Heath O'Brien, PhD
Bioinformatician

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Publications

in genome-informatics

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

2020-2022   Bioinformatician   *Oxford UK*
Theolytics
- 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   *Frome, UK*
Living DNA
- 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   *Cardiff, UK*
MRC Centre for Neuropsychiatric Genetics and Genomics
- Differential gene expression and eQTL analyses on human brain samples
- Integration of functional genomic and large-scale population genetic datasets for schizophrenia and other neurophychiatric 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   *Bristol, UK*
University of Bristol
- 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   *Toronto, ON, Canada*
University of Toronto
- Comparative analyses of bacterial genomes
- Cloning of virulence factors and characterization using in-planta infection assays

2006-2008   Lab Administrator   *Durham, NC, USA*
Duke University
- Oversight of Microbiology teaching labs
- Managed one lab technician and eight teaching assistants

Education

2000-2006   PhD, Molecular systematics of cyanobacteria   *Durham, NC, USA*
Duke University

1994-1999   Bachelors degree, Plant Science   *Edmonton, AB, Canada*
University of Alberta

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.