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MSc Position: Bioinformatic and statistical analysis of multiplex cytokine array datasets from a TB cohort

Are you a highly motivated individual with a background in bioinformatics, statistics, or a related field? An exciting opportunity has arisen for an MSc position at Stellenbosch University, Faculty of Medicine and Health Sciences (Division of Immunology), to work on a project investigating host immune responses across the spectrum of Mycobacterium tuberculosis infection outcomes.

Project Description

Tuberculosis (TB) remains a major global health challenge. Understanding the subtle differences in immune responses among individuals who are latently infected versus those with active disease is crucial for developing better diagnostics and treatments. This project will focus on the analysis of multiplex cytokine data generated using the Luminex platform from QuantiFERON-TB (QFT) supernatants. You will apply advanced bioinformatic and statistical methods to analyze this existing dataset to uncover immune signatures that distinguish different stages of the TB infection spectrum.

Key responsibilities will include:

Managing, processing, and curating large, complex Luminex datasets; Applying robust statistical and machine learning techniques to identify significant differences in cytokine profiles; Collaborating with a multidisciplinary team of immunologists, clinicians, and bioinformaticians; Interpreting and presenting results in a clear, compelling manner for scientific publication.

We are looking for a candidate with:

A BSc (Hons) degree in Bioinformatics, Statistics, Computer Science, Biological Sciences, or a related discipline.

Strong programming skills (e.g., R, Python) and experience with statistical software.

A keen interest in immunology and infectious diseases.

Excellent problem-solving abilities and attention to detail.

Strong written and verbal communication skills.

What we offer:

A MSc bursary

The opportunity to work on a high-impact global health project with real-world implications.

Access to state-of-the-art computational resources and a collaborative research environment.

Mentorship from leading experts in bioinformatics and TB research.

How to Apply

Please send your CV, academic transcripts, a link to your GitHub page and a cover letter detailing your relevant experience and motivation for this position to nelita@sun.ac.za and sadebiyi@sun.ac.za by 1st, December 2025.



Medicine and Health Sciences
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