

Samuel John Beales - Bioinformatician

15 Derwent Dale, Shotley Bridge, DH8 0HZ
07432 456078 work@sam-beales.uk
[linkedin.com/in/sam-beales-614624183](https://www.linkedin.com/in/sam-beales-614624183)

Profile:

Keen bioinformatician with proven research lab experience in Python, R, and shell scripting. With a commitment to pursuing an analysis-based PhD, experience in creating single-cell sequencing pipelines gained from a six-month research project. Dedicated to professional development widening my skills with courses and personal projects. Now seeking an interesting PhD opportunity to apply Immunology and bioinformatics.

Education:

September 2022 - July 2023 MRes Bioinformatics and Immunobiology Newcastle University

Relevant Modules:

Bioinformatics for Biomedical Scientists:

- High Throughput Sequencing (HTS) applications and sequence alignment, alongside handling and analysis of HTS data.
- Running bioinformatics analysis at the Linux command line, and practical approaches to pathway analysis.
- R statistical programming framework and Bioconductor, as well as statistical analysis and visualisation of HTS data using R.
- Machine Learning and Artificial Intelligence in bioinformatics.

Applied Immunobiology of Human Disease:

- Basic concepts in Immunology, features and mechanisms immunologic tolerance, auto-immunity, and tumour immunity.
- Manipulation of innate immunity for immunotherapy, as well as new developments in cytometry-based technologies.
- Immunological Biomarkers: role in diagnostics, prognostics and theragnostics.

Genetics of Common Disease:

- Developed an advanced understanding genetic variation, complex disease, and the correct research strategies for their study. As well as use of computer packages for statistical genetic analysis.

Research Skills and Principles for the Biosciences:

- Planning and application of correct experimental design, statistical analyses, and computational resources.
- Practiced presentation skills and engaged in scientific discussion with a group of five peers.

MRes project and skills:

January – July 2023 Lessons from nature - Using human developmental data to inform haematopoietic organoid design.

- Extensive use of Python, and R in Single-cell analysis pipelines. Processing and analysing high throughput data.
- Detailed bioinformatics, genomics, and immunology subject knowledge. Focusing on single cell analysis of 900,000 cells and 40,000 genes B cell receptors in cancer datasets. Utilising statistical analysis and application of machine learning algorithms.
- Shell scripting for management of a Linux virtual machine and use of singularity containerisation.
- Experience within a cancer research group environment.
- Advanced verbal and written communication with colleagues alongside multidisciplinary interaction and collaboration.

2018-2022 BSc (Hons) Biology (Cellular and Molecular) 2:1 University of Huddersfield

Relevant Modules:

- **Mechanisms and Pathology of Cancer and other Chronic Diseases:** Knowledge of the aetiology, pathogenesis, diagnosis and treatment of major chronic diseases focusing on cancer and its therapeutic treatments.
- **Genomics:** Familiarised with High-throughput methods and applications, with detail into technical aspects and practical analysis experience of high-throughput data using publicly available databases and resources.
- **Applied Molecular Genetics:** In depth study and application of methods and applications of molecular genetics.
- **Research skills 2:** Developed general research skills including writing, presentations, using statistical analysis and teamworking through a group project.
- **Research Project, Analysis of the relationships between longevity related genes in C. elegans:** Applied molecular methods and maintained lab environment, as well as writing a comprehensive scientific report on the findings.

2011-2018 St Bede's Catholic School and 6th Form College

A-level: Biology (C), Chemistry (C), Psychology (C), Core Maths (B)

GCSE: 7 GCSEs at A-C: Including Maths and English

Continued Professional Development:

2023-2024 Further omics, statistics and clinical data in R, University of Glasgow

- Parametric and non-parametric tests, P values, survival curves, and power calculations.
- Custom functions and workflow scripting, visualisation of plots, and normalisation of RNA-seq data in R.
- Identifying and exploring DE signatures, widening my understanding of DE data analysis.
- K-means clustering unsupervised machine learning and its application in scRNA-seq data.

2023-2024 Personal website development

- Proactive setup of Windows Subsystem for Linux and shell scripting with Zsh to independently achieve goals.
- Personal projects display deeper interest and enthusiasm for learning and flexibility to work independently.

2024 Artificial Intelligence in Bioinformatics, Taipei Medical University

- The fundamentals of AI and machine learning, with their application using Weka.

Coding languages:

- Python – Advanced proficiency with large data analysis and machine learning focus.
- R – Intermediate proficiency with statistics and trajectory focus.
- Shell Scripting (Unix, Z Shell) – Intermediate proficiency with focus on containerization, VM and data management.
- HTML 5 – Novice proficiency focusing on web development.

Placement year

September 2020 – August 2021 Lab Analyst, Lonza Group:

- Operated in a busy microbiology lab gaining industry experience. Managing workload through proactive approach to preparing before especially large workloads. Ensuring highest standards are maintained for all work carried out in the laboratory.
- Learned and applied microbiological methods with a collection of specialist equipment.
- Maintained proper procedures, ensuring any changes were reported to correct laboratory managers as soon as possible.
- Maintained lab book with clear scientific language and coordinated own schedule, ensuring excellent organisational skills managing multiple simultaneous projects.
- Analysed and investigated results with colleagues to produce presentations and relevant reports, ensuring accuracy and developing good people skills.
- Presenting project progress regularly to managers at weekly meetings, developing written and spoken communication skills.
- Mentored new staff in lab protocols as well as training colleagues in use of new pieces of equipment. As well as preparing new SOPs for that equipment and updating out of date SOPs.

Work experience: Voluntary

April 2024 –May 2024 Volunteer, DWP

- Assisting customers on computational skills improving my teaching skillset.
- Examining labour market in a customer facing role, and liaising with colleagues to meet specific needs of customers.

Positions of responsibility

September 2019-2022 Vice-President, University of Huddersfield Fencing Club:

- Coached and managed weekly fencing sessions to ensure reliable practice for members, communicated with Students Union and organised club finances to maintain regular stock of functioning equipment for club use.

September 2018-2020 Academic Representative University of Huddersfield:

- Worked to improve the quality of student experience, gathering feedback, attending meetings, and filing issues.

References

Research Supervisor:

Simone Webb

Tel: 07809449524 (email preferred)

Email: simone.webb@ncl.ac.uk

Personal tutor:

Gavin Clowry

Tel: +44 (0) 191 208 5981

Email: gavin.clowry@ncl.ac.uk