PhD position (m/f/d) modelling of smart technologies for African livestock systems

05.02.2024

The Livestock Systems research group at the TUM School of Science in Freising is recruiting a PhD student (m/f/d) to work on evaluating smart technologies applied in Africa’s livestock sector. This work will involve modelling analyses using methodologies to be developed by the candidate in collaboration with their supervisors.

The rapid advance of smart technologies applied to the agriculture and livestock sectors, for instance, drones, eartags, weather prediction technologies, and handheld devices, present novel opportunities for African livestock farmers to adapt to climate change and improve environmental performance. The aim of this research is to evaluate a range of potential smart technologies on environmental performance of livestock and resilience to climate change, particularly in East Africa. The work of this candidate will prioritise biophysical analysis of smart technologies, and will involve collaboration with experimental researchers as well as other modellers.

There is another PhD position open at the University of Queensland (Australia), which focuses on the development and application of an integrated economic-biophysical framework to assess the role of digital tools and technologies. Candidates for both positions will be interviewed by the project team.

Your tasks:

will be to evaluate the potential for smart technologies to contribute to improved environmental performance and resilience of African livestock systems. This will involve (1) developing hypotheses of potential impacts of smart technologies on livestock production in Africa, (2) identifying appropriate methodologies to evaluate their effectiveness, and (3) utilising existing and novel datasets to run simulations. The work will entail conducting analyses and presenting the results through peer-reviewed publications.

What we expect from you:

- University degree (M.Sc.) in Agricultural Science, Mathematical modelling, Biology, Environmental Science, Physical Geography, or related fields.
- Specific research in agricultural-environmental disciplines, and particularly with respect to livestock production, agriculture broadly, and/or smart technologies is desirable.
- Experience in modelling biological or agricultural systems, with strong programming skills (R, Python, or Matlab).
- Experience handling large datasets from empirical studies, surveys and GIS desirable.
- Interest and experience conducting research in livestock systems, agricultural technologies.
- Interest in interdisciplinary approaches.
- Good language (written and spoken English) and presentation skills.
- Ability to work in a team, with effective interpersonal communication skills.
- Knowledge of German and Swahili are desirable.
Our offer

We offer an interesting and challenging job in a motivating and expanding international team at Chair of Livestock Systems in TUM (Freising). The chair has a broad network of collaborators at the University of Queensland, across Europe (e.g. Lancaster University, The University of Manchester, Wageningen University, University Giessen, Göttingen University, GFZ Potsdam, University of Galway), Africa and the Americas. The Chair of Livestock Systems is newly established at TUM includes one postdoc, two PhD students, visiting researchers and technical staff. The team involves a diversity of projects investigating livestock systems from both experimental and modelling perspectives.

Freising is a charming small student city in the vicinity to the vibrant city of Munich, very well connected by train (ca. 30 minutes), and a perfect starting point to explore the Bavarian Alps and the rest of Germany. Working hours are flexible and remuneration is in accordance with TUM regulations (65% TV-L E13). Severely disabled persons will be given preference in the case of essentially equal suitability and qualifications. The position is for three years to complete the PhD studies. TUM aims to increase the proportion of female candidates; applications from female candidates are therefore particularly encouraged.

Contact

Please send your application with a short letter of motivation conveying your interest and suitability for the position, CV, certificates and the contact details of two references to Technical University of Munich, Chair of Livestock Systems, Liesel-Beckmann Straße 4, 85354 Freising, Tel: +49 (0)816171 5483, Email: office.lsys@ls.tum.de, by 05.03.2024. If you are applying by email, please send all documents as a single PDF document.

When applying for a position at the Technical University of Munich (TUM), you will be submitting personal data. Please refer to our data protection information in accordance with Art. 13 of the General Data Protection Regulation (DSGVO) http://go.tum.de/554159 regarding the collection and processing of personal data in the context of your application. By submitting your application, you confirm that you have taken note of the TUM data protection information.

Please direct questions about the position to James Hawkins (james.hawkins@tum.de) or Prof. Mariana Rufino (mariana.rufino@tum.de).

More information about the Livestock Systems Research Group can be found at www3.ls.tum.de/lsys/