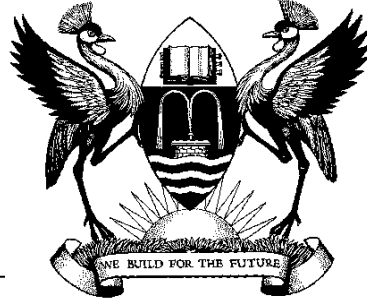


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COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES SCHOOL OF FOOD TECHNOLOGY, NUTRITION & BIO-ENGINEERING

Announcement for PhD Scholarship

Background

The **FruVaSe** project “Fruits and vegetables for all seasons: Improved resource-efficient processing techniques and new market solutions for surplus fruits and vegetables for rural development in Sub-Saharan Africa” is a three-year project led by University of Göttingen (UGOE) with Erfurt University of Applied Sciences (EUAS) in Germany, Nelson-Mandela African Institution for Science and Technology (NM-AIST) in Tanzania, Makerere University (MUG) in Uganda, University of Nairobi (UoN) and University of Eldoret (UoE) in Kenya as collaborators. FruVaSe will (i) select the nutritionally most promising varieties of the target fruits and vegetables (FVs), focussing on cashew, apple, guava, jackfruit, and the green leafy vegetables: cowpea leaves, cassava leaves and African nightshade, (ii) develop new and evaluate traditional technologies for processing and prolonged shelf-life without degrading the nutritive value, taste and presentational characteristics, and (iii) possibly commercialize products. An integrated systems’ approach (water-energy-food-waste (WEFW) nexus shall be followed, aiming at (iv) the model development of an energy autonomous, resource-efficient processing procedure embedded in a business model empowering rural women. In a life-cycle approach all parts of the plants will be used, for human nutrition, animal feed and/or biogas production, the sludge being used as fertilizer, thereby reducing greenhouse gas (GHG) emissions. Additionally, (v) a water re-use concept will be established as well as an analysis and innovative purification of drinking water for juice production.

Makerere University seeks to recruit a highly motivated candidate for a PhD thesis to work in the following subject area, in collaboration with the other workpackages, which also contribute to the subject:

Integrate processing, organic waste management, and renewable energy provision in a W-E-F-W (Water-Energy-Food-Waste) nexus approach in pilot projects with new business models along the processing value chain.

Research tasks

- Establish & optimize biogas plant in lab and on site (pilot plant)
- Adaptation to local biomass/available substrate
- Opportunities for Renewable Energy use during processing
- GHG balance of whole technology process

- Life cycle analysis (incl. resource/biomass/water use)
- Value chain analysis – of cyclic processes; business opportunities/models; sensitivity analysis
- contribute to acquiring new project funds.

Responsibilities

Selected students are expected to:

- Develop a study plan and research proposal, in consultation with supervisors, within 2 months of scholarship offer
- Maintain satisfactory progress in study program, including research and required coursework
- Provide quarterly progress reports certified by supervisors

Educational qualifications, skills and experience

- PhD candidates should hold MSc degree in Agricultural Engineering, Agricultural Technologies, sustainable development Engineering, Renewable Energies or a related field with a CGPA \geq 4.0/5.0 or equivalent
- Candidates who have already published scientific paper(s) will have added advantage
- Candidates should also have the following attributes
 - o Very good command of English
 - o Field experience in rural Africa desirable
 - o Team player; willingness to assume responsibility and work on own initiative
 - o High interest in other disciplines and willingness to work in a multi-disciplinary team
 - o Proficiency in relevant statistics is essential
 - o Willingness to travel and spend several months alternately in East Africa and Germany
 - o Willingness to participate in teaching

Scholarship details

- Stipend (36 months for PhD)
- Research costs

Duration and preferred dates

1st February 2019 – 31st January 2022

Contact:

Please send your CV and a one-page motivation statement to kerstin.wydra@fh-erfurt.de and banadda@caes.mak.ac.ug

Deadline for receiving applications

25th January 2019, or until a suitable candidate is found.