



## V A C A N C Y FOR THE POST OF RESEARCH ASSISTANT

Applications are invited from suitably qualified candidates for the post of *Research Assistant (Full-Time)*, to work full-time on the research project entitled “**A geospatial analysis platform for infrastructure climate risk assessment in Mauritius**” funded by the UK International Development for a contractual period of 17-months.

There are 3 roles available:

**Infrastructure Systems Analyst**

**Economic Impact Modeller**

**Geospatial Research Software Engineer**

Please specify which one you are applying for.

### **Project Context: The M-STAR Initiative**

Mauritius is increasingly vulnerable to the systemic impacts of climate change on its critical infrastructure. The Mauritius Systemic Risk Assessment Tool (M-STAR) project is a high-impact collaboration between the Université des Mascareignes (UdM) and the University of Oxford. The project aims to develop an advanced geospatial platform that maps physical climate hazards and simulates how infrastructure failures cascade through the national economy. By integrating engineering vulnerability with economic input-output modelling, the project will provide the Government of Mauritius with a "Single Source of Truth" to prioritise climate-resilient investments and protect the nation's GDP.

### **Qualifications Required**

- A Masters degree or higher in Civil Engineering, Geomatics, Environmental Science, Data Science, Physics, or a related field relevant to infrastructure resilience.

### **Profile**

This position is open to Mauritian Nationals only. Candidates must have:

- **Research and Communication Skills:** Proven ability to conduct stakeholder consultations and draft high-quality technical reports; prior research publications in the field of risk and vulnerability to infrastructures and/or geospatial analysis would be a distinct advantage.

#### A) Infrastructure Systems Analyst

- **Technical Domain Knowledge:** Sound knowledge of the concepts of infrastructure exposure and vulnerability; awareness of the use of climate hazard data (flooding, surge, landslides) in risk assessment. Knowledge of at least one infrastructure sector (transport, energy, water) in some depth.
- **Relevant Experience:** Previous experience in geospatial analysis (GIS), systemic risk assessment, or climate resilience modeling.
- **Coding & Software Proficiency:** Proficiency in the use of a scripting language (R, Python or similar) and willingness to learn and collaborate on reproducible code.

#### B) Economic Impact Modeller

- **Technical Domain Knowledge:** Sound knowledge of economic impact assessment, for example, through input-output modelling.
- **Relevant Experience:** Previous experience in systemic impact assessment, or climate risk modeling.
- **Coding & Software Proficiency:** Proficiency in the use of a scripting language (R, Python or similar) and willingness to learn and collaborate on reproducible code.

#### C) Geospatial Research Software Engineer

- **Coding & Software Proficiency:** Advanced proficiency in Python programming for data automation and algorithm development; experience or willingness to learn version control of source code (git); enthusiasm to develop open-source, reproducible software for modelling and analysis and build a strong research software engineering culture within the team.
- **Technical Domain Knowledge:** Sound knowledge of geospatial analysis; familiarity with writing software in a research environment would be an advantage.
- **Relevant Experience:** Previous experience in coding and geospatial analysis (GIS).

## Responsibilities & Duties

### A) Infrastructure Systems Analyst

- **Data Collection & GIS Digitisation:** Systematically collect and audit geospatial data from government sources, including hazard maps (flooding, surge, landslides) and infrastructure asset registries (roads, power grids, water networks).
- **Infrastructure Asset Characterisation:** Process and clean collected data to attribute specific characteristics to infrastructure layers, such as road surface types, drainage arrangements, and power plant capacities.
- **Adaptation Options Appraisal:** Help identify and evaluate the costs and benefits of various resilience measures, including traditional engineering upgrades and Nature-based Solutions (NbS).

### A) Economic Impact Modeller

- **Stakeholder Engagement & Requirement Mapping:** Conduct interviews and consultations with the 20+ identified Mauritian Ministries and Agencies to define specific "Use Cases" and technical requirements for the climate risk platform.
- **Systemic Impact Analysis:** Assist in analysing indirect economic impacts and business interruptions by integrating infrastructure failure models with Mauritian national economic input-output tables.
- **Investment Prioritisation & CBA:** Assist in calculating Benefit-Cost Ratios (BCRs) for infrastructure investments to help the Government of Mauritius prioritise "bankable" climate-resilient projects.

### B) Geospatial Research Software Engineer

- **Climate Risk Modeling & Testing:** Help develop and run open-source algorithms to calculate asset exposure and potential service disruption under various climate scenarios.
- **Regional Scaling Research:** Help identify and process global datasets for other Indian Ocean SIDS (Small Island Developing States) to assist in the development of the regional resilience platform prototype.

### C) All roles

- **Capacity Building & Technical Documentation:** Develop user manuals, documentation of datasets, and standard operating procedures (SOPs) to ensure the platform can be maintained by local stakeholders.
- **Project Continuity & Knowledge Sharing:** Maintain all code in shared repositories (GitHub) and data in a centralised "Single Source of Truth" to ensure total task redundancy and project continuity within the team.
- **Technical Support & Coordination:** Assist the Project Lead with workshops, seminars, and stakeholder meetings, and perform any other project-related activities and duties as may be assigned to support the successful delivery of the project.

### Remuneration

A monthly all-inclusive allowance of Rs 37,290 /-, which is inclusive of gratuity and End-of-Year Bonus. In addition, a fixed monthly local travelling allowance of Rs 2,710/- will be provided.

### Duration of Contract

The appointment is for an initial fixed-term, non-pensionable period of 6 months, within a total 17-month project cycle. Renewal for subsequent 6-month periods is strictly contingent upon satisfactory performance and the timely receipt of project funds from the University of Oxford.

### Mode of Application

Qualified candidates should submit their application via both physical mail and electronic mail

- Letter of application together with a detailed Curriculum Vitae and photocopies of qualifications, birth certificate, marriage certificate (if applicable), testimonials and equivalence of qualifications (where applicable) should reach The Registrar, Université des Mascareignes, Avenue de la Concorde, Camp Le Vieux, Rose Hill by **Friday 27<sup>th</sup> February 2026 at latest**.

The envelope should be sent by registered by post and should be clearly marked "Research Assistant (Infrastructure Systems Analyst, Economic Impact Modeller or Geospatial Research Software Engineer) for **A geospatial analysis platform for infrastructure climate risk assessment in Mauritius**" on the top left-hand corner. If you

wish to be considered for more than one post, please state this in your application letter.

- An advanced soft copy of the complete application should be emailed to the Registrar ([ksewpal@udm.ac.mu](mailto:ksewpal@udm.ac.mu)) with Dr Jay Doorga ([jdoorga@udm.ac.mu](mailto:jdoorga@udm.ac.mu)) in copy (CC).

Applications received after the closing date will not be considered. The University reserves the right:

- to call for an interview only the most appropriately and best qualified applicants;
- not to make any appointment as a result of this advertisement.

**Date: 11<sup>th</sup> February 2026**