



Announcement for Two PhD scholarships on

“Processing and preservation of Fruits (1 position) and Green leafy vegetables (1 position) in Tanzania” at the Department of Food Biotechnology and Nutritional Sciences - Nelson Mandela African Institution of Science and Technology in collaboration with the Department of Crop Sciences, University of Göttingen, Germany

Background

The FruVaSe project will start in September 2018 to work on “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”. The three-year project will be led by University of Göttingen (UGOE) in collaboration 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. 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.

For the work packages on “Processing and preservation of fruits and green leafy vegetables, nutrient-retention and shelf-life period” we are looking for two PhD student who are highly motivated to work on the above mentioned topic in a multi-disciplinary and international team.

Responsibilities/research tasks

In consultation with the supervisors at NM-AIST in collaboration with the Department of Crop Sciences - UGOE, Germany, the PhD student will:

- Analyse trends and constraints of utilization of selected Fruits/Vegetables, traditional processing and preservation techniques etc.
- Determine the most appropriate processing technologies for selected fruits/green leafy vegetables at different processing levels (individual, women group, small enterprises)
- Determine nutritive and anti-nutritive compounds of different selected fruits/vegetables and retention of important nutrients in the processed products

Educational qualifications, skills and experience /requirements

- MSc with distinction/ honours/GPA ≥ 3.8 in Food Technology, Food Sciences and Nutrition, Nutritional Sciences, Horticultural Sciences or any related field
- Very good command of English
- Field experience in rural areas of SSA
- Team player; willingness to assume responsibility and work on own initiative
- High interest in food product development and other disciplines
- Proficiency in relevant statistics is essential
- Willingness to work in a multi-disciplinary team, to travel and spend several months alternately in East Africa and Germany

- Applicant must have NM-AIST admission letter
- Experience in fruits and vegetable processing will be an added advantage

What we offer

- Scholarship according to NM-AIST fees structure (accessed here: www.nm-aist.ac.tz)
- International and interdisciplinary environment to work in together with several other PhD and MSc students from different disciplines in all participating countries

Duration for the scholarship: 1st September 2018 – 31st August 2021

Application and selection procedure: Please submit your application documents (CV, a one page motivation statement, and synopsis of your proposed research (max. four pages) to: fruvase@nm-aist.ac.tz. Deadline for Application: **20th July, 2018, 18.00 Hrs.** Only shortlisted applicants will be contacted for interview.