

Kristen Dage

Curriculum Vitæ

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

kcdage@msu.edu
<https://kcdage.github.io/>

Education

- 2015 - present Ph.D. Astronomy and Astrophysics
Thesis: Long Term Optical and X-Ray Monitoring of Black Hole Candidates 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

Mentoring Experience

- 2020 Wasundara Athukoralalage (Michigan State University). Project: follow-up of 4472's globular cluster ultraluminous X-ray sources.
- 2019 Noah Vowell (University of Michigan-Dearborn). Project: characterizing candidate ultraluminous X-ray sources in edge-on spiral galaxies.
- 2018 Omid Noroozi (Michigan State University). Project: searching for long and short term variability of ultraluminous X-ray sources in globular cluster.

Teaching Experience

- 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

- 2020 (co-I) *HST* Cycle 28: Far-ultraviolet insights into multiple populations in extragalactic globular clusters.
- 2020 (PI) *NuSTAR* Cycle 6: Complete Spectral Characterisation of a Newly Discovered ULX.
- 2020 Outstanding Graduate Student, *Dept. Physics & Astronomy, Michigan State University*.
- 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

2020 Jun	Compact Objects in Michigan 8 [virtual], Contrib. Talk
2020 Feb	McGill Space Institute (Montreal, QC, Canada), Invited Talk
2020 Jan	AAS 235 (Honolulu, HI), Dissertation Talk
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

Outreach

2020	Saturday Morning Science Talk [virtual]
2020	MSU Science Festival Exoplanet Demo [virtual]
2020	Hosted a series of virtual at-home “experiment-alongs” on the Abrams Planetarium Facebook page
2020	Activities leader for Spartan Young Astronomer’s Club, East Lansing, MI
2020	Star talks at the portable planetarium for the Science Night at Bennett Woods Elementary School, Okemos, MI
2020	Star talks at the portable planetarium at the Quiet Adventures Symposium, East Lansing, MI
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 event in response to the IAU Women and Girls in Astronomy Month at MSU’s Abrams Planetarium, 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

Academic Service

2020	Session Chair, Compact Objects in Michigan 8 [virtual]
2020	Organizer of Summer Professional Development Seminars for junior graduate students and senior undergraduate students from Michigan State University and University of Michigan-Dearborn [virtual]
2019	Gemini Fast-Turnaround Proposal Referee
2017-2018	Mentor for REU students and incoming graduate students through MSU’s WAMPS (Women and Minorities in Physical Sciences), East Lansing, MI.
2016-2020	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

8. **K.C. Dage**, S.E. Zepf, E. Thygesen, A. Bahramian, A. Kundu, M.B. Peacock, T. J. Maccarone, J. Strader, “*X-Ray Spectroscopy of Newly Identified ULXs Associated With M87’s Globular Cluster Population*”, 2020, MNRAS, submitted.
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