



University of Nairobi



Function: PhD

Department: Department of Biology 100%

Start: 1 January 2024

### Job description

Joint PhD University of Nairobi, Kenya – Ghent University, Belgium on the topic 'Improving the quality culture of Maziwa Mala Value chain in Kenya with focus on mycotoxin reduction. A research stay at CNR-ISPA, Italy, is included as well.

Are you passionate about improving food safety from farm to fork? Do you want to apply for a multi-disciplinary & innovative project aiming to improve food safety in African countries?

In the framework of a recently granted Horizon Europe project, UP-RISE, a 44-months joint PhD-position (University of Nairobi – Ghent University) is available for a highly motivated scientist to work with a team of researchers at the Department of Biology under supervision of Prof. dr. Sheila Okoth, at the Institute of Sciences of Food Production (ISPA) of CNR under supervision of Dr. Antonio Moretti and Dr. Annalisa De Girolamo, and at Ghent University under supervision of Prof. Dr. Sarah De Saeger.

The UP-RISE EU-African Union (AU) project integrates food safety practices associated to mycotoxin contamination into all aspects of food production, distribution, marketing and consumption in the AU and provides tangible tools and strategies to enhance inclusive participation in the improved African Food Safety System (AFSS) at the local, national and regional level. UP-RISE activities are aligned with the current AU Food Safety Strategy for Africa, focusing on 3 regions of the AU with field work in 5 target member states (Benin, Côte d'Ivoire, Nigeria, Kenya, and South-Africa). UP-RISE assembles 5 building blocks for knowledge generation and implementation: 1) Roadmaps for a shared quality culture and possible integration of the informal sector in the AFSS; 2) Strengthening the food safety regulatory framework with focus on mycotoxins in both formal and informal sectors; 3) Early warning to prevent mycotoxin contamination and adapt to climate change; 4) Prevention of food losses and improving food safety by providing innovative microbiome-based solutions for mycotoxin reduction and nutritious food and 5) Co-creation, training and



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mentoring. In total, nine joint PhD students will work in a complementary way to contribute to the building blocks, each with a specific focus on a fermented food value chain.

You will be responsible for:

- Going to field in Kenya to collect dairy cattle feed, milk and derived fermented food and crop samples
- Carrying out research with the milk samples on fermentation processes
- Working in the laboratory with focus on determination of mycotoxin occurrence in collected samples and evaluation of their fate in maziwa mala production by using rapid tests and liquid chromatography tandem mass spectrometry (LC-MS) techniques.
- Working in the laboratory with focus on isolation and identification of fungal species occurring in selected dairy cattle feed and crop samples
- Writing reports, meeting research output targets and publishing journal articles
- Performing sensory evaluations on fermentation products

We are searching for a PhD-researcher, who will reside at University of Nairobi, Kenya (for 29 months), at CNR-ISPA, Italy (for 8 months) and at Ghent University, Belgium (for 7 months) by joining the research teams of Prof. Dr. Sheila Okoth, Dr. Antonio Moretti, Dr. Annalisa De Girolamo and Prof. Dr. Sarah De Saeger, in a challenging and inspiring environment.

The Department of Biology provides students with quality training in basic and applied fields focusing on solving issues of society and improving livelihoods. The department collaborates with industries to upscale research findings and innovations. You will be joining a team of students from many other parts of Africa pursuing their degree in this department.

The Centre of Excellence in Mycotoxicology and Public Health (UGent, Profs De Saeger & De Boevre) is specialized in the development of analytical methodologies for the detection and quantification of small molecules, with a major focus on mycotoxins, which are highly prevalent toxic fungal-derived dietary contaminants. For more than 25 years, a comprehensive mycotoxin analytical platform has been built which consists of LC-(HR)MS/MS methods for



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(un)targeted multi-mycotoxin analysis in diverse matrices, as well as rapid immunoassay-based screening methods making use of ELISA, LFIA and capacitive biosensors

Collaboration lies at the heart of these activities, as you will have the opportunity to work with researchers and stakeholders from different European and African regions and sectors. By fostering interdisciplinary connections, you will contribute to a better understanding of resilient, inclusive and safe food systems.

### Profile

- You have a master's degree in Biological Sciences, Pharmaceutical Sciences, Biomedical Sciences, Bioscience Engineering, Economy, Food Safety, Food Toxicology, Biochemistry, Microbiology, Veterinary Medicine, Medicine & Surgery, Chemistry, Food Science, Animal Science, Crop Science, Plant Pathology or equivalent;
  - You have outstanding academic study performances;
  - You have a strong interest in food safety/microbiology/mycology/analytical techniques/economy
    - You have hands-on experience in food microbiology and chromatographic techniques (eg. analyses using liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS);
    - You have experience or have a strong interest in data-interpretation on the abovementioned techniques;
    - Excellent English writing and communication skills are mandatory;
    - You want to work in a multi-disciplinary, international and intellectually challenging environment;
    - You act with attention to quality, integrity, creativity, and cooperation;
    - You are flexible, responsible and able to work independently as well as in team;
    - You are eager to work in a team of researchers at University of Nairobi, Kenya and (inter)national partners, CNR-ISPA, Italy and UGent, Belgium.
  - You are willing to travel both nationally and internationally.

### How to apply



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Please submit a cover letter in which you specify why you are interested in the position and why you consider yourself a suitable candidate (400 words max), a full CV, a full transcript of records to date (degrees and grade list) and a list of at least 2 contact persons (with name, e-mail, address, phone number) for letters of reference to (one PDF document): Prof. Dr. Sheila Okoth ([sheilaokoth@uonbi.ac.ke](mailto:sheilaokoth@uonbi.ac.ke)), copying Dr. Antonio Moretti ([antonio.moretti@ispa.cnr.it](mailto:antonio.moretti@ispa.cnr.it)), Dr. Annalisa De Girolamo ([annalisa.degirolamo@ispa.cnr.it](mailto:annalisa.degirolamo@ispa.cnr.it)) Prof. Dr. Sarah De Saeger ([Sarah.DeSaeger@UGent.be](mailto:Sarah.DeSaeger@UGent.be)) before November 15<sup>th</sup>, 2023 with email subject [PhD UP-RISE – name applicant]. Top-ranked candidates will be invited for interviews.