variability on Century-Long Timescales

INSTITUTE FOR DATA INTENSIVE RESEARCH IN ASTROPHYSICS AND COSMOLOGY (DiRAC) LUNCH TALK 2023

## ZTF of the Local Universe II: Luminosity Function of Type II Supernovae

AMERICAN ASTRONOMICAL SOCIETY MEETING 237, 2021 (TALK)

## Probing the Dynamic Evolution of the Milky Way Using Stellar Substructures

AMERICAN ASTRONOMICAL SOCIETY (AAS), MEETING 233, 2019 (POSTER)

## Galactic Bridge Between Observation and Theory of Outer-Disk Substructures

AMERICAN ASTRONOMICAL SOCIETY (AAS), MEETING 232, 2018 (POSTER)

## Formation of Halo Substructures in the Milky Way: RR Lyrae and M Giant Stars

NATIONAL COLLEGIATE RESEARCH CONFERENCE, HARVARD UNIVERSITY, 2017 (POSTER)

## Origin of Diffuse Stellar Clouds in the Milky Way: In-situ or Accreted?

CUNY RESEARCH SCHOLARS ANNUAL RESEARCH SYMPOSIUM, JOHN-JAY COLLEGE, NY, 2016 (TALK)

## Mapping Galactic Disc Oscillations in M Giants With Gaia DR2

SENIOR THESIS – ASTRONOMY SEMINAR, COLUMBIA UNIVERSITY, NY, 2019 (TALK)

## New Tools for AGN Photometry with Kepler Guest Observer Python Package lightkurve

NASA INTERN POSTER SYMPOSIUM, NASA AMES RESEARCH CENTER, CA, 2018 (POSTER)

## Origin of Diffuse Stellar Clouds in the Milky Way: In-situ or Accreted?

AMNH SUMMER STUDENT RESEARCH PRESENTATIONS, AMERICAN MUSEUM OF NATURAL HISTORY, NY, 2016 (POSTER)