Position Title:	Research Associate / Research Fellow
Position Classification:	Level A / B
Position Number:	313745
Faculty/Office:	Faculty of Science
School/Division:	School of Molecular Science
Centre/Section:	ARC Centre of Excellence in Plant Energy Biology
Supervisor Title:	ARC Australian Laureate Fellow
Supervisor Position Number:	313676

Your work area

This position will be based within the ARC Centre of Excellence in Plant Energy Biology at UWA. The Centre is comprised of a mix of molecular and computational biologists, forming a multi-disciplinary team environment undertaking a diverse range of genomics research projects. We utilize genomic, computational, genetic, molecular, and biochemical approaches to answer fundamental unresolved questions concerning the regulation of genomic information by post-transcriptional mechanisms. The ARC Centre of Excellence in Plant Energy Biology (PEB) is a nationally funded research centre operating across four universities Australia-wide, and headquartered at UWA. PEB undertakes basic and applied plant research using a wide range of advanced molecular, genetic, genomic, and phenotyping approaches, and is a leading plant molecular research centre.

Reporting Structure

Reports to: ARC Australian Laureate Fellow (313676)

If a leadership/ supervisory role:

Direct Reports: N/A

Your role

A postdoctoral level position is available in the ARC Centre of Excellence in Plant Energy Biology to join ARC Laureate Fellow Prof. Ian Small in the modelling of plant energy metabolism. The research will build on previous efforts within the group to develop a genome-scale model of Arabidopsis metabolism with a particular focus on energy metabolism within plastids, mitochondria and peroxisomes.

The appointee will use computational approaches to further refine and develop this model, with the aim of applying it to multiscale, multicellular models of plant metabolism and physiology. A particular target will be the incorporation of transport fluxes of key ions and metabolites between cells, and between cell compartments. The long-term aim is an accurate accounting of energy-using processes within the plant at the cellular scale.

The position will permit extensive collaboration within the multidisciplinary and collaborative environment of the ARC Centre of Excellence in Plant Energy Biology (PEB). In addition, the appointee will also be encouraged to develop their own research ideas along the lines of the research interests of the group. The successful applicant will be supervised by Professor Ian Small and collaborate closely with colleagues working in the ARC Centre of Excellence in Plant Energy Biology.

Key responsibilities

To develop a research program to model plant energy use within cells, tissues and organs.

To communicate the results of the research via conference presentations and scientific publications.

To develop a network of collaborations across the ARC Centre of Excellence in Plant Energy Biology, including at Centre nodes in other States.

To supervise and mentor undergraduate and postgraduate student research projects if required.

To report on activities via the Centre's online activity database.

Other duties as directed.

Your specific work capabilities (selection criteria)

- PhD in Bioinformatics or related disciplines
- Experience in computational modelling including extensive experience with Systems Biology Markup Language (SBML) and flux balance analysis (FBA).
- Familiarity with handling large datasets and able to write complex programs in Python, Java, C++ or other standard programming languages.
- Experience with SQL databases and biostatistics as applied to genomics analyses would be advantageous.
- Basic knowledge of plant metabolism and cell compartmentation would be helpful.

Special Requirements

Willingness to travel and work flexible hours

Compliance

Workplace Health and Safety
All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).
All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements.
Details of the safety obligations can be accessed at http://www.safety.uwa.edu.au

Equity and Diversity
All staff members are required to comply with the University's Code of Ethics and Code of Conduct and Equity and Diversity principles. Details of the University policies on these can be accessed at http://www.hr.uwa.edu.au/publications/code_of_ethics, http://www.equity.uwa.edu.au