



INSTITUTE OF DENDROLOGY

POLISH ACADEMY OF SCIENCES

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Kórnik 20th June 2021

**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. 14/2021/ID/PSD**

I. Position type: doctoral student

II. Number of vacancies: 1

III. Discipline: biological sciences

IV. Application deadline: 24/09/2021

V. Detailed information about recruitment process can be found on the website:

<http://www.idpan.poznan.pl/doctoral-school-pds-ipas/information-on-recruitment-at-the-institute-dendrology-pas> and <https://www.ibch.poznan.pl/pl/main-pl/st-doktoranckie/psd-ipan/>

VI. Research topic: Genetic variation of Scots pine ecotypes in Poland and its evolutionary and forest management implications following environmental changes

VII. Principal Investigator / Research group: prof. dr hab. Witold Wachowiak, Department of Genetics and Environmental Interactions

VIII. Project Description:

The project aims a detailed analysis of the genetic variability of the Scots pine populations. This species is one of the most important forest trees of great ecological and economic importance in Europe and Asia. Populations of this species from different environments show special features of heritable phenotypic and physiological traits, creating local ecotypes best suited to given environmental conditions. The project will investigate the distribution of genetic variation in the most valuable native Scots pine breeding ecotypes in Poland. A series of genetic analyzes will be used to compare the data with the variability of the same genetic markers in reference populations representative of the species distribution range in Europe and Asia. The project will test a number of research hypotheses looking at the impact of selection and population history factors on the variability of the native ecotypes of the species and reference populations, which are likely to have contributed to the emergence of Polish pine stands during the post-glacial population migration.

The research will use a number of genetic markers in the mitochondrial and nuclear DNA regions, the latest achievements in the field of high-throughput genotyping of DNA polymorphic sites and a different analytical methods related to population genetics and

genomics in comparative analyzes of the genetic variability of several dozen populations of this species. The research will provide a detailed genetic characterization of the existing resources of Scots pine in Poland. In particular, it will help to understand the processes that influence distribution of genetic variation across phenotypically and ecologically diverse populations, and define genetic relationships between ecotypes. Information about genetic relationships between ecotypes is necessary to better predict the likely responses of populations to changing environmental conditions and to develop effective strategies for the protection and management of the most valuable populations of Scots pine in Poland, which are strongly influenced by ongoing environmental changes.

The tasks of the PhD student will include preparation of biological material for genetic research, PCR analysis, development of new markers and genotyping of *mtDNA* variants, amplification and analysis of microsatellite markers, preparation of samples for high-throughput genotyping of SNPs, genetic analysis of the data for various types of markers at each stage of the research and summary of the results and their publication. We expect that the research results will be published in high quality journals, will form the basis for the preparation of a doctoral dissertation, and will also be presented at scientific conferences dedicated to the undertaken research topic. It is planned that the PhD student will participate in at least two international scientific conferences.

We offer the opportunity to work in an experienced research team focused on the analysis of neutral and adaptive processes shaping the genetic variability of natural population. We provide support in carrying out works based on the latest research achievements and our experience in publishing research results in high quality journals. We create an atmosphere of good cooperation, the possibility of a wide exchange of ideas and scientific development of the person involved in research in our team.

IX. Additional information:

1. Research and doctoral dissertation will be conducted under project: Genetic variation of Scots pine ecotypes in Poland and its evolutionary and forest management implications following environmental changes (UMO-2020/37/B/NZ9/01496, National Science Centre, Poland).
2. The doctoral student will receive a doctoral scholarship in the amount of 4180 PLN gross (3789,00 PLN net) monthly during the entire doctoral studies, 39 months with the possibility of extension.
3. The doctoral student will have the social insurance costs covered as referred to 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 biological sciences, forest sciences, environmental science 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.).

2. Skills in written and spoken English, allowing for preparation of scientific publications and presentation of the results at scientific meetings.

3. Experience in laboratory analyses in the field of genetics or molecular biology.

4. Additional advantages will be the candidate basic skills in the field of analysis and interpretation of genetic or molecular data documented by previous scientific activity (e.g. conferences, publications), experience in bioinformatics data analyses, analysis using R, experience in the analysis and interpretation of DNA sequence data.

XI. Required documents:

1. An application 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 <http://www.idpan.poznan.pl/index.php/doctoral-school-pds-ipas/documents-for-candidates-and-ph-d-students>

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 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.

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. 14/2021/ID/PSD**" in the form of a pdf attachment. If sending by electronic means is not possible, applications sent to the address Institute of Dendrology, Polish Academy of Sciences, Scientific Information Department, Parkowa 5, 62-035 Kórnik, Poland, with the note on the envelope "**Competition for the position of doctoral student No. 14/2021/ID/PSD**" are also accepted. Please do not send original documents.

XII. Application deadline: 24/09/2021



Incomplete applications and applications submitted after the deadline will not be considered.

XIII. 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, including in industry.
3. Candidate's knowledge in the biological science discipline.
4. Knowledge of the topics listed in the recruitment notice.

XIV. Competition results: 22/10/2021

XV. 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. 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: prof. dr hab. Witold Wachowiak (e-mail: witoldw@man.poznan.pl phone: (+48) 61 817 00 33)

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