

# SA GRAPE AND WINE RESEARCH INSTITUTE

## Programme/Project Info for Prospective MSc and PhD Students

### PROGRAMME: DIGITAL VITICULTURE “NEW TOOLS FOR PRECISION MANAGEMENT”

Improving the efficiency and quality of wine and table grape production through sensors, robots and advanced analytics.

New technologies, such as sensors, thermal cameras, image analysis, drones and robots are converging to make precision viticulture possible. The introduction of new technologies for supporting vineyard management allows the efficiency and quality of production to be improved and, at the same time, reduces the environmental impact. Our projects are related to climate change impacts on agriculture, estimations of water consumption using models and micrometeorological techniques, development of new computational and technological tools for precision viticulture and plant physiology and detection of water stress using Thermography, Remote sensing and Unmanned Aerial Vehicles (UAVs).

### OPPORTUNITIES FOR 2020

1. Integrated vineyard monitoring system to improve water management	<ul style="list-style-type: none"> <li>• Carlos Poblete, Talitha Venter &amp; Melane Vivier.</li> <li>• Two MSc bursaries</li> <li>• To discuss the project: Dr Poblete <a href="mailto:cpe@sun.ac.za">cpe@sun.ac.za</a>; tel 021 808 2747</li> </ul>
2. A novel and fast method for multi-parameter ripening and quality monitoring of intact bunches (Hyperspectral images)	<ul style="list-style-type: none"> <li>• Carlos Poblete, Talitha Venter, Eunice Avenant &amp; Helene Nieuwoudt.</li> <li>• Two MSc bursaries/ One PhD bursary.</li> <li>• To discuss the project: Dr Poblete <a href="mailto:cpe@sun.ac.za">cpe@sun.ac.za</a>; tel. 021 808 2747</li> </ul>
3. Thermal Monitoring System (TMS) to optimize water use in vineyards	<ul style="list-style-type: none"> <li>• Carlos Poblete &amp; Albert Strever.</li> <li>• One MSc bursary.</li> <li>• To discuss the project: Dr Poblete <a href="mailto:cpe@sun.ac.za">cpe@sun.ac.za</a>; tel. 021 808 2747</li> </ul>

### GENERAL CONTACT INFORMATION

To apply:	Lorette de Villiers ; <a href="mailto:lorette@sun.ac.za">lorette@sun.ac.za</a> ; tel 021 808 3770
Bursary office:	<a href="mailto:Postgradfunding@sun.ac.za">Postgradfunding@sun.ac.za</a> ;tel 021-808 4208
Website	<a href="http://www.sun.ac.za/english/faculty/agri/viticulture-oenology">http://www.sun.ac.za/english/faculty/agri/viticulture-oenology</a>