UQ Summer or Winter Research Project Description

Please use this template to create a description of each research project, eligibility requirements and expected deliverables. Project details can then be uploaded to each faculty, school, institute, and centre webpage prior to the launch of the program.

Project title:	**Isolation and characterization of human dental tissue derived stem cells**
Project duration, hours of engagement & delivery mode	6 weeks and the applicant will be required on-site (30 hours per week) for the project.
Description:	Stem cells possess a remarkable capacity for proliferation and differentiation into various cell types. Nowadays, although multipotent mesenchymal stem cells (MSCs) derived from bone marrow are among the best known and characterized cells for tissue engineering, invasive isolating procedures from the bone marrow and age-related regenerative capability impede their useful aspects. Therefore, several alternative tissue origins such as skeletal muscle, dental tissues, and adipose tissue have been used to harvest stem cells. Teeth are extracted for various reasons such as impacted third molars and collecting the extracted teeth does not require additional procedures. In addition, deciduous teeth are naturally exfoliated. Therefore, dental tissues are potential source of stem cells. Nowadays, a variety of dental tissue derived stem cells have been isolated including dental pulp stem cells, stem cells from the apical papilla, periodontal ligament stem cells, and dental follicle stem cells. In this project various isolation techniques will be used for harvesting various dental tissue derived stem cells and then characterizing them for future regenerative applications.
Expected outcomes and deliverables:	Scholars may gain skills in experimental design, data recording, be involved in specific tasks, or have an opportunity to generate publications from their research. Scholars may be asked to produce a report or oral presentation at the end of their project. Please note that the project might vary depending on circumstances.
Suitable for:	This project is open to applications from 3rd - 4th-year students with a background in Biology Science, or Biomedical Engineering, or Dentistry.
Primary Supervisor:	Dr Sepanta Hosseinpour
Further info:	Please contact Dr Sepanta Hosseinpour (s.hosseinpourdougolsar@uq.edu.au) for any matters.