

## Call for a PhD position

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**Title of the project :Landslide and flood hazards and vulnerability in NW Rwanda: towards applicable land management and disaster risk reduction**

### Summary of the project

Rwanda is often affected by severe cases of landslides and floods. It is also one of the most densely populated areas of the world. This context of strong demographic pressure has led to significant land use / land cover (LULC) changes which are likely the cause of an increase in landslide and flood occurrences, particularly in the mountainous regions of NW Rwanda near the Volcanoes National Park. Nonetheless, the impacts of LULC and its changes on the occurrence of these natural hazards remain difficult to predict and quantify. As a result, the development of suitable land management strategies (striking a balance between minimizing the impacts of these hazards and the high population pressure) remains highly challenging. This is especially so in the light of climate change.

This project therefore aims to study the effects of LULC and its changes over the past 60 years on the magnitude and frequency of landslides and floods, as well as the impacts of these hazards on the population. The research will focus on two river basins in NW Rwanda with similar topographic and climatic characteristics, but very different levels of LULC change. The expected results of this research are improved insights of the physical and anthropogenic factors controlling these two hazards and a better understanding of the population vulnerability facing these hazards. The outcomes of the project will be: (1) an increased research capacity to conduct scientific risk assessment, integrating specific hydrogeomorphic hazards and associated risks with the human dimensions of risks; (2) the ability to make up-to-date assessments of these two hydrogeomorphic hazards which will be used to raise awareness and identify suitable mitigation and resilience strategies with exposed communities and all relevant stakeholders involved in disaster risk reduction; (3) a strong partnership from the beginning of the project with local and national stakeholders involved in disaster risk reduction, for a better integration of scientific insights into natural hazard and risk management policy.

Three PhD students will be involved in this research project. Here is the call for the PhD focusing on vulnerability assessment regarding flood and landslides in the western province of Rwanda.

### PhD topic

#### **Assessing vulnerability to flood and landslide hazards in the Northwestern province of Rwanda**

The objective of this PhD research project is to undertake a contextualized assessment of the population vulnerability regarding flood and landslide hazards, taking into account resilience mechanisms at the household and community scales, including DRR programs already in place in this region. This study will consider the past twenty years. The hypothesis is that the vulnerability plays a central role in determining the impacts and risks of flooding and landslides events. We further hypothesize that the vulnerability of the population varies significantly for landslide and flood hazards, making it necessary to differentiate between both types of hazards.

## Your profile

- You hold a **MSc degree in Geography, Demography, Urban planning, Environment**, or a related scientific discipline;
- You obtained your master degree with **upper second class or above**;
- You have experience in the use of geomatics (GIS, remote sensing) and quantitative/qualitative analytical techniques;
- You are highly **motivated** to undertake academic research in an international context;
- You are **hard-working** and able to manage a project independently, taking initiatives and meeting deadlines;
- You are able and strongly motivated to conduct intensive fieldwork yourself in the context of your PhD research (rural areas);
- You develop a detailed **concept note** (pre-proposal) and demonstrate that you have the ability to finish it and produce a fully researchable and competitive proposal;
- You are ready to bring creativity, uncovering hidden issues that will benefit the project, science and local livelihood in general;
- You are sincere, honest and willing to respect agreements; you understand the relevance of project confidentiality and proper data handling and processing;
- You are willing to contribute to certain aspects related to the day-to-day running of the project;
- You demonstrate good interpersonal and organizational skills, with attention to detail, to interact with other project partners and stakeholders;
- You have good (scientific) communication skills in English both orally and written;
- For equivalent skills, female candidates will be preferred.

## We offer

- The PhD will be carried out in **3 years following a “sandwich” mode**; the researcher spend part of the year in Belgium and the rest of the year in Rwanda;
- The thesis will begin on June 1, 2021 and will end on May 30, 2024; the first period (6 months) in Belgium will be starting from mid-August, 2021.
- The PhD candidate will be affiliated to both the University of Namur (UNamur) and the Royal Museum for Central Africa (RMCA) in Belgium;
- The scholarship will cover travel and living expenses in Belgium, registration at the UNamur, participation in conferences, field expenses in Rwanda, IT equipment costs, and other miscellaneous expenses up to a certain budget. The scholarship funding is compliant with the official scholarship schemes of ARES;
- The doctoral candidate will be devoted full-time to his/her thesis in accordance with rules and regulations of his/her mother university in Rwanda;
- The candidate will be subject to the regulations of the host university in Belgium which involves monitoring the progress of the work by a PhD committee (including its promoters). The full PhD funding is conditional to the successful defense of a PhD proposal during his/her first stay in Belgium;
- The PhD candidate will interact with the other PhD students working in this project, as well as with other PhD students from Uganda, DRC, Burundi and Belgium, working on similar topics;

The candidate will be supervised by Prof. Dr. Sabine Henry and Dr Florence De Longueville (UNamur), DrCaroline Michellier (RMCA) and Prof. Dr. Emmanuel Twarabamenye (University of Rwanda).

## Application procedure

The application should include:

- A CV (2 pages max) + list of publications (if applicable)
- A letter explaining your motivation to conduct this research + your ambitions after your PhD (1 page)
- A concept note: This concept note (maximum 1000 words, excluding references) must include a title for the proposed study, brief background highlighting key literature, research problem, main research question(s) + hypothesis, envisioned methodology and list of key references
- Copies of academic degrees documents and transcript of records
- A letter of recommendation from the current employer/immediate supervisor (1 page)
- A letter from an academic referee supporting your application (1 page)
- A digital copy of your master thesis (and, if applicable, publication(s))
- The applications should be addressed/submitted at the same time by email, in one standalone PDF file (with all elements requested listed in the order above), to :
  - Dr Caroline Michellier ([caroline.michellier@africamuseum.be](mailto:caroline.michellier@africamuseum.be))
  - Prof. Dr. Sabine Henry ([sabine.henry@unamur.be](mailto:sabine.henry@unamur.be))
  - Dr Florence De Longueville ([florence.delongueville@unamur.be](mailto:florence.delongueville@unamur.be))
  - Prof.Dr. Emmanuel Twarabamenye([twarabamenye@yahoo.com](mailto:twarabamenye@yahoo.com))

**All applications should be submitted by April 30, 2021, 5pm Rwanda time.**

## Interviews

The selection process will involve two stages:

→ a **pre-selection phase** where all candidates will be screened based on the submitted file. The pre-selected candidates will be contacted by email on May 10, 2021.

→an **interview**, complemented by additional test, during the week of May 18, 2021 for the pre-selected candidates.

The successful candidate should be ready to start his/her PhD study on July 1, 2021.