

## **Personal Statement**

### **Zenabu Suboi**

I am currently a Structured Masters student at the African Institute for Mathematical Sciences (AIMS) - Muizenberg and fully expect to complete my masters degree requirements by June 19, 2018. While an undergraduate student, I have always had interest in Biostatistics and health related researches. Upon my arrival in AIMS – South Africa, there was no other place to settle upon to actualize this dream than the DST-NRF Centre for Excellence in Epidemiological Modelling and Analysis (SACEMA) . This led to my request for an essay supervisor at SACEMA so as to gain some exposure in health related research.

During the essay phase at AIMS, I was privileged to gain exposure to an aspect of one of SACEMA's core research areas “ Individual-based modelling approaches for the transmission and spread of sexually transmitted infections; in particular, methods for the calibration of individual-based models to empirical data”. I worked on Comparing methods for Approximate Bayesian Computation (ABC) under the supervision of Professor Wim Delva and Doctor Marijn Hazelbag. In this study we compared post-sampling correction methods for ABC in a simple Agent-based model (ABM) simulation setting where likelihood estimation was used as the gold standard.

Having obtained some satisfactory results from this study, there are still further directions to be considered. We intend basing the comparison also on posterior distance where we will compute the earth mover's distance between each posterior density and that of the likelihood. We also would like to consider applying the post-sampling correction methods to other ABC methods (for example, Sequential ABC, Adaptive ABC, etc.). With respect to the future work we stated at the end of the study, I am motivated to pursue a postgraduate degree which will enable me to proceed with this research. Working on this project with my supervisors has given me some enlightenment in the field of research and I would appreciate an opportunity for postgraduate studies at SACEMA.

As a witness to the stimulating environment, well-learned researchers and hard working students at SACEMA, there is no doubt of growing into a successful researcher if given the opportunity. My weekly visits to SACEMA while working on my project also gave me the opportunity to benefit from and participate in the SACEMA seminar series on Wednesdays. This exposed me to diverse research areas available at SACEMA. I am excited about the opportunity to pursue my master's degree at SACEMA and I plan to pursue a PhD after this research master's if given the opportunity. I believe strongly that the resources, programs, research facilities and seminars throughout this masters programme would enhance my knowledge in health related research.

I believe also that my academic training at AIMS and my eight weeks of experience in research towards the completion of my essay has prepared me to be an effective researcher at SACEMA.