

# 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.

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## Education

<b>University of Lancaster</b> <i>PhD in Physics</i>	Oct 2019 – Present <i>Lancaster, UK</i>
<b>University of Glasgow</b> <i>Integrated Masters (MSci) in Physics and Astronomy</i>	Sept 2014 – Jun 2019 <i>Glasgow, UK</i>

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## Research Experience

<b>Archival Researcher</b> <i>European Space Astronomy Centre (ESAC), European Space Agency</i>	Apr 2022 – Jul 2022 <i>Madrid, Spain</i>
<b>Masters Project in Solar Physics</b> <i>University of Glasgow</i>	Sept, 2018 – May 2019 <i>Glasgow, United Kingdom</i>
<b>Summer Research Student in Imaging Concepts</b> <i>University of Glasgow</i>	June 2018 – Aug 2018 <i>Glasgow, United Kingdom</i>
<b>Summer Research Student in Galaxy Evolution</b> <i>University of St Andrews</i>	June 2017 – Aug 2017 <i>St Andrews, United Kingdom</i>
<b>Summer Research Student in Galaxy Evolution</b> <i>Nicolas Copernicus Astronomy Centre</i>	Jul 2016 – Aug 2016 <i>Warsaw, Poland</i>

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## Other Experience

<b>Data Scientist</b> <i>1715Labs</i>	Oct 2021 – Jan 2022 <i>London, United Kingdom</i>
<b>Database Administrator &amp; Underwriter</b> <i>Royal Bank of Scotland</i>	May 2013 – Sept 2015 <i>Intermittent</i> <i>Greenock, United Kingdom</i>

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## Awards

<b>Summer Bursary (Supervisor Role)</b> <i>Royal Astronomical Society</i>	Jun 2023 <i>£1,200</i>
<b>Archival Researcher Visitor Program Stipend</b> <i>European Space Agency</i>	Mar 2022 <i>4,500€</i>

<b>Vacation Bursary</b>	Jun 2018
<i>Engineering and Physical Science Research Council</i>	£2,400
<b>Summer Bursary (Student Role)</b>	May 2017
<i>Royal Astronomical Society</i>	£1,200
<b>Summer Grant</b>	Jun 2016
<i>Polish Academy of Sciences</i>	2,000zł
<i>Presentations, Invited Talks and Seminars</i>	

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.

<b>Jul 2023:</b>	"Harnessing the Hubble Space Telescope Archives: A Catalogue of 21,926 Interacting Galaxies", National Astronomy Meeting, Contributed Talk, Cardiff University, Cardiff, UK
<b>Jul 2023:</b>	"Painting Galaxies: Putting Statistical Constraints on Galaxy Interaction", National Astronomy Meeting, Contributed Talk, Cardiff University, Cardiff, UK
<b>Dec 2022:</b>	"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 21<sup>st</sup> June – 11<sup>th</sup> August 2023.

#### *Observing Experience*

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

#### *Outreach*

DOR has been involved in multiple outreach projects throughout his PhD and undergraduate degrees. Some examples of permanent outreach positions he has held are:

<b>Jodrell Bank Volunteer</b>	April 2022 – present
<i>Jodrell Bank</i>	<i>Manchester, UK</i>

Examples of specific outreach events that DOR has volunteered for are:

<b>Sep 2022:</b>	"Newtown Science Festival", Newtown, Wales
<b>Aug 2021:</b>	"End of Summer at Jodrell Bank", Jodrell Bank, Manchester, UK

#### *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