David Joseph Pattinson — Ph.D. MRes BA

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Influenza Research Institute
Science Dr.
Madison, WI 53711
USA

Employment

University of Wisconsin–Madison, Madison WI, USA
Scientist. Influenza Research Institute, Mar 2022–present
Postdoctoral Research Associate. Influenza Research Institute, Nov 2019–Mar 2022

Education

University of Cambridge, Cambridge, UK
PhD Infectious disease informatics. Department of Zoology, 2014–2019
BA Natural Science. Queens' College, 2009–2012 — 1st class

Imperial College London, London, UK
MRes Biosystematics. Natural History Museum, 2012–2013 — Distinction

Alyesbury Grammar School, Aylesbury, UK
A level Maths, Further Maths, Biology, Chemistry, Physics. 2000–2008 — 5×A

Computational skills

I have used **python** daily for 9 years; mainly writing (e.g. ititer, pymds) and using packages for scientific research (e.g. **pymc3**, **numpy**, **scipy**, **scikit-learn**, **matplotlib**, **pandas**, **bambi**.) I have developed apps in **dash** and have some experience with **django**. — I am familiar with **R** and **Javascript**. — I use the unix command line daily. — Scientific software I have used includes: **MrBayes**, **RAxML** and **mafft** for phylogenetics and **gromacs** and **amber** for structural biology.

Research

Link to publications.

Predicting the antigenic evolution of seasonal influenza viruses with application to vaccination strategy. Quantifying the relationship between VE and mismatch. — Developing linear mixed models for association testing and genotype to phenotype mapping with antigenic phenotypes. — A framework to rank substitutions by similarity to cluster transition substitutions. — Link to thesis.
PhD — Supervised by Prof. Derek Smith — Pass

Endogenous retrovirus screening in catarrhine primates
MRes — Supervised by Dr. Michael Tristem — Distinction

Novel methods in mitochondrial DNA enrichment
MRes — Supervised by Dr. Martijn Timmermans — Distinction

A morphometric assessment of species delimitation in Canarian Pericallis
MRes — Supervised by Dr. Mark Carine — Distinction

Combining molecular and morphological data in phylogenetic analyses
BA — Supervised by Dr. Robert Asher — 1st class.
This won the Palaeontological Association Undergraduate Prize and John Ray Trust Science Prize.

Additional experience

Research assistant — Nautral History Museum
Oct 2013 - Apr 2014 — London, UK
Developed Hypericum online: http://hypericum.myspecies.info/.

Research internships — University Museum of Zoology
Jun–Aug 2011 and 2012 — Cambridge, UK
Phylogenetic analyses using combined morphological and molecular data. — Artificial extinction

experiments. — Characterised prenatal dental eruption sequences using μCT imagery. — Funded by the Weis-Fogh and the J. Arthur Ramsay funds.