KCMC UNIVERSITY

PhD Position: Implementation research in 3D Technology and AI in Prosthetic Care: An International Collaboration between KCMC University and Radboudumc

The STEP Project

Radboud University Medical Center (Radboudumc), KCMC University, Kilimanjaro Christian Medical Center (KCMC) and the Tanzania Training Center for Orthopedic Technologists (TATCOT) launch the STEP Project: Streamlined Technology & AI for Efficient Prostheses, a STEP towards global accessibility! Financed through the Radboud Foundation by Y60.

The STEP Project aims to determine whether artificial intelligence (AI) and 3D-enabled prosthetic care, including 3D scanning, AI-driven prosthetic socket design, and 3D printing, can improve access to high-quality, affordable, and sustainable prosthetic care.

The project builds on the experience and expertise of Radboudumc, where an end-to-end digital workflow integrating 3D scanning, AI-driven socket design, and 3D printing has been developed and successfully implemented in Sierra Leone. Over the coming five years, the STEP Project will investigate whether and how this technology can provide added value within the Tanzanian prosthetic care system. Clinical effectiveness of the technology will be evaluated in a separate study. This PhD position focuses on implementation and will address two main objectives: (1) understanding the barriers and facilitators to its implementation (2) evaluating the feasibility of implementing the technology in clinical practice. Findings will also inform capacity building, education, and the development of a sustainable model for long-term integration. In the later stages of the project, the digital workflow will be integrated into education and training at KCMC University and TATCOT, supporting the development of local expertise and sustainable implementation.

PhD research

This PhD study will focus on understanding how AI- and 3D-enabled prosthetic care can be successfully introduced and sustained in Tanzania. The candidate will begin with a literature review of the prosthetic care pathway and implementation barriers in low- and middle-income countries, and identify lessons learned from current and previous 3D technology initiatives in Tanzania. Key stakeholders' perspectives on the potential of the approach will then be explored, and the findings translated into implementation recommendations for KCMC, followed by an assessment of the implementation at KCMC. The findings will generate context-specific evidence and practical recommendations to support the sustainable adoption and scale-up of AI- and 3D-enabled prosthetic care in Tanzania and other low-resource settings.

Study site and supervision:

The PhD candidate will be employed by KCMC University and will conduct the research primarily in Tanzania, while being formally enrolled as a PhD candidate at Radboudumc, the Netherlands,

under a joint supervision arrangement. Following recruitment, a multidisciplinary PhD supervision team will be established, comprising supervisors from both KCMC University and Radboudumc. The supervision team will provide scientific guidance and oversight throughout the PhD project and ensure close collaboration between the two institutions.

General qualifications applicable for this position

- A Master of Science (MSc) degree in any field from a university recognized by the Tanzania Commission for Universities (TCU) (see specifics on master's degrees below).
- A pass in a first degree with a minimum GPA of 3.5 or above.
- Strong communication skills in English, both oral and written.
- Previous reports or publication related to the research theme or implementation research, will be considered an advantage
- Willingness to relocate to KCMC, Kilimanjaro Region during field work (for at least 24 months).
- Willingness to commit full-time effort to his or her PhD training program.
- Candidates must be Tanzanians aged below 45 years.

How to apply

Applications must include the following documents

- Cover letter describing why you wish to undertake this PhD fellowship and how this study may further your career (max. 1 page).
- A short concept note focusing on the proposed PhD research topic (max. 2 pages, excluding references).
- CV indicating previous and/or current employer(s) and position(s) held, as well as a list of peer reviewed publications (if any). Max 2 pages.
- Certified copies of academic transcripts and relevant certificates.
- Letters of recommendation from two referees including phone numbers and e-mail addresses.

Please note that all shortlisted candidates are required to attend a selection interview and to give a 10-15 minute presentation of the concept note as part of this interview. If necessary, these interviews may be conducted virtually via zoom or skype. The date of the interview will be the **16,17 or 18th of December 2026**. Final selection of the candidate will be determined by the interview committee and will be communicated within the **first two weeks of January 2027**. Only shortlisted applicants will be contacted.

Applications must be submitted **by email** to the Office of Sponsored Projects (OSP) at drc@kcmcu.ac.tz, addressed to: **Project Leads, STEP Project Att. Dr. Eunice Kombe and Dr. Merel van der Stelt** by **12th December 2026**. Please copy the following:

- KCMC University Lead Project Coordinator: eunice.kombe@kcmcu.ac.tz
- Radboudumc Lead Project Coordinator: merel.vanderstelt@radboudumc.nl

Applications received later than this date will not be considered. Further details may be obtained via the above e-mail.

PhD enrolment & Evaluation

The successful candidate will be enrolled at Radboudumc and offered 3-year PhD scholarship for PhD fellowship. The scholarship covers university fees, research costs and a student stipend in

accordance with national/institutional regulations. The PhD supervision will be a joint effort between Radboud University Medical Centre, Netherlands and KCMC University, Tanzania. Evaluation of the progress of the PhD activities will be done according to current regulations at the Radboud University Medical Centre.

Commencement

The program is scheduled to commence in January 2027.