



## ADVERTISEMENT

### Post-Doctoral Fellow ATLAS ITk Upgrade

Contract type: Long Term Contract

Period of Contract: 3 years

Job Level: Skilled / Middle Management

Work Location: Johannesburg, Gauteng

The National Research Foundation (NRF) supports and promotes research and human capital development through funding, the provision of National Research Facilities and science outreach platforms and programmes to the broader community in all fields of science and technology, including natural sciences, engineering, social sciences and humanities.

iThemba LABS is Africa's leading research facility for accelerator-based science that is committed to advance knowledge, transform lives and inspire the nation. We do this through probing fundamental aspects of nuclear structure, investigating the origins of matter, and advancing humanity's understanding of condensed matter. In addition, we have a direct societal impact through the provision of radioisotopes for the health sector and a biophysics research program focusing on the impact of radiation on human health, as well as isotope analysis for the environmental sector.

A Post-Doctoral Fellow ATLAS ITk Upgrade position is available at iThemba LABS, supported by the National Research Foundation (NRF). One of the activities of iThemba LABS (<https://tlabs.ac.za/>) is to support the SA-CERN programme whereby South African researchers and postgraduate students participate in research at the Large Hadron Collider (LHC) at CERN. This Post-Doc is dedicated to the Phase-II Upgrade of the ATLAS experiments, specifically at the Inner Tracker (ITk). The Upgrade projects represent the cutting edge of novel technological development. In this case, First-of-a-Kind innovative new fibre optic sensor (FOS) technology is deployed in a harsh radiation environment to sensitively measure humidity, radiation dose and temperature in conditions of extreme dryness.

The successful candidate will participate in R&D, production and QA processes in the integration of these FOS sensors into ATLAS. There is an additional project related to the new ATLAS ITk Polymoderator. The work will be performed at the University of Johannesburg and also the University of Cape Town, however the candidate will be officially based at iThemba LABS within the Technology and Innovation Platform (TIP).

#### Key Responsibilities:

- \* Perform tasks in instrumentation according to the requirements of the Phase-II upgrade projects
- \* Liaise between colleagues in South Africa and CERN
- \* Assist in the supervision of graduate students involved in the Phase-II upgrade
- \* Participate in technology transfer activities pertaining to projects related to the Phase-II upgrade

#### Key Requirements:

##### Qualification:

PhD Engineering or Physics

##### Experience:

- \* 3 years' experience in any or combination of the following: Instrumentation, readout systems, electronics
- \* Significant travel required within the role

##### Knowledge:

- \* Good interpersonal communication, teaching and training skills
- \* Excellent analytical thinking and problem-solving abilities
- \* Good communication and team working skills
- \* Ability to work under pressure with minimum supervision

#### Information:

The website [www.nrf.ac.za](http://www.nrf.ac.za) provides more details on the NRF initiatives and activities.

#### Applications:

Applicants should submit a comprehensive CV by logging to <https://ess.nrf.ac.za/Account/Recruitment> and apply online. Applications should be accompanied by a letter of motivation indicating the applicant's suitability for the position. The names and contact details of at least three referees should be provided.

**Closing Date: 25 November 2022**

The NRF offers a challenging career and competitive remuneration package which is commensurate with qualifications and experience. The NRF is committed to employment equity and redress and the appointment to the position will be made in line with the NRF Employment Equity Plan.

The NRF reserves the right not to make an appointment.

Correspondence will be sent to short-listed candidates only