



University of Fort Hare  
*Together in Excellence*

## **POST DOCTORAL RESEARCH FELLOWSHIP [PDRF] 2022**

### **Faculty of Science & Agriculture**

Two fulltime postdoctoral positions are available in the Department of Physics, Faculty of Science and Agriculture, at the University of Fort Hare (UFH), Alice Campus, South Africa. The fellowships will enable outstanding doctoral graduates to obtain experience of research and innovation at a higher education institution under the mentorship of established researchers. The fellowships are 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 physics. The fellowships are available for a period of one year but renewable depending on the performance of the post-doctoral fellow.

### **A: Postdoctoral fellowship (Wind Energy: WE1)**

#### **ELIGIBILITY CRITERIA**

- Applicant must have completed doctoral degree within the last five years.
- Must have graduated with a PhD degree in Physics/Renewable energy /Applied mathematics/ Mechanical engineering.
- Should be informed in modelling wind energy, and have knowledge of wind energy and performance optimisation. The knowledge of computational Fluid Dynamics (CFD) or MATLAB or PYTHON is advantageous or any other relevant software.
- 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 developing strategies of harnessing energy from low wind speeds.
- Assessing the wind energy potential using WASP or any other relevant software.
- 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



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**APPLICATION:**

- Please email the following documents to Prof G Makaka ([gmakaka@ufh.ac.za](mailto:gmakaka@ufh.ac.za)) and copy 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) and [gmakaka@ufh.ac.za](mailto:gmakaka@ufh.ac.za) or [pmukumba@ufh.ac.za](mailto:pmukumba@ufh.ac.za)

**Closing date:** 5 June 2022

**B: Postdoctoral fellowship (Biomass energy: BE2)**

**ELIGIBILITY CRITERIA**

- Applicant must have completed a doctoral degree within the last five years.
- Must have graduated with a PhD degree in Applied Physics/Renewable Energy/Agricultural Engineering/Chemical engineering/ or Environmental Engineering.
- Should be an expert in Renewable energy systems encompassing, Biomass (Biogas technology, Pyrolysis, Biomass Gasification) and Energy Storage Components. The candidate must have knowledge of hybrid system optimization and Municipal Solid Waste management. The knowledge of internal combustion engines and the use of AutoCAD 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:**



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- Conduct innovative research on biogas yield optimization, purification, compression, and bottling.
- Modelling and simulating biodigester performance using python and 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 Prof G Makaka ([gmakaka@ufh.ac.za](mailto:gmakaka@ufh.ac.za)) and copy 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:**

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