



**Międzynarodowa Środowiskowa Szkoła Doktorska**  
przy **Centrum Studiów Polarnych**  
w Uniwersytecie Śląskim w Katowicach

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**No. of PhD project: IEDS/2024/US/A**

**Title of PhD project: Landslide, debris flow, and flash flood (LaDeFloFF) events in Northern Vietnam under changing climate conditions and human impact**

**The leading unit: University of Silesia in Katowice**

**Requirements:**

1. Master's degree in geomorphology, physical geography, meteorology and climatology, GIS and cartography, geology, geophysics or related sciences.
2. Very good knowledge of programming languages and statistical packages (R or Python) or willingness and ability to quickly acquire practical knowledge in this area.
3. Very good knowledge of GIS programs (SAGA GIS, QGIS, or ArcGIS) or willingness and ability to quickly acquire practical knowledge in this area.
4. Very good knowledge of English in writing and speaking.
5. High motivation to conduct research and the ability to work in a team.
6. Scientific and research achievements, in particular, papers published in natural science journals and conference presentations, will be an additional asset.

**Tasks description:**

1. A PhD candidate will statistically analyse rainfall time series and gridded data consisting of information on rainfall in Northern Vietnam and isolate and define rainfall events that trigger landslides and flash floods.
2. A PhD candidate will develop predictive models based on past landslide and rainfall events.
3. A PhD candidate will prepare, organise, and conduct research. This person will prepare scientific articles, conference presentations, and regular progress reports.
4. Help in everyday scientific and didactic tasks of the unit.



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### Summary of a doctoral project:

The PhD project is a part of a larger project funded by the Polish National Science Centre entitled “Landslide, debris flow, and flash flood (LaDeFloFF) events in Northern Vietnam under changing climate conditions and human impact.” The PhD project is planned to last four years.

Vietnam is a country of dynamic societal and economic changes. These human-related tendencies overlap with environmental contexts, including climate change issues. From 1999-2018, Vietnam was recognized as one of the sixth countries most affected by climate variability and extreme weather events under global climate change. The climate change impacts were estimated to be about 3.2 percent of the country’s gross domestic product (GDP) in 2020 and are foreseen to increase. The extreme rainfall events in extended large areas had an increasing trend in the North and Central regions. Climate change results in increased precipitation patterns; their frequency and intensity are a significant factor driving the growing number of landslides.

Consequently, Vietnam territory is highly susceptible to landslide events. However, so far, no systematic description of this complex issue exists. We focus on Northern Vietnam, where landslides form regularly and seasonally under heavy monsoonal rainfall.

### Other information:

The work will be carried out under supervision of:

dr hab. Łukasz Pawlik, prof. UŚ, Instytut Nauk o Ziemi, Uniwersytet Śląski w Katowicach,  
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