

Post-doctoral position at the Institute of Nature Conservation Polish Academy of Sciences, Kraków as a researcher of the riparian forest condition

We invite applications for a **postdoctoral position** within the project: *The impact of river channelization structures on the vegetation state in mountain river valleys* (2023/49/B/ST10/01387) financed by National Science Centre of Poland.

The Institutions involved are the Institute of Nature Conservation Polish Academy of Sciences (project coordinator)

PROJECT DESCRIPTION

This project aims to investigate effects of mountain river channelization on the present state of riparian vegetation. We plan to conduct a research in three mountain rivers situated in different part of Polish Carpathians with various time and level of human pressures in channel and floodplain. Specifically, we will determine the state of the riparian vegetation in closely located river sections having different channel hydromorphologies. This will allow to: compare riparian vegetation state (diversity, age, distribution and condition) in channelized and unmanaged river reaches, determine the distribution and coverage of non-native plant species in channelized and unmanaged river channel and its floodplains and quantify the effects of different magnitudes floods on the long-term trajectory of riparian vegetation development.

By comparisons of riparian forest characteristics in adjacent sections of the rivers, having different channel management histories, we will not only indicate where riparian forest need to be restored, but also evaluate to what degree such actions will improve the state of riparian vegetation. We plan to investigate the proportion of non-native species in a river valley with different channel morphologies to support future action to prevent the uncontrolled spread of non-native plants in degraded rivers.

In the project realization (3 years) we will use hydromorphological measurements of the river channel, field floristic inventory in the river island and floodplain and remote sensing vegetation survey of the delimited river reaches with the Multispectral Camera. Additionally the 2-dimensional hydrodynamic modelling will be used to obtain past and present flood scenario for establishing the linkage between the extent of past and present floods and the contemporary state of riparian vegetation. We plan to investigate the river channel pattern and hydrological variables as well as the diversity (species indices) and condition (NDRE index) of riparian vegetation. The result of the project will be also the floodplain vegetation state maps produced based on UAV MC survey which will be a proposal of an original method for evaluating floodplain forests and for comparison of the plant formations within the river sections with different channel morphology.

KEYWORDS: riparian vegetation, non-native plant species, river channel morphology, mountain river, channelization process

SCOPE OF WORK

The postdoc will participate in determining the state of vegetation in the river floodplains and in preparing a the floodplain vegetation state maps. She/he will focus on performing remote sensing analyses of riparian forest using contemporary and archival orthophotos and high resolution images. She/he will participate in field research aimed at determining the hydromorphological parameters of river channels as well as riparian forest properties. The successful candidate will closely work with an interdisciplinary team of geomorphologists, biologists, hydrologists and photogrammetry specialists.

CANDIDATE PROFILE

We seek an expert in GIS and remote sensing with advanced skills in production and analysis of ortophotos and images as well as with environmental knowledge of the functioning of river channels and floodplains in mountain areas. Additionally, the candidate should demonstrate skills in performing statistical analyses and experience in environmental field work in mountain river valleys. We are looking for a person who will prepare data analysis and elaboration within one year and will also be able to participate in field research. Additionally, the candidate is expected to participate in the preparation of texts for publication in scientific journals.

She/he will be part of an interdisciplinary research team and will work closely with collaborators across several institutions.

SALARY: PLN 140,000/year total costs (approx. 11700 PLN/month gross salary)

This amount is the maximum possible contractual amount for a post-doc in projects funded by the National Science Centre in Poland and includes the employer's costs, full health insurance according to the national system, social security and pension contributions. After deductions according to Polish law, the net salary is approximately PLN 7000 net (depending on factors such as documented length of employment, payment of voluntary contributions, ownership of own business, etc.).

The Project will cover travel and accommodation costs during project meetings, scientific conferences and field research.

