

# Dr Scott Allen, PhD

## Postdoctoral Research Fellow

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### Professional Summary

**Bioinformatics PhD (2018)** – My expertise is primarily in designing experiments, managing teams of scientists, and applying innovative, state-of-the-art data analysis techniques to extract valuable insight from data. The main tool I use for data analysis is the programming language R; I can also script in shell, and have some experience with perl, python, SAS, and SQL. In addition to foundational data analysis methods such as regression, ANOVA, and mixed-effects models to account for random processes and non-independent data structures, I have experience engineering features to solve more complex problems using Machine Learning, Deep Learning, and Approximate Bayesian Computation. I can learn and apply cutting-edge algorithms quickly. With advanced writing and communication skills, I can work collaboratively with a team that has a diverse range of skill sets.

### EDUCATION

PhD in Bioinformatics (2018)  
The University of Queensland

The outcome was insight into the genetic basis of adaptation and the development of a micro-array platform to measure the expression of genes (budget ~\$150,000). The micro-array platform directly enabled the publication of a large number of scientific papers (7) published between 2013-2018. These publications provided valuable insight (citations) for a further 139 papers.

### KEY SKILLS

Statistical analysis in R  
Database queries (dplyr, SQL)  
Data cleaning (ETL)  
Data visualization (ggplot, Power BI)  
Feature Engineering  
Dimensionality reduction (PCA)  
Logistic regression (glm, glmnet, caret)  
Mixed-effects modelling (lme4)  
Approximate Bayesian Computation  
Machine Learning (SVM, Random Forest)  
Deep learning (Keras)  
Clustering (k-means, hierarchical)  
Report writing (MS Word)  
Oral presentation (MS PowerPoint)

### Work Experience

2020 - current  
Research Fellow • The University of Queensland, Brisbane

2018-2020  
Research Fellow • University of Veterinary Medicine, Vienna

2013-2018  
Research Officer • The University of Queensland, Brisbane

Key responsibility was the development of innovative data analyses and publication of results in scientific journals. Required collaboration with peers ranging from high ranking Professors with a diverse range of expertise to PhD students beginning their academic career. This work has led to personal authorship of 17 peer-reviewed publications that provided insight for 312 research projects to-date.

### Awards & Presentations

2019 – Editor's Choice Award in *Genetics*  
2019 – Editor's Choice Award in *Genes, Genomes, Genetics*  
2018 – Presented at The Institute of Populations Genetics, Vienna, Austria  
2014 – Presented at the Society for the Study of Evolution, North Carolina, USA  
2012 - Presented at the 4th International Conference of Quantitative Genetics, Edinburgh, Scotland  
2007 – Presented at the Society for the Study of Evolution, Christchurch, NZ