

Lauren Cruywagen



Give us a brief intro into who Lauren Cruywagen is:



I began my academic journey by completing my undergraduate degree in Medical Biosciences at the University of the Western Cape, followed by completion of my honours degree in Infectious Diseases and Immunology at the University of Cape Town (UCT). After my honours, I relocated to Johannesburg for a 2-year internship which, fortunately for me, came with a MSc project. This dual program allowed me to concurrently obtain my HPCSA registration as a Medical Scientist while completing my MSc (Medicine) at the University of the Witwatersrand. I held two consecutive laboratory-based positions in the field of Immunology at UCT Lung Institute as well as UCT respectively. After working for an academic institution for a couple of years, I felt the need to explore other scientific environments outside of academia, which led to a short employment experience as a Quality Control Scientist at Roche Sequencing Solutions. Prior to enrolling as a PhD student at

South African Tuberculosis Vaccine Initiative (SATVI), UCT, I was employed as a Senior Research Assistant within the Stellenbosch University Immunology Group.

Outside of academics, I would like to think of myself as adventurous, determined and a go-getter. Whatever I set my mind on, I'll make sure that I try my best to get it done. I strive to remain humble as far as possible and treat everyone (regardless of titles, degrees, wealth and/or accolades) with the same kindness and respect. A little bit of kindness goes a long way. I am also a firm believer in doing good deeds without actively seeking recognition; the latter, in itself, is the ultimate reward. It brings me immense joy simply extending a helping hand to others, whether that be in the form of volunteering, homework club for school kids or providing assistance with finding employment.

What drew you to the field of Immunology?

My curiosity for Immunology was sparked during my undergraduate studies. I found myself wanting to learn more about infectious diseases and the immune system. It boggled my brain how certain individuals living within the same household or exposed to the same pathogen were able to resist infection while others, became severely ill.

Tell us a bit about your PhD research project:

My PhD focuses on TB Immunology, specifically BCG revaccination and identifying immune correlates of protection in both the blood and airways in humans. It is a continuation of a previous prevention of infection trial where adolescents who were vaccinated with BCG at birth were randomized to receive a 2nd dose of BCG or placebo. The primary endpoints of the latter study were safety and acquisition of *Mtb* defined by QuantiFERON conversion.

For my project, we will be expanding the cohort sampling both

the blood and lungs, which provides a unique opportunity to do exploratory analyses and comparisons between these two sites and their immune responses within an individual.

What greater contribution do you see your work having within the fields of immunology and infectious diseases?

I think it's quite important to study TB, especially in South Africa, where the burden of TB is relatively high. My project forms part of a larger consortia with multiple collaborators across the world, which can be highly beneficial in terms of results and/or hypothesis generation. In this way, we are contributing to research on a larger scale which could potentially have a greater impact than doing research in isolation. Furthermore, using a vaccine that is readily available, affordable and is currently part of SA's EPI (Expanded Program on Immunization) could serve as an advantage as opposed to developing a new vaccine candidate, which might take several years to come to fruition.

What influenced your decision to make it through for your PhD after working for several years?

After working for several years, I reached a plateau in my career path where every senior position I applied for required a PhD. As I moved up the corporate ladder, my roles and responsibilities became more complex. It was then that I noticed a gap in my knowledge that no job and/or short courses could fulfil. Hence, I made the decision to return to university to embark on a PhD to expand my current knowledge and build my skillset.

A lot of people that have studied straight and do not have as much work experience often worry about getting work after school. How best do you think they can make themselves stand out?

No-one knows you better than yourself and that's your superpower. You've got to learn to be your own hype man and

make yourself marketable while being authentically you. So, bring your A-game and put your best foot forward. If you don't succeed, try not to be too hard on yourself. There is always a lesson to be learned in every failure. It's how we grow and mature as human beings.

What are some companies and organizations within South Africa that you think people should keep an eye on when it comes to applying their Immunology skills?

1. CHIL HVTN
2. Synexa Life Sciences
3. FIND
4. Diagnostic labs such as National Health Laboratory Service (NHLS), Pathcare
5. Corporate companies: BD, Beckman Coulter, Pfizer, Sanofi,

What more do you think should be done to support scientists who end up coming up back into the postgrad space after working for several years?

Coming back to university after working for several years, you kind of find yourself floating in the middle of the age gap. You're a tad bit too old to relate to the younger students but not quite on the postdoctoral level either. So having support groups, especially for those with a bit more life experiences and who can relate to the working environment, simply just to vent and provide encouragement would make the journey slightly easier.

What advice do you have for people that are currently in the workspace and are also thinking about taking that leap back to further their education?

Ensure that you have a strong support system financially and emotionally. Adjusting from earning a monthly salary to a student bursary/ stipend is hard and extremely challenging, given that you've accumulated multiple expenses that a job

allows you to have. These payments are still ongoing despite the fact that you're a student now, and the bank waits for nobody. In the end you have to remind yourself that these are the temporary sacrifices you have to endure now in order to reap the long-term benefits.

As part of both your student life and working life, I am sure you have been involved in several laboratory experiments. Which lab technique is your absolute favourite and why?

PBMC Isolation. It was one of the 1st techniques that I learned during my internship at the NHLS and continued to use this basic technique at every other job after that. At that time, I thought it was quite cool to see that the buffy coat actually looks like a fluffy buffy coat, as described in the literature and standard operating procedures (SOPS). I think it's quite cool how such a simple technique can be used to separate blood into multiple components.

If there was one researcher you had the opportunity to work with at any point during your scientific career, who would that be?

Associate Professor Joanna Kirman or Prof Helen Fletcher. Both are woman in science and well known in the field of TB Research.

Interview by Vanessa Muwanga