

Postdoctoral Research Fellow Opportunity: Investigating the economic performance, material flows and reverse logistics of hydrometallurgical recycling of metals from electronic waste

Location: Department of Chemical Engineering, Stellenbosch University, Stellenbosch

Research group: Extractive Metallurgy

Host: Prof. Christie Dorfling

Commencement: May 2025 or as soon as possible thereafter

There is currently an opportunity for a postdoctoral researcher focussing on the assessment of reverse logistics networks for lithium-ion battery and electronic waste recycling available in the Department of Chemical Engineering at Stellenbosch University. The position will focus on determining the economic feasibility and optimal recycling networks for various types of extractive metallurgical processes for the recovery of metals from end-of-life electronic consumer goods.

The research group is currently collaborating with academic partners on the assessment of alternative extractive metallurgical process options for metal recovery from secondary resources. Such process developments require techno-economic and material flow assessments in order to identify preferred technology options as well as the required improvements in processes and networks for industrial implementation.

The postdoctoral research will be expected to contribute significantly to:

- independently work on process simulations, material flow analyses and reverse logistics network models for a range of extractive metallurgical processes and network configurations for waste valorisation and metal recycling;
- provide technical support to other researchers in the group working on similar projects;
- prepare and publish research outputs from current and previous research projects; and
- identify new research opportunities, and prepare new funding proposals to sustain research activities.

Requirements:

Applicants must have a PhD in Chemical Engineering or Extractive Metallurgy, obtained within the past five years, with a strong background in process simulations, techno-economics, material flow analysis and logistics, as described above. Candidates with a strong academic record and a proven track record in logistics network modelling using software such as anyLogistix® are particularly encouraged to apply. Experience with environmental economics and sustainability assessments would be an advantage.

Application:

The fellowship is available until 31 December 2025, and renewable thereafter based on performance and funding availability. Enquiries about the position can be directed to Prof Christie Dorfling at dorfling@sun.ac.za.

Applications should be emailed to dorfling@sun.ac.za. The closing date for applications is **13 April 2025**.

Stellenbosch University reserves the right not to fill the position.