



RESEARCH AND PRACTICE IN FOREST ECOLOGY

— 2nd INTERNATIONAL CONFERENCE —



**2nd International Scientific Conference for Young Scientists
“Research and Practice in Forest Ecology”
Institute of Dendrology, Polish Academy of Sciences
6–10 May 2026, Kórnik, POLAND**

WORKSHOPS

1. Population genetics of trees – DNA in forest ecology research

The workshop on population genetics focuses on demonstrating how information contained in DNA can be used to study forest tree populations and the processes occurring within them. Today, genetics constitutes an important complement to classical ecological research, allowing for a more accurate interpretation of field observations related to the origin of populations, their genetic diversity, and their responses to environmental factors.

During the workshop, participants will become familiar with basic concepts related to genetic variation in populations and will learn what types of information can be obtained from simple DNA analyses. The sessions will illustrate how genetic data help to understand relationships among individuals, levels of population admixture, and the influence of historical and habitat conditions on present-day population structure. Particular emphasis will be placed on the practical relevance of genetic information rather than on the technical aspects of genetic methods.

An integral part of the workshop will be a problem-oriented approach combining genetics and ecology. Participants will learn how to integrate genetic data with environmental knowledge in order to better interpret processes such as population regeneration, stability, and responses to natural and anthropogenic disturbances. The workshop aims to present genetics as an accessible and useful research tool that, even at a basic level, enables meaningful questions to be asked about the functioning of tree populations and the future of forest ecosystems.

2. Cryopreservation and somatic embryogenesis – advanced technologies for the conservation of genetic resources

This workshop focuses on cryopreservation and somatic embryogenesis as modern, highly specialized technologies enabling the long-term preservation and controlled regeneration of genetic resources of woody plants. These methods are currently at the forefront of developmental biology, plant biotechnology, and modern forestry, offering practical solutions to challenges related to biodiversity loss, instability of generative reproduction, and the adaptation of organisms to rapidly changing environmental conditions.

Project no. WNK/SP/0376/2025/01 subsidized by the Ministry of Science and Higher Education under the program „Wektory Nauki” and by the Zakłady Kórnickie Foundation. **Researchers selected to deliver presentations will have their meals, accommodation, registration fee and field excursion costs covered.**



RESEARCH AND PRACTICE IN FOREST ECOLOGY

— 2nd INTERNATIONAL CONFERENCE —



2nd International Scientific Conference for Young Scientists “Research and Practice in Forest Ecology” Institute of Dendrology, Polish Academy of Sciences 6–10 May 2026, Kórnik, POLAND

Particular emphasis will be placed on somatic embryogenesis as a process requiring precise regulation at the cellular and molecular levels. Participants will learn about key mechanisms underlying the transition of somatic cells to a totipotent state, including the roles of oxidative stress, redox signaling, and interactions among endogenous growth regulators. Current research directions aimed at modulating these processes under in vitro conditions to enhance the efficiency of embryogenic tissue initiation and stability will also be discussed.

An integral component of the workshop will be cryopreservation as a technology enabling the “suspension of time” at the cellular level. Participants will be introduced to the biological basis of cell survival at ultra-low temperatures, the importance of controlling the physiological status of biological material before and after freezing, and the role of cryopreservation in maintaining the developmental competence of stored tissues. These topics will be presented in the broader context of establishing biological material banks and implementing modern strategies for the conservation and utilization of genetic resources.

3. Identification of tree and shrub species – practical field methods

Field workshops devoted to the identification of tree and shrub species will be conducted at the Arboretum of the Institute of Dendrology of the Polish Academy of Sciences and will focus on the practical development of skills related to the identification of woody plants. The sessions aim to familiarize participants with the Arboretum’s living collections, including a presentation of the oldest specimens preserved in Kórnik.

Participants will learn how to use dendrological identification keys and how to recognize morphological features essential for species identification, such as leaf structure, shoots, buds, bark, and fruits. The workshops will demonstrate how to interpret morphological variability and how to avoid common identification errors resulting from individual, seasonal, or environmental differences.

Participants will also become acquainted with the principles of basic floristic documentation, including recording diagnostic features, locations, and habitat conditions. During the sessions, issues related to the functioning of the collection database will be presented, including its structure and practical applications in collection management and information sharing, both for professional users and for educational and outreach purposes. The workshop will help systematize knowledge related to field species identification and the verification of correct botanical nomenclature.

Project no. WNK/SP/0376/2025/01 subsidized by the Ministry of Science and Higher Education under the program „Wektory Nauki” and by the Zakłady Kórnickie Foundation. **Researchers selected to deliver presentations will have their meals, accommodation, registration fee and field excursion costs covered.**