



Postdoctoral Research Fellow (PDRF) at the Geology Department, University of the Free State

The Department of Geology of the University of the Free State (UFS) is offering one (1) postdoctoral research fellow (PDRF) position, to be filled as soon as possible. The task of this PDRF position, for a period of one (1) year, is detailed below.

PDRF: Sustainable Exploration for Orthomagmatic (Critical) Raw Materials in the EU: Charting the Road to the Green Energy Transition

This PDRF position will be involved with the EU-funded SECMACRET (Sustainable Exploration for Orthomagmatic (Critical) Raw Materials in the EU: Charting the Road to the Green Energy Transition) project, the overarching goal of which is to provide a clearer understanding of the EU's mineral potential, and to develop sustainable exploration techniques for green transition (critical) raw materials hosted in orthomagmatic ore deposits, thereby bridging this gap between academic research and the mineral exploration industry. In this project, the PDRF will be involved in:

- **“Machine Learning for 3D Modeling of Mineral Prospectivity”**. There are three case studies for this task, namely: (1) Ransko deposit, Czech Republic; (2) Suwalki deposit, Poland; and (3) Akanvaara deposit, Finland. The datasets to be used in this task will be provided by the Czech Geological Survey (CGS), Poland Geological Survey, and Geological Survey of Finland, respectively.

The above PDRF position, which will be supervised by Prof John Carranza, is open to all South Africans and foreign nationals. Applicants must:

- Have graduated with a PhD degree in a relevant discipline within the last five years;
- Have expertise in 3D modeling of mineral prospectivity in GIS;
- Proficient in programming in R and Python;
- Not hold full-time salaried employment during the fellowship;
- Be able to relocate to and reside at the UFS for the duration of the fellowship; and
- Have a valid passport, as there will be at least one trip to an EU partner country during the project.





The successful applicant is expected to:

- Conduct innovative research in the above-described tasks.
- Author/co-author at least two (2) publication output per year in DHET-accredited scholarly journal articles.

For enquiries, please contact Prof John Carranza (carranzaejm@ufs.ac.za). To apply, please email the following documentation by 15 April 2024 to Prof Carranza:

- Motivation letter, including a 1-2-page outline of relevant expertise and experience.
- Full CV (including a list of research publications, conference papers and other scholarly output, and contact details of two academic referees who have taught/supervised the applicant during his/her PhD study).
- Copy of transcripts of academic record.
- Copy of doctoral degree certificate.
- Copy of ID document (or copy of passport in case of foreign applicants).

