



INSTITUTE OF PLANT GENETICS POLISH ACADEMY OF SCIENCES

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Recruitment for the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences at the Institute of Plant Genetics, PAS in Poznań Procedure no. 1/2022/IPG/PSD

INSTITUTION: Institute of Plant Genetics, PAS
CITY: Poznań
POSITION: PhD student
POSITIONS AVAILABLE: 1
SCIENTIFIC DISCIPLINE: agricultural sciences
PUBLICATION DATE: Jan. 10, 2022
APPLICATION DEADLINE: Feb. 10, 2022
IPG PAS WEBSITE: <http://www.igr.poznan.pl/en/home-en/>
PDS IPAS WEBSITE: <http://www.psd-ipan.ibch.poznan.pl/index-en.html>

KEY WORDS: genetics, genomics, genetic mapping, quantitative trait loci mapping, genotyping, phenotyping, gene expression, flowering time regulation, vernalization, photoperiod

Research topic: The scientific objective is to determine functional divergence of *Flowering Locus T* gene duplicates in transcriptomic control of photoperiod and vernalization responsiveness in flowering induction of yellow lupin (*Lupinus luteus* L.). High-density linkage map will be developed in this project for two mapping populations differing in allelic composition of four *FT* genes and segregating for flowering time and responsiveness for photoperiod and vernalization. Phenotyping of both populations for studied traits related with flowering induction will be performed, followed by quantitative trait loci (QTL) mapping and expression QTL mapping to identify gene co-expression network anchored at *FT* loci.

Principal Investigator: dr hab. Michał Książkiewicz.

DESCRIPTION:

Place of employment: Gene Structure and Function Team, Institute of Plant Genetics of the Polish Academy of Sciences

Supervisor: dr hab. Michał Książkiewicz

Goal of employment: implementation of the OPUS21 no. 2021/41/B/NZ9/02226

Scope of research: PhD thesis will address the hypothesis on the functional differentiation of *Flowering locus T* homologs in transcriptomic response to photoperiod and vernalization in yellow lupin (*Lupinus luteus* L.). Research will be performed using two mapping populations, descending from parental lines differing in vernalization requirements and photoperiod responsiveness. Plant experiments will be performed in controlled conditions under

three photoperiods (8 h, 12 h and 16 h), and phenotyped for days to first bud, flowering initiation and maturity (with and without vernalization). Isolation of DNA (for genotyping-by-sequencing) and RNA (for RNA-seq) will be performed. Sequence data analysis will be done in cooperation with other partners in the project. Obtained data will be used to linkage map development and quantitative trait loci (QTL) of days to first bud, flowering initiation and maturity and expression quantitative trait loci (e-QTL).

Duties in project: Performing of scientific research on plant material according to the presented schedule in cooperation with other team members, analysis and interpretation of the results, contribution into drafting of scientific papers and conference presentations, involvement in research conducted in the Department.

Requirements for the candidates::

1. Experience in laboratory work in the field of molecular biology, in particular PCR, DNA hydrolysis with the use of restriction enzymes, agarose gel electrophoresis, DNA and RNA isolation.
2. Preferred additional experience in performing experiments in controlled conditions using plant material and phenotyping of flowering traits.
3. Basic knowledge of genetics enabling understanding the concept of genetic mapping and quantitative trait loci mapping
4. Basic knowledge of gene expression regulation in eukaryotic organisms.
5. Knowledge on molecular control of flowering induction in plants.
6. Ability to interpret results of DNA polymorphism analysis performed with the use of PCR markers.
7. Ability to use MS Word i Excel at basic level.
8. At least good knowledge of spoken and written English.
9. Independence in performing experiments and teamwork skills.
10. Additional scientific activity (publications, conference announcements and other forms of presenting results, participation in projects, research clubs, etc.) and organizational activity (e.g. organization of workshops, trainings, conferences) is welcome.
11. Mobility is welcome: internships, workshops, training, etc.

Additional information:

1. Research and doctoral theses shall be carried out within the OPUS21 nr 2021/41/B/NZ9/02226, entitled “Functional divergence of *Flowering Locus T* gene duplicates in photoperiod and vernalization control of flowering induction in yellow lupin (*Lupinus luteus* L.)”, funded by National Science Centre, Poland.
2. PhD students shall receive a stipend in the gross amount of ca 4270,50 PLN (3685,00 PLN net), for the period of 48 months.
3. PhD students shall be subject to social insurance, pursuant to article. 6 section 1 passage 7b of the act of October 13th, 1998 on the social insurance system (Journal of Laws of 2019, item 300, 303 and 730).

