

# Heath O'Brien, PhD

## Bioinformatician

November 2021

10 Marmaduke Street, Bristol  
BS3 4SQ, United Kingdom

+44 (0) 7711 045747

[hobrien.github.io](https://github.com/hobrien)

[heath.obrien@gmail.com](mailto:heath.obrien@gmail.com)

[heath\\_obrien](#)

[hobrien](#)

[Publications](#)

[heath-o-brien-198145b2](#)

## About me

I have 20 years of experience analyzing genetic data, both in academia and the private sector. I've worked on functional genomics, high-throughput sequencing and genotyping data from plants, fungi, bacteria and humans. I enjoy working on interdisciplinary projects and leading teams with diverse skill sets. I also have strong communication skills, having co-authored over 25 publications and presented my research at conferences in 7 countries.

## Skills

Functional genomics

Quantitative genetics

Microbiology

Data visualisation

Scientific communication

Project management

R

Python

BASH

AWS

SQL

## Work History

- 2020-2021 Bioinformatician Theolytics Oxford UK
- Managing pipelines and compute architecture for genomic analyses of oncolytic viruses
  - Advising on research strategy and on the design and analysis of experiments
  - Managing partnerships with other companies and academic scientists
- 2018-2020 Lead Bioinformatician Living DNA Frome, UK
- Leading a team of 6 bioinformaticians and data scientists developing methods to derive ancestry and health insights from genotyping data
  - Working to secure external funding to develop novel genomic prediction approaches
  - Collaboration with the engineering team to deploy processing pipelines at scale and to improve all steps of sample processing and data delivery
- 2016-2018 Research Associate MRC Centre for Neuropsychiatric Genetics and Genomics Cardiff, UK
- Differential gene expression and eQTL analyses on human brain samples
  - Integration of functional genomic and large-scale population genetic datasets for schizophrenia and other neuropsychiatric disorders
  - Organization of training seminars on data science (Rstudio, MySQL), version control (Git), and pipeline development (Snakemake, Bash)
  - Deployment of results on the web using R-Shiny
- 2013-2016 Bioinformatician University of Bristol Bristol, UK
- Comparative transcriptomics to determine the genetic basis of cell wall patterning responsible for colour-production in plant leaves
  - Acting group leader during nine-month family leave cover (overseeing a team of three staff and two students, managing procurement)
- 2008-2013 Postdoctoral Fellow University of Toronto Toronto, ON, Canada
- Comparative analyses of bacterial genomes
  - Cloning of virulence factors and characterization using in-planta infection assays
- 2006-2008 Lab Administrator Duke University Durham, NC, USA
- Oversight of Microbiology teaching labs
  - Managed one lab technician and eight teaching assistants

## Education

- 2000-2006 PhD, Molecular systematics of cyanobacteria Duke University Durham, NC, USA
- 1994-1999 Bachelors degree, Plant Science University of Alberta Edmonton, AB, Canada

## Training

Advanced Python for Biologists, PR Statistics, February, 2017.  
Advancing in R, PR Statistics, April, 2015.  
Genetic Data Analysis, Summer Institute in Statistical Genetics, June, 2003.

## References

Available on request.