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I am a researcher at the University of Minnesota who specialises in observations and analysis of, and software development for, multi-messenger high energy emission detected from solar flares. I am passionate about applying my knowledge and expertise, as well as develop a career, in a rewarding, fast-paced, and competitive environment.

Education

2018 – 2022 PhD in Solar Physics, The University of Glasgow

Research, funded by The Royal Society, involves solar observation coordination, EUV & X-ray data analysis, and software development primarily in Python. Supervisor: Dr Iain Hannah, Astronomy & Astrophysics Group, School of physics and Astronomy.

2013 – 2018 MSci Physics with Astrophysics (Hons, 1st Class), The University of Glasgow

During my degree, I have broadly studied the areas of Physics, Astronomy and Mathematics. Specific courses I have explored further include Electromagnetic Theory, Circuits & Systems, General Relativity, and Mathematical Methods.

2007 – 2013 Larkhall Academy, Larkhall, South Lanarkshire

Adv. Higher: Physics (A), Maths (A), Chemistry (A)

Higher: Physics (A), Mathematics (A), Chemistry (A), Graphic Communication (A), English (B)
8 standard grades awarded at credit level.

Appointments

2026 – present Researcher, University of Minnesota

Leading analysis efforts from the FOXSI-4 sounding rocket mission, Deputy Project Scientist for the FOXSI-5 sounding rocket, mentoring graduate students, contributing to efforts for the FIERCE MIDEX proposal, software development, as well as Co-I on NASA research proposals.

2023 – 2026 Post-doctoral Associate, University of Minnesota

Research involves X-ray CdTe detector calibration, EUV & X-ray data analysis, and software development primarily in Python in the context of solar X-ray spectroscopic application.

Experience

2018 – 2022 Teaching Assistant, University of Glasgow

I teach in undergraduate Astronomy laboratories assisting and guiding students with their work while providing an important role in their assessment throughout the academic year. Throughout the lab I must be a quick and efficient problem solver when I evaluate students' work and code and a clear communicator when presenting and workshopping ideas with larger groups of students.

2011 – 2018 Avon/Cander Medical Centre, Larkhall/Stonehouse, South Lanarkshire

Working in a medical centre has given me an experience of working in a highly professional environment. My work includes filing documents in the computer database, making appointments for patients and dealing with any queries they may have. This job, therefore, requires utmost confidentiality, a great deal of accuracy and professionalism as any matter that is dealt with incorrectly can lead to serious consequences.

Summer 2016 University of Glasgow, City of Glasgow, Glasgow

I completed a research internship with the Institute of Gravitational Research (IGR). During my placement, I worked alongside experts where I took part in several projects. One of

which included testing and analysing faults in parts of the international Virgo gravitational wave detector.

2nd Semester 2016 Larkhall Academy, Larkhall, South Lanarkshire

During my second semester of 3rd year, I personally sought experience from the secondary school I attended. During this experience, I observed classrooms and took lessons in the role of a teacher. Overseeing a class has developed many of my skills including organisation, confidence, and effectively communicating to large groups.

2013 – 2016 Asda Supermarket, Larkhall, South Lanarkshire

I was initially employed to work in the Chilled department where I was promptly given important responsibilities, for example, overseeing the department during my twilight shifts. I also worked as a check-out assistant. As well as gaining experience in other departments I obtained recognition in the form of star points for my contribution to the standards of the frozen department. This experience has enhanced my customer service skills and has shown me how important it is to work in a team setting.

Summer 2015 Co-operative's Supermarket, Stonehouse, South Lanarkshire

Over the course of 6 weeks, I worked as a general shop-floor assistant. Since this store was small, I had to be competent in all areas of the supermarket and in my own decisions. Working with the Co-operative has proven that I can work well and efficiently in a high demanding job.

Skills

IT I have excellent IT skills where I am proficient in Python and IDL with experience in MATLAB, C++, HTML, and Latex. I also have a vast amount of experience in using a variety of software used for specific operations.

Leadership I have developed exemplary leadership skills due to my time spent being Head Boy at *Larkhall Academy* and throughout my PhD. Leadership skills are imperative to the role of Head Boy as all school functions are controlled by this role. My PhD has allowed me to take control of my own research, leading, collaborating, and communicating investigations with colleagues.

Communication As a tutor – undergraduate Astronomy – I understand the importance of communication. It is incredibly important not only to understand a subject for your own mind but to understand it well enough to explain it competently to others. My communication skills are utilised regularly through many outreach activities I have achieved. Audiences have included amateur astronomers, school pupils, the general public, and prisoners.

Organisation Working in popular retail stores greatly improved my organisation skills. I learned how to prioritise, work quickly and efficiently while still providing a high standard of customer service. My organisation skills used constantly when organising my schedule well in advance while also allowing flexibility for unforeseen tasks to be incorporated.

Interests

I frequently boulder and rope climb with friends. In my spare time I play guitar and ukulele. I love movies too. Throughout my education and career, I've also been very passionate about public outreach.

Referees

Available upon request.

Kristopher Cooper