



## 2022 TUT POSTDOCTORAL RESEARCH FELLOWSHIP CALL X2

The Tshwane University of Technology intends to increase its research outputs and throughput of postgraduate students, strengthen supervision, and add onto its number of postdoctoral research fellows to significantly expand its research base. The University co-hosts with NRF-iThemba LABS a newly established Research and Development Platform in **Photovoltaic Nanocomposites**. The R&D Platform is looking for two (2) results-driven postdoctoral fellows to boost our research efforts in basic and applied research in the field of photovoltaics.

### Conditions of the funding for Postdoctoral Research Fellowships

- Fellowship funding may not be held concurrently with another fellowship from any other government sources (NRF, etc.) and any full-time salaried employment; and
- Postdoctoral fellows may hold non-binding supplementary grants or rewards to the institutional capped value.

### General eligibility criteria for Postdoctoral Research Fellowships

- Renewal of the fellowship for the second year will depend on performance and the availability of funds.
- Applicants must have obtained their doctoral degree within five (5) years of submitting an application.
- Postdoctoral Research Fellowships are open to South African citizens or permanent residents and foreign citizens, from the African continent and other countries, intending to undertake postdoctoral research at the Tshwane University of Technology.
- A proven track record of research publications in accredited or peer-reviewed journals.
- Applicants must attach certified copies of their identity document or passport, proof of their master's and doctoral qualifications, and for those who are still in the process of completing their doctoral degree, a letter of confirmation of completion of doctoral qualification from their institution.

### The Research Chair's research interests are:

- Environmental stability of polymer based perovskite solar cells (PSCs).
- Performance monitoring of photovoltaic systems.

### Minimum requirements:

- Doctoral degree in any of Physics, Chemistry or Engineering with a strong component of thin film materials research and/or semiconductor device characterisation.

### Preffered expertise:

- Experience in various thin film fabrication methods (spin coating, electron beam deposition, resistive heating, etc), and structural and optical characterisation thereof.
- Knowledge of ion beam techniques and experience with their application in materials modification and/or analysis.
- Experience with semiconductor device characterisation techniques using either LabView or MATLAB, or other similar data acquisition software.
- Experience with, or a willingness to learn and apply Machine Learning in these research areas is highly desirable.

### Value of fellowship

- R250 000 per annum (tax free)

### Duties and expected minimum outputs:

- Co-supervision of Postgraduate Diploma (PGDip) and Master of Applied Science (MAppSc) student projects.
- Two first-authored journal articles in DHET accredited journals.

If interested, please send your **latest CV** and a brief (one page) **research proposal** based on either of the two research interests listed above to: Prof Mandla Msimanga ([MsimangaM@tut.ac.za](mailto:MsimangaM@tut.ac.za)).

Contact telephone number: +27 (0) 12 382-6414

Closing date for applications: 11 March 2022