Amelia C. Mangian

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Education

University of Illinois, Urbana-Champaign Champaign, IL 2018 – present
Ph.D. in Astronomy
Advisor: Prof. Yue Shen

University of Illinois, Urbana-Champaign Champaign, IL 2018 – present
M.S. in Astronomy

Lawrence University Appleton, WI 2014 – 2018
B.A. in Physics, Mathematics minor (*magna cum laude)*

Research Experience

University of Illinois, Urbana-Champaign Urbana, IL 2019 – present
Graduate Research Assistant
research advisor: Prof. Yue Shen

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.

University of Illinois, Urbana-Champaign Urbana, IL 2018 – 2019
Graduate Research Assistant
research advisor: Prof. Joaquin Vieira

Observational cosmology, Galaxy evolution, Submillimeter interferometry

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

University of California, Los Angeles Los Angeles, CA 2017 – 2018
Summer Research Experience for Undergraduates (REU) Program Participant
research advisor: Prof. Andrea Ghez

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

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

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

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 two undergraduate astronomy/physics students through the Society for Equity in Astronomy mentorship program.

Outreach and Leadership

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.

Chair of the University of Illinois, Urbana Champaign Society for Equity in Astronomy.

President/Vice President of the Lawrence University Society of Physics Students group for two years.

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

Professional Organization Membership

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