Angus Williams

Date of Birth:	7 June 1991
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Education

Current — PhD in Astrophysics, **Institute of Astronomy, Cambridge University**
Thesis: "Dynamics of the Milky Way galaxy" — Supervisor: Prof. Wyn Evans
Expected completion: April 2017

June 2013 — MPhys (Physics), **St. Edmund Hall college, Oxford University**
1st class honours
Academic scholar 2010 – 2013

June 2009 — **St Albans School**
A–Levels in Maths (A), Further Maths (A), Physics (A),
Philosophy and Ethics (A)

Experience

Summer 2012 — **Development intern at MathWorks**
Worked in the Parallel Computing Toolbox group for two months,
primarily writing performance tests for functionality within the toolbox.

Summer 2011 — **Research intern at CERN**
Worked in a group from Northwestern university, anaylsing data from
the CMS detector in search of the Higgs Boson.

2009 – 2011 — **Private tutoring**
Taught maths and science to school children aged 8 – 18 in preparation
for various public examinations.

Software

Python — 3 years experience, primarily with the scientific stack (numpy, scipy, matplotlib). Confident in writing pure Python and have experience embedding C, C++ using Cython, Ctypes and Boost.Python.

C/C++ — 3 years experience.

OS X, Linux — Comfortable developing in either environment.

Other software — LaTeX, git, bash

Communication skills

During my graduate studies I have developed my communication skills in several different contexts:

- Delivered technical talks to the Institute of Astronomy in Cambridge and to several other universities, as well as international conferences.

- Given outreach talks to members of the public of all ages.

- Supervised (small group teaching) 3rd year undergraduate students in Statistical Physics.

As a consequence of this experience, I am able to adapt content and style to engage a wide variety of different audiences, and am comfortable presenting in front of large groups.

First–author publications

- **Williams, A. A.** et al. 2016, "The *Gaia*–ESO survey: metal–rich bananas in the bulge", ApJL, 824, 29

- **Williams, A. A.** & Evans, N. W. 2015 "Haloes light and dark: dynamical models of the stellar halo and constraints on the mass of the Galaxy", MNRAS, 454, 698

- **Williams, A. A.** & Evans, N. W. 2015 "Made-to-measure dark matter haloes, elliptical galaxies and dwarf galaxies in action coordinates", MNRAS, 448, 1630

- **Williams, A. A.**, Evans N. W. & Bowden, A. D. 2014, "Hamiltonians of spherical Galaxies in action-angle coordinates", MNRAS, 442, 1405

Interests and Activities

During my graduate studies, I have developed a keen interest in statistics. My research has evolved as a result, and I now regularly apply Bayesian statistical methods when analysing data. More recently, I have become interested in machine learning. I help to organise a machine learning discussion group with several other students, where we present ideas and techniques from the area and discuss the application of these methods to problems in our research and elsewhere (such as those found on Kaggle). I am also a keen sportsman, participating in a variety of different activities with colleagues and friends on a regular basis.

References

Available upon request.