PERIOD: about 15.5 months

ESTIMATED STARTING DATE: July 2024

LOCATION: Kraków, Institute of Nature Conservation Polish Academy of Sciences

CANDIDATE REQUIREMENTS

Obligatory qualifications are:

- PhD in Earth Sciences,
- Experience in GIS methods and in remote sensing technics and with R and other statistical techniques,
- Knowledge of Geomorphology, Hydrology and Spatial and Statistical Analysis,
- Basic knowledge about biology – riparian plant species, NDRE index and other indicators of plant condition,
- Good command of oral and written English,
- Ability to plan and perform work in the field,
- The applicant must comply with the requirements of the competition rules of the National Science Centre in Poland, in particular, the PhD degree must be obtained in the year of employment in the project or within a period of 7 years before 1 January 2024. This period must be extended in certain cases; please check [the NCN rules here](#).

Additional assets are:

- Documented previous research experience (publications, participation in scientific conferences or research projects),
- Experience in advanced GIS analyses and in production and analysis of remote sensing material,
- Documented field research experience in mountain river valleys,
- Knowledge of statistical methods and analysis in earth science and biology,
- Knowledge of tree-rings analysis in determining forest age will be significant asset

-Experience in scientific writing and dissemination (author or co-author of articles in high impact peer-reviewed scientific journals)

APPLICATION FOR THE POSTDOC POSITION

The required documents are:

(1) A copy of the PhD degree in Earth Sciences. The PhD degree must be recognised as equivalent to Polish title or, alternatively, must have passed the nostrification procedures to obtain such recognition by the time of application. The [system KWALIFIKATOR](#) is a tool to assess the level and status of qualifications in the country of issue and to know which foreign degrees are recognised in Poland. In case of obtaining a PhD title earlier than 7 years before January 1, 2024, documents confirming the possibility of extending this period in accordance with the NCN regulations will be required.

(2) A letter of interest (maximum 2 pages) detailing the candidate's qualifications for the position, her/his research and professional experience, and how this position will help fulfil personal career goals. The letter should include the candidate's contact information, as well as the contact information of two academic referees or people with whom the candidates have worked.

(3) Curriculum vitae, including education, employment and research experience with a list of publications and a short description of scientific achievements, particularly information on participation in scientific conferences, workshops, training and internships, participation in research projects, involvement in learned societies and scientific associations, and awarded distinctions and scholarships.

(4) Declaration of consent for processing of personal data for the purpose of recruitment (see below).

The recruitment rules will follow the National Science Centre regulations. The selection will be based on the qualifications of the candidates, including demonstrated skills and competences, scientific achievements and professional experience. Recruitment is a two-stage process and includes: 1) an evaluation of the candidates' documentation and 2) an interview with selected (top-ranked) candidates. The Evaluation Committee will be appointed by the Director of IOP PAN.

The documents should be combined into a single PDF and sent by email to the address sekretariat@iop.krakow.pl by **21th June 2024, 13:00 CET** with the subject "Riparian forest- postdoc application". The pre-selected candidates would be invited for an interview in June. The decision of the Evaluation Committee will be announced at the IOP website before the end of June.

Declaration of consent for processing of personal data within the framework of the competition procedure for granting scientific scholarships in research projects funded by the National Science Centre

I consent for my personal data to be processed by the Institute of Nature Conservation Polish Academy of Sciences for the purposes necessary for the recruitment process on the award of scientific scholarships in research projects funded by the National Science Centre (in accordance with the Regulation of the European Parliament and of the Council (EU) 2016/679 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 (General Regulation on Data Protection) (J.L. EU. 2016, No. 119, p. 1) - hereinafter referred to as RODO, and national data protection regulations issued on its basis.

Place, date

Signature

I consent for my personal data to be processed by the Institute of Nature Conservation Polish Academy of Sciences in Kraków for the purposes necessary for the recruitment process on the award of scientific scholarships in research projects funded by the National Science Centre (required if the data provided include special categories of data referred to in Article 9(1) of the RODO).

Place, date

Signature