

Faculty of Engineering

Summer Research Program 2022-2023

Project Title: Whisker-inspired tactile sensing for surface exploration

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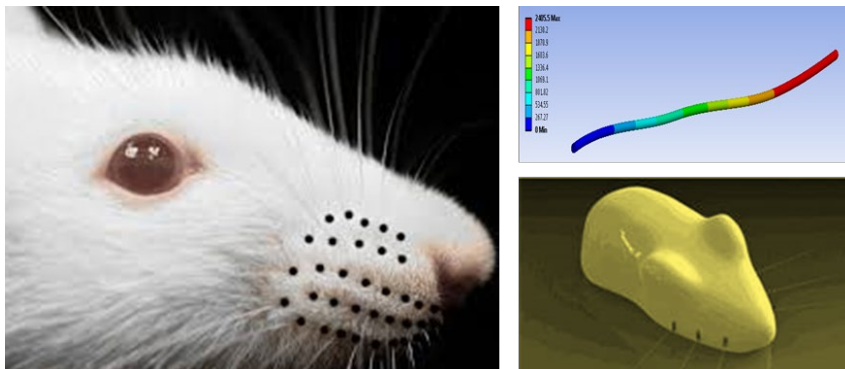
Website profile of project supervisor: <https://research.monash.edu/en/persons/jing-fu>

Objective

Design and prototyping of a unique tactile sensor with future applications in robotics and medical diagnosis.

Project Details

Animals such as rats use their whiskers (vibrissae) for sensing. These tactile detectors are actively moved to contact the target surface, and the information acquired can be fed to neurons then to the brain. There have been increasing research in recent years to replicate the whisker sensing by constructing artificial tactile sensor system. Advantages include high sensitivity, independent of lighting and the possibility to be miniaturized. This project will employ the whisker concept to design and prototype the sensing approach to detect different surfaces. Tasks include literature review, prototyping of high-sensitivity artificial whisker and testing on various categories of surfaces.



Prerequisites

Background or interest in mechanical, mechatronic or biomedical science. Candidate will have opportunity to work on state-of-the-art instruments in Clayton Campus.