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Coimbatore univ develops wireless tech to detect landslides

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COIMBATORE: Students of Amrita Vishwa Vidyapeetham University here have developed a wireless network system for landslide detection, in collaboration with European commission and Indian Space Research Organisation (ISRO).

"Landslides occur frequently in mountainous terrains, especially during monsoons but detecting them in advance is not an easy task,'' says Dr P Venkat Rangan, vice chancellor, Amrita university. An expert in wireless communication, Rangan led a team of students in developing the model that has become operational in Munnar town in Idukki district of Kerala.

The technological breakthrough system was developed as part of the research project WINSOC' (wireless sensor network with self-organisation capabilities for critical and emergency applications). Wireless panels with sensor nodes to read different parameters of the soil, like moisture, vibration and movement will be embedded 15 metres beneath the earth at different points, says Maneesha Ramesh, a faculty member, who was part of the project.

These sensors will be attached to a wireless transmission device, which will convert analog value into digital value and send the inputs to the base stations, which will be connected to Amrita mutt's Kollam campus. "Experts will be monitoring the inputs from the base stations in real time and any unusual behaviour or extreme value will trigger an alarm,'' says Dr Rangan. The fully tested model has become operational in Munnar. The system can be deployed in any part of the country prone to landslides and snow avalanches. Besides, the application could be put to industrial use for study of gas leakages or in conservation of forests by early identification of forest fires during summer.

As part of this project, representatives from various European partners like University of Rome, Selex Communications, Intracom Telecom, Czech Centre for Science and Technology have arrived at the Amrita University to learn about the first-ever wireless sensor network system for landslide detection.

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