

Full time PhD Scholarship under Royal Melbourne Institute of Technology (RMIT) - University of Peradeniya (UOP) Joint PhD Programme



Title: Integration of Satellite Soil Moisture, Remote Sensing and Slope Stability Modelling for Improved Landslide Prediction and Early Warning

Brief Description:

Landslides are a growing global and national threat, with climate change and human activities intensifying the frequency and severity of rainfall-induced slope failures. The devastating impacts of **Cyclone Ditwah in Sri Lanka in November 2025**, which triggered widespread flooding and landslides and affected millions of people, highlight the urgent need for more reliable and timely landslide forecasting and early warning systems. This PhD research will develop an **innovative, integrated landslide prediction framework by combining satellite-derived soil moisture, field monitoring, rainfall observations, LiDAR, SAR-based ground deformation measurements, and physically based slope stability modelling**. By moving beyond rainfall-only warning approaches and incorporating the critical influence of antecedent soil moisture and evolving ground deformation, the research aims improve rainfall-induced landslide prediction by integrating satellite soil moisture observations, field monitoring data, remote sensing, and physically based slope stability modelling. The project offers an exciting opportunity to advance cutting-edge geotechnical and remote-sensing technologies and develop practical tools that can contribute directly to **landslide risk reduction, infrastructure resilience, disaster preparedness, and the protection of communities in Sri Lanka and other landslide-prone regions worldwide**.

Supervisors:

- UOP supervisors: Prof.M.C.M.Nasvi, Prof.L.C.Kurukulasuriya
- RMIT Supervisor: Dr.Jasprit Pooni, Prof. Dilan Robert

Commencement date: May 2027

Features of the PhD:

- Duration of the PhD is 3-3.5 years on a full-time basis and the candidate will spend maximum period of one year at RMIT, Australia and the remaining time in Sri Lanka.
- The tuition fee is fully waived, and the selected applicant will be considered for the standard scholarships for living stipend during the stay in Sri Lanka and Australia.
- There will be at least one principal supervisor each from RMIT and UOP.
- Degree will be awarded from both institutions acknowledging the joint supervision. You will get two separate degree certificates, one each from RMIT and UOP.

Successful candidates should have the following:

1. BSc Engineering (Specializing in Civil Engineering) with Second Class Upper division or higher
2. IELTS overall band of 6.5 with each band above 6.0

We are looking for a dynamic candidate who meets the above qualifications.

If you are interested in this PhD research, apply via the following link on or before 25th September 2026

<https://forms.gle/M9AmbViH9343jJMe6>

Note: Only the shortlisted candidates will be called for the interview.

If you have any queries, contact Dr. Panduka Neluwala [Email: pandukaneluwala@eng.pdn.ac.lk]