



# OPPORTUNITY FOR MSc STUDY

## SASRI Crop Biology Resource Centre

### ● The Problem

Insect pests can cause extensive damage to the sugarcane crop, resulting in significant economic losses. Mating disruptions within insect populations can be caused by endosymbiotic bacteria such as *Wolbachia* and offer an attractive biological control strategy for the sugarcane industry. *Wolbachia* may also be present in insects that parasitise sugarcane pests. However, little information on the *Wolbachia* status of sugarcane pests and/or their parasitoids is available.

### ● The Project

Several insect species have been selected for this study based on their pest status in sugarcane. These insects are not pests in their natural habitats (host plants at centre of origin). Could this be due in part to natural mating disruptions (and thus population control) caused by endosymbiotic bacteria such as *Wolbachia*? In this project we will establish whether or not *Wolbachia* infects these insect populations, both at their centre of origin as well as from local sugarcane.

There is much interest in whether insects that parasitise sugarcane pests are infected with *Wolbachia* and whether the *Wolbachia* can be delivered to a non-infected host. This project will also establish whether *Wolbachia* infects a range of known parasitoids.

This is a Molecular Biology-based project. DNA will be isolated from the various insects and *Wolbachia* infection detected by PCR analysis using *Wolbachia* –specific DNA primers. DNA sequence analysis will detect any genetic differences between the insect populations and data analysis will establish whether this correlates to geographical location and *Wolbachia* infection status.

### ● The Candidate

The ideal candidate must hold a BSc Honours degree with molecular biology as a specialisation. Some entomology experience will be advantageous but not essential. This is a team-orientated project and the ability to get on with others is essential, as is a generous disposition.

### ● The Position

The successful candidate will be provided with a competitive bursary and a dynamic, well-resourced and friendly working environment. Candidates who are in the process of securing free-standing NRF funding are strongly encouraged to apply.

### ● The Contact

A résumé and covering letter, outlining why the candidate is suited to the position, should be sent before 25<sup>th</sup> September 2009 to:

Dr Deborah Sweby  
Crop Biology Resource Centre  
South African Sugarcane Research Institute  
Private Bag X02, Mount Edgecombe, 4300, Durban, South Africa  
[deborah.sweby@sugar.org.za](mailto:deborah.sweby@sugar.org.za)