SAMSA-MASAMU Report

November 18-27 2016,

Classic Court Hotel

&

Innovation Hub

Pretoria
South Africa

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This report summarizes my experience and connections at the SAMSA Conference and MASAMU Workshop. Some recommendations are provided.

UNIVERSITY of BOTSWANA

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Being a graduate student, I was thrilled to be given to the opportunity to mingle amongst brilliant minds congregating in support of a common goal:*to build better communities using mathematics* . I would like to take this opportunity to thank the Simons Foundation project based at the Botswana International University of Science and Technology (BIUST) for financial support, which allowed me to attend the SAMSA annual conference and the MASAMU annual workshop held at the Innovation Hub and Classique Court Hotel respectively from 18-27 November 2016. It was a really important opportunity to develop my academic skills.

I recently had the pleasure of attending the MASAMU workshop which ran from 18-27 November. Most of the participants were graduate students, mostly from America and Africa who were grouped according their areas of specialization. I am very glad I got the chance to participate. It was one of the most awesome educational opportunities I have ever experienced. Participants were exposed to challenging and exciting real-world problems and also experienced the team approach to problem solving.

There were participants in Graph Theory and Math-Bio. The Math-Bio group was working on models on foot and mouth, crime and elephants. We worked Friday, Saturday and Sunday from early morning till evening. Monday to Thursday we were at the SAMSA conference, so we continued workshop work after the conference. We resumed full force on Friday and presentations were done on Saturday 27 November. Participants nourished their knowledge in a friendly atmosphere at the side of a very experienced

and renowned professionals. Those present included Prof Suzzanne Lenhart, Prof Overton Jenda, Prof Farai Nyabadza, Prof Abdul-Aziz to mention but a few.

Attending the workshop was a wonderful opportunity to meet the experts in mathematical modelling. I learned so much in such little time! It is like all my studies are melting together and will improve in my every day practice! I gained a better understanding of modelling epidemics. For me the workshop was just amazing. It was intense and we worked hard but I never felt tired or bored.

The past workshop was an outstanding learning experience and a valuable opportunity to interact with other students and researchers working with mathematical epidemiology.

An important part of the workshop for me was being together with fellow graduate students from the bio-mathematics fields and learning about. I am really happy to have got in contact with and befriended individuals with whom I intend to share information and probably work with in the future. What I appreciated the most was the open and friendly atmosphere of the workshop, and I am referring to the time we were able to spend together, exchanging ideas and information. I am really grateful for the ideas I got from the academic advisors as well as from my fellow students and I am sure this will help me a lot in the further conduct of my research and will also positively influence my dissertation project as a whole.

SAMSA conference was awsome. The conference ran from November 21-24. With over 170 mathematicians in attendance, I was truly in one the most unique and intellectually stimulating environments in this field. Bracing the occasion was a great diversity of nationalities and institutions represented by the delegates who came from all parts of the world. It was namely those from USA, UK, Uganda, Morrocco, Ghana, Nigeria and those from Southern Africa. There was a wide variety of keynote lectures, presentations and STEM workshop. To relax our minds, there was an excursion that took place on Thursday. Delegates went Cheatah Park and Lesesdi Cultural Village. The SAMSA AGM was held on Wednesday where a new committee was chosen which saw Prof Farai Nyabadza being re-elected as president. This was followed by the Kovalevskaia Research Grants for female researchers was awarded to two winners. Concerning the organization and the advertisement of SAMSA annual conference, I have to say that everything was well planned and the conference was well publicized.

The opening ceremony officiated by Prof Jean Lubuma, Dean: Faculty of Natural and Agricultural Sciences, University of Pretoria. Then an address was given by SAMSA President: Prof Farai Nyabadza, University of Stellenbosch. Keynote lectures were mostly held before tea in the morning. Lots of prominent speakers graced the event, delivering interesting lectures that provided a good overview of the breadth and depth of mathematics. It's quite interesting to see the different ways of how different keynote speakers explored the world of mathematics.

Every day consisted of presentations that were separated into categories. There were a total of over 150 presentations. The four parallel sessions for the presentations were divided by area of practice:

1. **Auditorium 1**: Math-Bio
2. **Auditorium 2**: abstract algebra and group theory, graph theory, topology and analysis and functional analysis
3. **Boardrooms 2 & 3**: numerical and fluid
4. **Leaders**: mathematics of finance, mathematical statistics,

I gave a talk on my research on a cancer called kaposi sarcoma on Monday. My talk was entitled Modelling Optimal Treatment Strategy for AIDS-Related Kaposi Sarcoma. The flow of information was always bidirectional, which made discussions exceptionally informative. I was also able to network with some bio-mathematicians and connected with individuals that could potentially lead to new opportunities for collaborative efforts in the near future. It was also very interesting to watch the presentations of my fellow graduate students, which were all at different levels in their graduate studies so that I could profit from their experience. Not only through the presentations and discussions, but also because of the advice of senior scholars I have received essential input for my research. However, as much as there were good presentations, some were not that well presented. A typical case is too many words on a single slide. At one point in time, I found myself trying to read whole paragraph on the slide, consequently, I was not following what

the speaker was saying. In such a case it would be better to put key points on the slides and talk more since listeners will now be focused.

Tea and lunch sessions were interesting as well (delicious food). During the tea breaks, I met delegates from various areas of specialization to find out what they are doing, and tell them what I am doing. At conference lunches, I often tried to sit at a random table with people I din't know, which has led to valuable new contacts . I felt free to approach other students to learn what they are doing and to spread the word about my own research. I managed to connect with some people on my "hit list" of people I wanted to talk with at the conference, typically Prof Lenhart. Hallway converstions were also very fruitful in obtaining new contacts.

The conference also offered several social events. These included the cocktail, dinner, excursions to Chetah Park and Lesedi Cultural Village. These social events provided a number of networking opportunities for delegates.

The STEM workshop was held on Tuesday where people from various countires explained what efforts are being done to improve STEM education. Recommendations were that STEM education should begin as early as pre-school in order to encourage our children.

I would like to recommend that SAMSA have some time when people showcase their other talents like singing, dancing, drama or even comedy.....just for fun. "A healthy mind is in a healthy body", so the saying goes. We need to

also encourage healthy lifestyles and well-being. These great mathematical minds need a healthy body to be able to solve those hard maths problems. I suggest that we do a short fun marathon (maybe 5km) or aerobics during the conference.

Overall, I consider my participation at the SAMSA-MASAMU a very enriching experience which I would recommend to all graduate students. It was a fantastic meeting with a great deal of information on many of the new ideas in the field of mathematics. Another important benefit, among many others, was the possibility of making friends, nowadays called "networking", I believe. The conference as an interaction platform proved very valuable to me. It was well-organized and the food was delicious. There are a lot of experiences that will remain in my mind... the quality and kindness of all the people...the intensity and richness of the MASAMU program....the wisdom of the participants...Very well organized workshop in a beautiful surrounding.

Thanks once again to Simons Foundation for granting me this opportunity. God willing, I will attend the next SAMSA conference and MASAMU workshop in Tanzania.