

**University of Bonn  
Center for Development Research (ZEF)  
(Jun-Prof. Lisa Biber Freudenberger)**

invites applications for the position of a

**Junior Researcher (65%, TVL 13)  
The consequences of biodiversity loss and land use change on infectious disease  
emergence**

**Application Deadline 1. August 2022**

The Center for Development Research (ZEF) is an institute of the University of Bonn, Germany. ZEF's researchers aim to find science-based solutions for development-related issues. ZEF's research departments on Economic and Technological Change, Political and Cultural Change, and Ecology and Natural Resources Management conduct inter and transdisciplinary research in, for, and with emerging economies on global issues with its collaborating research partners around the world. ZEF educates doctoral students in its Doctoral Studies Program. More information is available at [www.zef.de](http://www.zef.de).

In the project "The consequences of biodiversity loss and land use change on infectious disease emergence", we aim to identify common patterns and drivers of epidemic emergence and provide a risk assessment of current and future epidemic outbreaks of zoonotic infectious diseases in Uganda. Based on different probabilistic modelling approaches incorporating data on infection rates from this project, as well as GIS and remote sensing data, socio-economic panel data and host species distribution records, we will define risks for future outbreak probabilities under different land use and policy scenarios.

The junior researcher is expected:

- (i) to assess the influence of different socioeconomic and ecological factors for the risk of virus transmission and disease outbreaks through phylogeographic reconstruction of the virus spatial movement and ecological niche factor analysis;
- (ii) to model virus and host distribution as well as infection risk under current and future climatic and land use scenarios based on collected field data; and
- (iii) (iii) to assess the effectiveness of policy interventions in reducing the risk of future zoonotic pandemics and to identify the most relevant knowledge gaps for future research questions.

The position will start at the earliest possible date (October 2022 anticipated). The contract will be limited to 1<sup>st</sup> August 2025. The ambition to pursue an academic career including obtaining a doctoral degree is expected.

**We offer to opportunity:**

- To join a dynamic and international team of researchers.
- To participate in an inter- and transdisciplinary research project with a focus on emerging zoonotic diseases.
- To conduct policy-relevant and integrative research in Germany and Uganda.
- To develop spatially explicit land use scenarios based on metadata and collected data.

**Requirements and responsibilities:**

- Excellent Master degree in Environmental Science, Geography, Ecology, Agricultural Sciences, Sustainability Science or related fields.
- Excellent quantitative analytical skills, including spatial data analysis.
- General understanding of the processes underlying the emergence of zoonotic diseases.
- Highly proficient in both spoken and written English.

**Other skills which may be an advantage for the applicant:**

- Experience in species distribution modelling, ecological niche modelling and/or phylogeographic analyses.
- Proficiency in specialized GIS software and R.
- Research/Work experience in Africa.
- Knowledge about existing international health, land use and socioeconomic data.

Applications (cover letter, CV and certificates) should be sent by e-mail **in one pdf document** (no more than 2 MB) to Ms Melissa Ngombe (mngombe@uni-bonn.de). Shortlisted candidates will be invited for an online interview and to give a short presentation about their research ideas. ZEF promotes gender equality and aims to increase the proportion of women in areas where women are underrepresented. Therefore, women are strongly encouraged to apply.