

# **Tree Seed Working Group**

**IUFRO 2.09.03 Seed Physiology and Technology**

**ISTA Forest Tree and Shrub Committee**

The Tree Seed Working Group (TSWG) is part of the Canadian Forest Genetics Association (CFGGA) **Melissa and I**

It was formed in 1983 and has four objectives on promoting tree seed science and technology through:

- **Seed research from bud initiation to seed use**
- **Identification of seed problems relating to tree improvement and forest management**
- **Exchange of information on seed related problems**
- **Advising on implementation practices**

We need to continue knowledge transfer in our specialized and evolving field to support both the scientific and applied information needs.

This is an important compliment to the refereed journals to extend practical information, knowledge and wisdom for those dealing with tree seed.

# Please Join the Tree Seed Working Group

- Main activities: News Bulletin published biannually (300+ subscribers) and workshop held biennially with CFGA Conference
- Recently published our 72<sup>nd</sup> News Bulletin !
- News Bulletin is recognized by Library & Archives Canada as a “part of Canada’s published heritage”; over 1,200 pages of seed-related information
- Archive hosted on BC Tree Seed Centre website: [www2.gov.bc.ca/\[...\]/tree-seed-working-group](http://www2.gov.bc.ca/[...]/tree-seed-working-group)
- Please contribute









# What is IUFRO ?



IUFRO is a global, non-profit, non-governmental and non-discriminatory scientific organization.

**~ 15,000 scientists**

**~ 600 voluntary  
officeholders**

**~ 600 member  
organizations**

**~ 250 research units**

**~ 120 countries**

**~ 70 meetings/year**

IUFRO is open to all individuals and organizations dedicated to research related to forests and forest products.

IUFRO was **founded in 1892 and is based in Vienna**, Austria. It is a member of the International Council for Science, ICSU.

# IUFRO's Mission

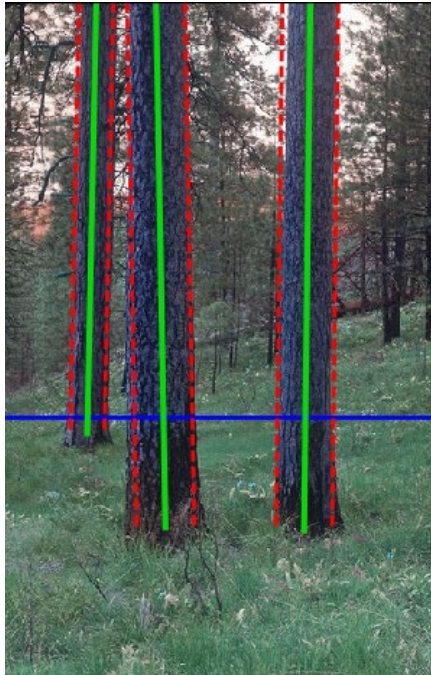
IUFRO advances **research excellence** and **knowledge sharing**, and fosters development of **science-based solutions** to forest-related challenges for the benefit of forests and people worldwide.



# Research Themes

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Five themes aim to guide the science collaboration within IUFRO's global network:



- **Forests for People**
- **Forests and Climate Change**
- **Forests and Forest-based Products for a Greener Future**
- **Biodiversity, Ecosystem Services and Biological Invasions**
- **Forest, Soil and Water Interactions**



# Divisions

Nine permanent Divisions cover key forest research fields. Within the Divisions Research Groups and Working Parties address specific research topics.



- D1 Silviculture
- D2 Physiology and Genetics
- D3 Forest Operations Engineering and Management
- D4 Forest Assessment, Modelling and Management
- D5 Forest Products
- D6 Social Aspects of Forests and Forestry
- D7 Forest Health
- D8 Forest Environment
- D9 Forest Policy and Economics



- Forest Education
- Monitoring Global Tree Mortality Patterns and Trends
- Fires - Economic Drivers of Global Wildland Fire Activity
- Forests and Water Interactions in a Changing Environment
- Gender Equality in Forestry
- Resilient Planted Forests Serving Society & Bioeconomy
- Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change
- Unlocking the Bioeconomy and Non-Timber Forest Products
- Transforming Forest Landscapes for Futures Climates and Human Well-Being

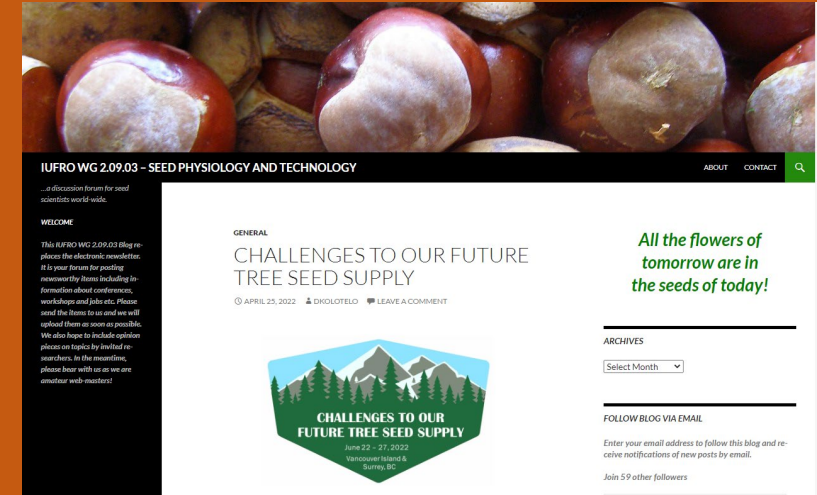
# IUFRO 2.09.03 Seed Science & Technology



