



University of Fort Hare  
Together in Excellence

# 2023 POST-DOCTORAL RESEARCH FELLOWSHIP

## FACULTY OF SCIENCE & AGRICULTURE

A fulltime postdoctoral position is available in the Department of Physics, Faculty of Science and Agriculture, at the University of Fort Hare (UFH), Alice Campus, South Africa. The fellowship will enable an outstanding doctoral graduate to obtain experience of research and innovation at a higher education institution under the mentorship of established researchers. The fellowship is awarded on a competitive basis, considering the applicants' academic achievements, publication outputs and research potential, as well as the relevance of prior experience and expertise in Science and Agriculture. The fellowship is available for a period of one year.

### ELIGIBILITY CRITERIA

- Applicant must have completed doctoral degree within the last five years.
- Must have graduated with a PhD degree in Renewable Energy/ Applied Physics /Chemical Engineering /Environmental Engineering /Mechanical Engineering /Agricultural Engineering/Biotechnology.
- Should be an expert in Renewable energy systems encompassing Biogas technology, Pyrolysis and Biomass Gasification. The candidate must have knowledge of Hybrid system optimization and Mini-Grid designs. The knowledge in internal combustion engines will be an added advantage.
- Preference is given to Women, South African Citizens, and SA Permanent Residents.
- Successful applicants must be able to relocate to the UFH for the duration of the fellowship.

### THE SUCCESSFUL CANDIDATE WILL BE REQUIRED TO:

- Conduct innovative research on biogas yield optimization, purification, compression, and bottling.
- Model and simulate biodigester performance using Python or Math-lab
- Demonstrate relevant experience, understanding, of biogas digester and pyrolysis reactor designs.
- Contribute to the research productivity of the research group, postgraduate students as well as the Department of Physics.
- Publish a minimum of four (4) journal articles in DHET accredited journals per annum.

### VALUE OF THE FELLOWSHIP

- R300, 000 annual fellowship

### APPLICATION:

Please email the following documents to Dr Patrick Mukumba ([pmukumba@ufh.ac.za](mailto:pmukumba@ufh.ac.za))

- Motivation letter, including a 1-2-page outline of relevant expertise and experience.
- Full CV including a list of research publications.
- Full transcript of recent academic records and copy of doctoral degree certificate and any other relevant certificate.
- Copy of ID document (or copy of passport in the case of foreign applicants).
- Contact details of two academic referees who have taught/ supervised/ mentored the candidate.

### FOR ENQUIRES:

Please contact GMRDC: Email: [postdocs@ufh.ac.za](mailto:postdocs@ufh.ac.za) or [pmukumba@ufh.ac.za](mailto:pmukumba@ufh.ac.za)

**Closing Date: 30 November 2023**