

Kristen Dage

kcdage.github.io ◇ kristen.dage@mail.mcgill.ca

Appointments

- 2020 - present Postdoctoral Fellow, McGill Space Institute, Montréal, Québec, Canada
- 2020 Postdoctoral Research Associate, Michigan State University, East Lansing, Michigan, USA

Education

- 2015 - 2020 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

Accepted Observing Proposals

- 2020 (PI) Gemini South 2021A: Searching for Evidence of Outflows In Globular Cluster X-Ray Binary M87-GCULX1, 7.2 hours
- 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, Awarded 40ks and USD \$20,000
- 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*"
- 2018 (co-I) Chandra Cycle 20: "*The Nature of the Two Globular Cluster ULXs in the Galaxy NGC 4472*"

Awards

- 2020 Sherwood K. Haynes Graduate Physics Award for Outstanding Graduate Student, *Dept. Physics & Astronomy, Michigan State University*
- 2019 MSU College of Natural Science Dissertation Completion Fellowship, Awarded \$7500 USD
- 2019 AAS International Travel Grant, Awarded \$2000 USD
- 2014 Outstanding Physics Student *Dept. Natural Sciences, University of Michigan-Dearborn*

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. East Lansing, MI

2015 - 2018 Teaching Assistant
ISP 205L -Visions of the Universe
Michigan State University, East Lansing, MI

Students Advised

2021 - present Jeff Huang, Yifan Sun (McGill University)
 • Semester research project searching for short-term variability in M87's globular cluster ultraluminous X-ray sources

2020 - present Jade Ducharme, Emma Barbisan, Sneha Nair (McGill University)
 • Two semester research project identifying and classifying new ultraluminous X-ray sources in M87's globular clusters

2020 - present Wasundara Athukoralalage (Michigan State University & Wielenga Scholars Program)
 • Year-long research project following up on the X-ray properties of globular cluster ultraluminous X-ray sources associated with NGC 4472

2019 Noah Vowell (University of Michigan-Dearborn)
 • Summer research project identifying and classifying new ultraluminous X-ray sources in 11 edge-on spiral galaxies

2018 Omid Noroozi (Michigan State University)
 • Summer research project on quantifying long and short-term variability of ultraluminous X-ray sources

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

Academic Service

Time Allocation Committees: *NICER*, *Gemini* Fast-Turnaround

2020 McGill Physics Equity, Diversity, and Inclusion Postdoc Liason

2020 Session Chair, Compact Objects in Michigan 8 [virtual]

2016-2020 Organizer of MSU Astronomy group journal discussion, East Lansing, MI.

Professional Presentations

2021 Jan IA-FORTH, (Heraklion, Crete), Invited Talk

2020 Dec Science Briefing, NASA's Universe of Learning

2020 Nov CfA High Energy Phenomena Seminar, (Cambridge, MA), Seminar Talk

2020 Oct Chandra Frontiers in Time-Domain Science, (Cambridge, MA), Contrib. Talk

2020 Oct McGill Space Institute Lunch Talk

2020 Jun High Energy Astrophysics Division Virtual Seminar

2020 Jun Compact Objects in Michigan 8, Contrib. Talk

2020 Feb McGill Space Institute (Montréal, 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

2021	Abrams Planetarium Night Sky Chat
2020	Astronomy Workshop Presenter, STEM Santa Fe, 2020 STEM Pathways for Girls conference
2020	MSU Science Festival Saturday Morning Science Talk
2020	MSU Science Festival Exoplanet Demo [virtual]
2020	Hosted a series of virtual at-home experiment-alongs with the Abrams Planetarium
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	Volunteer at MSU MoonFest, 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 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	IAU Women and Girls in Astronomy Month Event at Abrams Planetarium, 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

Publications

Refereed

11. S. Swihart **et al.**, "*Discovery of a New Redback Millisecond Pulsar Candidate: 4FGL J0940.3-7610*", 2021, [ApJ](#)
10. J. M. Miller **et al.**, "*A New Candidate Transitional Millisecond Pulsar in the Sub-luminous Disk State: 4FGL J0407.7-5702*", 2020, [ApJ](#)
9. S. Swihart **et al.**, "*A New Likely Redback Millisecond Pulsar Binary with a Massive Neutron Star: 4FGL J2333.1-5527*", 2020, [ApJ](#)
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](#).

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](#).
6. E. Aydi, **et al** “*Flaring, Dust Formation, And Shocks In The Very Slow Nova ASASSN-17pf (LMCN 2017-11a)*”, 2019, [ApJ](#)
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](#).
4. Strader, J.; **et al** “*Optical spectroscopy and demographics of redback millisecond pulsar binaries*”, 2018, [ApJ](#).
3. M. A. Tucker, **et al** “*ASASSN-18ey: The Rise of a New Black-Hole X-ray Binary*” 2018, [ApJ](#).
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](#).
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](#).

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