



## Department of Chemical Engineering

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### **Postdoctoral Research Fellowship Opportunity under the Minerals to Metals Initiative: Mine waste**

UCT has awarded a Carnegie DEAL Postdoctoral Research Fellowship for research within the Department of Chemical Engineering as part of the collaborative Minerals to Metals Initiative.

#### **Scope of Research:**

The 'Minerals to Metals Initiative (MtM)' was established in 2007 as a signature theme at UCT to deliver integrated interdisciplinary research focused on enhanced value addition and resource productivity through the conversion of minerals to metals in a manner congruent with providing a sustainable future for the South African people and their environment.

The fellowship is intended to expand and extend current research capacity in the area of mine waste management, with a specific focus on the repurposing of large volume wastes, such as tailings and discards. The candidate will form part of a group working on the development of a programmatic multi-phased approach for the identification, analysis, development and implementation of opportunities for the repurposing of large-volume mine waste.

#### **The Research Fellow will be required to:**

- Conduct research that will identify the appropriate tools, methods, and approaches (technical, legal, economic) in the development of a framework for the assessment and selection of different routes for the downstream utilization of large-volume mine waste;
- Assist with the development of the conceptual framework required to integrate quantitative technical assessment with qualitative sustainability principles during process flowsheet development for mine waste;
- As part of the successful incumbent's professional development, assistance with the supervision of relevant Minerals to Metals post-graduate research projects may be required;
- Assist with the identification of further research opportunities and initiate new post-graduate research projects;
- Liaise with potential research partners and sponsors, with a view to promoting collaborative research in this field.

In addition, the successful applicant will be encouraged and supported to conduct his/her own self-initiated research during the tenure of the Fellowship under the auspices of the Chair.

#### **Tenure and Value:**

The value of the Fellowship will be ZAR 330 000 per annum and is tenable up to for 2 years. Individual applications on behalf of the successful candidate to SARS for tax exemption will be made. The Fellowship carries no fringe benefits and no direct service will be required in return for the award.

The Fellowship will be tenable initially from 1 January 2024 to 31 December 2024, with an option to apply for an extension for a further 12 months, subject to satisfactory progress having been made.

**Conditions of Award:**

- Applicants must have obtained a PhD degree in engineering or natural sciences within the last 5 years, or submitted their PhD for examination before commencement of the position.
- Applicants are expected to have sound knowledge of waste management and pollution issues, and their concomitant social impacts, in the extractives sector.
- Prompt journal publication and other output of Chair related research is highly desirable; therefore, a track record of research publications is a strong advantage.
- The applicants must not yet have held any permanent academic posts since obtaining their PhD and must not be registered for any degree studies while he/she holds the fellowship. Applicants may also not have held an NRF funded postdoctoral fellowship previously.
- The successful candidate will be required to comply with the University's policies and practices with regards to the postdoctoral sector and to enter into a Memorandum of Agreement with the University.

**Application Procedure:**

Interested parties should send a letter of application, accompanied by a comprehensive curriculum vitae, including the names of two suitable referees, to Associate Professor Jennifer Broadhurst at Jennifer.Broadhurst@uct.ac.za on or before 24 November 2023.