





Andrew W.S. Cook

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EDUCATION

PhD Astrophysics <i>Ongoing Circumgalactic Environments of Dwarf Galaxies</i>	2020-2024 <i>Cardiff University, UK</i>
Postgraduate Certificate of Education (PGCE) <i>Passed with Qualified Teacher Status (QTS)</i>	2019-2020 <i>University of Portsmouth, UK</i>
MPhys (HONS) Astrophysics and Cosmology <i>First Class Undergraduate Masters</i>	2015-2019 <i>University of Portsmouth, UK</i>

SKILLS

Coding: Python, Fortran77, L^AT_EX, R, MatLab, Mathematica
Tools: Git/GitHub, Unix Shell
Simulation Codes: AREPO, Enzo

RESEARCH

Shedding light on the Circumgalactic Medium of Dwarf Galaxies AREPO, Python, Unix Shell	2020-2024
<ul style="list-style-type: none">• PhD project. Investigating the differences in CGM properties across a range of halo masses• Includes detailed analysis of CGM properties and post-processing column density• Differences between various halo masses with and without a magnetic field including how they are affected by redshift• Implementation of new AGN feedback model into simulation• Used the moving-mesh code AREPO to simulate new galaxies with new AGN feedback models	
The Birth of the First Quasars Python, Enzo, Unix Shell, yt	2018-2019
<ul style="list-style-type: none">• Created and analysed cosmological simulations of early universe quasars at redshift 6• Project used Enzo static mesh code to create simulations• Collaborated with colleagues in U.A.E	

TEACHING EXPERIENCE

Associate Fellow in Higher Education	2021-2022
<ul style="list-style-type: none">• I undertook and achieved the status of Associate Fellow in Higher Education• This improved my teaching abilities specifically for older students and was a natural progression from my teacher training at a high school level	
Graduate Demonstrator	2020-2024
<ul style="list-style-type: none">• Demonstrator for Year 1 and Year 2 computational physics modules throughout PhD	
Postgraduate Certificate of Education (PGCE)	2019-2020
<ul style="list-style-type: none">• Taught high school science in two schools of varying backgrounds• Gained Qualified Teacher Status (QTS) upon completion of the course	

CONFERENCES, TALKS AND SCHOOLS

EAS 2023

10th - 14th July 2023

Attended EAS 2023 in Krakow as well as contributed a talk outlining the effect of a magnetic field on the CGM properties.

- Contributed talk on investigating the role of magnetic fields on CGM physical and observational properties.

National Astronomy Meeting, Cardiff

July 3rd - 7th 2023

Attended and assisted at the National Astronomy Meeting hosted in Cardiff. Additionally, contributed a talk on the physical properties of the CGM.

- Contributed talk on the halo mass dependence of physical properties and column density in simulated CGM haloes.

Saas-Fee Winter School, Les Diablerets | *The CGM across Cosmic Time*

19th-24th March 2023

I attended the annual Saas-Fee winter school on the CGM. This included lectures from Prof. Celine Peroux, Prof. Jeremy Blaizot and Prof. Michele Fumagalli as well as workshops on RASCAS and IllustrisTNG

- While attending the Saas-Fee winter school on the CGM, I contributed a poster which included my latest research on magnetic fields.

ESO Garching

6th - 9th December 2022

Attended a conference at ESO in Garching on the effect of feedback on the CGM.

- Contributed talk on our recent findings on the halo mass dependence of physical properties and column density in simulated CGM haloes.

OUTREACH

Founder and Chair of Astronomy on Tap Cardiff

June 2023 - Present

During the run up to the UK National Astronomy Meeting (NAM), I co-founded the Astronomy on Tap public engagement event in Cardiff. The event is continuing for a further year and I am now the chair of the organising committee.

NAM Schools Talk | *The First Galaxies: Then and Now*

5th July 2023

During NAM I gave a lecture to school pupils on how the first galaxies form, what they are like now and what they are made of.

Stargazing Live Demonstrator

2016-2019

During my undergraduate degree I contributed to the BBC Stargazing Live events by assisting at the event with activities and general science questions. I additionally created an activity for the event which emulates space-time.

Miscellaneous Outreach Activities

2015-Present

- I have contributed a large amount of time to the development of new activities for public engagement in both Portsmouth and Cardiff. This includes activities for Stargazing Live and schools outreach.
- I have previously given careers talks to A level students across Cardiff. This includes an introduction to a Physics degree and the career opportunities a Physics degree can lead to.
- I have regularly given talks to primary, secondary and A-level students on Astrophysics. I believe that Astronomy and Astrophysics is a great way of improving the attainment and engagement of children in STEM subjects and thus promote its relation to their studies as much as possible.

ADDITIONAL RESPONSIBILITIES

Student Advice Forum | *Physics Department PhD Forum*

Co-Founder

In my final year, I co-founded a regular forum for Physics PhD students. The goal of this was to encourage interdisciplinary assistance between students and sharing experiences, good or bad, with each other.

National Astronomy Meeting Ambassador | *Assisted at NAM*

July 3rd - 7th 2023

In addition to giving a talk at NAM, I also was among staff at the event. This involved duties such as assisting in sessions, co-ordinating with speakers and chairs for sessions.

PhD Student Representative

2021-2022

During my second year I took on the role of representative for the PhD students. This involved meetings with members of academic staff to relay problems students had within the department. This later influenced the start of the Student Advice Forum.