



## Applications of Mathematics in BIOLOGY and MEDICINE

A fully funded one-week introductory course for South African students in the mathematical sciences, 2–6 July 2012

Hosted by the African Institute for Mathematical Sciences (AIMS), Muizenberg, Cape Town, and the South African Centre for Epidemiological Modelling and Analysis (SACEMA) in collaboration with the Universities of Stellenbosch and Cape Town.

### Are you:

- A final-year or Honours student in a mathematical subject?
- Looking for funding opportunities in applied research?
- Interested in applying your expertise in biological, ecological or medical research, but unsure how these sciences use mathematics?
- Keen to use your skills to address pressing health problems in Africa?

### Then read on:

SACEMA, in association with AIMS, invites applications from suitably qualified candidates to attend the above course. Its purpose is to introduce South African students on mathematical science courses to the wide range of applications of mathematical, statistical and computing techniques in various areas of biology and medicine.

### The course will be led by:

- experts in epidemiological modelling, population dynamics and demography, bioinformatics, biochemistry, biostatistics, ecology, phylogenetics, etc.

### The intended participants are:

- third-year and Honours students in mathematics, physics, engineering, statistics, computer science, and related subjects with a strong mathematical content.

Course content will assume a good background in the techniques of linear algebra, calculus, differential equations and elementary probability. No prior background in biological sciences will be assumed.

Interactive lectures and computer tutorials will introduce scientific computing and mathematical modelling, and illustrate how mathematical tools are currently being applied to address research problems in biology, ecology, the health sciences and demography, with particular emphasis on current questions relevant to combating major diseases afflicting the African continent.

### Information will be provided on:

- opportunities for funded postgraduate study and research positions within South Africa
- advice on careers for mathematicians in biological and medical research

Up to 35 FULLY FUNDED places are available for suitably qualified students.

Accommodation and full board, together with a social programme, will be provided.



**SACEMA**  
DST/NRF Centre of Excellence in Epidemiological Modelling and Analysis

Application forms are available:

online at [www.sacema.com](http://www.sacema.com)

Enquiries to Lynnemore Scheepers [scheepersl@sun.ac.za](mailto:scheepersl@sun.ac.za)

**CLOSING DATE FOR APPLICATIONS: Friday 25 May 2012**

2-6 JULY 2012