



NCN SCIENTIFIC SCHOLARSHIP OFFER IN THE OPUS PROJECT

The Institute of Nature Conservation of the Polish Academy of Sciences in Kraków is seeking a second-cycle (master's) student to carry out tasks within the research project No. 2023/49/B/ST10/01387, titled " *The impact of river channelization structures on the vegetation state in mountain river valleys,*" funded by the National Science Centre in Poland under the OPUS 25

Project topic: Riparian ecosystems are highly sensitive to anthropogenic disturbances. River regulation and the construction of bank reinforcements lead to channel incision, the drying of floodplains, and permanent changes in riparian vegetation. This results in a decline in native vegetation, facilitating the invasion of non-native species into floodplain areas. There is still limited knowledge about the impact of river channel changes and floodplain management on the adaptation of riparian vegetation. As part of the project, research will be conducted on channel morphology and vegetation diversity in the valleys of three Carpathian rivers. The relationship between flood events and vegetation conditions will be analyzed. The health of riparian forests will be compared in river sections with different channel management histories to identify areas requiring forest restoration. Specific actions will be proposed to improve the condition of riparian vegetation.

Name of the institution: Institute of Nature Conservation, Polish Academy of Sciences

Position title: student - scholarship holder

Employment duration: 6 months, with the possibility of extension up to 24 months (employment start date no earlier than March 2025)

Scholarship amount and duration: ~3000 PLN/month (total costs) for a period of 6 months with the possibility of extension to 24 months

Requirements:

1. Submission of an application along with a CV detailing the candidate's scientific achievements.
2. Completed engineering studies/bachelor's degree in geodesy and cartography or related field
3. Experience in field research or field courses involving UAV surveys with a multispectral camera during previous studies, as well as in photogrammetric analysis, particularly in data preprocessing and multispectral image processing for further analysis
4. Experience working with software for processing photogrammetric images, including multispectral images
5. Interest in the project topic
6. Strong motivation for research work, commitment to project implementation, and willingness for further scientific development. Readiness for both fieldwork (several field trips) and office work (processing UAV survey data) as well as reviewing literature in English
7. Very good command of English (sufficient for reading scientific literature)

The recruitment procedure for the student-scholarship holder will comply with the regulations for awarding NCN scientific scholarships in research projects funded by the National Science Centre in Poland (the candidate must meet the requirements specified in these regulations).

https://www.ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2022/uchwala124_2022_zall_ang.pdf

Primary scope of duties:

The person employed in the project will participate in the implementation of tasks for the research project "*The impact of river channelization structures on the vegetation state in mountain river valleys.*" Their responsibilities will include conducting field research, particularly participating in UAV surveys over riparian forests, processing images from a multispectral camera, and obtaining spectral index values (e.g., NDVI, NDRE, MTCI). The scholarship holder undertakes to process the data and engage in the preparation of publications (scientific articles, conference abstracts, posters) related to riparian forests in Carpathian rivers. The data collected by the student-scholarship holder may also be used for the preparation of their master's thesis at the institution where they are pursuing their studies.

The responsibilities will include:

1. Participation in field research: Several trips (3-6) to the Czarny Dunajec River (Podhale region), the Raba River (near Dobczyce), and the Biała Tarnowska River (Beskid Niski region) with the project leader to conduct UAV surveys and field measurements.
2. Processing and analyzing multispectral images to create cartometric orthophotos and processing data from mobile laser scanning.
3. Calculating multispectral index values and participating in result interpretation.
4. Preparing equipment for field measurements (GNSS equipment, mobile scanner, UAS).
5. Assisting in the preparation of scientific publications (research articles, conference abstracts, posters).

Scholarship Conditions

The NCN scholarship is funded through a project carried out at the Institute of Nature Conservation, PAS, with a total amount of approximately 3000 PLN per month (total costs) for a period of up to 24 months.

NCN grant type: OPUS 25

Application deadline: February 25, 2025

Competition results announcement: end of February\beginning of March 2025

Application Submission: Submit via email to: sekretariat@iop.krakow.pl; CC to hajdukiewicz@iop.krakow.pl Email subject: "Riparian forests."

List of Required Documents:

1. Curriculum Vitae (CV) including:
 - (a) the topic of the engineering/bachelor thesis,
 - (b) the average grade from the last year of studies,
 - (c) scientific interests and achievements,
 - (d) experience in previous research projects (if applicable) or field courses completed during studies,
 - (e) any distinctions resulting from scientific research.
2. Confirmation of enrollment in master's studies at a university in Poland.
3. Signed GDPR clause regarding the processing of personal data (attached below).

For any questions before formally submitting the application, please contact the project leader:
Dr. Hanna Hajdukiewicz: hajdukiewicz@iop.krakow.pl

*Selected candidates may be invited for an online interview.