Megan Christina Davis

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Education

2020 – 2025 **University of Connecticut (UConn)**, Storrs, CT.
PhD in Physics, conferred in 2025. MSc in Physics, conferred in 2022.

Thesis: Timing is Everything: Single and Binary Quasars in Massive Time-Domain Surveys
Advisor: Dr. Jonathan Trump

2015 – 2019 **Michigan State University (MSU)**, East Lansing, MI.
Bachelors of Science in Astrophysics with a minor in Computational Mathematics, Science, and Engineering.

Thesis: Modeling the Radial Migration of Stars and Gas in the Milky Way
Advisors: Dr. Brian O'Shea (MSU/JINA-CEE) and Dr. Benoit Côté (MSU/Konkoly Observatory)

Research Positions

2025 – Present Machine Learning Engineer (Pantheon Data)

2020 – 2025 **NSF Graduate Research Fellow (UConn)**
Isaac S. and Lois W. Blonder Graduate Research Fellow (UConn)

2019 – 2020 Post-Baccalaureate Researcher in X-ray Binary Variability Studies (MSU)

2017 – 2020 Expert Observer at the MSU Observatory

2018 – 2019 Undergraduate Research Assistant in Computational Galactic Chemical Evolution (MSU)

2018 NASA (JPL) Summer Intern in Direct Exoplanet Detection with Roman

2017 International Research Experience for Students (IRES) Summer Researcher in Nuclear Astrophysics (UWRF/VUBrussels)

2016 Research Experience for Undergraduates (REU) Summer Researcher in Nuclear Astrophysics and Optics (UWRF)

Awards and Scholarships

2024 UConn Doctoral Dissertation Fellowship

2024, 2023 UConn National Fellowships Incentive Program Award

2020 - 2021 The Isaac S. and Lois W. Blonder Graduate Research Fellowship (UConn)

2020 - 2025 NSF Graduate Research Fellowship

2019 1st Prize in the University Undergraduate Research and Arts Forum (UURAF) for presenting a poster on undergraduate thesis work

2019 Outstanding Teaching Assistant Award (MSU)

2015 – 2019 The John F. and Edith L. Wilsterman Scholarship

2015 – 2019 Flint Kiwanis Educational Foundation Scholarship

Invited Talks and Panels

November 2024	Northwestern/CIERA Observational Group Meeting - talk
October 2024	Harvard ITC Luncheon - talk
March 2024	Kansas University Astronomy Seminar - talk
November 2023	Yale Gravitational Wave Symposium - talk and panelist

Selected Conferences and Workshops

January 2025	245th meeting of the American Astronomical Society (AAS) in National Harbor, MD - Dissertation talk and splinter session talks given
July 2024	Catching supermassive black holes with Rubin-LSST: Towards novel insights and discoveries into AGN science, Turin, Italy - talk given
May 2024	Astrocodex Hack Day Conference, Yale
April 2024	Time-Domain Needles in Rubin's Haystacks Hack Workshop, Harvard CfA - hack lead
July 2023	Establishing Multi-messenger astronomy Inclusive Training (EMIT) Summer School, Vanderbilt
November 2022	SDSS Science Festival, Toronto, ON, Canada - talk given
October 2022	Astro Hack Week, Heidelberg, Germany
October 2022	SDSS Software Coding Week, Apache Point Observatory, Sunspot, New Mexico
May 2022	New England Regional Quasar and AGN Meeting (NERQUAM), UConn - talk given

Teaching and Outreach Experience

2022 – Present **Co-Organizer of Astronomy on Tap- Storrs, CT**

2017 – Present **Academic and Research Mentor of Undergraduate Students**

- *2020 – Present* *Research Mentor*: Micah Banschick (UConn BSc '26), Matthew Tiongko (UConn BSc '26), Abena Adzenyah (UConn BEng '25), Kaylee Grace (UDel PhD '28, UConn BSc '22, Thesis Mentor)
- *2017 – 2020* *Academic Mentor*: Caleb Rispler (MSU MD '26, MSU BSc '22), Trevor Fush (Princeton PhD '28, MSU BSc '22), Elizabeth Kowalczyk (UMD PhD '28, MSU BSc '22), Jessie Miller (Caltech PhD '27, MSU BSc '21)

2019 – 2020 **Outreach Coordinator at the MSU Campus Observatory**

2017 – 2019 **Undergraduate Teaching Assistant (MSU) for AST 207, 208**

2015 – 2019 Abrams Planetarium and MSU Observatory Outreach Assistant

Publication List

This information can also be found on my Google Scholar page.

[1] **Megan C Davis** et al. "Reliable Identification of Binary Supermassive Black Holes from Rubin Observatory Time-domain Monitoring". In: *The Astrophysical Journal* 965.1 (2024), p. 34.

[2] Fries et al. "The SDSS-V black hole mapper reverberation mapping project: unusual broad-line variability in a luminous quasar". In: *The Astrophysical Journal* 948.1 (2023), p. 5.

[3] Shen et al. "The Sloan Digital Sky Survey Reverberation Mapping Project: Key Results". In: *The Astrophysical Journal Supplement Series* 272.2 (May 2024), p. 26.

[4] Sharp et al. "The Sloan Digital Sky Survey Reverberation Mapping Project: investigation of continuum lag dependence on broad-line contamination and quasar properties". In: *The Astrophysical Journal* 961.1 (2024), p. 93.

[5] Fries et al. "The SDSS-V Black Hole Mapper Reverberation Mapping Project: A Kinematically Variable Broad-Line Region and Consequences for Masses of Luminous Quasars". In: *arXiv preprint arXiv:2409.12229* (2024).

[6] Zeltyn et al. "Exploring Changing-look Active Galactic Nuclei with the Sloan Digital Sky Survey V: First Year Results". In: *The Astrophysical Journal* 966.1 (2024), p. 85.

[7] Stone et al. "The SDSS-V Black Hole Mapper Reverberation Mapping Project: Multi-Line Dynamical Modeling of a Highly Variable Active Galactic Nucleus with Decade-long Light Curves". In: *arXiv e-prints arXiv:2408.04789* (2024).

[8] Almeida et al. "The eighteenth data release of the Sloan Digital Sky Surveys: targeting and first spectra from SDSS-V". In: *The Astrophysical Journal Supplement Series* 267.2 (2023), p. 44.

[9] Homayouni et al. "A Fundamental Test of Black Hole Masses: Ultraviolet Echo Mapping the Multi-Scale Broad Line Gas around Quasars". In: *HST Proposal* (2023), p. 17487.

[10] Zeltyn et al. "A Transient "Changing-look" Active Galactic Nucleus Resolved on Month Timescales from First-year Sloan Digital Sky Survey V Data". In: *The Astrophysical Journal Letters* 939.1 (2022), p. L16.

[11] **Megan C Davis** and AL Stevens. "Spectral Variability of a Soft-intermediate State QPO from MAXI J1820+ 070". In: *Research Notes of the AAS* 4.6 (2020), p. 95.

[12] Bottom et al. "Starshade formation flying I: optical sensing". In: *Journal of Astronomical Telescopes, Instruments, and Systems* 6.1 (2020), pp. 015003–015003.

[13] Flinois et al. "S5: Starshade technology to TRL5 Milestone 4 Final Report: Lateral formation sensing and control". In: *Jet Propulsion Laboratory Publications* (2018).

Software

[14] Bachetti et al. "StingraySoftware/stingray: v1. 1". In: *Zenodo* (2022).

[15] Bachetti et al. "StingraySoftware/stingray: Version 1.0". In: *Zenodo* (2020).