



## R&D Works – July 2016

Welcome to our July edition of the R&D Works newsletter.

This month our stories include a new satellite built by the European Space Agency designed to enable surveillance of woody biomass in trees and map forest mass via 3D analysis; a move by domestic airline carriers to access locally-produced biofuels to reduce carbon emissions. A project that investigated the impact of four different weighing methods on over/under loading of forestry trucks to improve management of payload forestry haulage; and lastly the announcement of a symposium, to be held in Canberra on Wednesday 20th July, about Forest industry preparedness for climate change: opportunities from genetics and genomics.



I do hope you enjoy reading about these exciting research projects and their applications.

Chris Lafferty  
R&D Manager, Forest & Wood Products Australia

## Main News



**Symposium Invitation - Forest industry preparedness for climate change: opportunities from genetics and genomics**  
CSIRO, ANU and Western Sydney University invite you and your colleagues to a symposium about Forest industry preparedness for climate change: opportunities from genetics and genomics. This is being held under the auspices of the Science and Industry Endowment Fund (SIEF) project 'Forests for the Future: making the most of a high CO2 world'.

[Read More](#)



### Weighing the Earth's forests

A new satellite built in the UK is designed to weigh the world's trees. The Biomass mission's novel space radar will make 3D maps of forests, improving our understanding of how carbon is cycled through the Earth system.

[Read More](#)

### Virgin Australia and Air NZ to fly on biofuel

Virgin Australia and Air New Zealand will seeking to reduce emissions from their jet fuel by moving towards locally-produced biofuel. The two aviation companies have teamed up and issued to the market an official 'Request for Information' on aviation biofuels, to reduce carbon emissions and boost fuel security.

[Read More](#)



---

## Timber Construction and Design

---



### New tool for Prefab building

In what is potentially a world first, a New Zealand company has developed the UniPod, an open-source prefabricated bathroom and kitchen 'pod'. The UniPod is like a giant piece of Lego and has been designed to be stackable and integrate with other pods for multi-unit housing.

[Read More](#)

---

## Forest Growing

---



### The effects of genetic improvement on radiata pine wood density

Density is a key wood quality trait and has been the focus of selective breeding efforts in radiata pine. The aim of this Scion study was to quantify realised genetic gain in radiata pine wood density and to incorporate it into existing modelling systems for predicting growth and wood quality.

[Read More](#)



### Multi-sensor modelling of a forest productivity

An understanding of how plantation productivity varies spatially is important for forest planning, management and projection of future plantation yields and returns. The 300 Index is a volume productivity index developed for Pinus radiata D.Don that has been widely used within New Zealand to assess site productivity.

[Read More](#)



### New satellite data tools to manage natural resources

The United Nations Food and Agriculture Organization (FAO) and Google has announced plans to work together to make high-resolution satellite data a common tool in managing the world's natural resources.

[Read More](#)

---

## Wood Harvesting Transport and Logistics

---



### A first for remote operated logging machines

Caterpillar has developed forestry machines that are controlled remotely. This research should ultimately pave the way for wider applications of the technology in the logging industry in order to increase operator safety.

[Read More](#)



Estimating the position of the harvester head  
Modern harvesters are technologically sophisticated and, since the 1990s, have been able to automatically measure stem diameters and lengths in real time to improve cutting optimisation and wood supply management.

[Read More](#)



The impact of weighing methods on logging trucks in Australia

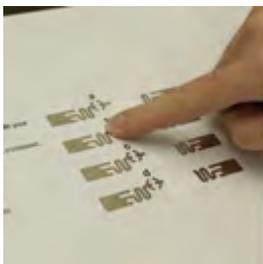
A project was carried out to investigate the impact of four different weighing methods on over/under loading of forestry trucks operating in New South Wales. Researchers from the University of the Sunshine Coast considered two types of roads in this study.

[Read More](#)

---

## Other Information

---



RFID technology gives rise to cheap paper sensors

Touching a piece of paper could one day turn off the lights, send survey results digitally and so much more, thanks to RFID (radio-frequency identification) technology that goes into creating a cheap but versatile paper sensor.

[Read More](#)



High-speed 'trees' generate electricity from wind

Small electromechanical structures that look like trees shaking in a storm could prove to be the next big thing in energy generation. Research announced by the Ohio State University points to the possibility.

[Read More](#)



Researchers shine a light through transparent wood

Researchers at the University of Maryland have made a block of linden wood transparent, which they say will be useful in fancy building materials and in light-based electronics systems. Materials scientist Liangbing Hu and his team have removed the molecule in wood—lignin—that makes it rigid and dark in colour.

[Read More](#)

---

Copyright © 2016 FWPA, All rights reserved.  
You are receiving this email as you have registered to the FWPA Newsletter

Our mailing address is:  
FWPA  
Level 11, 10-16 Queen Street  
Melbourne, Vic 3000  
Australia

[Add us to your address book](#)

[unsubscribe from this list](#) [update subscription preferences](#)