PhD project available:

Agronomy for super early sorghum crops

The overall aim of this project is to answer How do combinations of hybrid and crop managements positively modify stress environments and yield distributions in early sown sorghum; and how the practice positively influences the cropping system, increases farm profits and reduces risks?

Across Australia's Northern Grains Region, managing heat stress and dry spells around critical growth stages remain critical to increase farmers yields and reduce the likelihood of un-economical sorghum crops. For the case of heat stress around flowering, the main adaptation strategy farmers have to reduce yield losses, is to avoid the overlap between heat stress events and flowering, by targeting optimum flowering windows. Initial results show that to fit the flowering of sorghum around low risk windows for heat and water stresses, the crop would need to be sown into soil moisture, at soil temperatures lower than the recommended 16°C. Under these conditions, farmers need to achieve rapid and uniform crop establishments, and balance the decision on the likely benefits of reduced stresses around flowering, with the higher risk of early frost damage.

Topics that this PhD project could address include crop establishment in cold soils; the crop sensitivity to early frost damage; how early sowing changes the frequency of stress environments around flowering, and how these changes impact on yields; cropping systems benefits i.e. early crops offer the opportunity of sowing a winter crop after a short summer fallow; the existing genetic diversity and the role of different physiological traits in relation to early planting and stresses also require specific researching.

The position is based at UQ Gatton Campus Queensland Australia with UQ-QAAFI's Farming Systems Research Group

Submit your EOI to Daniel Rodriguez (d.rodriguez@uq.edu.au) in no more than 2 pages addressing the **essential** criteria below:

1. A MSc or Honours degree obtained within the last 3 years from a high-ranking university
2. At least one publication in an international crop sciences journal having an impact factor higher than 3
3. An IELTS score higher than 6.5 (https://www.ielts.org/)
4. Skills in crop modelling and or R programming
5. A 2-page CV indicating University of MSc graduation, list of publications, and a single paragraph answer Why you should be considered for the position? and the contact details of three referees

In order to increase the number of female students, we ask interested and qualified women to apply for the position.

The closing date for receiving applications is **31.09.2018**.