

# Master thesis in Australia (2017)

The role of plant functional diversity for water cycling in a  
Mediterranean-type ecosystem



We are looking for a motivated student who can work independently and in a group to write a Master thesis about the role of plant functional diversity for water cycling in a Mediterranean-type ecosystem in South-West Australia. Our project “Ecosystem services through restoration: Improving restoration outcomes through trait-based modelling” ([further information](#) on the webpage of the Tietjen group at the Freie Universität Berlin) aims at modelling vegetation in combination with hydrological and nutrient cycling dynamics to support the restoration of abandoned agricultural fields. Our model should be validated against field measurements. The model results should be compared to empirical evidence which vegetation composition leads to a faster and more complete re-establishment of ecosystem services such as water and nutrient cycling.

The selected student should accompany us to a field trip to the Ridgefield study site close to Perth, South-West Australia. The expedition should occur around September-October 2017 (approximately 6-8 weeks), but we intend to fill the position soon to allow us to apply for travel funding at PROMOS (program for the mobility of undergraduate and postgraduate students). The experimental activities should involve water relations and gas exchanges of woody plants in the transition between rainy and dry season. We want to explore whether a more diverse vegetation composition with a larger root functional diversity would allow for a better usage of soil moisture and therefore provide good soil water conditions.

The ideal candidate should have experience and/or interest in plant ecology, ecophysiology or physiology and preferably be a Master student in the area of Berlin. Experience with water economy or gas exchange methods, and with the statistical environment R and fluency in English are preferred.

If this job description corresponds to your academic interests, you are welcome to apply with a **short motivation letter and your CV as a single file by 31.03.2017** to Dr. José Monteiro ([jose.monteiro@fu-berlin.de](mailto:jose.monteiro@fu-berlin.de)) and Sebastian Fiedler ([sebastian.fiedler@fu-berlin.de](mailto:sebastian.fiedler@fu-berlin.de)). If you have any question, do not hesitate in contacting Mr. Fiedler or Dr. Monteiro.