

PROJECT SUMMARY

Ref No.: MRIC/SISM-02/HW-15	Title: Building an innovative low-cost setup brain waves signal capture to study the effects of exercises on mental well-being
Local Institution: University of Mauritius	
Collaborating Institution: Ministry of Health and Wellness Trinity College Dublin	
Project Leader	
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Research Collaborators	
Name	Organisation
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TECHNICAL ABSTRACT	
This project will assess the effect of doing exercise on the brain wave for the promotion of physical and mental well-being in Mauritius. This is important given the high incidence of diabetes and cardiovascular diseases in the local population. The project is multidisciplinary using cross-cutting expertise in mechatronics, computing and health. First, a non-invasive and low-cost setup will be built using microcontrollers and other equipment. Next, the setup will be used to read the brain waves signal from a diverse sample of the local population who practice exercise. Finally, the collected data will be analyzed computationally to study various aspects of human cognition, performance, and well-being. Additionally, the use of artificial intelligence to correlate the brain waves signals with physical and mental health will be looked into.	



The goal of the project is to consolidate the fact that exercise has a positive effect on mental health. Studying brain waves can provide objective measures of the psychological benefits of exercise, helping to understand how physical activity contributes to stress reduction, mood improvement, and overall well-being.

Key Words: Artificial Intelligence, Physical and Mental Health, brain waves, exercise, EEG caps, machine learning/deep learning