INSTITUTE OF DENDROLOGY
POLISH ACADEMY OF SCIENCES

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Kórnik, 30/05/2025.

Announcement about recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences at the Institute of Dendrology Polish Academy of Sciences No. 14/2025/ID/PSD

I. Position type: doctoral student
II. Number of vacancies: 1
III. Discipline: forest sciences
IV. Application deadline: 30/06/2025
V. Detailed information about recruitment process can be found on the website: https://www.idpan.poznan.pl/en-us/recruitment and https://psd-ipan.ichb.pl/index.php/en/home/
VI. Research topic: variability among European beech populations in terms of growth response to climate change, quantitative genetics, dendroclimatology, dendroecology, genetic variation

VII. Principal Investigator / Research group: dr hab. Daniel J. Chmura, prof. ID PAN, Institute of Dendrology Polish Academy of Sciences, Kórnik

VIII. Project Description:

European beech (*Fagus sylvatica* L.) is a widespread tree species and an important component of forests in Western and Central Europe. Current and projected climate changes pose several risks to beech in the future. Climate is one of the factors that determine growing conditions for tree populations. Local populations within the species often differ in their ability to adapt to new climatic conditions. However, assessment of this variation in local environments does not allow investigation of the genetic component of this response. This is only possible in the common garden (provenance) experiments, where variation in traits among multiple populations planted together under the uniform site conditions can be studied in response to the environment.

The aim of this project is to understand and analyze the responsiveness, vulnerability and plasticity of European beech populations to climate change and to assess their adaptive capacity. We expect to provide scientific support for the projections of the species' fate and the management of its genetic resources following the ongoing environmental changes.

In this project we will focus our research on a set of beech populations covering a large part of the natural range of the species. These populations are planted at different sites of common garden experiments, representing various climatic conditions, and specifically the sites at the eastern limit of the species distribution range. We will measure tree

diameter and height growth, and assess the responsiveness of beech populations to climate change by analyzing the relationship between annual tree-ring widths and climatic conditions at various locations in Europe. We will also analyze wood anatomy of individual tree rings as well as their stable carbon isotope composition to gain an insight into the foundations of growth in relation to climatic fluctuations, especially to drought events. The analysis of variation in genomic regions related to stress response and phenology will give us an insight into adaptive potential of populations. We will also model the growth responses of beech populations to climate change based on sensitivity of their radial growth to climate transfer in a series of common garden experimental sites.

The outcomes of our project will be crucial for understanding the response of beech populations and their potential to adapt to future climate. We expect to provide the basis for selecting seed origins that can be considered the sources of populations that are better adapted to future climatic conditions.

The PhD student's tasks will include:

- active participation in project tasks, i.e. measuring growth traits at forest experimental plots and other fieldwork, collecting dendrochronological samples and material for genetic analyses, laboratory processing of samples, dendrochronological analyses, data interpretation, preparing samples for analyses of DNA polymorphism, preparing samples for analyses of ^{13}C isotope, statistical analysis of data and interpretation of results;
- continuous advancement of student's knowledge in a scientific field of the project;
- active involvement in the preparation of scientific papers and dissemination of results;
- presentation of results at scientific meetings, seminars and conferences;
- preparation and defense of a doctoral dissertation.

We offer the opportunity to cooperate within an experienced research team in an atmosphere of open exchange of ideas. We provide support in conducting work based on the latest research trends and an experience in publishing research results in leading scientific journals.

IX. Additional information:

1. Research and doctoral dissertation will be conducted under research project: Adaptation and plasticity of European beech in response to changing climate (2024/53/B/NZ8/03098, National Science Centre).
2. The doctoral student will receive a doctoral scholarship during the entire duration of doctoral studies, i.e. 48 months. The scholarship is in the amount of ca. 4180 PLN gross pay (ca. 3789 PLN net pay) monthly, and will raise after obtaining positive result of the mid-term evaluation.
3. The doctoral student will have the social insurance costs referred to in art. 6 clause 1 point 7b of the Act of October 13, 1998 on the social insurance system (Dz. U. z 2019 r. poz. 300, 303 i 730).

X. Requirements for candidates:

1. Master degree in discipline of forest sciences, biological sciences, Earth and environment sciences or related or meeting the conditions specified in art. 186 section 2 of the Act of July 20, 2018 Law on Higher Education and Science (Dz. U. z 2018 r., poz. 1668 z późn. zm.). It is possible to apply before the defense of the master's thesis (see also point XI.2 below).
2. Very good skills in spoken and written English to allow good communication, work with literature sources, prepare scientific papers, and present at international conferences.
3. Knowledge of statistical methods and the R environment. Knowledge of methods used in dendrochronology and/or molecular biology will be an additional advantage.
4. Knowledge of forestry and tree biology.
5. Readiness to conduct laboratory work, as well as to work in various field and weather conditions in the forest.
6. Experience in conducting scientific work in the field of forestry, tree biology or forest ecology, documented by previous scientific activity (e.g. conferences or publications), as well as a category B driving license will be an additional advantage.
7. Eagerness to participate in conferences, training and workshops, and to continuously increase the competences.

XI. Required documents:

1. An application for admission to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules - the current application form is available at https://www.idpan.poznan.pl/en-us/recruitment
2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. A candidate who does not have the aforementioned documents (e.g. before the defense of master's thesis) will be obliged to supply them before being admitted to PDS IPAS. Additional information on foreign diplomas is available on the website: https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoral-studies
3. A curriculum vitae showing previous education and employment, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) a list of publications.
4. A motivation letter, containing a short description of interests, scientific accomplishments, and reasons for wishing to study at the doctoral school.
5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate.

XII. The application should be sent by e-mail to the address psd.idpan@man.poznan.pl with the subject "**Competition for the position of doctoral student No. 14/2025/ID/PSD**" in the form of an pdf attachment. If sending by electronic means is not possible, applications sent to the address Institute of Dendrology, Polish Academy of Sciences, Parkowa 5, 62-035 Kórnik, Poland with the note on the envelope "**Competition for the position of doctoral student No. 14/2025/ID/PSD**" are also accepted. Please do not send original documents.

XIII. Application deadline: 30/06/2025
The incomplete applications or those filed after the application deadline will not be considered.

XIV. Criteria for assessing candidates:
1. The candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements.
2. The candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields.
3. Candidate's knowledge in the forest science discipline.
4. Knowledge of the topics listed in the recruitment notice.

XV. Competition results: 21/07/2025

XVI. A description of the recruitment process can be found in the Recruitment Regulations for PDS IPAS. After the recruitment is completed, unaccepted candidates will be informed of the scores obtained at each stage of the competition.

XVII. Admission to PDS IPAS is refused by administrative procedure. The decision may be appealed with to the Director of the Institute of Dendrology of the Polish Academy of Sciences.

Additional information may be provided Principal Investigator / Research group: dr hab. Daniel J. Chmura, prof. ID PAN, djchmura@man.poznan.pl, tel. 61 8170 033

DYREKTOR
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