

# Kristen Dage

## Curriculum Vitæ

Graduate Student  
Dept. of Physics and Astronomy  
Michigan State University  
East Lansing, MI 48824

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<https://kcdage.github.io/>

### Education

- 2015 - present Ph.D. Astronomy and Astrophysics  
Thesis: Ultraluminous X-Ray Sources in Extragalactic Globular Clusters Michigan State University, East Lansing, MI  
Advisor: S.E. Zepf
- 2015 - 2017 M.S. Astronomy and Astrophysics  
Michigan State University, East Lansing, MI
- 2012 - 2014 B.S. Physics  
University of Michigan-Dearborn, Dearborn MI

### Teaching and Mentoring Experience

- 2019-present Working with undergraduate student Noah Vowell (University of Michigan-Dearborn). Project: characterizing candidate ULX sources in edge-on spiral galaxies. Noah will present this work at the 2019 Mid-Michigan Symposium for Undergraduate Research Experiences and the 20 years of Chandra conference, and contribute to a paper in prep.
- 2018 Summer student Omid Noroozi (Michigan State University - graduated 2019 ). Project: searching for long and short term variability of ultraluminous X-ray sources in globular clusters. Omid has contributed to a published paper.
- 2018 Certificate in Inclusive Inquiry STEM Education from the [Institute for Scientist & Engineer Educators Professional Development Program \(ISEE PDP\)](#), Santa Cruz, CA.
- 2018 Astronomy Instructor - GUPPY (Gifted University for Parents and Precocious Youth) Designed curriculum and instructed a class for 5th-6th graders through MSU's Gifted and Talented Education program. (June 30-July 1), East Lansing, MI.
- 2015 - 2018 Teaching Assistant  
ISP 205L -Visions of the Universe  
Michigan State University, East Lansing, MI
- 2011 - 2014 Math, Physical Sciences Tutor  
Academic Support Center  
Oakland Community College, Farmington Hills, MI

### Awards and Grants

- 2019 MSU College of Natural Science Dissertation Completion Fellowship, Awarded \$7500.
- 2019 2 Swift Target of Opportunity proposals, Awarded a total of 14ks time.
- 2019 (co-I) Chandra Cycle 21: "*A high spatial resolution X-ray survey of the halo of M87*".
- 2019 AAS International Travel Grant
- 2018 (co-I) Chandra Cycle 20: "*The Nature of the Two Globular Cluster ULXs in the Galaxy NGC 4472*".
- 2014 Outstanding Physics Student *Dept. Natural Sciences, University of Michigan-Dearborn*

### Professional Presentations

#### Talks

- 2019 Nov CfA High Energy Phenomena Seminar (Cambridge, MA), Seminar talk
- 2019 Mar Compact Objects in Michigan 7 (Detroit, MI), Contrib. Talk
- 2019 Mar 17th HEAD Meeting (Monterey, CA), Contrib. Talk
- 2019 Jan Michigan State University (East Lansing, MI), Seminar Talk

2018 Aug	International Centre for Radio Astronomy Research (Perth, Australia), Colloquium Talk
2018 Apr	Compact Objects in Michigan 6 (Ann Arbor, MI), Contrib. Talk
2017 Mar	Compact Objects in Michigan 5 (East Lansing, MI), Contrib. Talk
2017 Feb	Gemini South Observatory, (La Serena, Chile), Colloquium Talk
2014 Apr	Compact Objects in Michigan 2 (East Lansing, MI), Contrib. Talk
<b>Posters</b>	
2019 May	Star Clusters: from the Milky Way to the Early Universe: IAU Symposium 351 & MODEST-19 (Bologna, Italy)
2018 Aug	Chandra Accretion Workshop (Cambridge, MA)
2018 Mar	HEAD Special Meeting on High Energy Astrophysics in the 2020s and Beyond (Rosemont, IL)
2017 Jan	229th American Astronomical Society meeting (Grapevine, TX)
2014 Nov	Annual Physics Undergrad Research Conference at Wayne State University (Detroit, MI)
2014 Jun	218th American Astronomical Society meeting (Boston, MA)

## Outreach

2019	Volunteer at MSU MoonFest.
2019	Public talk on “Searching for Gamma Ray Counterparts to Low Mass X-Ray Binaries” for Astronomy on Tap, Lansing, MI
2019	Event co-Supervisor, Science Olympiad State levels divisions B (Solar System) and C (Astronomy), East Lansing, MI
2019	MSU Science Festival Expo Days (Primary Astronomy Organizer), East Lansing, MI
2019	Organized an <a href="#">event</a> in response to the IAU Women and Girls in Astronomy Month at MSU’s Abrams Planetarium, East Lansing, MI
2019	Volunteer for <a href="#">CUWiP (Conference for Undergraduate Women in Physics)</a> hosted at MSU, East Lansing, MI
2018	Volunteer at MSU Observatory’s Nature Night, East Lansing, MI
2018	Public talk on “History of Astronomy” for Astronomy on Tap, Lansing MI
2018	MSU Science Festival Expo Days (Primary Astronomy Organizer), East Lansing, MI
2017	Public talk for Capital Area Astronomy Association, East Lansing, MI
2017	Public talk on “Observing in Chile” for Astronomy on Tap, Lansing MI
2016	Volunteer at MSU Science Festival Expo Days, East Lansing, MI
2015	Volunteer, Science Exploration Days, Dearborn, MI
2014	Volunteer, Science Olympiad Regional levels division B (Solar System), Dearborn, MI

