

To stay healthy, people everywhere need to keep their immune systems, which recognize and fight microbes that attack their bodies, working well. This is difficult for people that do not eat properly because of lack of food, those with stressful lives and those affected by environmental pollutants. Without an optimal immune system that can fight infections, diseases such as tuberculosis (TB), hepatitis and HIV/AIDS cause millions of deaths every year.

## Who knows enough about how cells work to develop new vaccines and treatments to fight these diseases?

# The Immunologist

**Meet Patrick Bouic,**  
an Immunologist at Synexa  
Life Sciences in Cape Town  
**BSc (Biological Sciences),**  
**BSc Hons (Immunology and Embryology)**  
**PhD (Immunology)**



### **...the biggest challenge of the job:**

*“You have to believe in the research route you are taking even though you cannot anticipate the outcome.”*

### **... career satisfaction:**

*“Developing a test that indicates who is prone to a certain disease or developing a therapy which could improve the quality of life of someone suffering from a disease.”*



## What does Patrick do?

Patrick studies how the cells designed to protect humans against infections, work. To develop a vaccine against a specific disease, he has to find out how to trigger these protective cells to work before we get infected. A vaccine teaches our bodies to recognise disease-producing microbes. Patrick is also researching the immune activities of natural products, such as Buchu, a small indigenous shrub only found in the Western Cape, and how it can be used with man-made medicines to treat chronic diseases such as arthritis.

His job at Synexa focuses on ensuring that the biological products they make, are of a high quality and as safe as possible.

## What do I need to be an immunologist?

**Characteristics:** Curious nature, critical mind, enjoy interacting with people

**Important school subjects:** Biology, Mathematics, Physical Science

**Qualifications:** BSc – Biotechnology/Microbiology/Molecular and Cell Biology/ Biological and Life Sciences and BSc Hons – Medical Cell Biology/Immunology

**Note:** You need an MSc (Immunology/Medical Cell Biology) and/or PhD for higher positions in lecturing and research

**Pre-requisite:** Registration with Health Professional Council of SA (HPCSA) to work with human blood and tissues

## Where can I get a job as an immunologist?

Research organisation (e.g. Medical Research Council), universities, biotechnology start-up companies, large pharmaceutical companies

### **Related careers:**

Cell Biologist, Vaccine Development, Microbiologist, Medical Technologist