CALL FOR APPLICATION FOR FULLY FUNDED PH.D AND MASTERS DEGREE PROGRAMMES AT THE COPPERBELT UNIVERSITY

1.0 Introduction

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 Chair Initiative (ORTARChl) through the successful research proposal by Prof. Stephen Syampungani entitled **"Developing Socio-Ecological Models for Restoration and Management of Mining generated and associated Landscapes 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 under the ORTARChI Professorial Chair in Environment and Development is offering full scholarships in two major thematic areas namely; i) mining & Pollution and ii) Landscape transformation. It is against this background that The Copperbelt University seeks to recruit to 2 Msc and 8 PhD candidates of Zambian residence/nationality for training in these two thematic areas. The details of the topics are as listed under section 3.0. The deadline for the application is 14th June 2022

2.0 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.

3.0 Graduate studentships

3.1 PhD Topics

i) Eco-physiological characterization and phytoremediation potential of tailing-native plant species in the Zambian Copperbelt Region

ii) Optimizing the potential of biochar as a tool for remediation of mining-generated wastelands in the Zambian Copperbelt Region

iii) Landscape transformation and associated implications on rurallivelihoods in the mining regions of Zambia

iv) Habitats and ecology of desiccation tolerant vascular plants on rock outcrops in Zambia

v) Application of Phytogeochemistry in geological exploration in the Mineral rich regions of Zambia

vi) The development of an integrated approach for Acid Rock Drainage (ARD) prediction from Mine generated Wastelands in Zambia

vii) Aquatic ecosystems assessment of pollution associated with heavy metals in the mining region (s) of Zambia

viii) The Socio-Economic implications of Post Mine closure in the mining regions of Zambia: Developing the basis for formulating exit strategies for the mining sector in Zambia

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 clearly stating your philosophy in line with the title of your choice (1000 words max.); and (vi) Two names of academic referees from credible institutions that can easily be contacted to provide reference for candidate.

Eligibility criteria

(i) An M. Sc. degree in Natural Sciences, Agricultural Sciences, Engineering, Mineral Sciences (Mines) from a recognised University;
(ii) Strong background in any of the following fields such as Biology, Forestry, Agroforestry, Environmental Engineering, GIS and Remote Sensing, Ecology, 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 with a driver's licence; and
(vi) Able to conduct field work in the scope of the Research Chair.

3.2 MSc topics

i) Nanoparticle-based phytoremediation of mining wastelands in the Zambia Copperbelt Region
ii) Nanomembranes for mitigation of environmental impacts arising from mining in the Zambian Copperbelt Region: *Opportunities, Efficiency and Challenges*

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 (500 words max.); (v) A description of your scientific goals for the fellowship (500 words max.); and (vi) Two names of academic referees from credible institutions that can easily be contacted to provide reference for candidate.

Eligibility criteria

(i) An upper credit bachelor's degree or better in Natural Sciences, Agricultural Sciences, Engineering, Mineral Sciences (Mines) from a recognised University;
(ii) An upper credit or better from Social Sciences (Humanities and Social Sciences; Education and Law) for the first Msc position

(iii) Able to work in a multi-disciplinary environment;
(iv) Team player and ability to work independently; and
(v) Able to conduct field work in the scope of the research chair.

Contacts

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