David O'Ryan

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Professional Summary

- Principal interests: galaxy evolution, galaxy interaction, galactic magnetism, star formation in interacting galaxies, automated galaxy classification, citizen science, astronomy with machine learning, data science, climate impact of astronomy and cultural astronomy.
- Expert in Bayesian statistics being utilised with numerical simulations.
- Expert in observation reduction across multiple facilities.
- Expert in combining citizen science with machine learning.
- Expert at large scale data analysis, particularly using the Pandas Python package.
- Excellent communication skills having talked at numerous conferences, given two seminars and participated in multiple outreach events.
- Active Collaborations: Galaxy Zoo, LSST: Low Surface Brightness and Galaxies Working Group.

Education

University of Lancaster — Oct 2019 – Present
PhD in Physics — *Lancaster, UK*

University of Glasgow — Sept 2014 – Jun 2019
Integrated Masters (MSci) in Physics and Astronomy — *Glasgow, UK*

Research Experience

Archival Researcher — Apr 2022 – Jul 2022
European Space Astronomy Centre (ESAC), European Space Agency — *Madrid, Spain*

Masters Project in Solar Physics — Sept, 2018 – May 2019
University of Glasgow — *Glasgow, United Kingdom*

Summer Research Student in Imaging Concepts — June 2018 – Aug 2018
University of Glasgow — *Glasgow, United Kingdom*

Summer Research Student in Galaxy Evolution — June 2017 – Aug 2017
University of St Andrews — *St Andrews, United Kingdom*

Summer Research Student in Galaxy Evolution — Jul 2016 – Aug 2016
Nicolas Copernicus Astronomy Centre — *Warsaw, Poland*

Other Experience

Data Scientist — Oct 2021 – Jan 2022
1715Labs — *London, United Kingdom*

Database Administrator & Underwriter — May 2013 – Sept 2015 *Intermittent*
Royal Bank of Scotland — *Greenock, United Kingdom*

Awards

Summer Bursary (Supervisor Role) — Jun 2023
Royal Astronomical Society — *£1,200*

Archival Researcher Visitor Program Stipend — Mar 2022
European Space Agency — *4,500€*

Vacation Bursary	Jun 2018
Engineering and Physical Science Research Council	*£2,400*
Summer Bursary (Student Role)	May 2017
Royal Astronomical Society	*£1,200*
Summer Grant	Jun 2016
Polish Academy of Sciences	*2,000zł*

Presentations, Invited Talks and Seminars

DOR has given multiple talks across at a range of venues and events, ranging from being an invited speaker to contributing a talk at conferences or workshops. The last three are listed below. For a full list (and their recordings), please see DOR's website.

Jul 2023: "Harnessing the Hubble Space Telescope Archives: A Catalogue of 21,926 Interacting Galaxies", National Astronomy Meeting, Contributed Talk, Cardiff University, Cardiff, UK

Jul 2023: "Painting Galaxies: Putting Statistical Constraints on Galaxy Interaction", National Astronomy Meeting, Contributed Talk, Cardiff University, Cardiff, UK

Dec 2022: "ESA Datalabs with Pandas - Creating 126 Million Cutouts", ESA Datalabs 2022 Workshop, Invited Speaker, ESAC, Madrid, Spain

Programming Expertise

DOR has experience with multiple different programming languages in a range of contexts. These are: **Python** (Advanced), **MatLab** (Advanced), **Mathematica** (Advanced), **Git** (Advanced), **FORTRAN** (Intermediate), **C** (Basic).

Teaching

DOR has been a teaching assistant at Lancaster University for four years (courses include **Waves & Oscillations**, **Astro Laboratory Experiments**, **Quantum Mechanics**, and **Computational Methods and Python Programming**).

DOR has supervised a **summer student** studying the low surface brightness features about NGC 5907. This was an eight week internship from the 21st June – 11th August 2023.

Observing Experience

Isaac Newton Telescope	9th Oct – 13th Oct 2023
Inst: IDS/EEV10	*ID: I/2023B/10*
Isaac Newton Telescope	23rd Sept – 27th Sept 2022
Inst: IDS/EEV10	*ID: I/2022B/08*

Non-Academic Publications

1. "A Light in the Dark", AstroBites, Publication Date: 08/07/2023
2. "The Complicated Relationship Between Free Text and Data Science", Medium Post, 1715Labs, Publication Date: 03/02/2022
3. Multiple Articles, Qmunicate, Publication Dates: 2016 - 2019