

THE ROYAL MUSEUM FOR CENTRAL AFRICA

is hiring a

Junior researcher in the fields of big data analysis, machine learning, remote sensing and natural hazards (m/f/x)



CONTEXT

The Royal Museum for Central Africa (RMCA) is one of the 10 **Federal Scientific Institutions** (FSIs) under the supervision of the State Secretary for Federal Science Policy. It is therefore both a scientific institute and a museum.

The RMCA (Natural Hazards Service), in partnership with the Department of Geography (Cartography and GIS Research Group) of the Vrije Universiteit Brussel (VUB) and the Institut Terre & Environnement of the University of Strasbourg (ITES), is hiring a research assistant for a research project aiming at studying the spatio-temporal evolution of natural hazards of geological and geo-hydrological origins (i.e., landslides, flash floods, gully erosion, volcanism, earthquakes) and the related disasters, in tropical Africa, with a priority focus on Rwanda. More specifically, in a first part, the researcher will use web crawling and deep learning techniques to extract information on disasters related to natural hazards out of the press and social medias. In a second part, optical and radar spatial remote sensing techniques will be used to detect the related events, thanks to advanced multi-sensor approaches developed at the RMCA and ITES. Finally, the obtained database will be exploited to understand the spatial and temporal distribution of geohazards and related disasters in tropical Africa. This research will be carried out in the frame of the FED-tWIN's GUIDANCE and SCO's GeoHaTACC projects, under the coordination of Prof. Dr. Benoît SMETS (RMCA/VUB) and Dr. Olivier DEWITTE (RMCA), in collaboration with Prof. Dr. Jean-Philippe Malet (ITES, France), Prof. Dr. Frank CANTERS (VUB), Dr. François KERVYN (RMCA) and Prof. Dr. Matthieu KERVYN (VUB).

FUNCTION

As a research assistant, your responsibilities will be to:

- Carry out the scientific research (development of methods, analyses,...), mainly based on methodologies such as web crawling, deep learning, big data analysis and optical/radar remote sensing.
- Actively collaborate with the research teams of the RMCA, VUB and ITES.
- Update and expand the RMCA's regional databases on natural hazards in Central Africa.
- Synthesize research results in peer-reviewed articles.

- Present the results to academic, stakeholders and the general public, at meetings, forums, workshops and conferences.

PROFILE

- You have a MSc in Computer Science, Geomatics or equivalent.
- You have good programming skills (especially Python).
- You have experience in big data analysis, machine learning and/or image processing.
- You have a broad interest in at least one of the following research topics: natural hazards, disasters, geomorphology, environmental change.
- You enjoy challenges and working on research with societal relevance.
- You enjoy interacting with other researchers and achieving common goals; you appreciate teamwork, but are also able to work independently.
- You are proficient in English and have excellent scientific writing and presenting skills.
- Knowledge of French and/or Dutch is an asset.

WE OFFER

- An initial 6-month contract at RMCA (38 hours/week), renewable for 2.5 additional years (at RMCA and/or VUB).
- If interested, the possibility of carrying out this project within the framework of a PhD research will be explored.
- A salary based on the scales of the Belgian federal government (SW10 scale, 43.738 euro brute annually).
- A pleasant and dynamic working environment.
- An interesting holiday package.
- Dynamic and multi-cultural work environments at the RMCA (Tervuren) and the VUB (Brussels).
- Reimbursement for public transport (2nd class) or compensation for bicycle journeys.

Discover all the information and benefits related to working for the federal government on FedWeb, the web portal for federal employees, <https://fedweb.belgium.be>.

APPLICATION

To submit your application, please send by e-mail a single PDF file containing (i) a one-page motivation letter, written in English, stating your general motivation for this research; (ii) your curriculum vitae; (iii) transcripts of your bachelor's and master's degrees with the grades; and (iv) the names, telephone numbers and e-mail addresses of at least two referees. The application should be sent to HR-RH@africamuseum.be (subject of e-mail: «S/ Hazard evolution») before March 24th, 2023, 6 pm (CET).

Only applications that correspond to the profile and are sent within the prescribed deadline will be accepted and responded to.

Interviews will take place 19 April 2023. The selected candidate would ideally start working in June 2023.



For more information on:

- The function : Benoît Smets , benoit.smets@africamuseum.be
- Terms and conditions of employment: Gita Kinnaer, gita.kinnaer@africamuseum.be
- The RMCA : <http://www.africamuseum.be>