Dave Kolotelo – Canada  
Katri Himanen – Finland  
Elisa Vieira – Brazil  
Shelagh McCarten – Honourary

The main aims are to:

- Provide a forum for discussion of forest tree seed problems and their solutions in both temperate and tropical forests;
- Exchange information on forest tree seed physiology, particularly relating to seed dormancy and seed technology (including processing, stratification, storage and testing).



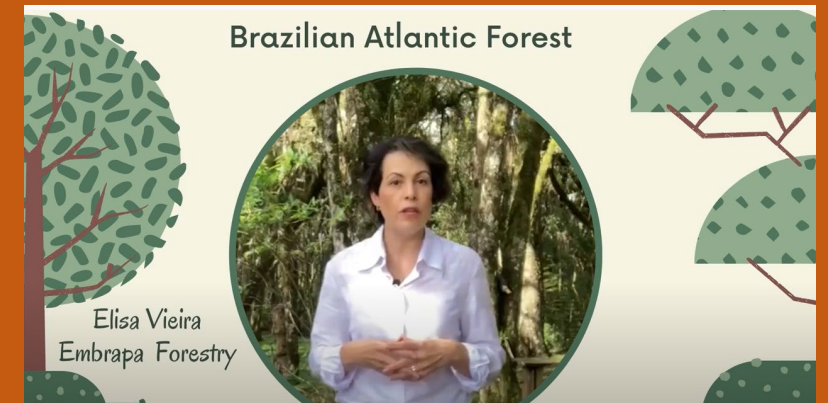
<https://iufroseedwg.wordpress.com/>



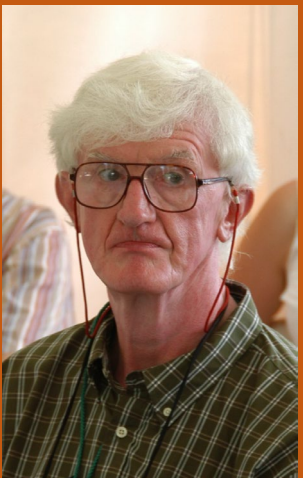


# <https://www.iufro.org/science/divisions/division-2/20000/20900/20903/activities/>

- Current Activities – this meeting
- Archived Proceedings going back to 1973 (Bergen, Norway –Seed Processing)
- Past Newsletters 1973-2008 – 73 editions



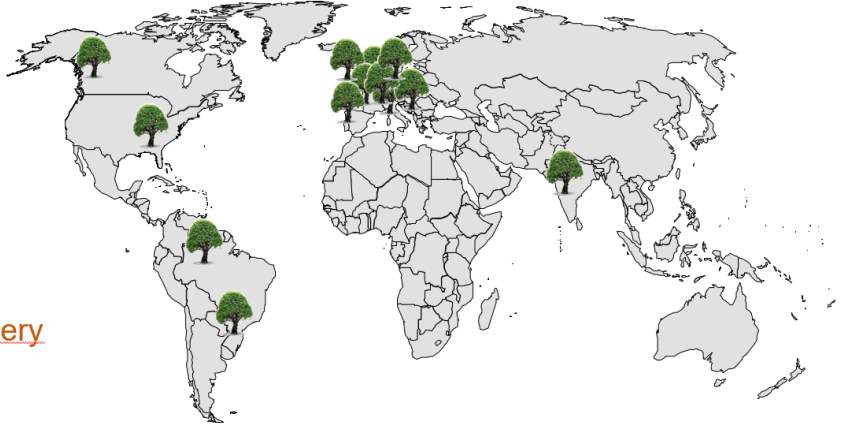
<https://youtu.be/aay6WPJYBvo>



# ISTA Forest Tree and Shrub Committee

North America – 2  
South America – 2  
Europe – 8  
Asia - 1

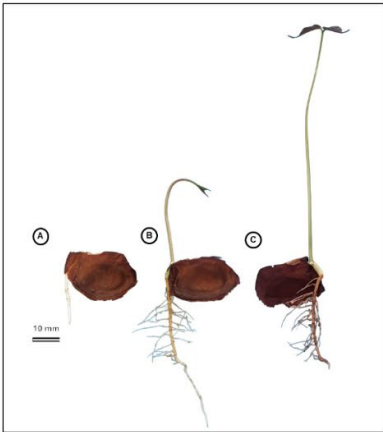
VACANCY: Africa is very welcome!!!



