Vision-based control of Unmanned Vehicle Systems

PROJECT DESCRIPTION

The project involves using various types of computer vision and other on-board sensors to guide and estimate the motion of a mobile robot (ground or aerial). The methodology involves implementation and experimental testing using open-source development environment.

FACULTY-DEPARTMENT

Engineering - Electrical and Computer Engineering

OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS

Chinese universities participating in the *Double First-Class Initiative*.

DESIRED FIELD OF STUDENT STUDY

Embedded Systems, Computer Vision, C/C++ Programming, Robotics, Control Theory

INTERNSHIP LOCATION

Edmonton Campus

NUMBER OF INTERNSHIP POSITIONS

2

INTERNSHIP DATES

Start: July 2, 2019

End: October 2, 2019

ARE THE DATES FLEXIBLE?

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

Development of bio-preservation method using food-grade bacterial on diary product against food-borne pathogens and spoilage organisms

PROJECT DESCRIPTION

Spoilage by yeasts and fungi is a major contributor to food spoilage and food waste; yeasts and fungi are particularly relevant as spoilage organisms in fermented dairy products. In addition, myxotoxin formation during storage of raw agricultural products or during food storage is a significant safety concern for food. Concerns related to fungal resistance to fungicides, fungicides residues, and the use of chemical preservatives in food necessitates the use of alternatives means of controlling growth of yeasts and fungi by biopreservation.

Food-grade bacteria have a long history of being used as food preservation reagents. This project aim to select strains and application based on the diversity of antibacterial and antifungal compounds identified previously, the feasibility of using a mini cheese model for challenge trials, and whether in vitro antifungal activity can be used as reliable predictor of the antifungal effect in situ. The student will participate the following experiments: (i) comparison of the antifungal effect of adjunct cultures in different type of cheeses; (ii) evaluation of antifungal effect of adjunct or fermentation cultures in other dairy fermentations, particularly yoghurt; (iii) assessment of the effect of antibacterial adjunct cultures against clostridia responsible for late-blowing of cheese, and against Escherichia coli contributing to the early-blowing defect of cheese.

FACULTY-DEPARTMENT
Agriculture, Life and Environmental Sciences – Agriculture, Food and Nutritional Science
OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS
Chinese universities participating in the *Double First-Class Initiative*.
DESIRED FIELD OF STUDENT STUDY
Food microbiology, food chemistry or related fields
INTERNSHIP LOCATION
Edmonton Campus
NUMBER OF INTERNSHIP POSITIONS
1
INTERNSHIP DATES
Start: Student can start after April 30, but preferably earlier End: 3 months after start day
ARE THE DATES FLEXIBLE?
Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.