



University of Fort Hare  
*Together in Excellence*

# Postdoctoral Research Fellowship Position In Fort Hare Institute of Technology

## Postdoctoral Fellowship Solar Energy Technology (1 post)

This role is aimed at development and characterization of solar cell materials for solar energy applications. Other areas of interest will be aimed at advancing knowledge of perovskite solar cells within the research group. The research fellow will also be expected to explore materials characterization technique using correlative microscopy.

### Key performance areas:

- Develop promising nanomaterials for solar cell applications.
- Identify alternative cost effective fabrication techniques of developing these materials for renewable energy applications.
- Knowledge of perovskites will be a great advantage.
- In-depth analysis of spectral response patterns obtained from new materials (including perovskite solar cells).
- Materials characterization using correlative microscopy.
- Develop suitable model for the description and simulation of the materials structure.

### Minimum qualifications and experience:

- PhD in Physics, Electrical/Electronic Engineering, Chemistry or related field (obtained within the last five years).
- Extensive materials deposition and characterization skills.
- At least 3 years relevant experience and a track record of publishing research outputs.
- Knowledge of electronic-structure calculations and materials modelling at nanoscale will be an advantage.

### Expected outcomes:

- Minimum of 4 journal articles in DHET accredited journals per annum.
- Perform innovative independent research tasks.
- Mentoring of graduate students.





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To apply for the above position, please send a motivation letter, CV containing contact details of two academic referees who have taught/supervised/mentored the candidate, copies of educational certificates as well as ID copy to Prof E.L. Meyer [emeyer@ufh.ac.za](mailto:emeyer@ufh.ac.za) cc Dr C.C. Ahia: [achinedu@ufh.ac.za](mailto:achinedu@ufh.ac.za)

**CLOSING DATE: 20th May 2022**

### Postdoctoral Fellowship Bioenergy Engineering (1 post)

The role is aimed at research into bioconversion of wastes to value-added products. The research fellow will conduct research on, but not limited to the use of microbial fermentation processes with specific focus on biogas production. The key performance areas include:

- Theoretical and experimental studies on the methanogenesis of biodigesters.
- Investigation of suitable waste-based feedstocks for biogas production.
- Molecular characterization of mixed microbial consortia and identification of microbes responsible for methane production.
- Bioprocess modelling and optimization studies.

### Minimum requirements:

- Doctoral degree in Microbiology, Molecular Biology or related field (obtained within the last five years)
- A minimum of 3 years relevant experience in the abovementioned research areas
- A track record of publications in DHET accredited journals

### Expected outcome:

- Development of novel research
- A minimum of 4 publications in DHET accredited journals
- Mentoring of postgraduate students

Enquiries and details regarding this post, motivation letter, CV containing contact details of two academic referees who have taught/supervised/mentored the candidate, copies of educational certificates as well as ID copy may be directed to Dr. Y. Sukai via email: [ysukai@ufh.ac.za](mailto:ysukai@ufh.ac.za) Cc Prof E.L. Meyer [emeyer@ufh.ac.za](mailto:emeyer@ufh.ac.za)

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