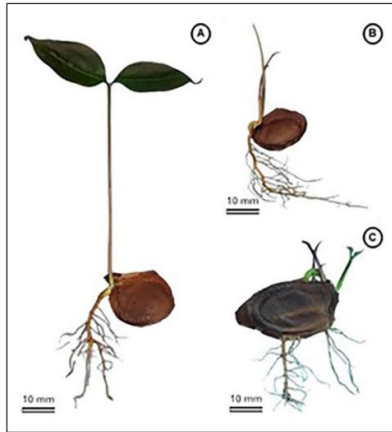
**Elisa Vieira - Brazil**  
**Vic Vankus - USA**



Seeds



Development stages: A: 13 days; B: 19 days; C: 25 days.



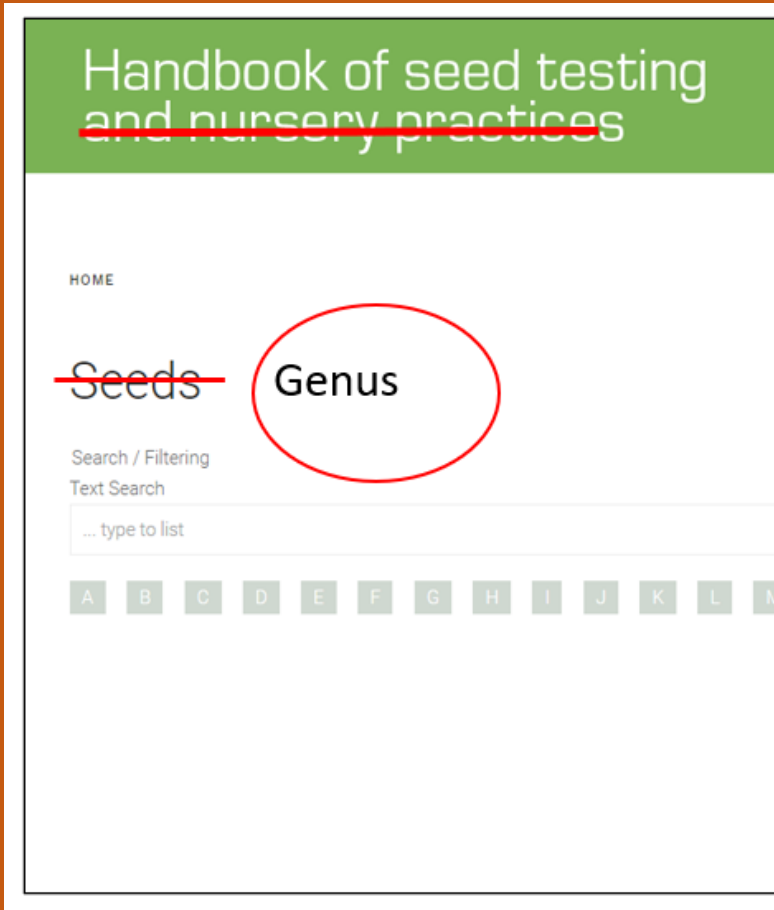
Normal (A) and abnormal seedlings (B,C)

- Validation of germination test methods for *Khaya grandifolia* – African Mahogany
- Widely planted exotic





# Update electronic OECD/ISTA forest and shrubs seeds handbook <https://www.treeseedhandbook.info/>



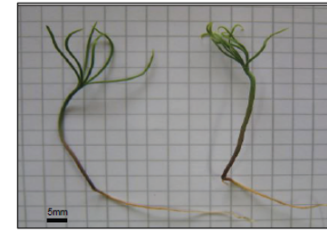
## Purity

Sample size:  
Type of fruit:  
Pure seed definition:

## Germination

Substrate:  
Temperature:  
First count:  
Final count:  
Seedling characteristics:

Normal seedlings:



Abnormal seedlings:



- Remove nursery component
- Start at genus level (74)
- Division of labour stage
- Others outside or committee welcome to contribute

# ISTA Training around the world



International Rules for Seed Testing, Introduction, I-1-6 (14)  
<https://doi.org/10.15258/istarules.2022.1>



## International Rules for Seed Testing 2022



### Seed Science and Technology





### SEED TESTING INTERNATIONAL

International Seed Testing Association News Bulletin No. 303 April 2022



#### COME JOIN US IN CAIRO, EGYPT

For the 33rd ISTA Congress, 8-11 May 2022

TRADITION IN ISTA: 150 YEARS OF SEED TESTING AT AUGUSTENBERG 39  
High quality seeds remain the foundation of success.

YOUNG+ISTA: PROMOTION OF YOUNG SEED PROFESSIONALS 26  
Succession planning at the heart of ISTA initiative

ISTA /FAO HANDBOOK 11  
New international harmonizing industry standards for labs

WWW.SEEDTEST.ORG