POLLY-ANNE JEFFREY

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EDUCATION

EPSRC/AstraZeneca Funded PhD

University of Leeds

October 2017 – Present Leeds, England

Thesis working title: *Mathematical modelling of cellular receptor signalling*.

The focus of my PhD project is using mathematical modelling to learn about biological systems. In particular I work with models based around the interactions between cellular receptors and other small molecules. I am interested in both deterministic (ordinary differential equation) and stochastic mathematical models as well as the use of Bayesian statistics to infer the parameters of such models.

BSc (Hons) Mathematics (Industrial): 1st Class

University of Leeds

October 2013 – June 2017 Leeds, England

I studied for a BSc in Mathematics with particular interest in applied mathematics and statistics. I spent a year on placement working as a student biostatistician for Covance (see employment). In my final year I was introduced to research, mathematical modelling of biological processes and programming in Python, through a group project module.

A-level & GCSE

King Edward VI School

September 2008 – June 2013 Morpeth, England

A-level: Biology (A), Chemistry (A), Mathematics (A).

AS-level: Further Mathematics (A), Performance studies (B).

GCSE: 6 A*s and 4 As

PUBLICATIONS

Lin, C.C., Suen, K.M., **Jeffrey, P.A.**, Wieteska, L., Stainthorp, A., Seiler, C., Koss, H., Molina-París, C., Miska, E.A., Ahmed, Z. and Ladbury, J.E., 2019. *Receptor tyrosine kinases regulate signal transduction through a liquid-liquid phase separated state.* bioRxiv, p.783720.

SKILLS & RELEVANT EXPERIENCE

- **Independent research** is a skill which I am continually developing throughout my PhD studies.
- I am very interested in **programming** and am proficient at numerical programming in Python. I also have experience using R, Mathematica, SAS and HTML.
- I have experience in **public engagement**, communicating interactive mathematics sessions to groups of GCSE level classes both in schools and at Leeds University.
- I have demonstrated my **communication** skills through working as a tutor for three semesters during my PhD, delivering workshop classes and providing coursework feedback.
- In September 2019 I co-organised a conference entitled "The mathematics of biology and medicine". This required **leadership**, **teamwork** and excellent **time management**.

REFERENCES

Available on request.

PROFILE

I am currently a Smith CASE PhD student at the University of Leeds, funded by the EPSRC and AstraZeneca and am part of the group of mathematical biology and medicine. My research is mostly in mathematical modelling and Bayesian statistics, although as a result of the application of my modelling, I also have knowledge of specific biological systems. Throughout my PhD so far I have been actively involved in tutoring and marking, outreach activities with school children, and participating in seminar series and research discussion groups.

I have experience using a number of programming and typesetting languages, such as Python and LaTeX and am able to quickly adapt to new languages. I am a co-author on a submitted research paper and am currently in the process of preparing a manuscript for submission, for which I will be the first author. I have given talks and presented posters at conferences and workshops and have also co-organised a PhD conference, which involved applying for funding, contacting and selecting speakers and running a transferable skills activity on the day.

Alongside my studies I enjoy keeping fit, running, swimming and playing badminton for a team in Leeds. I am a good communicator, have a friendly and outgoing character, am highly self-motivated and always aim to produce high quality work.

EMPLOYMENT

Tutor

University of Leeds

Jan. 2019 – Present Leeds, England

- Conducting tutorial classes
- Coursework marking

Student biostatistician

Covance clinical research

Jul. 2015 – Jul. 2016 Leeds, England

- Programming tables figures and listings
- Producing randomisation schedules
- Generating statistical analysis plans
- Statistical analysis and programming
- New starter training