

Curriculum Vitae
Matthew McGuigan
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Profile

I am a student studying Physics and Astronomy at the University of Glasgow. I have been interested in science and all things to do with space since childhood. I have experience in educating the public through becoming one of 26,000 STEM (the Science, Technology, Engineering and Mathematics Network) Ambassadors across the UK and from there have become a demonstrator for the Astronomy Outreach Program run by Glasgow University. I also have experience of working in retail from various part time jobs I have had during my studies. My former employers can provide references with respect to my hard working nature and attention to detail.

In my role as a demonstrator for the Astronomy Outreach Program which the Astronomy and Astrophysics Group run I have the chance to convey my enthusiasm for physics, maths, astronomy and science in general to an audience of non-experts. It is very rewarding in both trying to inspire new scientists and also gaining great practice in public speaking. I deliver presentations, talks and mobile planetarium shows to schools, societies and other groups in the community.

I have worked as a team member in several retail shops meeting targets and making sales figures above expectations. Having worked during the busy Christmas periods and the more quiet summer periods I have gained understanding of the average workplace and learned the rewards of hard graft. I believe I have good business acumen and understanding of basic workings of the retail sector.

I have also completed a two day 'Skills Revolution' class run in part by Freescale Semiconductors and Glasgow University in a group project where mock construction projects were to be planned and then judged by lecturers for durability in which after my standing as team leader we came in first place.

Qualifications

2011 to 2015 at University of Glasgow

BSc. Astronomy and Physics degree – Ongoing

2005 to 2011 at Jordanhill Secondary School, Glasgow

Physics Advanced Higher – *B*, Computing Advanced Higher – *C*, Mathematics Higher – *A*, Physics Higher – *A*, Product Design Higher – *A*, Computing Higher – *B*, English Higher – *C*, Chemistry Standard Grade – *grade 1*, Computing Standard Grade – *grade 1*, Craft & Design Standard Grade – *grade 1*, Geography Standard Grade – *grade 1*, Mathematics Standard Grade – *grade 1*, English Standard Grade – *grade 2*, French Standard Grade – *grade 2*.

Coding, Programming and I.T skills

Matlab – I have used *Matlab* for several years and I am competent in programming m-file scripts and using coding for problem solving using physics within the environment.

Linux – I have also used *Linux* for several years and I am competent in programming and coding within the environment. I have completed various Raspberry Pi projects including using the Pi to control a remote control car.

Research Projects and Laboratory work

Title: *"High Resolution Imaging to Investigate Statistics of Atmospheric Turbulence"* – making high resolution images of the planets, the Moon, close binary stars and even orbiting satellites such as the International Space Station. With these bright objects 'lucky frames' are found when atmospheric seeing is close to the diffraction limit of the telescope.

Title: *"Gravitational lensing as a probe of Dark Matter in the Universe"* – producing independent research and a report on the phenomenon of gravitational lensing and how it helps map dark matter distribution and reveals the cosmic web in which the galaxies themselves are embedded. This research is also used for delivering a seminar talk on the phenomenon of gravitational lensing as a probe of dark matter.

Employment History

Occupation: *Demonstrator/ STEM Ambassador for University of Glasgow's Astronomy Outreach Program.*
From **10/11/13** to **present**.

I see demonstrating for the Astronomy Outreach program as a great tool to inspire others to find out more about science, stargazing and maths by giving talks and demonstrations within a planetarium. We show both children and adults that even with the naked eye there is a plethora of interesting objects to be seen and try to show them how science, technology, engineering and mathematics can be fun. I am proud to be a STEM Ambassador and enjoy trying to encourage all young people to achieve their potential in maths and the sciences. We run planetarium shows, give talks and presentations to schools, societies and other groups in the community.

University of Glasgow

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Reference Name	Position	Department
Dr Euan Bennet	Research Assistant	School of Physics and Astronomy
Ms Rachael McLauchlan	Astronomy and Astrophysics Group Secretary	School of Physics and Astronomy

Occupation: *Customer Assistant for Marks and Spencer* from **20/11/11 to **17/11/12**.**

My contract with Marks and Spencer was renewed on a monthly basis in accordance with my studies, including gaps to fit in with exam periods and coursework deadlines. Whilst being employed by Marks and Spencer I worked within the refund desk, food section, checkouts, menswear and children's clothing and believe I was seen as dependable by my superiors. After leaving the company to sit my first year exams I was requested back to fill a vacant position. In this continually changing workspace I learned the value of being able to depend on my fellow employees and more importantly being dependable myself.

Marks and Spencer plc

Store – Glasgow, Sauchiehall Street

References available on request

Occupation: *Checkout Operator for Morrisons Supermarket.*

From **February 2013** to **September 2013**

Working in a different retail environment from Marks and Spencer, I gained new contacts and become a vital member of a new sales team.

Morrisons Supermarket

Store – Glasgow, Partick

References available on request

Personal interests and hobbies

I am a keen amateur astronomer and love to find new awe inspiring objects to track, view and observe in the night sky. I attend observation evenings with the Glasgow University Astronomy Society as well as observing from my somewhat light polluted garden.

I am also a keen photographer as well as astrophotographer, and enjoy photographing scenic landscapes as well as urban environments such as my university campus, some of which have been published on the University of Glasgow's Facebook website.

Links to photographs published on University of Glasgow's Facebook page:

on.fb.me/PDq9nN

on.fb.me/NhubAa