

Breakthroughs in mapping the genetic material of living things – finding out where genes “live” in the DNA and what they do – plus new laboratory techniques, are generating huge amounts of data.

**Who can help us find out what all this data tell us about a living organism?**

## **The Bioinformaticist!**

**Meet Nothemba Kula,**

a Bioinformaticist at the South African National Bioinformatics Institute (SANBI) in Cape Town

**BSc (Microbiology),**

**BSc Hons (Microbiology),**

**MSc (Microbiology),**

**MSc (Bioinformatics)**

**... the biggest challenge of the job:**  
“Making sure what you’re doing hasn’t already been done - keeping up with the developments in this domain!”

**... career satisfaction:**  
“Researching issues that will benefit people.”

### **What does Nothemba do?**

Bioinformaticists are usually experts in both biology and computer science. With this combined knowledge they develop new software to make sense of all the biological data that has become available. They can, for instance, find specific genes in bacteria and plants or other living things. Nothemba is working with other bioinformaticists from around the world to find a way to cut out the specific stretch of DNA of the malaria parasite which causes the disease. If this was removed, it could reduce the number of people infected and dying from malaria.

### **What do I need to be a bioinformaticist?**

**Characteristics:** Attention to detail, ability to work independently, and to integrate and acquire new skills fast

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

**Qualifications:**

BSc - Applied Biotechnology/Biotechnology/Biochemistry/Microbiology/Molecular and Cellular Biology or similar combined with a post-graduate university qualification in Bioinformatics or one of the national courses presented at a node of the National Bioinformatics Network.

### **Where can I get a job as a bioinformaticist?**

Medical Research Council, South African National Bioinformatics Institute (SANBI), various universities, some pharmaceutical multinationals

**Related careers:**

Genomics, genome technology, software developing, pathogen genomics, bioinformatics analyst.



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**... the most common misconception:**

*“That you need to be a hard core computer programmer and that it is impossible to learn these skills if you come from a biological background.”*