## Academic Service

2017-2018	Mentor for REU students and incoming graduate students through MSU’s WAMPS (Women and Minorities in Physical Sciences), East Lansing, MI.
2016-	Organizer of MSU Astronomy group journal discussion, East Lansing, MI.

## Analysis and Software

- X-ray spectroscopy, imaging and timing analysis (*Chandra*, *XMM-Newton*, *RXTE/ASM*, *Swift/BAT*, *MAXI*)
- Optical spectroscopy (*SOAR/GHTS*, *Gemini/GMOS*, *VLT/FORS2*)
- Ultraviolet imaging and photometry (*Swift/UVOT*, *GALEX*)
- Infrared imaging (*Spitzer/IRAC*)
- Gamma-ray binned likelihood analysis (*Fermi/LAT*)
- Conducting optical observations (*SOAR* observatory, Snow Solar Telescope)
- Programming: Python (astropy, numpy, scipy, scikit-learn, matplotlib), Mathematica
- Major astronomical packages: AstroPy, CIAO, HEASoft (XSpec, FTools), IRAF, Fermitools

## Publications

### Refereed

7. **K.C. Dage**, S.E. Zepf, A. Bahramian, J. Strader, Thomas J. Maccarone, M.B. Peacock, A. Kundu, M. Steele, C. Britt, “*Slow Decline and Rise of the Broad [OIII] Emission Line in Globular Cluster Black Hole Candidate RZ2109*”, 2019, [MNRAS](#), [accepted](#).
6. E. Aydi, **et al** “*Flaring, Dust Formation, And Shocks In The Very Slow Nova ASASSN-17pf (LMCN 2017-11a)*”, 2019, [submitted](#)
5. **K.C. Dage**, S.E. Zepf, M.B. Peacock, A. Bahramian, O. Noroozi, A. Kundu, T.J. Maccarone, “*X-Ray Spectral Variability of Ultraluminous X-Ray Sources in Extragalactic Globular Clusters*”, 2019 [MNRAS](#), [accepted](#).
4. Strader, J.; **et al** “*Optical spectroscopy and demographics of redback millisecond pulsar binaries*”, 2018, [ApJ](#), [Accepted](#).
3. M. A. Tucker, **et al** “*ASASSN-18ey: The Rise of a New Black-Hole X-ray Binary*” 2018, [ApJ](#), [Accepted](#).
2. **K.C. Dage**, W.I. Clarkson, P.A. Charles, S. Laycock, I-C. Shih “*A Search for Spin-Superorbital Period Correlation in SMC X-1*”, 2018, [MNRAS](#), [accepted](#).
1. **K. C. Dage**, S. E. Zepf, A. Bahramian, A. Kundu, T. J. Maccarone, M. B. Peacock, “*X-Ray Variability from the Ultraluminous Black Hole Candidate X-ray Binary in the Globular Cluster RZ 2109*”, 2018, [ApJ](#), [Accepted](#).

### Unrefereed

6. Aydi, E. **et al**, “*SOAR classification of ASASSN-19qv as a classical nova in the SMC*”, The Astronomer’s Telegram, No. 12907
5. Strader, J.; Chomiuk, L.; **Dage, K.**; Prieto, J. L.; Stanek, K. Z., “*Spectroscopic classification of ASASSN-19kz as a young Type II supernova in NGC 2207*”, The Astronomer’s Telegram, No. 12706
4. Sokolovsky, K.V. **et al**. “*ASAS-SN Discovery of a Bright Candidate Microlensing Event ASASSN-19cq*”, 2019, The Astronomer’s Telegram, No. 12495
3. Sarbadhicary, S. K., **et al**, “*SOAR optical spectroscopy of the Wolf-Rayet star WR96 during the dimming event*”, The Astronomer’s Telegram, No. 12511
2. **Dage, K.**, et al, “*Spectroscopic Classification of SN 2018agk with SOAR/Goodman*”, 2018, The Astronomer’s Telegram, No. 11433
1. Bahramian, A., Strader, J., **Dage K.**, “*SOAR/Goodman optical spectroscopy of MAXI J1820+070*”, 2018, The Astronomer’s Telegram, No. 11424