



## CSIRO Positions Vacant

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## Positions Details - 2009/645 - OCE Postdoctoral Fellowship 2009 - Juvenile Wood Needs Quality Genes for Quality Products

**Job Profile**

Reference Number: 2009/645

Position Title: *OCE Postdoctoral Fellowship 2009 - Juvenile Wood Needs Quality Genes for Quality Products*

Division: *CSIRO Plant Industry*

Location: *Black Mountain, ACT*

Classification: *CSOF4*

Salary Range: *\$69K - \$76K plus up to 15.4% Superannuation*

Tenure: *3 years*

Applicants: *International Applicants Welcome*

Relocation Assistance: *May be offered to the successful applicant.*

Applications Close: *31 Oct 2009*

Job Category: *Post Doctoral/Fellowship Scientific Research*

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CSIRO is Australia's leading research organisation with over 6,500 staff located across the country. Our purpose is to deliver great science and innovative solutions for industry, society and the environment by igniting the creative spirit of our people. The OCE Postdoctoral Fellowship Scheme provides an opportunity to undertake postdoctoral research projects aligned with the best research teams across CSIRO.

We are seeking a Post-Doctoral Fellow to undertake fundamental genetic and genomic studies on wood development in forest trees that will underpin advanced genetic improvement for wood quality traits in breeding programs. You will work on the development of a new research area of quantitative genomics for wood formation.

Key project components will include:

1. Large-scale gene expression and sequencing experiments for RNA samples of developing xylem tissues reflecting seasonal, diurnal and developmental stages of wood development.
2. Bioinformatic analyses to integrate variation of DNA sequence, genetic variation of transcript abundance and phenotypic trait across a range of important wood fibre traits. Analyses will elucidate gene and expression networks that account for significant variation in phenotypes and may reveal gene-gene interactions, regulatory gene networks and effects of eQTLs.
3. Findings will underpin the application of marker-assisted selection (MAS) in breeding programs.

The Post-Doctoral Fellow will join the award-winning Juvenile Wood Initiative (JWI) team carrying out large scale association studies, microarray analyses and comprehensive phenotypic analyses of thousands of pedigreed trees.

Applicants must hold a PhD in molecular genetics, quantitative genetics, bioinformatics or a related discipline (or will shortly satisfy the requirements for a PhD degree) with no more than three years experience since graduation. The successful candidate will have excellent interpersonal, written and oral communication skills and the ability to undertake independent research as part of a multi-disciplinary research group.

CSIRO is strongly committed to Diversity and offers [Flexible Working Arrangements](#) and enhanced leave entitlements.

*Aboriginal and Torres Strait Islanders are encouraged to apply for all CSIRO positions.*

*Please note that the advertised salary rates will increase by 5.1% from 9 December 2009 as per the CSIRO Enterprise Agreement 2008-2011.*

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## **Position Description**

### The Role

In this Post-Doctoral Fellow position you will integrate gene expression experiments with gene markers, using novel statistical tools linking eQTL effects to identify individuals with greater genetic merit. The PDF will be a key link between quantitative genetics, genomics and wood phenomics research in the JWI project, developing genetical genomics techniques leading to rapid improvements in breeding strategies for forest trees.

### Key Capabilities

- Strong commitment to team-based processes and outcomes.
- Strong motivational skills.
- Ability to deal with deadline and stress
- Publish finding on high quality international journal
- Essential – active support of code of conduct & OH&S

### Key Result Areas/Duties

Under general direction you will:

- conduct large scale gene expression and RNA sequencing using developing xylem samples from a range of genotypes and/or populations under a range of conditions,
- estimate genetic parameters by treating gene expression as a quantitative trait and identifying eQTL using bioinformatics tools,
- Integrate variation of DNA sequence, genetic variation of transcript abundance with phenotypic data for prediction of genetic merit of individual trees and for selection.

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### Selection Criteria

*Applicants must address the selection criteria. Applicants who do not address the selection criteria may not be considered. To assist you prepare your application please read the information available at ["Guidelines for Applicants"](#)*

### Pre-Requisite

The successful appointee must have completed, or will shortly complete, the requirements for a PhD. Owing to the terms of the fellowship, candidates must not have more than 3 years relevant Post-Doctoral Experience.

***Essential:***

1. PhD or equivalent, in molecular biology, molecular genetics, quantitative genetics, bioinformatics or a related field of research
2. Demonstrated experience either in genomics or computational biology
3. Practical experience in DNA and RNA sequencing and statistical analyses
4. Demonstrated ability to work as in a multi-disciplinary team with excellent communication skill

***Desirable:***

1. Knowledge of forestry and tree breeding
2. Experience in computer programming applied to genetics
3. Analyses of molecular and phenotypic data
4. Interest in application of research to achieve industry outcomes

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**More Information**

**CSIRO**

CSIRO is Australia's premier research body, delivering innovative science for the benefit of Australians. CSIRO's culture, conditions and environment support people to manage their careers and strike a balance between their work and personal lives. For more information please see [Working at CSIRO](#).

**Description of the Research/Business Group**

CSIRO Plant Industry conducts research to promote profitable and sustainable agrifood, fibre and horticultural industries, develop new plant products and improve natural resource management. For more information, please see <http://www.pi.csiro.au>.

**Applications**

Before you apply ensure that your documents are in Text, MS Word or PDF. Ensure your file is not larger than 1MB in PDF format, or 2MB for all other formats. Your documents will be converted into PDF format. To view these documents once converted you will need to download Adobe Reader [Download Adobe Reader](#).

CSIRO prefers your application be **lodged online** via this careers site.

You are required to include two (2) documents:

- (1) a document addressing the "Selection Criteria" and
- (2) a "Resume or CV" including the names of at least two (2) referees.

**Note: Applications that do not address the selection criteria will not be considered.**

If you experience difficulties applying online call 1300 301 509 for assistance. Outside business hours please email: [csiro-careers@csiro.au](mailto:csiro-careers@csiro.au).

If you are unable to lodge your application online you can send your completed application and copies of any supporting documentation quoting reference number 2009/645 to:

CSIRO Careers Online  
PO Box 225  
DICKSON ACT 2602

**Contact:** If after reading the selection criteria you have any questions specifically relating to this position, please contact Harry Wu by email [harry.wu@csiro.au](mailto:harry.wu@csiro.au) [or phone +61 2 6246 4858].

Please **do not** email your application directly to Dr Wu, applications received via this method will not be considered. Please use the **Apply Now** function.

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