SOL PLAATJE UNIVERSITY

RISK AND VULNERABILITY SCIENCE CENTRE

POST-DOCTORAL RESEARCH FELLOWSHIP (2022-2023)

Novel and innovative technologies integrated with conventional methods for removing of emerging pollutants from wastewater in the Northern Cape

(Reference No. PD/01-2022)

Background

Risk and Vulnerability Science Centres (RVSC) are a flagship programme of the Department of Science and Innovation (DSI) and the National Research Foundation (NRF) Global Change Research Programme and are included under the *'science and technology for global change with a focus on climate change'* Grand Challenge. In this context RVSCs aim to identify and conduct relevant and applied research in global and climate change, the outputs thereof having direct on the ground impacts at community and/or stakeholder level. The RVSC framework is embedded under the South African Risk and Vulnerability Atlas (SARVA) an ICT-based decision-making support tool within the Global Change Research Plan which supports a central repository of a wide range of climate and environmental data. It is within this framework that the approach of RVSCs is to:

- enhance the scientific understanding of global change focussing on climate change impacts
- develop innovations and technologies to respond to global and climate challenges, and
- understand the social context within which solutions need to be implemented

The RVSC at Sol Plaatje University was established in September 2021 and is uniquely positioned to engage in global change science research in the Northern Cape, a province already under climate risk due to its dry, arid landscapes and frequent drought periods. Agriculture, food security, water management and conservation, natural capital, energy and other industries are vulnerable to global warming and predicted changes in the region suggest increasing negative impacts on landscapes, communities and livelihoods. The work of the RVSC looks to address these risks, analyse the vulnerabilities and assess the resilience within the different sectors within the UN Sustainability Development Goals. The RVSC strategy aligns with national, provincial and institutional strategies in terms of sustainability, science, innovation and technology.

One of the key focus areas of the RVSC at SPU is to develop the capacity and skills base of postgraduate students in global and climate change science, and specifically within the context of arid environments and drylands. Besides undergraduate programmes in the biological sciences that include aspects of climate change and arid zone ecology, and future environmental science courses covering climate change and sustainability, SPU, through the RVSC, offers postgraduate programmes that further develop advanced research approaches through expert supervision, focussed research design courses and engaging and regionally relevant research projects in global change science.

Postdoctoral Fellowship Description

A dynamic and innovative post-doctoral position is available in the SPU-RVSC in the field of water resources and wastewater management. The fellow will register and will be hosted in the Department of Physical and Earth Sciences but will also engage with researchers and academics in the Department of Biological and Agricultural Sciences.

This is an exciting opportunity for a post-doctoral candidate to work in a multidisciplinary environment and bring together skills and content areas from disciplines such as Microbiology, Chemistry, Water treatment, amongst other areas, to help to characterise emerging pollutants in wastewater, and develop, apply, and evaluate novel removal technologies.

Minimum requirements:

- Completion of PhD in the last five years
- Proven research experience in the fields of Chemistry, Microbiology and/or water treatment at postgraduate levels
- Academic excellence
- Good publication record
- Valid driver's licence

Additional recommendations:

- Experience in statistical analysis, and working with HPLC/MS, ICP-OES, and PCRs is advantageous.
- Fluency in Afrikaans will be an added advantage
- Candidates should be pro-active, enthusiastic, and interested in doing excellent research that can make a difference and contributes to the objectives of the RVSC and its partners.

Bursary Value: The fellow will receive a flat rate, tax-free bursary of R255 000 for one year (to cover living expenses). Extension to a second year will be subject to performance.

Additional project costs: Running and other administrative costs will be covered by the Centre and the host researcher.

Proposed starting date: No later than 1 April 2022.

Application procedure: Each application is to be accompanied by a completed application form (see attached) and the following documents:

- Copy of your full CV
- Certified copies of ID document or passport
- Copy of your academic record
- Two letters of reference
- A letter of motivation

Please send the application form and all supporting documents to: Dr Doug Harebottle, Acting RVSC Director (doug.harebottle@spu.ac.za) with "RVSC Post-Doctoral Bursary + Ref. No." in the subject line.

Contact details

For project or academic queries: Prof N. Chaukura, Host Researcher, (nhamo.chaukura@spu.ac.za)

For questions regarding the application process: Dr D Harebottle (doug.harebottle@spu.ac.za)

Sol Plaatje University and the RVSC reserves the right not to fill this fellowship if no suitable candidate is identified. If no response has been received within 21 days of the closing date, candidates may assume that their applications were unsuccessful.

Applications close: **31 January 2022**