

Proposed topics for research projects 2024/2025
in the *earth and related environmental sciences discipline*

dr hab. Michał Habel, prof. uczelni:

River deltaic estuaries as a fingerprint of global environmental change

Keywords:

rivers, sediment transport, global environmental changes, numerical modelling

Description:

Specifically, the processes in the river delta estuaries can influence the flux of particulate and dissolved materials from the continents to the global ocean. The current and future processes that drive the erosion, transport and deposition in the deltaic estuaries are essential to understanding the human impact on the environment. Using remote sensing and numerical modelling tools can effectively answer many questions about the future of river estuaries.

Therefore, the candidate is expected to have an excellent knowledge of GIS software and theoretical and practical bases in hydrology.

Supervisor: Michał Habel, PhD and ass. prof. <https://www.researchgate.net/profile/Michal-Habel>

Further questions should be sent to: dr hab. Michał Habel, prof. uczelni at the following email address: **mihab@ukw.edu.pl**

dr hab. Halina Kaczmarek, prof. uczelni:

Problems of PhD thesis

Environmental effects of the operation of artificial water reservoirs in the conditions of a changing climate. The issue includes a comparative analysis of the environmental effects of the operation of water reservoirs in lowland areas in the conditions of a changing climate based on remote sensing materials, in particular multispectral satellite images, and experimental field studies in at least two different climatic zones.

Research hypothesis

The ongoing climate changes cause modifications in the functioning of water reservoirs, different for different climatic zones. The environmental effects of artificial water reservoirs operating in their areas will vary.

Promoter PhD

Halina Kaczmarek, prof. universities; Faculty of Geographical Sciences UKW

Candidate skills

Knowledge of modern geomorphological processes; ability to collect, process, visualize, analyze and interpret geographical data (including remote sensing, in particular satellite images) using modern GIS IT techniques and methods (QGIS, ArcGIS, SAGA, etc.); ability to think analytically, formulate and solve problems, independence, good work organization, communication skills and ability to work in a team; very good knowledge of spoken and written English.

Further questions should be sent to: dr hab. Halina Kaczmarek, prof. uczelni at the following email address: **halszka@ukw.edu.pl**