Tree genome research provides the basis for forest adaptation to climate change, greater wood production and more effective carbon sequestration

9th July 2008

Through improved understanding of tree genetic make-up, researchers from the Creswick campus at the University of Melbourne are looking to improve forest biodiversity conservation, adaptation to global warming and wood production.

Professor Alexander Myburg from the University of Pretoria, South Africa will visit the University of Melbourne's Creswick campus this week. Professor Myburg is lead scientist for the Eucalyptus Genome Project - currently underway at the US Department of Energy's Joint Genome Institute. He is visiting Creswick to further joint research with Associate Professor Gerd Bossinger from the School of Forest and Ecosystem Science.

Associate Professor Bossinger heads the 'Forest Molecular Biology and Genetics' research group. This group has developed technology enabling faster identification of the genes involved in wood formation. As the eucalypt genome becomes available, this technology will become increasing valuable in selecting and breeding trees with desirable wood or other properties.

"We are very excited to have Professor Myburg visit us this week. Our project into the identification of wood-production genes will provide for a more efficient and productive forestry industry. This also means we have less environmental impact as we limit waste by only growing trees with wood characteristics that we want".

Professors Bossinger and Myburg will also discuss an Australian platform to harness international tree genomics resources to meet the challenges presented by climate change. This project is being developed with partners in CSIRO's Plant Industry Division.

"The project covers both biodiversity conservation, by advancing our understanding of long-term tree and forest adaptation to climate change, as well as capturing opportunities presented by tree domestication for economically and ecologically sustainable fibre and bio-fuel production" said Professor Bossinger.

Discussions will determine how a concerted Australian effort can benefit from and contribute to the advanced international program to decode the iconic Australian eucalypt genome.

Professor Myburg will be visiting the Creswick Campus from Sunday 6 July to Wednesday 9 July.

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Tree Genome Discussions: Dr Antanas Spokevicius (left) and A/Professor Gerd Bossinger (centre) from the University of Melbourne with Professor Alexander Myburg (right) from the University of Pretoria.