

# Hands-on learning at Rhodes

## BIOLOGY INTERNSHIP PROGRAMME



Rhodes University interns on site at New Years Dam.

Julie Gretzer

***Rhodes University's Biology Internship Programme is proving that, while being surrounded by modern day conveniences and technological prosperity, young people can still have fun connecting with nature.***

***Words by Dr Jaclyn Hill.***

It was Canadian naturalist, David Suzuki, who said: "We can't blame children for occupying themselves with Facebook rather than playing in the mud. Our society doesn't put a priority on connecting with nature. In fact, too often we tell them it's dirty and dangerous."

This is a fair point – particularly in this age of ever advancing technology, where the majority of youth have a stronger emotional attachment to their mobile phone than to any garden, river, ecosystem or coastline.

It is the youth, however, who are fundamental to the preservation of our natural resources, and who will make or break the environmental policies and programmes currently being developed in South Africa.

The youth are the lynchpin of environmental stewardship, and without them South Africa's terrestrial and aquatic ecosystems face an uncertain future. How then do we motivate young learners to become environmental stewards? How do we promote public awareness of the real challenges facing South Africa's natural resources, and instil a passion for science, learning and awareness in our youth, encouraging them to become world leaders in science?

That is the question Rhodes University has attempted to address with the Biology Internship Programme; a collaborative effort between the university's Department of Zoology

and Entomology, the South African Institute for Aquatic Biodiversity (SAIAB), and Victoria Girl's High School in Grahamstown.

Spearheaded by Dr Francesca Porri of SAIAB and life sciences teacher, David Stoloff, the Biology Internship Programme was initiated in 2009. Learners in Grade ten to twelve complete an application form at the beginning of the year, in which they motivate for their participation in the programme. The life science teacher supports each motivation by adding comments before it is submitted. At the end of the year, the students who qualify receive an attendance letter from SAIAB and Rhodes University.

Initially five top science achievers were selected from Victoria Girl's High School to complete internships in the Department of Zoology and Entomology. Here they work

alongside university researchers in multiple areas of aquatic science during their April, July and September vacations.

The primary concept of the internship programme is to facilitate the interaction of high school students with aquatic scientists in a hands-on approach to learning in order to enhance the quality of pupils at high school level, but also to boost excellence within tertiary education with the aim of forming responsible, motivated and enthusiastic young scientists.

Since its inception the programme has grown to include not just Victoria Girl's High School, but also Graeme College and Ntsika Secondary School, with the Department of Zoology and Entomology now hosting up to 15 students during every vacation period. Students work a minimum of 30 hours per year, and are paid a small hourly stipend for their time.

The Biological Control Unit (BCU) at Rhodes University, led by Prof Martin Hill, has become involved in the programme in a big way. "The programme allows us to showcase our work to some very keen high school scientists, fostering an enthusiasm and perhaps even inspiring some learners to pursue a career in science," says Prof Hill.

Much of the research undertaken at BCU involves aquatic water weeds and the insect agents employed to control them. Primarily funded through the Working for Water Programme, the laboratory's main research focus includes understanding the ecology of invasive and alien plants, such as the notorious water hyacinth, water lettuce, parrot's feather, red water fern and a host of other exotics. Research is undertaken on how to control these water weeds through the release of host-specific insects.

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Grant Martin

*Interns getting their hands dirty at the mass rearing facility at the Biological Control Unit greenhouse.*

Dr Julie Coetzee, Dr Grant Martin, Dr Iain Paterson and Dr Jackie Hill all work on various aspects of aquatic weed interactions at the BCU, and have enjoyed the time spent on working with the high school interns. "It has been a rewarding experience, teaching in a hands-on interactive environment. To most

of these students, it is a completely new form of learning, and they jump at the opportunity to get their hands dirty," notes Dr Coetzee.

The programme has proven a real inspiration to the

learners. Apart from Victoria Girl's High School being ranked a top school in the Eastern Cape partly as a result of the internship programme (*Fairlady*, June 2013), two of the interns have gone on to achieve top projects at the 2013 Eskom Expo for young scientists.

"I really liked the hands-on part of the internship, allowing me to learn by doing and to interact with scientists and other people at the university," comments 2013 intern Ekhona Ntloko. "It really opened my eyes to the career opportunities available." This is exactly the outcome the programme is aiming for, notes Stoloff. "We really want

to encourage these learners to get excited about science."

With work and dedication, Rhodes University, SAIAB and the Grahamstown high schools hope to continue to grow the Biology Internship Programme with the aim of ensuring a strong tradition of science in South African public schools, to promote tertiary education and to instil a sense of environmental stewardship in the Grahamstown school community. □

*Two interns getting a closer look at Y-tube insect experiments at the Biological Control Unit.*



Tanya Fullard