Lewys Richards

07910 732 124

lewrib@outlook.com

lewribaedi.github.io

EDUCATION

University of Glasgow, UK   *2017-2022*

M.Sci Physics with Astrophysics, 2nd Class Honours of the First Division (2:1).

Undergrad projects include:

- Master's Dissertation: Impact of peculiar velocities on standard siren measurements of the Hubble constant

· Using cosmological simulations to investigate the peculiar velocities within local-group-like structures, so as to gauge the impact on H_0 measurements for the LIGO Scientific Collaboration.
· Working with dataset of 100 million+ galaxies to investigate statistical impacts of various selection criteria.

- Literature Review - Weak Gravitational Lensing as a Probe of Dark Matter

· Investigated the theory, methods, observations made, discoveries, and potential future of the field of weak lensing observations. Developing knowledge of general relativity, observational methods, and numerical methods, as well as skills in critical analysis and evaluation.

- Physics & Astronomy Labs, Numerical Methods

· Observed and imaged the Uranus system using an ODK-16 telescope, analysing images to determine astrometric position and comparing to expected position.
· Analysed observations of Cepheid variable stars, applying Fourier Series, least-square non-linear fits, and χ^2 statistics to investigate period-luminosity relation.
· Developed and tested algorithms within Python for numerical methods of solving ODEs, such as a 4th order Runge-Kutta algorithm. Developed Python algorithms for numerically solving 1st and 2nd order PDEs.

Currie Community High School, UK   *2011-2017*

6th Form:	SQA Advanced Higher - Maths & Physics; SQA Higher - Computing
5th Form:	SQA Higher - Maths, Physics, Chemisty, Biology & Music, all at A
4th Form:	SQA National 5 - 8 × National 5s, all at A

TECHNICAL SKILLS

Technical experience includes: Python, particularly NumPy, pandas, SciPy, Matplotlib and AstroPy; Git; LaTeX and beamer; Microsoft Office.

Beginner skills include: HTML; Linux/Unix Operating Systems.

WORK EXPERIENCE

Molly's Delicatessen & Cafe, Edinburgh   2017, 2018, 2019 & 2022 Summer vacations
Barista and counter work

· Made drinks and served customers
· Trained and supervised new staff

British Geological Survey, Edinburgh   May 2014
Geomagnetism and Marine Geology; Marine Operations and Engineering

· Created leaflet on Space Weather and work of the Geomagnetism department
· Mapped offshore marine bed using backscatter data
· Learnt a variety of methods for welding metals and usage of a metalworking lathe

UK Astronomy Technology Centre, Royal Observatory of Edinburgh   June 2014
Astronomy data analysis and observation engineering

· Used SalsaJ to analyse the colour index and intensity of stars to identify red supergiants.
· Explored potential usage and designs of Spectrometer Carrying Automated Robotics using Arduino and CAD.

AWARDS & MEASURES OF ESTEEM

Edinburgh Schools Sports Ambassador - 2015-2017

Chief Scout Platinum Award - 2016

Member of Go4SET Scotland National Final winning team - 2013

EXTRA-CURRICULAR

Secretary, Glasgow University Fencing Club - 2019-2020, 2021-2022

Treasurer, Glasgow University Fencing Club - 2020-2021

Senior Prefect and volunteer assistant in School's Science Faculty - 2016-2017

Chair of School's Student Sports Council - 2016-2017

Member of Edinburgh Schools Classical Guitar Ensemble - 2014-2017

Volunteer Assistant Coach at Harmeny Athletics Club - 2013-2016