

Dr. David Bogensberger

Basic Information

Birthdate: 02.24.1995
Mobile: +1 (734) 8830745
Email: dbogen@umich.edu david.bogensberger2@gmail.com

Education:

From 09.2022 Postdoctoral research fellow at the Department of Astronomy at the University of Michigan
2018-2022 Doctor of Natural Sciences at the Max Planck Institute for extraterrestrial Physics, affiliated with the Ludwig Maximilian University of Munich, on the topic of “X-ray variability in the eROSITA era”
2013-2017 Master of Physics at the University of Oxford, master thesis on “Confirmation of a brown dwarf tertiary component of the post-common envelope eclipsing binary V47 Cam (HS 0705+6700)”
07. – 09.2016 Internship at CERN, focussing on machine learning for b-tagging in the LHCb trigger.
07. – 09.2014 Internship at the Max Perutz Labs, of the University of Vienna, focussing on centrosome microscopy
2000 – 2013 International Baccalaureate at the Vienna International School

Scientific focus:

High-resolution X-ray imaging of jets (Postdoc)
High-resolution X-ray spectroscopy of active galactic nuclei (Postdoc)
X-ray variability of X-ray binaries and active galactic nuclei (Doctorate)
Exoplanets around post-common envelope binaries (Master)

Publications:

Bogensberger, D. et al., in prep, “Two-state long-term periodicity of the AGN 2MASS J06114834-6624337 observed by eROSITA”

Bogensberger, D. et al., in prep, “A missing Compton shoulder? Constraining reflection in Cen A with NuSTAR”

Bogensberger, D., Miller, J., Mushotzky, R. et al. 2024, submitted to ApJ, “Superluminal proper motion in the X-ray jet of Centaurus A”

Bogensberger, D. Nandra, K., Salvato, M., et al., 2024, A&A, 687, A37, “Characterisation of the X-ray point source variability in the eROSITA south ecliptic pole field”, DOI: <https://doi.org/10.1051/0004-6361/202449415>

Bogensberger, D., Miller, J., Kammoun, E., et al., 2024, ApJ, 961, 150, “Redshifted Iron Emission and Absorption Lines in the Chandra X-ray Spectrum of Centaurus A”, DOI: <https://doi.org/10.3847/1538-4357/ad1107>

Bogensberger, D., Nandra, K., Buchner, J., 2024, A&A, 687, A21, “Characterising X-ray variability in light curves with complex sampling patterns: application to the eROSITA south ecliptic pole survey”, DOI: <https://doi.org/10.1051/0004-6361/202346368>

Buchner, J., Boller, T., Bogensberger, D., et al., 2022, A&A, 661A, 18B, “Systematic evaluation of variability detection methods for eROSITA”, DOI: <https://doi.org/10.1051/0004-6361/202141099>

Arcodia, R., Merloni, A., Nandra, K., et al. 2021, *Nature*, 592, 704, “X-ray quasi-periodic eruptions from two previously quiescent galaxies”, DOI: <https://doi.org/10.1038/s41586-021-03394-6>

Bogensberger, D., Ponti, G., Jin, C., et al. 2020, *A&A*, 641, A101, “An underlying clock in the extreme flip-flop state transitions of the black hole transient Swift J1658.2-4242”, DOI: <https://doi.org/10.1051/0004-6361/202037657>

Sale, O., Bogensberger, D., Clarke, F., & Lynas-Gray, A. E. 2020, *MNRAS*, 499,3071, “Eclipse time variations in the post-common envelope binary V470 Cam”, DOI: <https://doi.org/10.1093/mnras/staa3013>

Jin, C., Ponti, G., Li, G., & Bogensberger, D. 2019, *ApJ*, 875, 157, “Exploring the Interstellar Medium Using an Asymmetric X-Ray Dust Scattering Halo”, DOI: <https://doi.org/10.3847/1538-4357/ab11d1>

Bogensberger, D., Clarke, F., & Lynas-Gray, A. E. 2017, *Open Astronomy*, 26,134, “Further Evidence of a Brown Dwarf Orbiting the Post-Common Envelope Eclipsing Binary V470 Cam (HS 0705+6700)”, DOI:

Computing skills:

- Python
- Matlab
- C++

Work experience:

2017 – 2018 Austrian community service at the refugee assistance NGO “Verein Ute Bock”

Outreach:

2022 -2023 Guide for visiting school and university students, hobby astronomers and others of the facilities of the high energy group at the Max Planck Institute of extraterrestrial Physics.

2018-2020 Guide for visiting school and university students, hobby astronomers and others of the facilities of the high energy group at the Max Planck Institute of extraterrestrial Physics.

2014-2017 Treasurer (1 year) and President (2 years) of the Oxford University Space and Astronomy Society. Organised talks, stargazing events, and model rocket building workshops.

Teaching:

01.-04.2024 Completed postdoctoral short course on college teaching in STEM at the University of Michigan

From 01.2024 Supervising an undergraduate in their research project about investigating X-ray binaries in Centaurus A

Diversity, Equity, Inclusion:

- Assisted in teaching science at the Multicultural Academy Ann Arbor during three events to students from backgrounds underrepresented in science.
- Participated in numerous volunteer opportunities in collaboration with the International House Ann Arbor to help the local community and environment.
- Chair of the “Roots and Shoots” school group at the Vienna International School for 2 years, leading numerous projects to raise awareness and donations for the Jane Goodall charity.

Scientific, Technical, and Management Experience:

- Experience with eROSITA, Chandra, XRISM, NuSTAR, Swift, XMM, NICER, AstroSat, INTEGRAL, and AAT data
- Spectral fitting of active galactic nucleus and X-ray binary spectra in X-rays and optical
- X-ray imaging, aligning images
- Jet proper motions
- Variability, periodicity, timing analysis methodology
- Variability of X-ray binaries and active galactic nuclei
- Multiwavelength campaign, target selection, counterpart identification, and analysis
- Imaging and light curve simulations
- Exoplanet detection
- Survey mode observations