Faruk Dube

Doctoral Student

My Contact

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Faruk Dube

Education

- Swedish University of Agricultural Sciences, Sweden, 2019-Present
  PhD in Biomedical Sciences
- Uppsala University, Sweden, 2016-2018
  Masters of Medical Science in Infection Biology, Biological and Biomedical Sciences
- Makerere University, Uganda, 2009-2012
  Bachelor of Science in Biomedical Laboratory Technology

Programming

- R
- Python
- Bash
- Nextflow
- Perl

Data Science

- Omics data analysis (Genome and Transcritpome)
- Pipeline building and deployment
- Data wrangling and visualisation
- Advanced Statistics
- Git/GitHub
- Markdown reports
- RStudio
- VScode
- HPC (SLURM)

Language

- Luganda (Native)
- English (Fluent)
- Swedish (Beginner - Intermediate)
- Swahili (Intermediate)

About Me

Biomedical Science PhD Candidate with expertise in Infection Biology and Bioinformatics. Strong background in studying various pathogens and currently researching drug resistance mechanisms in parasites using Caenorhabditis elegans as a model organism. Skilled in deploying complex bioinformatics pipelines on high-performance computing clusters for efficient data analysis. Seeking opportunities to contribute expertise and advance understanding in biomedicine.

Professional Experience

Visiting Research Fellow | Northwestern University

2023/03 – Present

Activities:

- Apply advanced bioinformatics techniques to study drug resistance mechanisms in C. elegans through GWAS and QTL analysis.
- Manage and analyzed large genomic datasets using R and conducted efficient data operations with Bash in an HPC environment.
- Collaborated with a multidisciplinary team to achieve research goals focused on understanding drug resistance mechanisms and the genetic basis of resistance in C. elegans.

PhD candidate | Swedish University of Agricultural Science

2019/10 – Present : Defense date: 15th December 2023

Activities:

- Researching drug resistance in Ascarid roundworms using transcriptomics and RNAseq data from C. elegans and P. univalens.
- Developing and deploying robust bioinformatics pipelines (Nextflow, Docker, Singularity) for high-throughput transcriptomic data analysis on HPC systems.
- Contributing to academic conferences and peer-reviewed scientific journals
- Manuscript writing
- Three scientific studies published

Research Engineer | National Veterinary Institute

2018/07 – 2019/10

Key responsibilities:

- Bacteria and Fungi culture and DNA handling
- DNA library preparation, sequencing, genome analysis
- Building NGS data analysis pipelines
- Provide bioinformatics support to different projects
- One scientific study published

List of publications

- Dube F, Hinas A, Delhomme N, Åbrink M, Svärd S, Tydén E. Transcriptomics of ivermectin response in Caenorhabditis elegans: Integrating abamectin quantitative trait loci and comparison to the Ivermectin-exposed DA1316 strain. PLoS One. 2023 May 4;18(5):e0285262. doi: 10.1371/journal.pone.0285262. PMID: 37141255; PMCID: PMC10159168.
- Dube F, Hinas A, Roy S, Martin F, Åbrink M, Svärd S, Tydén E. Ivermectin-induced gene expression changes in adult Parascaris univalens and Caenorhabditis elegans: a comparative approach to study anthelminthic metabolism and resistance in vitro. Parasit Vectors. 2022 May 5;15(1):158. doi: 10.1186/s13071-022-05260-4. PMID: 35513885; PMCID: PMC9074254.
- Dube F, Söderlund R, Lampinen Salomonsson M, Troell K, Börjesson S. Benzylpenicillin-producing Trichophyton erinacei and methicillin resistant Staphylococcus aureus carrying the mecC gene on European hedgehogs - A pilot-study. BMC Microbiol. 2021 Jul 15;21(1):212. doi: 10.1186/s12866-021-02260-9. PMID: 34266385; PMCID: PMC8283913.
- Martin F, Dube F, Karlsson Lindsjö O, Eydal M, Höglund J, Bergström TF, Tydén E. Transcriptional responses in Parascaris univalens after in vitro exposure to ivermectin, pyrantel citrate and thiabendazole. Parasit Vectors. 2020 Jul 9;13(1):342. doi: 10.1186/s13071-020-04212-0. PMID: 32646465; PMCID: PMC7346371.