



Australian Government

Australian Research Council

## Examples of new *Discovery Projects* in 2010

### Queensland

#### **Queensland University of Technology** (Contact: 07 3138 2361)

*Modification of lignin biosynthesis in sugarcane for the improved efficiency of pre-treatment in ethanol production (DP1093236)*

**Summary:** Sugarcane is one of Australia's most important rural industries. However, as a single product industry, declining sugar prices threaten the industry's long term economic sustainability unless alternative markets for sugarcane are created. Utilising the sugarcane waste for cellulosic ethanol would provide a new revenue stream, injecting life into the Australian sugarcane industry. In addition, cellulosic ethanol from sugarcane has the potential to substantially decrease the cost of biofuel production and significantly reduce greenhouse gas emissions. The research proposed here will advance our ability to improve sugarcane through biotechnology.

*Chief Investigator: Dr Heather Coleman*

**ARC funding:** \$280,000 over 3 years

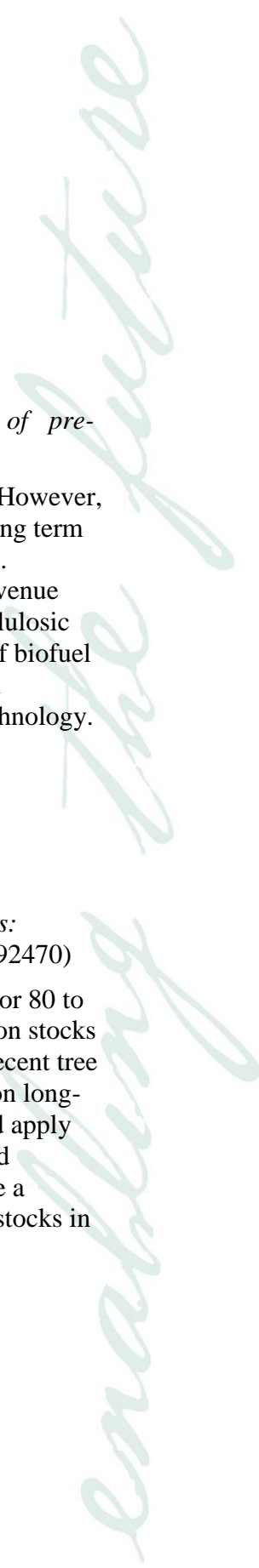
#### **Griffith University** (Contact: 07 3735 6458)

*Environmental fingerprints of biogeochemical cycles embedded in tree rings: Linking global climate change to local long-term forest productivity (DP1092470)*

**Summary:** Forests cover one-third of the Earth's land surface and account for 80 to 90 per cent of plant carbon and 30 to 40 per cent of soil carbon. Forest carbon stocks and dynamics respond to and interact with global climate change (GCC). Recent tree ring research highlights the worsening impact of GCC and acid deposition on long-term forest productivity in central Europe. This project seeks to develop and apply novel tree ring technologies for linking biogeochemical cycles of carbon and nutrients to long-term forest productivity in different regions, and to provide a scientific basis for accounting for long-term forest productivity and carbon stocks in response to future GCC.

*Chief Investigator: Professor Zhihong Xu*

**ARC funding:** \$450,000 over 3 years





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*Work life after a diagnosis of breast, prostate and colorectal cancer: Major disruption or work as usual (DP1095273)*

**Summary:** Each year over 40,000 working-age individuals (as well as their families and workplaces) are affected by a diagnosis of cancer. This novel and important study will, for the first time in Australia, identify the extent and effects of loss of skilled workers from the workforce because of a diagnosis of breast, prostate or colorectal cancer and will lead to the development of new interventions that help people to recover from cancer. This project is critical to help advance health and labour policies in Australia which currently faces an ageing population, global economic unrest and rising unemployment.

*Chief Investigator: Dr Louisa Gordon*

**ARC funding:** \$240,000 over 3 years