

Swimming-Robot design and path identification

PROJECT DESCRIPTION

According to the hydrodynamic model, we will develop an efficient statistical tool to assist in the control and design of smart-ball (swimming-bot) operations through the pipelines. First, we consider sensors which are needed for in-pipe inspection devices: those related to navigation and those related to the detection of problems inside the pipe. The first ones are common to other robotic domains, namely, gyroscopes, odometers, and vision-based navigation. We want to develop robust and accurate positioning and path reconstruction algorithm from the measurements of gyro and acceleration. In particular, the issue of drift and systematic design of accurate localization of features in the pipeline is of interest in this project. Both student will work on robotics and data aspects of the project as a team, while one will be more involved with data processing, other will be involved on swimming robot (hardware, software, internal elements, 3D printing and realization of the swimming robot).

FACULTY-DEPARTMENT

Engineering - Chemical and Materials

OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS

Chinese universities participating in the [*Double First-Class Initiative*](#).

DESIRED FIELD OF STUDENT STUDY

Automation, Navigation, Electrical engineering, Mechanical

INTERNSHIP LOCATION

Edmonton Campus

NUMBER OF INTERNSHIP POSITIONS

2

INTERNSHIP DATES

Start: July 20, 2019

End: October 20, 2019

ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.