

Actuators for Wearable Robotic Applications

Record number : OPR-163

Overview

RESEARCH DIRECTOR

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Information

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ADMINISTRATIVE UNIT(S)

Faculty of Engineering
Department of Electrical and Computer Engineering
Department of Mechanical Engineering
Interdisciplinary Institute for Technological Innovation

LEVEL(S)

Master's degree
Ph.D.
Postdoctoral Fellowship

LOCATION(S)

Createk et 3IT

Project Description

This project aims to develop a very lightweight actuation technology to enable new wearable robotic applications. Current wearable robotic systems are too heavy and bulky to be useful in most potential applications. Like vehicles, robots could benefit from variable transmissions (multiple gear-ratios) to minimize motor size and maximize efficiency, which would minimize the mass a user needs to bear.

This research project aims at investigating the design and control of a hydrostatic actuation system, with discrete operating modes that lead to many possible transmission ratios, which has the potential to be much lighter than traditional actuator systems. Two sub-projects are available for MS/PhD thesis. Students will join a dynamic team working on robotic projects in the Createk research group.

Discipline(s) by sector

Natural Sciences and Engineering

Electrical Engineering and Electronic Engineering, Mechanical Engineering

Funding offered

Yes

The last update was on 24 November 2020. The University reserves the right to modify its projects without notice.