



O.R. TAMBO AFRICA RESEARCH CHAIRS INITIATIVE



CALL FOR APPLICATION FOR FULLY FUNDED PhD PROGRAMMES AT THE COPPERBELT UNIVERSITY FOR 2024/2025 INTAKE

The Copperbelt University (CBU) is a public university located in the Copperbelt Province, Zambia. In October 2020, the University secured funding for the Professorial Chair in Environment and Development in honour of Oliver R Tambo called Oliver R Tambo African Research Chairs Initiative (ORTARChI) through the successful research proposal entitled “**Developing Models for Mining Landscape Restoration and Management of Pollution associated with Mining in Zambia**” to National Research Foundation of South Africa. ORTARChI is an initiative of South Africa’s National Research Foundation (NRF) and the Department of Science and Innovation (DSI), in partnership with the Oliver & Adelaide Tambo Foundation (OATF), Canada’s International Development Research Centre (IDRC), and seven councils of the Science Granting Councils Initiative in sub-Saharan Africa (SGCI). The CBU ORTARChI Chair together with other ORTARChI Chairs in sub-Saharan Africa will focus on training graduate students and postdoctoral fellows as the next generation of research leaders in a number of subject areas.

The Copperbelt University is hereby requesting for applications for PhD studies under the ORTARChI Chair of Environment and Development focusing on mining & Pollution, and Landscape transformation.

Background to the Project

Zambia is within the region that has a long history of mining (of over 400 years). Roughly half of the world’s vanadium, platinum, and diamonds originate in the region, along with 36% of gold and 20% of cobalt. For instance, the Central African Copperbelt (CACB) is the world’s largest and highest-grade sedimentary copper province with more than 200 Mt of copper produced annually or in reserves and the world’s largest reserves of cobalt. The heart of CACB extends along a >450-km-long arcuate trend north and westward from the Zambian Copperbelt into the Congolese

Copperbelt (CCB) in the Democratic Republic of Congo (DRC). Recent discoveries and project developments in Zambia's North West Province and the CCB, demonstrate the continued prospectivity and mining potential of the region.

Mining activities in Zambia, like in many parts of the region have created and continue to create a vast amount of mining generated wastelands that have greatly impacted on the landscapes. The ubiquity of mine wastelands in the Zambian mining regions presents challenges that range from large-scale ecosystem disturbance to agro-ecosystem pollution. Deliberate and concerted efforts from industry, academia and other stakeholders are urgently required to mitigate against the harmful impacts of environmental pollution arising from mining activities in the Country. The Copperbelt University, through (ORTARChI) Professorial Chair is providing research leadership in environmental management related to mining through training of a workforce of professionals in this area.

It is against this background that The Copperbelt University seeks to recruit 7 PhD students under the ORTARChI Chair of Environment and Development on full time basis that will be contributing towards developing a model for management of pollution arising from mining activities in the Country. The successful candidate will be expected to begin their studies in March, 2025. The call is open to all **nationalities**. The specific topics are as follows:

PhD Topics

- i) A Greener Approach to Mine Waste Bioremediation in Zambia: Optimization of Nanocomposites and Algal Biomass for Ecological Recovery
- ii) Inventory and Ecophysiological screening of tailing-native grass species of the Zambian Copperbelt: Implications for eco-restoration of mine wastelands
- iii) Potential of selected seed technologies in assisting plant establishment on Zambian copper tailings
- iv) Investigating climate shock induced migration and impacts on the upper Kafue ecosystem
- v) Rehabilitating Soil Fertility of Tailing Dam Dumpings Using Microorganisms for ecological recovery of Copper mine wastelands in Zambia
- vi) Exploring the Economic and Social Linkages between Mining and Non-mining sectors in Zambia: Implications for Sustainable Development

- vii) Examining carbon stocks across Miombo-Baikiaea Environmental continuum:
Implications for Management of the Zambian Vegetation formations**

MPhil topic

- 1) Exploring genotypic variability of Zambian tailing-native trees species for possible selection of superior plant materials for eco-restoration

To apply, please submit the following documents: (i) Cover letter; (ii) A detailed curriculum vitae that includes a list of publications; (iii) Certified academic transcripts and certificates; (iv) A brief description of your research interests (1000 words max.) in relation to the PhD topic of your interest; (v) A description of your scientific goals for the fellowship (1000 words max.); (vi) Two names of academic referees from credible institutions that can easily be contacted to provide reference for the candidate. vii) Letter from the head of your organisation indicating that study leave will be granted whilst pursuing your PhD project viii) Proof of application for admission in any of the Schools at the Copperbelt University.

Eligibility criteria

- (i) An M. Sc. degree (for PhD applicants) in Natural Sciences, Agricultural Sciences, Engineering, Social Science etc from a reputable University;
- (ii) Strong background in any of the following fields such as Biology, Forestry, Agroforestry, GIS and Remote Sensing (for vi), Ecology, environmental sciences, Microbiology etc is considered an added advantage;
- (iii) A B.Sc. with an Upper Credit from the disciplines above;
- (iv) Able to work in a multi-disciplinary environment;
- (v) Team player and ability to work independently; and
- (vi) Able to conduct field work in the scope of the Research Chair.

Submission of Application

The application indicating the **topic and level being applied for** should be addressed to the undersigned not later than 10th December, 2024.

Research Chair Environment and Development
The OR Tambo Africa Initiative
Copperbelt University
Box 21692
Kitwe

The soft copy application of the same should be emailed to mwamba.theo@yahoo.com (Dr Mwamba), Prof Concillia Monde (mabwala.cm@gmail.com), Mrs Bester Sikazwe (bestersikazwe@cbu.ac.zm) and copied to ORTARChI@cbu.ac.zm with the subject area of the email indicating the topic and level being applied for.

For questions and further details

Questions and queries can also be directed to Dr Mulembo T Mwamba on 0772353936