



Postdoctoral Research Position: Mobile Microscopy Development Project

Institute of Infectious Disease & Molecular Medicine
Microscopy Platform

February 2025

The IDM Microscopy Platform is seeking a talented and innovative Postdoctoral Researcher to join our team in developing mobile microscopy solutions for resource-limited settings. Applications are invited from qualified individuals for this fellowship, which will be based in the Institute of Infectious Disease and Molecular Medicine (IDM) and the Department of Pathology at the University of Cape Town Faculty of Health Sciences.

About the IDM Microscopy Platform: The IDM Microscopy Platform is a state-of-the-art imaging research technology hub at the University of Cape Town. Our mission is to provide researchers with comprehensive microscopy and imaging solutions for infectious disease and human health research, including cutting-edge equipment, technical expertise, and educational resources. We actively collaborate with local and international scientists and initiatives, to advance imaging solutions for regionally relevant research problems, and to build imaging expertise and capacity throughout Africa.

Project Overview:

This 18-month position (with possibility of extension) focuses on the development and adaptation of open-source, modular microscope designs to create a "microscope in a suitcase" system. This portable solution will support biological research applications and research training in diverse field settings and resource-constrained environments. This position is available to start as soon as possible.

Key Responsibilities:

- Lead the development and optimization of portable microscopy systems based on open-source designs and modular components
- Design and implement modifications for field deployment and novel biological applications
- Collaborate with interdisciplinary teams to ensure solutions meet researcher needs
- Document and share developments with the scientific community
- Contribute to training and skills transfer initiatives
- Manage project timelines and deliverables
- Engage with stakeholders and present findings at relevant forums

Required Qualifications and skills:

- PhD, achieved within the last 5 years, in a STEM field (e.g., Engineering, Chemistry, Physics, Material Science, Computer Science, Biological Sciences, Biomedical Sciences, or related disciplines)
- Demonstrated experience with lab hardware or device development and design principles
- Experience with open-source software and development practices
- Experience with CAD
- Experience with 3D printing and custom fabrication techniques
- Strong project management and time management skills
- Excellent written and verbal communication abilities
- Demonstrated ability to work independently and as part of a team

Desired Experience – the following will be beneficial:

- Knowledge of light microscopy principles and optical systems
- Understanding of fundamental biological concepts and research methods
- Experience working in resource-limited settings
- Track record of successful hardware development projects
- Experience with CAM

- Teaching or training experience
- Scientific publication and other science communication record
- Experience with technical documentation and writing

What We Offer:

- Cutting-edge research environment at a leading African institution
- Opportunity to make a significant impact in global health research
- Access to state-of-the-art facilities and equipment
- Collaborative and dynamic interdisciplinary research environment
- Professional development opportunities, including limited conference travel

Fellowship value and tenure:

The value of the fellowship is R520 000 per annum and is linked to a Wellcome Trust grant of the PI. Individual application to the SARS for tax-exemption will be made by the University of Cape Town on behalf of the successful candidate. No benefits or travel allowance are included in the fellowship. The tenure of fellowship is 18 months, renewable based on progress and availability of funds. The commencement of the fellowship is preferably as soon as possible.

Conditions of Award:

- Postdoctoral research fellowships are only available to individuals who have achieved the doctoral degree within the past 5 years
- Applicants may not previously have held full-time permanent professional or comprehensive academic posts
- The successful candidate will be required to comply with the University's approved policies, procedures, and practises for the postdoctoral sector.
- The successful candidate may participate in limited teaching and supervision activities in the platform or department as part of their professional development.

How to Apply:

All applicants are required to submit the following:

- Detailed CV, including publication list and names and contact information of three references
- Cover letter describing your relevant experience and interest in the position
- Examples of previous hardware development projects (if available)

Please submit all applications to Caron Jacobs: caron.jacobs@uct.ac.za.

General:

The University of Cape Town reserves the right to:

- disqualify ineligible, incomplete and/or inappropriate applications,
- change the conditions of award or to make no awards at all.