



#### **VISION**

##### **Shape and own the future**

To be a transforming, equitable, sustainable, and academically excellent University of Technology anchored in its communities.

#### **MISSION**

To offer technological, career-directed educational programmes focussing on the innovative problem-solving research and engage with government, business, industries and communities as end-users.

### **FACULTY OF APPLIED AND HEALTH SCIENCES**

#### **POSTDOCTORAL RESEARCH FELLOWSHIP**

(Investigating higher dimensional relativistic fluids in modified gravity theories)

#### **One-Year Fixed Contract**

The Faculty of Applied and Health Sciences, through the Research Directorate of Mangosuthu University of Technology is pleased to announce a Postdoctoral Research Fellowship for 2025/2026 on: “Investigating higher dimensional relativistic fluids in modified gravity theories”.

In this project we aim to generate new exact solutions to the Einstein-Maxwell equations in higher dimensions and investigate the dynamical behavior of the gravitating fluids. We furthermore intend to investigate the effects of higher dimensions in modified gravity theories. We study the consequence of higher dimensions on some physical phenomena such as studying the structure and mass of the stars.

#### **Key Performance Areas:**

- Publish manuscripts in reputable (DHET-accredited) journals and peer-reviewed conference proceedings.
- Assist colleagues pursuing their postgraduate research and/or collaborating with other research fellows.
- Assist in overall management and contribution to various activities of the research project.
- Ability to co-supervise relevant postgraduate research and/or collaborating with other postdoctoral fellows.
- Assisting in overall management and contribute to the various activities of the Research projects.

- Initiating, developing and/or being involved in research networks, collaborations, institutional partnerships, and the organization of research events.

**Minimum Requirements:**

- A PhD in Applied Mathematics (specializing in General Relativity/Mathematical Modelling/Differential Equations and Applications or any other related field) obtained in not more than past five years.
- Published at least two DHET-accredited journal articles in the above-stated specialist areas in the last 24 months.
- South African citizens and permanent residents will have priority, but the call is open to international scholars.
- International Postdoctoral Research Fellows must have a long-term visitor's visa endorsed for academic activities affiliated with MUT (Section 11(1)(b) Visitors Visa).
- Should not reside outside South Africa during this fellowship.
- Should not hold full-time permanent academic or professional employment during this fellowship.

**Competencies:**

- Excellent oral and written communication skills.

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**Stipend:** R300 000.00 per annum (tax-exempt)

Interested applicants should send (a) a motivation detailing the extent to which they meet the requirements of the position; (b) an application form (downloadable from [www.mut.ac.za](http://www.mut.ac.za)); (c) a Curriculum Vitae; (d) certified copies of academic qualifications plus academic records, proof of professional registration with a relevant professional body where applicable and copy of a valid driver's license. **(Please provide academic transcripts and SAQA evaluation certificate, if qualifications were obtained outside South Africa)**; and (e) names of three contactable referees to: Department of Human Resources and Development, via email: [hr@mut.ac.za](mailto:hr@mut.ac.za) copied [gumedeSC@mut.ac.za](mailto:gumedeSC@mut.ac.za)

Enquiries: Tel (031) 819 9278

**Closing Date: 22 August 2025**