

About

Having performed at the highest level academically and as an international athlete. Being organised, methodical, adaptable and resilient are qualities that I bring to all tasks that I am faced with.

As a full time PhD student of Atmospheric Science at The University of Manchester, I have developed numerical models to describe cloud micro-physical processes. I have fine tuned my skills as an independent researcher, highlighting my strengths in data analysis and time management, further advancing my computer programming skills and refining my communication skills through presenting seminars, preparing research for publication and leading lectures to undergraduate students. All the while cultivating my passion for learning. Currently, I am in the final stages of writing my thesis and submitting research papers for publication. I would relish an opportunity to be involved in designing laboratory experiments with aims to gain a better insight into ice formation processes within cloud systems.

Skills

- Proficient using MS Office Software, Matlab, \LaTeX and html/css
- Familiar with Python, Fortran90, Javascript and C++
- Experienced with version control via Git
- Understanding of Windows and Linux/Unix systems
- Basic Spanish
- Research budget management
- Written and verbal communication to a range of audiences

References

Dr. Paul Connolly

Reader, School of Earth and Environmental Sciences, The University of Manchester
Paul.Connolly@manchester.ac.uk

James Plowright

Club & Coach Development Coordinator, SPORT Manchester, The University of Manchester
James.Plowright@manchester.ac.uk

Education

- PhD Atmospheric Science** The University of Manchester September 2015–Present
- MMath and MPhys (Hons) in Mathematics and Physics** September 2010–June 2015
The University of Manchester, *First Class with Honours*
- A levels** Sutton Coldfield Grammar School for Girls September 2008–June 2010
Maths, Further Maths, Physics, Geography, Chemistry, General Studies, Critical Thinking
- GCSEs** Sutton Coldfield Grammar School for Girls September 2002–June 2009
Including English and Mathematics.

Experience

- NERC Doctoral Training Partnership, PhD Studentship** September 2015–Present
- A full time PhD student taking responsibility for a research project, working in close collaboration with supervisors and colleagues to develop an innovative numerical model to investigate aerosol cloud interactions and the environmental implications.
- Research budget management.
 - Time management to work to self imposed deadlines.
 - Self-awareness to identify areas for development and access training.
 - A range of communication skills from presenting at international conferences, writing journal articles for publication and presenting seminars.

- Teaching Assistant, The University of Manchester** September 2015–Present
- Supporting both undergraduate and masters students on a variety of courses in the School of Earth and Environmental Sciences. Teaching on practical laboratory courses, such as Geophysical Techniques, to theoretical and modelling courses such as Scientific Problem Solving, Data Analysis and Statistics, and Measuring and Predicting.
- Prepared and delivered a practical based computer lecture to a class of 80 first year Environmental Science students, introducing them to a new numerical technique of solving partial differential equations and leading them through three short practical examples.
 - Developing effective learning environments for students, by thoroughly preparing the lecture material and by giving effective feedback after assessing their individual needs.
 - Currently in the process of applying to become a Fellow of the Higher Education Academy.

- Water Polo Coach, The University of Manchester** September 2015–June 2018
- Planning and delivering a minimum of six hours of training sessions per week and coaching during matches, which lead to winning both the league and cup events last season and gaining promotion to the premier division.
- Facilitating individual development by giving focused feedback during training and match play situations.
 - Managing a wide range of experience and ability within the team by designing sessions that stimulate the most able, while allowing others to develop the basic skills.
 - Encouraging a positive work ethic within the team environment.
 - Developed a seven week programme for staff and students at The University of Manchester as part of the Sporticipate Scheme.

Positions of Responsibility

- SPORT Manchester Scholarship Panel** June 2015–June 2018
- DTP Annual Conference Committee** October 2016–July 2017
- International Athlete, British Water Polo Outreach, NERC Into The Blue** September 2012–July 2017
October 2016
- Sports Scholarship Administrator, SPORT Manchester Conference Assistant, ICCP Manchester** January 2016–September 2016
July 2016
- AASE Mentor, Institute of Swimming** October 2015–June 2016

Publications and Presentations

Aerosol viscosity and ice nucleation

Fowler K, Connolly PJ, Topping D. Seminar presented at: Centre for Atmospheric Science, the University of Manchester; October, 2018; Manchester, UK.

Maxwell-Stefan diffusion: a framework for predicting condensed phase diffusion and phase separation in atmospheric aerosol

Fowler, K., Connolly, P. J., Topping, D. O., & O'Meara, S (2018). Atmospheric Chemistry and Physics, 2018, 1629-1642.
<https://doi.org/10.5194/acp-18-1629-2018>

Maxwell-Stefan diffusion: a framework for predicting condensed phase diffusion and phase separation in atmospheric aerosol (Supporting code)

Kathryn Fowler, & Paul J. Connolly (2018). Zenodo. <http://doi.org/10.5281/zenodo.1194309>

Investigating the sensitivity of ice cloud formation to water diffusion.

Fowler K, Connolly PJ, Topping D. Poster session presented at: European Geosciences Union General Assembly; 2018 8-13 April; Vienna, Austria.

Modelling component diffusion in aerosol particles using Maxwell-Stefan's laws and the implications for cloud particle formation.

Fowler K, Connolly PJ, Topping D. Poster session presented at: 49th American Geophysical Union Fall Meeting; 2016 12-16 December; San Francisco, CA, USA.

Diffusion through aerosol particles: a new framework and the implications for atmospheric processes.

Fowler K, Connolly PJ, Topping D. Poster session presented at: XVII International Conference on Clouds and Precipitation; 2016 25-29 July; Manchester, UK.

Hobbies and Interests

Water polo

As a former international athlete, I have represented GB and England in European, World and Commonwealth championships, training for a minimum of 20 hours per week balanced with the commitments of a full time academic degree. Alongside my PhD, I trained for and competed at the Universiade, in Taipei, 2017, an incredible experience playing at the highest international level. Competing at the highest level for five years involved:

- Actively setting and reassessing both personal and team goals.
- Working as part of a wide and diverse team, made up of athletes, coaches, team staff, physios and doctors towards a common goal.
- Commitment and perseverance to put the work in at training each and every day individually with the long term view of our performances in competition.
- Actively pursuing and reacting positively to feedback from coaches and team mates to strive for improved performances.

Water polo has given me many wonderful opportunities and I continue to play in a social capacity, staying involved by gaining my referee qualification to coaching junior players.

Many Mirrors LGBT+ group

Many Mirrors is a group for those who identify both as of faith and LGBT. Our aim is to provide a safe space for people to explore their own identity. I am currently developing a website for the group so that we are able to share our social events and inclusive faith events.

North West Meteorological Society

Monthly meetings provide really accessible and interesting opportunities to learn about both recent and historical research on atmospheric processes.