

CALL FOR APPLICATION FOR FULLY FUNDED PH.D AND MASTERS DEGREE PROGRAMMES

The University of Zambia (UNZA) is a public university located in Lusaka, Zambia. In October, 2020, through the successful research proposal by Prof. Imasiku A, Nyambe (OR Tambo Africa Research Chair Initiative (ORTARChI) Chair Holder) entitled “**The Water Conservation: Enhancing Catchment Protection and Management in Upper Zambezi and Luapula River Basins**” to National Research Foundation of South Africa is hereby requesting for proposals for Masters and PhD studies at the Integrated Water Resources Management Centre (IWRM), School of Mines, University of Zambia. The research will be centered on the Zambezi and Luapula river basins of Zambia.

1. Background to the Project

The Zambezi Basin is the fourth-largest river basin of Africa, after the Congo, Nile and Niger basins. Its total area spreads over eight countries that include: Angola; Botswana; Malawi; Mozambique; Namibia; Tanzania; Zambia; and Zimbabwe. On the other hand, the Luapula River originates from Lake Bangweulu and outlet of the Chambeshi River. The Luapula basin provides great socio-economic benefits to the local communities, however, it has been facing numerous challenges among these being; deforestation, some urbanization, industrial (e.g. manganese mining) and economic growth, flooding and drought. In addition, climate change is also impacting the river basin, which affects both human life and ecosystem services, including water quantity and quality. The Upper Zambezi Basin is rich in mineral deposits such as copper, cobalt, uranium, manganese, lead, zinc, gold, nickel and emerald (Copperbelt and North-western Province), some of which are being mined resulting into localized pollution to water resources, agricultural products and the environment. Therefore, the Chairholder will conduct research in the two basins that will contribute to improving water management in the two basins by creating knowledge on the quantity and quality of the water and stream sediments of the two basins and development of site-specific remediation technologies.

The output from this research will guide and inform policy on water conservation and protection and hence enhancing water conservation for human and ecological usage. It is against this background, the Chairholder seeks to recruit four (4) highly motivated doctoral students and seven (10) Master's Degree students in various disciplines.

2. Doctoral students (04)

The three doctoral students will investigate the following topics:

- (i) Investigate water quantity & quality challenges for inter-basin transfer between Kafue & Luapula sub-basins;

- (ii) Investigate remediation technologies to remediate the water & soil pollution points;
- (iii) Landuse change, effects on ecosystem services and livelihoods in wetlands; and
- (iv) Assessment of the ecological risk impacts of inter-basin transfers (2024)

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.); (v) A description of your scientific goals for the fellowship (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 IWRM, Hydrology, GIS and Remote Sensing, Ecology and Microbiology is considered an added advantage;
- (iii) A B.Sc. with an Upper Credit from the disciplines above;
- (iv) Preferable not working, single and women candidates are encouraged to apply;
- (v) Able to work in a multi-disciplinary environment;
- (vi) Team player and ability to work independently with a driver's licence; and
- (vii) Able to conduct field work in the scope of the Research Chair.

3. Masters' students (10)

The 10 Masters students will investigate the following topics:

- (i) Investigate vulnerability of selected headwater recharge zones in Zambezi River Basin;
- (ii) Investigate wetland ecosystem services in Kafue & Luapula sub-basins;
- (iii) Investigate mining polluted sites for remediation technologies application on the Copperbelt;
- (iv) Investigate and evaluate land-use changes and ecosystem services in selected wetlands in both basins;
- (v) Undertake bathymetric surveys in selected reservoirs in the Kafue & Luapula sub-basins/Zambezi River Basin – 2024
- (vi) Investigate the water quantity and quality in selected areas of the Kafue sub-basin – 2024;
- (vii) Investigate ecological integrity of inter-basin transfer on selected sites in the basins – 2024;
- (viii) Investigate the surface water quality and quantity of the Luapula sub-basins – 2024;
- (ix) Evaluate and assess the framework for stakeholder participation for sustainable IWRM in the Upper Zambezi sub-basin – Social Sciences; and
- (x) Evaluate and assess stakeholder participation for sustainable IWRM in the Luapula River sub-basin – Social Sciences.

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 two (2) positions on Social Sciences;
- (iii) Strong background in IWRM and remote sensing will be an added advantage for the physical sciences and engineering;
- (iv) Preferable not working, single and women candidates are encouraged to apply;
- (v) Not more than 35 years old with a driver's licence;
- (vi) Able to work in a multi-disciplinary environment;
- (vii) Team player and ability to work independently; and
- (viii) Able to conduct field work in the scope of the research chair.

4. Submission of Application

The hard copies application indicating the **position being applied for on the envelope and inside** should be addressed to the undersigned not later than **20th January, 2022**.

The OR Tambo Africa Initiative Research Chair Holder,
University of Zambia Integrated Water Resources Management
C/O School of Mines
University of Zambia
P.O. Box 32379,
Great East Road Campus,
Zambia.

The soft copy application of the same should be emailed to inyambe@gmail.com and copied to mwandison@gmail.com with the subject area of the email indicating the position being applied for.

For questions and further details

Contact Dr. Mwandira Wilson (mwandison@gmail.com) or Dr. Kawawa Banda (kawawa.banda@unza.zm).