Moray Smith

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Education

University of St Andrews, *PhD* 2020 - 2024
- Thesis: "Applications of next-generation sequencing towards resistance gene identification"
- EASTBIO Doctoral Training Programme

University of Glasgow, *BSc (Hons) in Molecular & Cellular Biology* 2016 - 2020
- Dissertation: "Molecular regulation of sexual development in *Plasmodium berghei*"
- First Class Honours

Experience

Postgraduate Researcher, *James Hutton Institute* 2020 - 2024
- Developed a suite of high-throughput Snakemake workflows to assemble, extract, and analyse disease resistance genes from enrichment sequencing data
- Software utilised by PhD and undergraduate researchers based at the James Hutton Institute
- Preparation of DNA and RNA samples for enrichment sequencing with Illumina and Pacbio sequencing platforms

Teaching Internship, *Ghent University* Oct. 2021 - Dec. 2021
- Capacity Building of Nematology in Sub-Saharan Africa
- Teaching statistics at UGent for the International Master of Science in Agro- and Environmental Nematology (IMaNema) programme
- Editing a textbook for the IMaNema programme encompassing Nematology, Agronomy, and Molecular Biology
- Placement at Moi University in Kenya setting up a Nematology laboratory and training students on basic Nematology skills

Teaching and Supervision

Gatsby Plant Science Studentship, *James Hutton Institute* Sep. 2023 - Sep. 2023
- Supervision of a Gatsby Summer Studentship project
- Oxford Nanopore sequencing 16S metabarcoding of soil microbiomes
- Developed an automated Snakemake workflow encompassing basecalling, demultiplexing, QC, and Emu + phyloseq microbiome summarisation
- Demonstration of GitHub and version control for software development

Academic Skills Project, *University of St Andrews* Sep. 2021 - Feb. 2023
- Organisation and running of academic skills workshops
- Designed, advertised, and executed workshops for undergraduate students
- Topics included R and figure design, the peer review system, and reference management software

Lab demonstrator, *University of St Andrews* Sep 2021 - Feb 2023
- BL1101 Basic Lab Skills; BL2309 Genomics, Infectious diseases, and Proteomics; BL3320 Statistics and Quantitative Skills for Biologists; BL4273 Computational Genomics

- Demonstrating, grading, and coursework design

Awards

- Open Science Award, 2024, *James Hutton Institute*
- Travel bursary, 2023, *European Society of Nematologists*
- Brian Kerry Prize, 2022, *Association of Applied Biologists*
- Chief Executive Presentation Prize, 2022, *James Hutton Institute*
- SEFARI Showcase Presentation Prize, 2022, *SEFARI*
- Poster Presentation Prize, 2021, *James Hutton Institute*
- Cancer Essay Prize, 2019, *University of Glasgow*
- JISC EdTech Challenge Prize, 2019, *JISC*
- Head of College Scholars List, 2018, *University of Glasgow*
- Head of College Scholars List, 2017, *University of Glasgow*

Publications

Adams, T. M., Smith, M., Wang, Y., Brown, L. H., Bayer, M. M., & Hein, I. (2023). HISS: Snakemake-based workflows for performing SMRT-RenSeq assembly, AgRenSeq and dRenSeq for the discovery of novel plant disease resistance genes. *BMC Bioinformatics*, *24*(1), 204–205.

Smith, M., Jones, J. T., & Hein, I. (2024). Resistify - A rapid and accurate annotation tool to identify NLRs and study their genomic organisation. *Biorxiv*. https://doi.org/10.1101/2024.02.14.580321