Vice-Chancellor’s PhD Scholarships

# Non-Invasive Biomedical Sensor for Monitoring Glucose to Manage Diabetes

## School of Computing and Digital Media and School of Human Sciences

Diabetes is a major disease with significant side effects and complications resulting in shorter lifespans. Diabetes affects over 400 million people worldwide. The two modalities for monitoring glucose in the body are the finger-prick test and continuous glucose monitoring (CGM). Blood analysis based in the finger-prick test is widely practised but is invasive and painful. The constant need of piercing the fingers several times daily may lead to the development of finger calluses; furthermore, not everyone wants to give blood. CGM uses a microneedle-based sensor to monitor the glucose level in the interstitial fluid under the skin. CGM is fallible to infections, and it needs to be replaced every 3-7 days. The research project will investigate the development of an innovative non-invasive biomedical sensor for real-time measurement of the glucose level in the body. The proposed sensor will allow early detection of glycaemic excursions and timely adaptation by behavioural change or pharmacological intervention, while also being environmentally efficient.

Research area: Biomedical Engineering

* The minimum requirement for this scholarship opportunity is a good Honours degree (minimum 2(i) honours or equivalent) or MSc in a relevant discipline.
* Student must have skills in the following: Bio-Technology, Electronics, Artificial Intelligence (AL) and Machine Learning (ML).
* Open to Home/EU/International Applicants.

For informal enquiries about this position, please contact:

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