

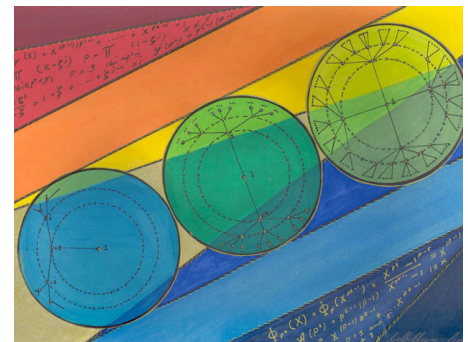
Biomathematics is the study of mathematical, statistical and computational techniques useful for addressing problems and challenges from the biological/medical/environmental sciences

Why is biomathematics at Stellenbosch and AIMS attractive?

- the involvement of expert researchers from leading institutions around the world:
Prof Philip Maini (*Centre for Mathematical Biology, Oxford University*),
Dr Wilson Lamb (*University of Strathclyde*),
Prof Jannie Hofmeyr (*Centre for Studies in Complexity, Stellenbosch University*),
Dr Cang Hui (*Centre for Invasion Biology, Stellenbosch University*),
Dr Dan Jacobson (*Institute for Wine Biotechnology, Stellenbosch University*);
- the exposure, through leading local and international experts, to various perspectives driving the needed coalescence between mathematical sciences and biology and medicine;
- the interdisciplinary nature involving collaborative projects with researchers in mathematical sciences and in biological/biomedical/environmental sciences.

What do Biomathematicians do?

1. Researcher or scientist at a university or research centre (such as the MRC, HSRC) or a private company (e.g., pharmaceutical company).
2. Bioinformatics involves storing and statistically analyzing large collections of data - this could be on a molecular level, such as mapping DNA genes, or on a macro level, such as monitoring projects dealing with populations.
3. Biomedical informatics involves using statistics, mathematical models and computer technology to understand, for example, cancerous tumor behaviour and the effect infections and disease on the immune system.
4. Combatting bioterrorism which involves employing mathematical algorithms in order to detect bacteria and viruses involved in bioterrorism.
5. Education is a huge sector employing biomathematicians.
6. Consultant who offers short courses and training to public health institutions and the private sector.
7. Biomathematicians have become of service in
 - agriculture and nature conservation through studies of population;
 - dynamics and modelling of livestock or animal infections;
 - forestry to model changes in forests and vegetation patterns;
 - fisheries to determine the best harvesting strategies;
 - climatology to predict the effect of climate change on ecological systems;
 - epidemiology to provide insights into disease dynamics and their management.



Will it suit me?

Yes, it will, if:

You have a BSc or BComm or BEng with a major in Mathematics, Statistics, Applied Mathematics, or Computer Science (or one near completion).

You would like to combine your interest in Mathematical Sciences and Biology/Medicine.

You would like to make a meaningful contribution to the understanding of natural and biological processes.