

# Ruth Keane

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## Summary

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I am a student with a biological background currently studying a quantitative and computationally intensive masters degree. I have work experience in a range of health and ecological fields.

## Education

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### Imperial College London

October 2019 - Present

*MSc Computational Methods in Ecology and Evolution*

Computational	Bash, R, Python, GIS, C, High Performance Computing
Statistical	General statistics, GLMs, Bayesian statistics, Maximum likelihood
Mathematical	Mathematics, Ecological modelling, Evolutionary modelling

### University of Nottingham

September 2016 - July 2019

*BSc Biology*

*First Class*

- Initially studied Natural Sciences (Maths, Biology, Chemistry). In second year, switched to Biology but studied all quantitative modules that were available. Main focus of degree was Ecology, Evolution and Behaviour.  
Key modules include:
- Conservation-Understanding the practicalities of conservation in the world. Using Maxent and GIS to determine the IUPAC status of *Mesalina bahaeldini*. Using Vortex to determine the likelihood of extinction of a critically endangered butterfly.
- Evolution and Behaviour - Extensive experience in essay writing; understanding key concepts in evolution and behaviour at a deeper level.
- Genetics - Understanding the mathematics of population genetics. Coursework involved the use of STRUCTURE to determine population differentiation.
- Higher Skills in the Biological Sciences- Data analysis, Experimental design techniques and Presentations. Bioinformatics including database searching and Pymol.

### Stratford Girls' Grammar School

September 2008 - June 2015

*A-levels*

*A\* A\* A*

- Biology, Chemistry and Maths

## Key Projects

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### Modelling Covid-19 and Climate

March 2020-Present

- Making a SEIR model for respiratory viruses that includes the effect of climate on both human behaviour and virus survival.

### Clustering of Tongue Length and Division of Labour in *Bombus terrestris* (Undergraduate Dissertation)

September 2018-March 2019

- Collected morphological data from bumble bees from commercially sourced hives.
- Using PCA and cluster analysis in R, found that workers can be split into two clusters and that foraging bees tend to be in the longer tongued cluster.
- This was an independent research project which required initiative, problem-solving and data analysis skills.

***Polistes dominula: The Importance of Wasp Size and Nest Orientation*** *April 2018*

- Fieldwork near Lisbon, Portugal exploring the orientation of the nests of paper wasps. This was in a group of four people so was great practice in sharing ideas within a team,

**Behavioural Changes in Insects Infected with Entomopathogenic Fungi** *March 2018*

- This was an independent literature review where I developed skills in academic research and writing.

## Key Skills

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<b>Computing</b>	R, Python, Bash, some C, some MATLAB, ArcGis, Vortex, XPPAUT
<b>Software</b>	MS Office, Latex, Emis, Recorder
<b>Languages</b>	Some French and Spanish

## Work Experience

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**Engleton House Surgery** *Coventry*  
*Medical Summariser, Receptionist, Administration* *September 2015-September 2019*

- Administrator (during my gap year) including sorting patient notes and registering university students.
- Receptionist (during my gap year). Helped patients with booking appointments, registering with the practice and prescription enquiries. In addition, dealt with complex enquiries which often involved liaising with non-medical or medical staff. Involved communicating in difficult circumstances such as upset patients or those with limited English skills.
- Summariser (during university holidays). Finding key conditions in patient medical notes and updating computer records.

**The Butterfly Farm** *Stratford-upon-Avon*  
*Volunteer* *July 2018-September 2018*

- Developed skills in animal care, particularly of invertebrates and reptiles.
- Learnt about the application of zoology in a commercial environment.
- Led handling sessions, educating the public about invertebrates and the environment.

**Ecology Department, Warwickshire County Council** *Warwick*  
*Admin Volunteer* *October 2014 - June 2015; June 2018-September 2018*

- Data entry of surveys and reports from the last 30 years using Recorder. I learnt a lot about the work that they did, protecting endangered species in Warwickshire from the impact of humans.

**AVRDC (World Vegetable Centre)** *Thailand*  
*Intern* *February 2016-April 2016*

- Summarised and compared information from reports on post-harvest loss for tomatoes and green leafy vegetables in different countries in Asia and Africa
- Biological control of pests particularly damaging to vegetable agriculture including in rearing them and their biological control agents.
- Learnt about selective breeding and about the work the AVRDC does to improve vegetable farming.

## Extra-Curricular

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Wellbeing Representative for Silwood Park Student's union  
Society treasurer and vice-president  
Member of Patient Participation Group for GP surgery