Ewan Pinnington

email: ewan.pinnington@gmail.com

PhD project

Reading University (2013 - Present)

- **Title**: Understanding the information content in diverse observations of forest carbon stocks and fluxes for data assimilation and ecological monitoring.

- **Description**: Improvement of model predictions of forest carbon balance by the implementation and improvement of data assimilation techniques. Data assimilation is a mathematical technique for combining observations with a mathematical model to improve the model forecasts. Techniques were developed to better understand and represent information from both models and observations in data assimilation schemes. As part of the project I was based at a flux tower site in southern England. The techniques and improved model representation for this flux site, developed on the project, were then used to understand the effect of disturbance on the site.

Skills developed

- **Programming**: Much of my experience of coding has been with Python but I also have some familiarity with Matlab and Fortran. In the time on my PhD project I have demonstrated on three Python software courses. I am confident both with functional and object oriented programming in Python. I also have experience working with large datasets in Python in many formats including NetCDF.

- **Version control**: During my PhD I have used Git version control software to track and commit all the changes I have made to code I have written and also host my code on GitHub.

- **Fieldwork**: I have conducted an extensive fieldwork campaign to measure leaf area index using a variety of methods at a forest research station in southern England as part of my PhD. During my time based at the research station I gained familiarity in measurements of soil and litter respiration using a LI-COR infrared gas analyser. I also made measurements of woody-biomass and worked extensively with eddy-covariance data from the flux tower at the site.

- **Modelling and data assimilation**: I have coded my own version of the ecosystem carbon balance model DALEC in Python. I have also implemented my own data assimilation routine with this ecosystem model, using the technique of Four-Dimensional Variational data assimilation (4D-Var). This involved processing a large amount of data to combine with the DALEC ecosystem model.

Qualifications

Reading University (2009 - 2013)

Mathematics BSc Hons, 1st

- **Average grades**: Year 1 - 75%, Year 2 - 80%, Year 3 - 82%.

- **Awards**: Received the award for excellent achievement in both year 2 and 3 of my degree.

- **Modules included**: Analysis, Algebra, Communicating Mathematics, Cryptography, Mathematics for the Digital Economy and Numerical Analysis.

- **Skills developed**: Analytic and lateral thinking, teamwork, mentoring, problem solving, programming, presenting, time and personal management.

Sandy Upper School (2002 - 2007)

- **A-levels**: Mathematics (C), Drama (B), Communication studies (B)

- Awarded the Sherwood Cup for contribution to Drama.

- 10 GCSE's including Maths (A), English (B) and Double Science (AA)

Driving Licence

- Clean driving licence held since December 2006.

Work experience

Personal Tutor (2010 - 2011)

Gave personal tuition to a student studying A-level Mathematics. This helped me significantly improve my ability to communicate advanced mathematical ideas to someone without previous experience of them. I found this very rewarding, helping the student to pass their exams.

Global Talent Publishing (2007 - 2009)

As front man for a band, I signed a three year publishing deal with Global Talent (www.thisisglobal.com). The group were given advance payments for song writing and for performances in the UK and USA. I developed confidence and presentational skills performing on stage in front of many different audiences. I gained good life experience travelling America whilst performing there.

First Choice Recruitment (2008 - 2010)

Undertook a number of varied temporary assignments; Warehouse work, Catering and hospitality and Landscape gardening. I gained excellent communication skills whilst working with a large variety of people from different backgrounds, as I undertook different temporary assignments. I became able to adapt quickly to different environments and tasks set.

Interests and activities

- **Travelling**: I enjoy seeing the world and hope to do so more in the future. I have travelled America and a lot of Europe.

- **Music**: I am extremely interested in music having played guitar and been in bands for a large part of my life. My most successful band having been signed as mentioned in the previous section.

- **Sport**: I follow football supporting Aston Villa. I am a keen hiker and enjoy heading outdoors for long walks and camping. I also like to keep fit by regularly going to the gym.

- **Cooking**: I am an enthusiastic amateur chef and like to make large meals on Sundays to last the week.