



UNIVERSITY OF MAURITIUS

VACANCY

Post: RESEARCH ASSISTANT (Full-time)

Applications are invited from suitably qualified candidates for the post of **Research Assistant** (Full-Time), to work within the Pole of Natural Fibres & Bio Composites at the Faculty of Engineering under a project entitled “**SWOT analysis for the use of local biomass and agro-wastes as alternative materials for the replacement of petroleum-based plastics**”, for a contractual period of six (6) months. This project is fully funded by the **Ministry of Environment, Solid Waste Management and Climate Change (Environment and Climate Change Division)**.

Qualifications Required:

- BSc (Hons) Microbiology, or BSc (Hons) Applied Biochemistry, or BSc (Hons) Biotechnology, or BSc (Hons) Chemistry, or BEng (Hons) Chemical Engineering (Minors: Energy or Environmental Engineering), or BEng (Hons) Mechanical Engineering or BEng (Hons) Mechatronics Engineering.
- Good knowledge of chemistry (the candidate has to possess **at least grade B** in Chemistry as Main/Principal subject at HSC/‘A’ level).

Profile:

Candidates must have:

- Good communication skills including report writing.
- Knowledge of basic statistics and statistical analysis of experimental data.
- Relevant knowledge of cost analysis.
- Good interpersonal skills and ability to work in a team.
- Ability to work within agreed timelines and to communicate clearly and effectively.
- Willingness to acquire further knowledge/skills in current areas of competencies as well as to learn new concepts outside current areas of competencies.

Main Responsibilities & Duties

- Identify the range of biomass that can be used as a source of green material.
- Quantify the volume and time cycle for the availability of each type of biomass.
- Identify the range of single use petroleum-based plastics for which local substitute needs to be identified.
- Identify the pre-processing and treatment required to transform each type of biomass into an appropriate product.
- Develop a proper cost analysis for the manufacture of each type of product (this stage will be limited to one functional product).

- Identify the weaknesses/constraints as well as strengths, opportunities and threats (SWOT) for the use of local biomass for the development of the green materials. Carry out literature review in the related field of research.
- Extraction of fibres from different local plants and agro-wastes.
- To perform relevant main duties (such as collection of agro-wastes and plants from fields, fibre extraction, chemical & other treatments, Mechanical Engg testing, etc.).
- Perform tensile testing of fibres in the relevant lab at the University of Mauritius.
- Use of equipment such as FTIR at the University of Mauritius for testing purposes.
- Design, conduct and run experimental work to treat the fibres.
- Preparation of regular progress report as well as the final report.
- Assist in the presentation of results obtained.
- Attend seminars and workshops as deemed appropriate by the research team.
- Any other cognate duties as defined by the Project Leader.

Remuneration:

A monthly basic salary of Rs 27,400/-, plus travelling expenses, based on bus fares.

Duration of Contract:

Appointment will be offered for a contractual period of six (6) months. The proposed starting date will be **15th February 2023**.

Mode of Application:

Letter of application together with a detailed Curriculum Vitae and scanned copies of qualifications, birth certificate, testimonials and equivalence of qualifications (where applicable) should reach the **Dean of the Faculty of Engineering on the email address deanfeng@uom.ac.mu (Attention: Associate Professor H Ramasawmy) and copied to haree@uom.ac.mu by 27th January 2023, at latest**. The subject of the e-mail should be clearly marked "**Research Assistant for SWOT analysis for the use of local biomass and agro-wastes as alternative materials for the replacement of petroleum-based plastics**". Applications received after the closing date will not be considered.

The University of Mauritius reserves the right:

- to call for interview only the most appropriately and best qualified applicants.
- not to make any appointment as a result of this advertisement.
- to conduct a written/aptitude test as and when required.

16 January 2023

Dean of Faculty of Engineering