UNIVERSITEIT iYUNIVESITHI STELLENBOSCH UNIVERSITY 100 1918 · 2018

POST-DOCTORAL FELLOWSHIP AVAILABLE

RADIO TELESCOPE HARDWARE SYSTEM 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 a radio telescope system, including antenna, RF front-end, and parts of the digital back-end. The system operates in the 50 – 200 MHz band, and is required to be deployed in the radio quiet Karoo region close to the SKA core site. The successful candidate will be responsible for most of the hardware design, implementation, testing, and deployment, while working in close collaboration with astronomers and students from Cambridge University in the UK and INAF in Italy, who will be responsible for high level system specifications, calibration and data analysis.

Applications are herewith invited, with the starting date 2 January 2019 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)
- MATLAB programming experience

Additional Skills:

- Experience in the use of CEM tools such as FEKO and CST
- Experience in hardware design of antennas and RF/microwave components

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

- Assistance in the development of a prototype system
- 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 probably be required to travel to the SKA site in the Karoo as well as to the UK for consortium 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.