PhD position in the CLIME group, Faculty of Medicine and Health Sciences, Stellenbosch University (Tygerberg Campus), Cape Town, South Africa

Project title: Microbiome and metabolomic shifts during drug-resistant tuberculosis treatment

Duration: 3 years

Description
The Clinical Epidemiology & Mycobacteriology (CLIME) group is seeking to fill an exciting PhD position based in the Division of Molecular Biology & Human Genetics, Stellenbosch University, Cape Town, South Africa.

Antibiotics have a profound impact on the microbiome, yet little is known about their effects in people with tuberculosis (TB; the world's leading infectious cause of death) where hundreds of pills are administered for cure. Antibiotic-mediated microbial disturbances could be linked to poor health outcomes such as post-TB treatment sequalae. This project will evaluate microbiome changes before, during, and after drug-resistant TB treatment, how these changes correspond to pharmacokinetic profiles (a key determinant of long-term cure), how specific taxa correlate with microbially-derived metabolites (short-chain fatty acids), and the microbiome's association with outcomes.

The candidate will primarily be responsible for overseeing clinical specimen processing in a BSL-3 facility, DNA isolations (sputum and stool), microbiome and metabolomic analysis, and writing up manuscripts. Candidates will have the opportunity to train in cutting-edge software tools with international collaborators. Prospective candidates are encouraged to first familiarise themselves with the field (e.g., https://bit.ly/2x52oMT).

A competitive tax-free bursary is provided. The candidate will be assisted in applying for additional funding that they are entitled to keep in conjunction with the base bursary.

Requirements
1. Masters' degree in Molecular Biology or a related field with an average of ≥70%
2. Ability to communicate complex findings to audiences from diverse disciplines
3. Fluency in English

Recommendations
1. Proficient in R and/or Python;
2. Leading role in ≥1 article published in an international peer-reviewed journal
3. Evidence of participation in microbiome courses, workshops, or other initiatives
4. Experience in infectious diseases, especially tuberculosis

To apply, visit https://forms.gle/AGTvJz9B8odmkwX07

Closing date: 30 June 2024

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Early applications are encouraged. Our search will conclude once we've identified suitable candidates. We aim to fill the position promptly.