

Postdoctoral Fellow

Center for Applied Radiation Science and Technology (CARST)

31 January 2022

The **Center for Applied Radiation Science and Technology (CARST)** at North-West University invites applications for a **Postdoctoral Research Fellow** to contribute to the research and training activities of the **Nuclear Forensics** group.

We specialize in the development of a Nuclear Forensics Library for the South African Uranium Ore deposits. The focus of this study is on resolving nuclear forensic signatures using Lead (Pb), Uranium isotopic ratios and REE patterns, which reveal origin of nuclear material and the methods for processing the Ores found in the four Uranium Provinces of South Africa.

Core Requirements:

- PhD in Nuclear Physics or related field obtained in the last 5 years.
- Proficiency in Gamma spectrometry and Mass spectrometry techniques, specifically nuclear material radioactivity using HPGe Gamma detectors, mass composition and isotopic ratio determinations using ICP-MS analyses.
- **Strong publication record, (at least 4 in the past five years)**
- Experience in project management.
- Must be able to work independently.

Responsibilities:

- Operate and troubleshoot specialized equipment (HPGe, Ultra-Low LSC & NexION ICP-MS); recognize and implement quality control measures where needed.
- Document results, analyze data, write reports on outcomes; modify and adapt methodologies as required.
- Write Journal articles using existing as well as own data. Present at local and international Conferences. Also we expect the PostDoc to at least publish two papers per year as the first author
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- Prepare research proposals and reports
- Contribute to efficient operation of the laboratory working environment by carrying out general lab duties, such as replenishing common solutions or supplies, tidying common areas, or maintaining common equipment.
- As part of the candidate's professional development, supervision of postgraduate (Hons, MSc & PhD) students and contribution to Hons & MSc classes (maximum of 20%) will be required.

Scholarship:

A competitive scholarship (tax-free) is available to the post-doctoral fellow for 1 to 3 years, renewed annually, conditional on satisfactory academic progress and availability of funds.

Application Requirements:

Suitable candidates are required to submit the following:

- A letter of Motivation (max 1 page), in which the candidate states why/he is suitable for the award of the fellowship;
- A CV including details of conferences presentations and all publications; Previous supervision will be an added advantage
- The names and email addresses of at least three academics who have agreed to stand as referees on behalf of the applicant
- Certified copies of academic transcripts (these can be sent later, if the candidate's application is successful)

Email applications to Prof Manny Mathuthu (24429872@nwu.ac.za), copy: manny.mathuthu@nwu.ac.za

Closing date: 20 February 2022