

Mr. Christopher J. R. Rowe

PhD Candidate,
MPhys, FRAS, MInstP

5th December 1999

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UK Citizen

UK Driving Licence

Profile Links

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GitHub:
github.com/QuasarX1

GitLab:
gitlab.com/QuasarX1

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Working Experience

2024 – 2025 **Teaching Assistant** LJMU
Assistance with astrophysics teaching.

2021 **Software Development** Telescope Group at ARI, LJMU
[Student Summer Project]
Assisting the software developers from the new Robotic Telescope group at Liverpool John Moores University by creating a prototype website application to integrate with the in-development APIs. I provided experience with Python web-server technologies and modern web UI design to showcase possible UI layouts and test their back-end systems.

2019 – 2021 **Student Worker** Unilever (through University of Liverpool)
PC support and software development. A flexible, short term position to help manage PC and data workflows.

Education

Degrees

2022 – present **PhD Computational Astrophysics [reading]** Liverpool John Moores University (LJMU)
Analysing the metal enrichment of inter-galactic gas in cosmological hydrodynamical simulations and identifying the contributing galaxy population as a constraint on energetic feedback processes.

2018 – 2022 **MPhys Astrophysics [2:1]** University of Liverpool & LJMU
Physics degree (UoL) with specialisation in Astronomy and Astrophysics (LJMU).

GCEs & BTECs

2017 – 2018 **GCE A-Levels** Idsall 6th Form
Computer Science [A]; Physics [B]; Mathematics (Mechanics) [B]

2016 – 2017 **GCE AS-Levels** Idsall 6th Form
Chemistry [C]

2014 – 2016 **GCSEs & BTECs** Idsall Secondary School
A*-C (or equivalent) including Astronomy, Sciences (inc. Comp. Sci.), Mathematics, Further Mathematics, English (lit. & lang.), Geography, Food Technology

Skills & Training

Software Development
Designing, writing, upgrading and maintaining software has been a large part of my academic studies and PhD work. I also dabble in personal projects with the aim of exploring new languages and frameworks as well as staying up-to-date. My academic work is primarily with Python3.x, though also some C and Fortran90. I have also used C# heavily for personal projects (including ASP.NET).

Technical Presentations / Conference Talks
Giving talks and presenting posters at conferences is an integral element of a PhD. I have given several - some internationally (Europe, USA).

Data Manipulation
I am confident working with and analysing large datasets using Python and I have experience with HDF5 and FITS data formats and associated tools.

Numpy, Matplotlib, Xarray, Dask
Data science packages for Python3.x. Xarray and Dask for handling extremely large datasets.

Linux & Bash
Linux OS usage and scripting (Bash) for academic software development and data analysis.

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Languages

English ●●●●●
Japanese ○○○○○

Python ●●●●●
C# ●●●●○
C/C++ ●●●○○
HTML/XML/JSON ●●○○○
SQL ●○○○○
Bash ●○○○○

Memberships

Fellow of the Royal Astronomical Society

Member of the Institute of Physics

Programming Languages & Frameworks

Familiarity		
10/10	**Python (3.x, 2.x)**	Formal Training & Self-taught
	The language with which I have most experience and formal training (GCSE through PhD). I have also been involved in teaching Python to degree students in an informal capacity as part of a student society.	
8/10	**MPI (C & mpi4py)**	Formal Training
	I took a module during my degree that covered parallelism that included MPI basics in C. Further usage during my PhD, making use of the Python3.x package mpi4py.	
8/10	**SLURM HPC Job Scheduler**	Formal Training
	My PhD work relied heavily and exclusively on the use of a High-Performance Computing environment (aka. supercomputer) utilising SLURM for job submission. I made extensive use of this (as an end user) and also received some initial training as part of my degree. I undertook entry level training for new students.	
7/10	**C# (.NET)**	Self-taught
	Learned for working on personal projects, including web app (ASP) and Windows applications (UWP/WPF). I have experimented with some of the newer web frameworks (Razor/Blazor) but not rigorously.	
3/10	**HTML/CSS**	Formal Training & Self-taught
	Basic understanding from schooling and also used occasionally with personal web-based projects.	
2/10	**SQL**	Formal Training & Self-taught
	Basic understanding as was required for my A-Level project and curriculum.	

Publications

in prep. **The connection between energetic feedback in low-mass galaxies and the enrichment of the intergalactic medium [PhD Thesis]**
C. J. R. Rowe
Liverpool John Moores University

in prep. **Origins of the Metal-enriched Intergalactic Medium in the EAGLE Simulations**
C. J. R. Rowe et al.

2022 **How Dark Matter Halo Assembly History influences the Kinematics of $\sim L_*$ Galaxies [MPhys Thesis]**
C. J. R. Rowe
University of Liverpool (not publicly available)

Interests & Community Activities

Sports Fencing, Badminton, Climbing/Bouldering, Table Tennis, Hiking
Social Board games, D&D (DM) + other TTRPGs, Videogames
University Short talks co-chair, Journal club organiser, Physics Soc. (Treasurer 2019-2020), Coding and Robotics Soc. (President 2021-2022; Coordinator 2019-2021)

Travel

I have been lucky enough to meet people from across the world throughout my degree and PhD. Working across borders and navigating both language barriers and different cultures is an exceptionally useful skill. Here is a short summary of some of the places to which I have had the privilege of visiting (date ordered).

Canary Islands Participation on a maintenance trip to the LJMU owned and operated telescope (the LT) on the island of La Palma.
Brazil Visiting students from Brazil who spent time studying with me during my PhD.
USA Conference held in Manhattan, New York.
Netherlands Strong ties with collaborators in Leiden during my PhD work. Conference presentations delivered here also.
China Member of a joint UK-China university team during my degree, participating in a robotics competition (RoboMaster 2019) in Shenzhen, China. Included travel to Hong Kong.

August 6, 2026 C. J. R. Rowe