

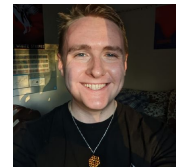





Mr. Christian Kirkham, FRAS



✉ cjk55 [at] cam.ac.uk  christian-k-0a3699216
 <http://astrochristian.github.io/>






Employment History

- 2024 – 2025  **Demonstrator for Part IA Scientific Computing Module** Department of Physics, University of Cambridge
- 2023 – 2024  **Supervisor for Part II Stellar Dynamics and Structure of Galaxies Module** Institute of Astronomy, University of Cambridge
- 2022 – 2023  **Demonstrator for Part IA Scientific Computing Module** Department of Physics, University of Cambridge
- Sep 2021  **“Developing a Remote Operation Mode for the TARA Radio Telescope”** Centre for Extragalactic Astronomy, Durham University






Education

- 2022 – Present  **Ph.D., University of Cambridge** Physics
Thesis title: *Foreground Modelling using Bayesian Techniques for 21cm Cosmology*.
- 2018 – 2022  **MPhys., Durham University** Physics with Astronomy.
Thesis title: *The Gaia and HST Cepheid Scales and the Tension in Hubble’s Constant*.

Research Publications

- 1 S. A. K. Leeney, H. T. J. Bevins, E. d. L. Acedo, *et al.*, *Radiometer Calibration using Machine Learning*, Apr. 2025.  DOI: 10.48550/arXiv.2504.16791. arXiv: 2504.16791 [astro-ph]. (visited on 04/24/2025).
- 2 C. J. Kirkham, W. J. Handley, J. Zhu, *et al.*, *Accounting for Noise and Singularities in Bayesian Calibration Methods for Global 21-cm Cosmology Experiments*, Dec. 2024.  DOI: 10.48550/arXiv.2412.14023. arXiv: 2412.14023 [astro-ph]. (visited on 12/19/2024).
- 3 C. J. Kirkham, D. J. Anstey, and E. d. L. Acedo, *A Bayesian Method to Mitigate the Effects of Unmodelled Time-Varying Systematics for 21-cm Cosmology Experiments*, Oct. 2023.  DOI: 10.48550/arXiv.2310.17975. arXiv: 2310.17975 [astro-ph]. (visited on 10/31/2023).

Skills







- Languages  Strong reading, writing and speaking competencies in English
- Coding  Python, \LaTeX , Git, UNIX.
- Databases  ADQL.
- Web Dev  HTML, CSS, JavaScript.
- Misc.  Academic research, teaching, \LaTeX typesetting and publishing.

Talks



Conference and Workshop Talks

- Apr 2025  **“Accounting for Noise and Singularities in Bayesian Calibration Methods for Global 21-cm Cosmology Experiments”** Friday Lunchtime Astronomy Talk, Durham, UK

Talks (continued)




- Feb 2025  **“Accounting for Noise and Singularities in Bayesian Calibration Methods for Global 21-cm Cosmology Experiments”** Hills Coffee Talk, Cambridge, UK
- Sep 2024  **“An Overview of Bayesian Noise Wave Methods for Calibration of REACH”** REACH Annual Meeting, Mahabaleshwar, India
- May 2024  **“Gaussian Processes for Systematic Mitigation”** URSI AT-RASC, Gran Canaria, Spain
- Feb 2024  **“Gaussian Processes for Mitigating Systematics in Global 21-cm Cosmology Experiments”** Institute of Astronomy Wednesday Seminar, University of Cambridge, Cambridge, UK
-  **“Gaussian Processes for Mitigating Systematics”** Science with the 21-cm line, Kavli Science Focus Meeting, University of Cambridge, Cambridge, UK
- Sep 2023  **“A Bayesian Method to Mitigate the Effects of Unmodelled Time-Varying Systematics for 21-cm Cosmology Experiments”** REACH Annual Meeting, University of Malta, Valetta, Malta

Poster Presentations

- Oct 2024  **“A Marginalised Bayesian Noise Wave Calibration Method for Global 21-cm Cosmology Experiments”** Global 21-cm Workshop, Raman Research Institute, Bengaluru, India
- Mar 2024  **“A Bayesian Method to Mitigate the Effects of Unmodelled Time-Varying Systematics for 21-cm Cosmology Experiments”** Cosmology in the Alps, Les Diablerets, Switzerland

Miscellaneous Experience

Awards and Achievements

- 2025  **College Senior Scholarship**, Fitzwilliam College, Cambridge
- 2024  **College Senior Scholarship**, Fitzwilliam College, Cambridge
- 2019  **Physics Award for Outstanding Achievement**, Durham University

References

Available on Request