Required documents:

1. Application for admission to PDS IPAS along with the consent for processing personal data upon the recruitment procedure and a statement on having acknowledged the regulations of recruitment for PDS IPAS, using form downloaded from <http://www.igr.poznan.pl/en/main-en/ids-en/poznan-doctoral-school>
2. Certified copy of the diploma confirming graduation or a certificate confirming graduation (in the case of diplomas issued by foreign higher education schools, diploma stipulated in article 326, section 2, passage 2 or article 327, passage 2 of the act of July 20th, 2018 – Law on Higher Education and Science (Journal of Laws of 2018, item 1668, as amended), entitling to apply for conferment of a doctoral degree in the state in where such a certificate was issued by the relevant higher education school. In the event when the candidate is not in possession of the aforementioned documents, he/she is obliged to submit them prior to admission to PDS IPAS. Additional information on foreign school diplomas are available at:

<https://nawa.gov.pl/en/recognition/recognition-for-academic-purposes/applying-for-admission-to-doctoral-studies>

ATTENTION: at the stage of the recruitment process, there is no requirement to present documents certified by the apostille clause nor the requirement of nostrification of diplomas. These requirements must be met if the candidate is accepted.

3. Scientific CV encompassing track record of previous education and employment, information on involvement in scientific activities (participation in student research groups, attendance at scientific conferences, accomplished internships and training, awarded prizes and distinction) and list of publications.
4. Cover letter featuring a short description of research interests, achievements and justification for the intention to commence education at the doctoral school.
5. Certificates or other documents confirming the degree of proficiency in English, if the candidate is in possession of such materials.
6. Contact details of at least one, previous scientific supervisor or another researcher who is entitled to issue an opinion on the candidate.

Documents in the electronic form (in 1 pdf file) must be sent by e-mail to: psd@igr.poznan.pl putting in the title: **PhD student – Gene Structure and Function Team and providing the Procedure no.1/2022/IPG/PSD (as there are two parallel PhD procedures ongoing)**

Submission deadline is 10th February 2022

Criteria for evaluation of candidates:

1. Candidate's research achievements, pursuant to the grades obtained in the course of studies, scientific publications, awarded scholarships and distinctions resulting from conducting scientific research or student activities or other achievements.
2. Candidate's scientific and professional experience, pursuant to participation in conferences, workshops, training sessions and internships, implementation of research and commercial projects, involvement in scientific trusts and societies, international and professional mobility, experience in other sectors, including industry.
3. Candidate's knowledge on the following discipline: horticulture and agriculture, agriculture sciences.
4. Knowledge of the subject matter described in the recruitment advertisement.

The description of the recruitment process is stipulated in the Regulations of Recruitment for PDS IPAS. Following the recruitment procedure, the unadmitted candidates shall be informed on the number of points obtained at both stages.

For additional information please contact the Principal Investigator:

dr hab. Michał Książkiewicz.

e-mail: mksi@igr.poznan.pl

Announcement of the results: Within one month from the deadline for applications.

Information clause:

Pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (hereinafter General Data Protection Regulation - GDPR), the Employer informs that:

- a) the administrator of personal data obtained, collected and processed as a part of the implementation of this agreement is the Institute of Plant Genetics, Polish Academy of Sciences, 34 Strzeszyńska str., 60-479 Poznań,
- b) contact with the inspector of personal data protection of the Institute of Plant Genetics, Polish Academy of Sciences in Poznan, is possible at the following e-mail address: iodo@igr.poznan.pl,
- c) the basis for data processing is art. 6 par. 1 letter b) and c) of the Regulation referred to above,
- d) all personal data provided to the Employer will be kept for the duration of the contract and for a period of 5 years after its completion,
- e) in relation to the personal data obtained, the Employer will not make decisions in an automated manner,
- f) The Employee is entitled to:
 - based on Article. 15 GDPR - access to personal data
 - based on Article. 16 GDPR - rectify personal data;
 - based on Article. 18 GDPR - request the administrator to restrict the processing of personal data, except to the cases referred to in art. 18 para. 2 GDPR;
 - the right to file a complaint to the President of the Office for Personal Data Protection, if the Employee considers that the processing of personal data by the Employer violates the provisions of the GDPR.