



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Adverts for 2 Post-graduate Appointments in the Department of Veterinary Tropical Diseases (DVTD), Faculty of Veterinary Science under Agreement with Afrivet

Degree: Post-doctoral fellow/_Phd (Veterinary Tropical Diseases)

Study duration: 2 years Post-doctoral or 3 years for PhD (**Full-time**)

Available position: 1

Eligibility: **South Africans and non-South Africans**

Academic requirements: A recent PhD graduate in the molecular biological field or PhD candidate with an MSc in molecular biology. A veterinary qualification would be an advantage but is not essential.

Project: Evaluation and/or modification of currently available rapid surveillance tools for FMD to aid surveillance for FMD in the field

Background: Control of FMD, as for all infectious diseases, is dependent on effective surveillance. The problem with current surveillance approaches for FMD is that they are based on physical inspection and, to a limited extent, on laboratory-based testing where the results only become available some weeks later, i.e. are of limited value. Particularly in Southern Africa where the SAT serotypes of FMD virus predominate many, if not most, infections of both ruminant wildlife and domestic livestock are subclinical. This makes current surveillance systems insensitive. To correct this deficiency an accurate (i.e. sensitive and specific), close-to-real-time system (i.e. pen-side test) is required that enables detection of antibodies directed at structural proteins on the FMD virion surface. Using such a test, it could be accurately determined whether the test animal has antibodies resulting from infection, independent of the vaccination status of the animal concerned.

There are a number of commercially available test systems that may be suitable for the above purpose but their sensitivity and specificity needs to be independently verified. If none of the available systems prove sufficiently sensitive and specific, a new approach needs to be devised.

The task: (1) Assemble a panel of suitable candidate test systems available commercially or possibly from other sources, (2) with the assistance of the supervisor, identify and procure a panel of appropriate reagents, (3) using the reagents evaluate the sensitivity and specificity of the test systems

in the laboratory and, if possible, also in the field. Depending on the results, and in consultation with the supervisor, determine further actions necessary to procure a workable system.

Funding: Research funds and a bursary to cover tuition and living costs are available for the duration of the study.

Contact person: Prof Melvyn Quan; Room 2-18, Paraclinical Building, Onderstepoort campus; Email: melvyn.quan@up.ac.za; Tel: 012-529 8142

Interested candidates can submit their CV and academic transcripts by 5 June 2020. The candidate should be available to start as soon as lockdown regulations allow.

Degree: MSc (Veterinary Science)

Study duration: 2 years (Full-time)

Available position: 1

Eligibility: South Africans and non-South Africans

Academic requirements: A degree in veterinary science/medicine, preferably with some experience of working in the field on the control of FMD in the Southern African region. An ability to communicate and 'get on' effectively with officials in different countries responsible for FMD control.

Project: Evaluation of FMD vaccine administration practises in South Africa and in at least three Southern African countries.

Background: Vaccination of cattle against FMD provides the backbone of control strategies applied against FMD in the Southern African region, including South Africa. However, there is *prima facie* evidence that the efficacy of vaccination programmes against FMD in the region has deteriorated in the last 20 years, the last 10 especially. The precise reason(s) for this decline have yet to be established although it is likely that they are multifactorial. Preliminary studies have shown, moreover, that there is reason to believe that the way the vaccine is handled and administered to cattle in the field is an important element associated with this problem. For these reasons it is vital to measure the extent of this problem more precisely and, if necessary, devise corrective measures or options that are practical and affordable.

The task: (1) review the literature and other available sources of information of the subject, (2) together with the supervisor, identify at least three countries which the study will concentrate on, (3) again together with the supervisor, develop a plan of action that will enable the strengths and weaknesses of the approaches used in the three countries to be evaluated and compared, (4) as far as possible obtain data on post-vaccination monitoring (PVM) for the countries concerned and (5) prepare a confidential report on the results obtained with conclusions and recommendations.

Funding: Research funds and a bursary to cover tuition and living costs are available for the duration of the study.

Contact person: Prof Gavin Thompson; Room 2-37, Paraclinical Building, Onderstepoort campus; Email: gavin@tadscientific.co.za; Tel: 082 336 6088

Interested candidates can submit their CV and academic transcripts by 5 June 2020. The candidate should be available to start as soon as lockdown regulations allow.