

# Amelia C. Mangian

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## Education

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<b>University of Illinois, Urbana-Champaign</b> Ph.D. in Astronomy Advisor: Prof. Yue Shen	Champaign, IL	2018 – present
<b>University of Illinois, Urbana-Champaign</b> M.S. in Astronomy	Champaign, IL	2018 – present
<b>Lawrence University</b> B.A. in Physics, Mathematics minor ( <i>magna cum laude</i> )	Appleton, WI	2014 – 2018

## Research Experience

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<b>University of Illinois, Urbana-Champaign</b> <b>Graduate Research Assistant</b> research advisor: Prof. Yue Shen	Urbana, IL	2019 – present
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AGN, Galaxy evolution and formation, SMBH-galaxy co-evolution, Optical spectroscopy

Statistical analysis of the Sloan Digital Sky Survey quasar sample. Fit the AGN spectra with QSOFit and use single epoch mass estimation methods to understand the evolutionary history of SMBH-host correlations.

<b>University of Illinois, Urbana-Champaign</b> <b>Graduate Research Assistant</b> research advisor: Prof. Joaquin Vieira	Urbana, IL	2018 – 2019
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Observational cosmology, Galaxy evolution, Submillimeter interferometry

Studying submillimeter galaxies selected in the South Pole Telescope 2500 square degree survey. Characterizing three galaxy's interstellar medium and determining their depletion time.

<b>University of California, Los Angeles</b> <b>Summer Research Experience for Undergraduates (REU) Program Participant</b> research advisor: Prof. Andrea Ghez	Los Angeles, CA	2017 – 2018
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Galactic center, Astrometry, Near-infrared photometry

Analyzed K-band speckle imaging, taken with the Keck telescope of the Milky Way Nuclear Star Cluster, used to model S-star orbits and constrain the mass of SgrA\* and galactocentric radius. This data will be used to test alternate theories of gravity in a strong field regime.

**Lawrence University**

Appleton, WI

2016

**Undergraduate Student Researcher**

research advisor: Prof. Megan Pickett

Planet formation, Hydrodynamic modeling, Computation astrophysics

Simulated gas giant formation with a gravitational instability model. Developed code used to evolve a binary protoplanetary disk system.

**Publications and Preprints**

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*Millimeter-wave Point Sources from the 2500-square-degree SPT-SZ Survey: Catalog and Population Statistics*, Everett, W. B.; Zhang, L.; ... **Mangian, A. C.** ..., *arXiv preprint*, 2020. Bibcode: [2020arXiv200303431E](#)

*A dense, solar metallicity ISM in the  $z = 4.2$  dusty star-forming galaxy SPT 0418-47*, DeBreuck, Carlos; Weiss, Axel; ... **Mangian, Amelia C.** ..., *A&A*, 2019. Bibcode: [2019A&A...631A.167D](#)

*Consistency of the Infrared Variability of SgrA\* over 22 years*,

Chen, Z, Gallego-Cano, E. ... **Mangian, A. C.**, ... *ApJ*, 2019. Bibcode: [2019ApJ...882L..28C](#)

*Spatially Resolved Water Emission from Gravitationally Lensed Dusty Star Forming Galaxies at  $z \sim 3$*

Sreevani Jarugula, Joaquin D. Vieira, ... **Amelia C Mangian** ..., *ApJ*, 2019

Bibcode: [2019ApJ...880...92J](#)

**Professional Talks**

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*The Impact of a New Speckle Holography Analysis on the Galactic Center Orbits Initiative*

2018

231th AAS Meeting, January 2018, Washington, DC, USA.

Bibcode: [2018AAS...23131107M](#)

**Teaching and Mentorship**

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Graduate Teaching Assistant at the University of Illinois, Urbana-Champaign for Introduction to Astrophysics (ASTR 210), Introduction to Classical Mechanics (PHYS 211), Big Bang, Black Holes, and the Fate of the Universe (ASTR 350), and Planetary Systems (ASTR 405).

Teaching Assistant at Lawrence University for Computational Mechanics (PHYS 225).

Lab Assistant at Lawrence University for the introductory physics courses (PHYS 141,151).

Mentor for three undergraduate astronomy/physics students through the Society for Equity in Astronomy mentorship program: Signe Mason (UIUC '23); Ilia Qato (UIUC '23), Julia Williams (UIUC '24)

Program director for University of Illinois Astronomy Department Tutoring Program

**Outreach and Leadership**

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Member of University of Illinois Astronomy Department Diversity and Inclusion committee (2020 - present)

Chair of the University of Illinois, Urbana Champaign Society for Equity in Astronomy (2019 - present).

President/Vice President of the Lawrence University Society of Physics Students (2016-2018).

Helped run a virtual egg drop at the Champaign Public Library through the Astro Illini group.

Presented an Introduction to R Software: Clustering and Classification applied to Astronomy at the Danville Correctional Center through the Education Justice Project.

Led a solar observing session at Yankee Ridge Elementary as part of the Junior Scientist Day.

Assistant and overnight host at the Lawrence Physics Workshop for two years.

## Professional Organization Membership

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Phi Beta Kappa National Honor Society	2018 - present
Sigma Pi Sigma National Physics Honors Society	2018 - present
American Astronomical Society	2015 - present