

Lorna Gcanga



My name is Dr. Lorna Gcanga and I am a postdoctoral research fellow hosted by the Brombacher and Guler Lab based at the Division of Immunology, University of Cape Town and ICGEB (Cape Town Component). I completed my BSc Honors and Master's degree at the University of KwaZulu- Natal (UKZN) in the research field of Parasitology. I then moved to the University of Cape Town where I completed my doctorate in Clinical Sciences and Immunology. During my PhD I was offered the opportunity for an internship at the Riken Center for Integrative Medical Sciences (Yokohama, Japan) where I worked closely with the Cellular Function Conversion Technology Team. This internship came with a great opportunity of learning new and exciting lab techniques which would be applied to my PhD research. While completing my PhD I was awarded travel grants to present my work on conferences and workshops on non-coding RNA therapeutics and RNA transcriptomics. My current research work focuses on targeting noncoding RNAs that are subverted by *Mycobacterium tuberculosis* to increase its persistence and survival within macrophages with the aim to developing host-directed drug therapy for tuberculosis (Gcanga et al., 2022 and Tamgue et al., 2019). This includes the identification of host non-coding RNAs as host-directed drug therapy for TB and the role of epigenetics in host immunity to TB. Her recent



publication was awarded first prize by the IDM postgraduate publication competition for the original publication category. This research is supported by the National Institutes of Health under Award No. R01AI160501.

What is your research background and what led you into the field of immunology?

I completed my undergraduate degree up to master's level in Biological Sciences. I started working in the field of immunology by coincidence. A friend of mine encouraged me to apply for a Ph.D. post in my current lab and the rest is history.

What have been the most interesting research topics you have got to tackle so far as part of your career?

For my Honors and Masters, I worked on parasites (malaria and trichinella) and my doctorate research was on tuberculosis. To be honest, I find the field of immunology and infectious diseases more interesting.

What difference do you feel your work had made so far in the field of infectious diseases?

I see the little triumphs that we do in our research that will one day, in the next few years, lead to advanced therapeutics for TB. Two of our projects in our research lab are in clinical stages. So, I feel very proud to have been part of this research.

For people that have a keen interest in becoming Immunologists, what advice do you have for them?

I would say you must be a curious beaver because science is all about asking questions and finding ways to answer those questions.

Congrats on making it to the big leagues of post-doctoral scientists. Care to share what you have been working on so far

as part of your post-doc?

My postdoctoral research is focused on targeting noncoding RNAs (long noncoding and micro RNAs) as host-directed therapeutics for TB and the role of epigenetics in host immunity to TB. The RNAStudy consortium is funded by the National Health of Institutes to target noncoding RNAs as potential host-directed therapeutics for TB.

A lot of talk has gone on recently about the need for people to leave academia alone. What factors do you feel have brought up this movement?

Academia is mostly funded by grants, and these are highly competitive thus limited. The road to tenure track is not an easy one. Very few get there. The stipends have no benefits except non taxation. For example, as a postdoc you're neither a student nor staff. You're like an in-betweenner. The stipend you receive is mostly for everyday life, its hand to mouth. It's very hard to plan for the future with a stipend. You have no savings, can't afford medical aid, no credit history etc. Many people are frustrated by this hence the huge numbers of people leaving academia for the industry.

What do you think supervisors and people in academia can do to help students, especially postgraduates who want to know about wider career options apart from academia?

The career expo for postgraduates is very important in exposing careers outside of academia.

What has the journey and thought process been like for you as you prepare to transition into industry?

Scary. Firstly, because academia is all you've ever known, you don't want to leave but circumstances are forcing you to leave. There is a lot of rejection in the beginning because you are coming straight from academia with very little experience for the industry but eventually one door opens for

you. The rejection part was particularly crushing emotionally in the beginning, but you do not give up and keep applying. It reminds you of all that rejection from grant applications or manuscript rejections, like all. So, it's a feeling you know so well, and it encourages you to keep pushing. Then it's trying to figure what can this degree get you outside of academia. You need to do research on what career options are out there that may interest you and it's very important to speak to people who have successfully transitioned into the industry.

What tools, events, websites, organizations and people have been helpful for you so far as you transition into industry, or just out of this post-doc that you think other students could learn and benefit from?

Former colleagues that have transitioned into industry were of great help. LinkedIn and WHO were helpful in terms of knowing what job posts are out there. The postgraduate career expo that's usually organised every year at UCT (University of Cape Town) Faculty of Health Sciences is also helpful. You get the opportunity to ask some questions to invited speakers from different organizations/companies.

As someone that has been in Cape Town for a while, what are the top 5 things that have made you happy that you think other people should give a try as students or young working professionals living here?

You need to balance your work life and personal life. That is something I taught myself early in the beginning of my Ph.D. I was adamant that I would not let my quest for a Ph.D. define me. Find things or hobbies you enjoy outside of the lab or office. A support structure is very much important in getting you through some tough times and doing fun things with. Cape Town is such a beautiful city, and you can never run out of things to do. You have the ocean, the mountains, and the winelands all in one city, choose what you love.

When you are not busy being a top-notch Immunologist, what do you like doing for fun and to unwind?

I love going to jazz shows or concerts. I truly do believe that the best jazz artists are from South Africa. I take my dog out for walks. I enjoy going out with friends and family whether be it weekends away, eating out, markets, winelands, concerts etc. I also love traveling. I watch a lot of TV like a lot. I'm probably the best person to recommend which shows to watch. I've got a good radar for the best shows even if do say so myself. I enjoy working out, it's the best way to start the day and the best for my mental health.

What is the one country you would love to attend a scientific conference in and why?

Japan. Love the food, the people are extra nice, and I love the culture too.

Care to share any of your favourite publications? I am sure people would love to get more acquainted with the work you have done.

<https://pubmed.ncbi.nlm.nih.gov/35895506/>

<https://www.frontiersin.org/articles/10.3389/fimmu.2019.00421/full>

Interview by Vanessa Muwanga