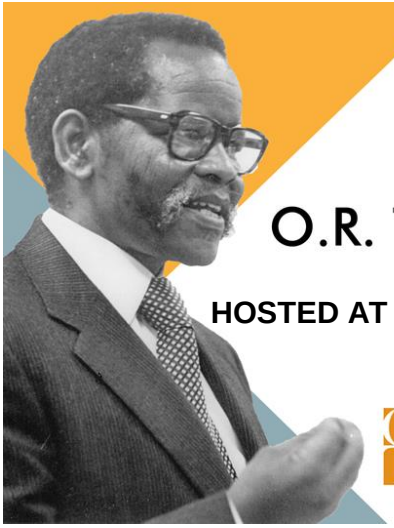

O.R. TAMBO AFRICA RESEARCH CHAIRS INITIATIVE

HOSTED AT THE NELSON MANDELA AFRICAN INSTITUTION OF SCIENCE & TECHNOLOGY (NM-AIST)

THE NELSON MANDELA AFRICAN INSTITUTION OF SCIENCE AND TECHNOLOGY (NM-AIST)

The O.R. Tambo Africa Research Chair Initiative on Nanoscience and Nanotechnology (ORTARChI-Nano)

Call for Two Post-Doctoral Research Scientists: Computational/InSilico and Clinical Studies for development, delivery and optimization of anti-malaria candidates

Introduction:

The Nelson Mandela African Institution of Science and Technology (NM-AIST) in Arusha is one in a network of Pan-African Institutions of Science and Technology located across Sub-Saharan Africa (SSA). These institutions, which are the proud brainchild of the late Nelson Mandela, envision training and developing the next generation of African scientists and engineers with a view to impacting profoundly on the continent's development through the application of Science, Engineering and Technology and Innovation (SETI).

The ORTARChI-Nano at NM-AIST is one in the network of 10 research chairs in Africa under the Oliver & Adelaide Tambo Foundation funded and coordinated through a partnership among South Africa's National Research Foundation (NRF) and the Department of Science and Innovation (DSI), Canada's International Development Research Centre (IDRC), and Tanzania Commission for Science and Technology (COSTECH). The research chair focuses on the application of nanoscience and nanotechnology to enhance anti-malaria drugs and delivery to the body, and improve uptake of bio-fertilizers and bio-pesticides by crop plants for enhanced productivity.

NM-AIST is seeking **for two highly qualified and motivated candidates** to join the O.R. Tambo Africa Research Chair on Nanoscience and Nanotechnology (ORTARChI-Nano) as Post-Doctoral Research Scientists. These positions are open to citizens of any East African countries.

One candidate will focus his/her research in applying computational/InSlico approaches for antimalarial drug design development and delivery, including leading efforts to identify new potential molecules with antimalarial activities that can further be studied and developed into potential drug candidates.

The second candidate will focus on coordinating and undertaking clinical trials (both in vivo and in vitro studies) of the enhanced antimalarial drug candidates.

Main Roles and Responsibilities of the Post-Doctoral Research Scientist: - Computational drug design and development

1) Conduct high-quality research on the computational identification and modification of antimalarial molecules.
2) Design and implement in silico workflows, including molecular dynamics simulations and machine learning approaches, to optimize drug candidates.
3) Produce and publish at least three papers in high-impact international journals
4) Produce at least one patent/other intellectual properties during post-doctoral fellowship.
5) Supervise and mentor PhD and MSc students in their field of expertise
6) Participate actively and take lead in solicitation of additional project funding through research proposals, head hunting and networking conference and workshops.

Eligibility Criteria for candidates applying for Post-Doctoral Research Scientist: - Computational drug design and development:

1) A PhD in Computational Biophysics, Nanoscience, or related fields obtained within the last five years.
2) Demonstrated experience in in silico approaches, including molecular dynamics, metadynamics, and machine learning for drug discovery.
3) A strong publication record, including at least two peer-reviewed papers on computational drug design or related areas.
4) Proficiency in nanotechnology applications for drug development.
5) Currently working or have worked in higher learning academic institution or research institution for at least three years.

Main Roles and Responsibilities of the Post-Doctoral Research Scientist: - Clinical Studies (In vivo and In vitro) for optimized antimalarial drug candidates:

1) Conduct high-quality in vivo and in vitro assays, including pharmacokinetics, cytotoxicity studies, and animal handling techniques.
2) Produce and publish at least three papers in high-impact international journals
3) Produce at least one patent/other intellectual properties during post-doctoral fellowship.
4) Supervise and mentor PhD and MSc students in your field.
5) Participate actively and take lead in solicitation of additional project funding through research proposals, head hunting and networking conference and workshops.

Eligibility Criteria for candidates applying for Post-Doctoral Research Scientist: - Clinical Studies (In vivo and In vitro) for optimized antimalarial drug candidates:

1) Hold a PhD in Human Health and Biomedical Sciences, Biochemistry, or related fields
2) Demonstrate strong skills in nanoscience, drug delivery systems, and characterization of nanocarriers (e.g., liposomes, ethosomes, phytosomes)
3) Have experience in conducting in vivo and in vitro assays, including pharmacokinetics, Pharmacodynamics, cytotoxicity studies, and animal handling techniques
4) A strong publication record, including at least two peer-reviewed papers on the above fields.
5) Be proficient in laboratory techniques such as ELISA, cell culture, and molecular assays (PCR, Comet assay, electrophoresis)
6) Currently working or have worked in higher learning academic institution or research institution for at least three years

Application Procedures:
Applicants must submit the following:

1) A one-page motivation letter explaining how your background aligns with the position's requirements.
2) Certified copies of academic transcripts and certificates (PhD and MSc).
3) Evidence of academic or research employment for at least three years.
4) Curriculum vitae (maximum three pages).
5) Evidence of at least two peer-reviewed publications as a co-author and one as the first author.
6) Two recommendation letters, one from your current employer and one academic referee.
7) Applications must be sent electronically in a single PDF file with the applicant's full name to NM-AIST Deputy Vice Chancellor- Planning Finance and Administration using the following email: dvc-admin@nm-aist.ac.tz and copy: info_ortambo@nm-aist.ac.tz.

8) Please indicate the position you are applying for at the email title/subject.

Deadline for receiving applications is on Friday 7th February, 2025.