

Summer McLaughlin

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Education

- 2021 – 2025 📖 **Ph.D., University of Sheffield** in Active Galactic Nuclei.
Thesis title: *The systematic detection of AGN flares in the era of time-domain astronomy*.
PI: Dr. James Mullaney.
- 2017 – 2021 📖 **MPhys., Physics with Astrophysics, University of Bath**
Thesis title: *Searching for the weakest accreting black holes using variability selection*.
PI: Dr. Carolin Villforth.

Research

Journal Articles

- 1 S. A. J. McLaughlin, J. R. Mullaney, and S. P. Littlefair, “Using Gaussian Processes to detect AGN flares,” *Monthly Notices of the Royal Astronomical Society*, vol. 529, no. 3, pp. 2877–2892, Apr. 2024. 📄 DOI: 10.1093/mnras/stae721. arXiv: 2403.05354 [astro-ph.HE].

Conference Talks

- 1 S. A. J. McLaughlin, “Using Gaussian Processes to detect AGN flares,” Catching supermassive black holes with Rubin-LSST: Towards novel insights and discoveries into AGN science: Turin, Italy, 2024. 📄 URL: <https://indico.ict.inaf.it/event/2784/>.
- 2 S. A. J. McLaughlin, “Using Gaussian Processes to detect AGN flares,” National Astronomy Meeting 2024: Hull, UK, 2024. 📄 URL: <https://nam2024.hull.ac.uk/>.
- 3 S. A. J. McLaughlin, “Using Gaussian Processes to detect AGN flares,” The restless nature of AGN, 10 years later: Naples, Italy, 2023. 📄 URL: <https://indico.unina.it/event/61/contributions/837/>.

Skills

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|-----------------|---|
| Coding | 📖 Python (advanced), C, SQL, \LaTeX , MatLab, Excel, R. |
| Supervision | 📖 Co-supervised two MPhys projects focussed on tidal disruption events. |
| Research skills | 📖 Data analysis, Bayesian statistics, Machine Learning, Gaussian Processes, Big Data. |

Other Experience

Teaching assistant roles

- 📖 **Introduction to Astrophysics**, first year module introducing the important physical concepts and techniques in astronomy such as gravitation and spectroscopy.
- 📖 **Observational Astronomy**, second year module using Python to provide a practical understanding of the tools and techniques needed for performing optical telescope observations.

Other Experience (continued)

- **Advanced Python**, third year computing module which introduces object-oriented programming, design and optimisation in Python with a focus on Machine Learning, culminating in students writing their own neural network from scratch.

Training

- 2022 ■ **Summer School in Astrostatistics and Astroinformatics**, Pennsylvania State University.
- 2024 ■ **Introduction to the Rubin Science Platform (LSST:UK)**, University of Sheffield.

Awards and collaborations

- 2021 ■ **Funded PhD studentship**. Awarded by the UK Science and Technology Facilities Council (STFC).
- **LSST Junior Associate**. Awarded by LSST:UK.
- **Collaboration member**. Gravitational-wave Optical Transient Observer (GOTO).
- 2023 ■ **Collaboration member**. LSST Informatics and Statistics science collaboration (ISSC).

References

Available on request.