



## DOCTORAL RESEARCH OPPORTUNITY

### Department of Horticultural Science

#### **Title: Quantifying water use of high performing commercial apple orchards in the winter rainfall area of South Africa**

Professor Stephanie Midgley of the Department of Horticultural Science at Stellenbosch University (SU) is offering an opportunity for a motivated student to study towards a doctoral degree (PhDAgric). This CSIR-led project is a 4-year partnership with SU, University of Pretoria and ARC, and is funded by the Water Research Commission and HORTGRO Science. The multidisciplinary research team comprises scientists with expertise in micrometeorology, ecophysiology, pomology, soil and irrigation science.

High performing apple orchards are becoming the norm in the major apple producing regions of South Africa. This raises the need for detailed information on the water requirements of these orchards in relation to water availability, particularly given increasing pressure on water resources. The information needs include data on 1) maximum rates of water use by orchards under current water management practices; 2) how water use of high yielding orchards varies across growth stages from planting to full-bearing; 3) how water productivity and yield quality varies between cultivars, soil types, climatic conditions and orchard management practices. State-of-the-art field equipment is being deployed by the research partners.

The SU Department of Horticultural Science is providing detailed data on gas exchange, stress physiology, productivity and fruit quality. Research is conducted in close association with industry partners, on commercial farms in the Western Cape. If you are an MScAgric/MSc graduate and meet the University's requirements for doctoral study ([www0.sun.ac.za/pgstudies/](http://www0.sun.ac.za/pgstudies/)), please contact Prof Midgley. You should have an interest in horticulture and tree physiology, be able to conduct field research independently, and possess a valid unendorsed driver's license. An added advantage would be experience in the use of plant ecophysiology equipment. Graduates in Botany or Forestry (ecophysiology) are welcome to apply, but will be required to conduct supplementary studies in Pomology (the science of deciduous fruit production).

**Date of commencement:** November 2014 or as soon as possible thereafter

**Bursary value:** R 105 000.00 per year for 3 years (adjusted annually)

Please submit your full CV with three references, a letter of motivation, and transcripts of your academic record to Prof Midgley by **3 October 2014**

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