

Conrad Derbyshire

Engineering Biology MRes Student

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conraddrbyshire

Profile

I am a Research Master's student at the University of Bristol, investigating methods for improving genetic circuit design in *E. coli*. With strong foundations in molecular biology and data analysis, I have developed into a capable and independent researcher. I am particularly driven by the potential of engineering biology to address real-world challenges in biomedical and industrial contexts.

I am now seeking a research assistant position in industry where I can apply my hands-on laboratory experience and strong interpersonal skills to contribute to innovative projects as part of a dynamic team.

Research Experience

Sep 2024 - **Engineering Biology Research Master's**, University of Bristol

Current *Research Group*: Biocompute Lab, supervised by Professor Thomas Gorochowski and Professor Claire Grierson.

Project Title: Exploring the phenotypic space of genetic circuits using pooled combinatorial DNA assembly.

- Applied a range of wet-lab techniques: cloning (Golden Gate and Gibson assembly) and bacterial cell culture
- Developed and executed high-throughput screening protocol for genetic circuits, involving plate reader and flow cytometry assays
- Performed Nanopore Sequencing on genetic circuit libraries
- Used Python for analysis and visualisation of large experimental datasets
- Managed project independently, demonstrating strong organisational and problem-solving skills

Summer **Plant Molecular Biology 10-Week Placement**, University of Cambridge

2023 *Research Group*: Under the supervision of Dr Edwige Moyroud.

Project Title: GABA – a signal for petal patterning in the model species *Hibiscus trionum*?

- Applied a range of molecular biology techniques, including PCR, qPCR, and microscopy
- Utilised CRISPR-Cas9 to generate a GABA pathway knockout mutant

Skills

Laboratory DNA Assembly, High-Throughput Screening, Flow Cytometry, Nanopore Sequencing, Microscopy

Computational Data Analysis, Python Programming, Biological Modelling

Professional Organisation, Problem Solving, Independent Research, Communication, Presentations

Undergrad

2021 – 2024 **BSc Biology with First Class Honours**, University of Bristol

3rd Year Modules:

- Advanced Practical Skills
- Evolution: from Genomes to Biodiversity
- Future of the Green Planet
- Literature Review
- Plants and Sustainable Food Production

2nd Year Modules

- Animal and Plant Physiology
- Cell and Developmental Biology
- Evolutionary Biology
- Molecular Genetics
- Neuroethology
- Quantitative and Computational Methods
- Science and Success

1st Year Modules

- Current Topics in Biology
- Diversity of Life A & B
- Key Concepts for Biologists
- Life Processes A & B

School

2008 – 2021 **Stewart's Melville College**, Edinburgh, UK

2020 – 2021 **Head Boy**, Sixth Form

2019 – 2021 **Non-Commissioned Officer**, ESMS Combined Cadet Force

Advanced Highers:

- Biology A*
- Chemistry A
- Mathematics A*

Sixth Form Prizes:

- S6 Biology Prize
- Vikram Bolina Prize for Excellence and Commitment to the Sciences
- Prize for Academic Excellence
- Daniel Stewart's Club Centenary Prize

Highers:

- Biology A*
- Chemistry A*
- English A*
- Mathematics A*
- Physics A*

National 5's:

- 7 A*'s & 1A (including French, Geography, and Latin)

Other Experience

2024 **Bristol Plus Award**

Recognition of the steps I took throughout my undergraduate degree to further my personal development, including my research placement, work as a peer assisted study leader, and attendance of a range of career-focused workshops.

2022 – 2024 **Peer Assisted Study Leader**, *University of Bristol*, UK

Led small-group sessions designed to help 1st and 2nd year biology students build foundational research skills, like critical thinking, organisation, and subject-specific knowledge.

2022 **Customer Assistant**, *Tesco*, Colinton, Edinburgh, UK

Interests

2021 – 2025 **Mountaineering Club**, University of Bristol, UK

2024 – 2025 **Canoe Club**, University of Bristol, UK

2023 – 2024 **French Speaking Lessons**, University of Bristol, UK

References

Available upon request

Master's Supervisor **Professor Thomas Gorochowski**, Research Group Leader, University of Bristol
thomas.gorochowski@bristol.ac.uk

Placement Supervisor **Dr Edwige Moyroud**, Research Group Leader, Sainsbury Laboratory, University of Cambridge
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