FOREST VALUE2 - SUMMER TRAINING COURSE

Dendroscience, a tool to understand future forest resilience to climate change

HORIZON-WIDERA-2022-ERA-01-10
Grant Agreement No. 101094340

Brașov, "Marin Drăcea" INCDS

24th-29th of August 2026

"Marin Drăcea" National Institute for Research and Development in Forestry, Romania, as partner of the **ForestValue2 Innovating Forest – based bioeconomy" Project** https://forestvalue.org/ (Horizon Widera-2022-ERA-01, Grant agreement ID: 101094340), will organise within the **WP6 – Others joint activities - Task 6.2.** ***Summer training courses for early-stage researchers,*** **the Summer Training Course** ***Dendroscience, a tool to understand future forest resilience to climate change.***

Main topic - Using tree ring parameters to assess drought impacts, forest resilience, and climate–growth relationships in support of sustainable forest ecosystem management and adaptation strategies.

The aim of the Summer Training Course „*Dendroscience, a tool to understand future forest resilience to climate change*" is to equip early-stage researchers with the specialized scientific tools needed to analyze and predict how forests cope with a changing climate. The program specifically focuses on:

- ✓ Dendrochronological Expertise: Introduction to dendrochronology, combining theoretical foundations of tree-ring science with practical approaches for sampling, measurement, and chronology development.
- ✓ Climate Resilience Assessment: Application-oriented training focused on climate–growth relationship analyses across multiple temporal scales, resilience assessment, pointer-year analysis emphasizing methodological interpretation, verification, and limitations in environmental and climate research.
- ✓ Bridging Science and Practice: Training early-stage researchers to validate and link complex data to practical forest management, helping decision-makers prepare for future climate risks.
- ✓ Interdisciplinary Collaboration: Fostering a network of international experts in fields like ecology, hydrology, and climatology to address global environmental challenges collectively.

Participants

Early-stage researchers belonging to any partner in the ForestValue2 Project are welcome to participate and are eligible to apply. The training course is intended for early-career researchers from the EU-13 countries (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia) as well as Ukraine, the Republic of Moldova, with non or low experience in dendroscience

A maximum of 20 persons can participate (Master's, Doctoral or Post-doctoral researchers and Others).

Financial support

The financial support is assured by the ForestValue2 Project and cover the costs for travel, accommodation and subsistence.

Organizer

National Institute for Research and Development in Forestry" Marin Drăcea" (INCDS), with the support of the *Transilvania University of Brașov*.

Invited lecturers

- **Prof. dr. Tom LEVANIC** – professor, Gosdarski Slovenian Forestry Institute, Department of Forest Yield and Silviculture, Slovenia
- **Dr. Ionel POPA** – Senior scientist, "Marin Drăcea" National Institute for Research and Development in Forestry, Head of Dendrocronology and Wood Anatomy Laboratory, Romania

Application and approval

To apply, please fill the online application form using the link and send an email with your:

- *Europass* CV;
- Contact details and full address;

Subject of the mail "FOREST VALUE2 - SUMMER TRAINING COURSE" to: Ecaterina Apostol, ecaterina.apostol@icas.ro.
Selected trainees will receive information about registration and presentation of their own research (details about the abstract and presentation form).

Location and accommodation

The Summer Training Course will be hosted by *National Institute for Research and Development in Forestry" Marin Drăcea"* (www.icas.ro) and *Transilvania University of Brașov* (www.unitbv.ro).

Deadlines

All applications must be submitted by email to Ecaterina Apostol (ecaterina.apostol@icas.ro), by **25th of June, 2026**. Applicants will be informed about the application result on the **30th of June, 2026**.

Programme of the Training Course

Day 1: 24th of August 2026

Arrival of invited lecturers and participants
18:00 – Registration and Welcome reception

Day 2: 25th of August (09:00-18:00) – Joint session

Training course opening – Dr. Ovidiu BADEA *[Scientific Director, National Institute for Research and Development in Forestry "Marin Drăcea"]*
ForestValue2 – Dr. Ecaterina Apostol *[Senior Scientist, National Institute for Research and Development in Forestry" Marin Drăcea"]*

- **Introduction to dendrochronology: theoretical aspects, principles, applications – Prof. dr. Tom LEVANIC** *[Gosdarski Slovenian Forestry Institute, Department of Forest Yield and Silviculture, Slovenia]* **(1 h)**
- **Tree rings: structure, growth phenology, parameters – *Prof. dr. Tom LEVANIC* (1 h)**
- ***Tree-ring sampling and analytical measurements methods – Dr. Ionel POPA*** *["Marin Drăcea" National Institute for Research and Development in Forestry, Head of Dendrochronology and Wood Anatomy Laboratory, Romania]* ***(2 h)***

Lunch break 13:00-14:00

- **Seminar: Wood samples processing, tree ring width measurements with CooRecorder (Prof. dr. Tom LEVANIC, dr. Ionel POPA) (4 h)**

Day 3: 26th of August (09:00-13:00) – Joint session

- **Tree-ring data verification and cross-dating – Prof. dr. Tom LEVANIC** *[Gosdarski Slovenian Forestry Institute, Department of Forest Yield and Silviculture, Slovenia]* **(1 h)**
- **Tree-ring series detrending methods and chronology building - Tom LEVANIC (1 h)**
- **Climate–growth relationship assessment methods – *Dr. Ionel POPA*** *["Marin Drăcea" National Institute for Research and Development in Forestry, Head of Dendrochronology and Wood Anatomy Laboratory, Romania]* ***(2 h)***

Lunch break 13:00-14:00

- ***Seminar: Tree ring data cross-dating using COFECHA, CDendro and Past5; Detrending methods and chronology building using ARSTAN and dplR in R; Climate-growth relationship using DENDROCLIM++ and dendrotools/treeclim in R (Prof. dr. Tom LEVANIC, Dr. Ionel POPA) (4h)***

Day 4: 27th of August (07:30-20:00) – Joint session

Fieldtrip – ICP/LTER monitoring network

Day 5: 28th of August (09:00-18:00) – Joint sessions

- ***Resilience to drought assessment using tree rings –- Dr. Ionel POPA (2h)***
- ***Climate reconstruction using tree rings –- Prof. dr. Tom LEVANIC (2h)***

Lunch break 13:00-14:00

Training course closure - 14:00-16:00

Day 6: 29th of August

Departure of the participants