

First Announcement



## VIRTUAL KNOWLEDGE SHARING WORKSHOP

# DNA Profiling and Barcoding in Timber Forensics in Asia

15 May 2025 | Live in Zoom | 1400-1600 (GMT+8) Kuala Lumpur

Time (GMT +8)	Activity
1400-1410	Brief Opening Remark by APAFRI representative
1410-1440	<b>Forensic Timber Tracking System: Insights from FRIM's Experience</b> <b>Dr. Tnah Lee Hong</b> , Forest Research Institute Malaysia (FRIM), Malaysia
1440-1510	<b>DNA Profiling and Barcoding in Timber Forensics</b> <b>Dr. Suma Arun Dev</b> , Kerala Forest Research Institute (KFRI), India
1510-1600	Q&A - Open Discussion

Submit your registration by **9 May 2025**:

<https://forms.gle/Y6siArQsn6qaWDBJ8>

### OUR SPEAKERS



**DR. TNAH LEE HONG**  
Forest Research Institute  
Malaysia (FRIM)  
MALAYSIA



**DR. SUMA ARUN DEV**  
Kerala Forest Research Institute  
(KFRI)  
INDIA

# Speaker's Brief Introduction

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**Dr. Tnah Lee Hong** joined the Forest Research Institute Malaysia (FRIM) as a research officer in 2004. Her work focuses on plant DNA barcoding and profiling, phylogeography and evolution, marker development, genomics, and conservation genetics of important timber species. Together with the Genetics Lab team, she has received multiple awards and recognitions from IUFRO, JIRCAS, APAFRI, ITEX, JIPA, and others for pioneering the forensic timber tracking system in Malaysia.

**Dr. Suma Arun Dev** is Principal Scientist at the Forest Genetics and Biotechnology Division of the Kerala Forest Research Institute, specializes in genomics, transcriptomics, and the development of DNA reference databases to track and authenticate traded timbers, supporting the sustainable management and conservation of forest genetic resources.



# Synopsis of Presentations

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## **Forensic Timber Tracking System: Insights from FRIM's Experience** **Dr. Tnah Lee Hong**

Tnah L.H., Ng K.K.S., Ng C.H., Lee C.T., Nurul-Farhanah Z., Nur-Nabilah A., Muhammad-Azlan S., Nur-Ilyia Y. & Lee S.L.

At the Genetics Laboratory of the Forest Research Institute Malaysia (FRIM), our mission is to support stakeholders in balancing the conservation and sustainable utilization of forest genetic resources through scientific research. One of our key research areas is the development of a forensic timber tracking system, which involves species identification through DNA barcoding and forensic timber traceability via DNA profiling. These approaches are essential for verifying timber legality, regulating trade, and promoting sustainable forest management. Since 2009, we have pioneered a DNA-based timber tracking system that harnesses the inherent genetic properties of timber to identify species and trace logs back to their original populations and stumps. This initiative led to the establishment of the Malaysia Barcode of Plants (MyBARCODE), a comprehensive DNA barcoding system for plant species identification and authentication. MyBARCODE features an extensive reference database covering commercially traded timbers and has been instrumental in assisting plantations and the wood industry in authenticating timber species and ensuring compliance with international trade regulations. For timber traceability, we developed the Malaysia Plant DNA Tracking System (MyTRACK), which consists of DNA profiling databases for 13 key forest tree species. These databases assist the Forest Departments and the Department of Wildlife and National Parks in investigating illegal logging activities. With these established databases and resources, our Genetics Laboratory is ISO 17025 accredited and listed in the CITES directory of laboratories authorized to conduct wildlife forensic testing. By integrating DNA barcoding and profiling into a robust forensic timber tracking framework, we strengthen regulatory enforcement, enhance supply chain transparency, ensure legal timber sourcing, and contribute to forest conservation.



## **DNA Profiling and Barcoding in Timber Forensics**

**Dr. Suma Arun Dev**

Timber forensics employs DNA markers with good forensic properties to create DNA-based evidence for tackling illegal timber felling and the adulteration of wood and non-wood products in markets. DNA profiling plays a key role in tracing the origin of illegally harvested timber by comparing the DNA fingerprints of seized wood with those of the original tree stump. This provides reliable, tamper-proof evidence to help the judiciary handle illegal felling cases more swiftly and effectively. The Kerala Forest Research Institute (KFRI) has established the first facility in the country dedicated to DNA Barcoding and Timber Forensics. This Centre serves various stakeholders, including government agencies and the judiciary, by providing tamper-proof DNA evidence in suspected timber theft cases. DNA barcoding is also an effective tool for verifying the authenticity of both wood and non-wood forest products for addressing issues of market adulteration. Through its development of DNA barcoding capabilities, KFRI has demonstrated how DNA barcodes can be used for various purposes, including species identification, resolving taxonomic challenges, certifying bamboo planting materials, authenticating Ayurvedic raw materials, and authenticating traded timber species. The institute has also created a reference DNA barcode database for commercial timber species, offering a reliable resource to identify adulterated wood and assist voluntary wood certification organizations. The ability to track and authenticate forest products with significant economic value is essential for the efficient management of natural resources and for validating the chain of custody of traded timber.

**For more information, please email to:**

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