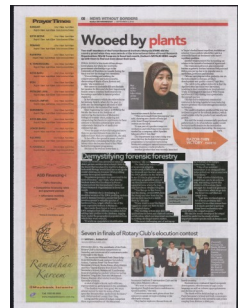


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# Demystifying forensic forestry

**TNAH LEE HONG** was devastated when she didn't get into architectural school. Little did she know that her plan B to read for a degree in Industrial Biology would lead her to set up the world's first known forensic DNA profiling system for tropical hardwoods.

"Population genomics is a new trend in the field of forestry," said Tnah, who won the Student Award for Excellence in Forest Sciences from the International Union of Forest Research Organisations in Seoul last month.

The database she is developing is a modified version of the DNA profiling systems used in human forensics, except that her's revolves around a valuable species of hardwood tree, *cengal*, which is one of the most expensive timbers in Malaysia.

She travels from forest to forest, extracting DNA samples from different localities before adding their profiles to the database, tagging them under the geographical population from which they were sourced.

"It works as a population identification

database," she said.

The idea is that when a piece of suspicious *cengal* is confiscated, a DNA sample may be obtained and checked against the DNA profiles on the database to see if it can be pinpointed to a particular geographical area. It can then be determined if this was a gazetted area where the logs may have been obtained illegally.

"You then go to that forest, find the stump, extract DNA from the stump and also from the log and see how much of a match there is," she said.

"If you want to send the illegal loggers to court you have to find the original stump."

This tracking system may also have applications in forest and chain of custody certification, which are important mechanisms in curbing the illegal timber market.

"The most challenging part of setting up



Tnah ... does DNA profiling of tropical hardwoods

the database is the sample collections," she said.

"One of our assistant researchers is an orang asli who helps us find our way around new forest areas."

Tnah admitted identifying *cengal* trees can be an arduous task, warranting a hawk-like ability to differentiate them amongst the density of greenery.

"Sometimes when we go into the forest we can't find any *cengal* trees.

"Last time we faced quite a lot of these problems but I learned from other researchers it is much quicker to get help from forest authorities who know where the *cengal* trees are."

She said the model developed for *cengal* should be useful for the study of other important timber species such as *kempas* and *meranti*.