UNIVERSITEIT iYUNIVESITHI STELLENBOSCH UNIVERSITY 100 1918 · 2018

## POST-DOCTORAL FELLOWSHIP AVAILABLE

## RADIO TELESCOPE HARDWARE DESIGN: ANTENNAS AND RF FRONT-ENDS

The SARChI Research Chair in Antenna Systems for SKA is hosted at Stellenbosch University, and administered and funded by the National Research Foundation (NRF), the Department of Science and Technology (DST), and the South African Radio Astronomy Observatory (SARAO).

A post-doctoral fellowship is available in the design and implementation of radio telescope hardware, including antenna, RF front-end, and parts of the digital back-end. The successful candidate will assume a leading design and supervisory role assisting PhD and MEng students in the design of a variety of telescope systems (including the SKA). Theoretical optimization-based design, as well as prototype development and testing will form a central part of the fellowship.

Applications are herewith invited, with the starting date January 2021 or as soon as possible thereafter.

Requirements:

- A PhD in electronic engineering focusing on antennas, RF/microwave engineering, or radio astronomy instrumentation (awarded in the last 5 years)
- Excellent communication skills in English (both written and verbal)
- Object-oriented MATLAB programming experience

Additional Skills:

- Experience in the use of CEM tools such as TICRA/GRASP, CST, FEKO and AWR-MWO
- Experience in hardware design of antennas and RF/microwave components
- Experience in development of custom optimization tools for antennas or RF systems

The fellowship is tenable for one year, renewable for a 2nd and 3rd year subject to satisfactory performance. Deliverables will include:

- Development of in-house MATLAB code used for optimization design of radio astronomy antenna systems
- Reporting of the results in international conferences and journals
- Ad-hoc assistance in supervision of PhD and Masters students in the group

*saam vorentoe · masiye phambili · forward together*
Department of Electrical and Electronic Engineering
Departement Elektriese en Elektroniese Ingenieurswese
Privaat Sak X1, Private Bag X1, Matieland, 7602
Tel: +27 21 808 4204 | www.eng.sun.ac.za

ENGINEERING EZOBUNJINELI INGENIEURSWESE

The fellowship is open to all nationalities, but preference will be given to South Africans or citizens from SKA African partner countries. The candidate will be based in Stellenbosch full-time, and will be required to travel to the SKA site in the Karoo as well as to international collaborator meetings. This is in addition to travel to international conferences to present the research work that will form part of the project goals.

To apply, a short (2 page) CV detailing education and work experience, a list of publications, a link to the PhD thesis, as well as the names and contact details of at least two references should be submitted.

Enquiries:

Prof. Dirk de Villiers
SARChI Research Chair in Antenna Systems for SKA
Room E407, Department of Electrical and Electronic Engineering
Stellenbosch University
Bosman Street
Stellenbosch, 7600
South Africa
ddv@sun.ac.za
+27(0)218084011

**Closing date: The position will remain open until filled, and all applications will be evaluated with immediate effect.**