

Chiral Spintronics

PROJECT DESCRIPTION

Spintronics is an active frontier of device electronics, where the goal is to use electron spins to realize various device functionalities. Spintronics has been hugely successful in the area of information storage and sensing. A significant global effort is underway to utilize spins in the area of information processing - classical or quantum.

Very recently, it has been discovered that chiral molecules can play a significant role in spintronics and they can act as very efficient spin injectors and detectors. This effect is commonly dubbed as CISS or "Chirality induced spin selectivity" and has generated significant interest in recent years. Our group has also made significant contributions in this area. The purpose of this project is to explore this area further using various experimental techniques.

The student will work closely in the in-house nanofabrication facility ("nanofab") and various other on-campus research facilities. Experience in device synthesis using chemical means is desirable for this position. Basic understanding of device physics is also desirable.

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

Basic knowledge of nanofabrication, device physics, electrical measurements

INTERNSHIP LOCATION

Edmonton Campus

NUMBER OF INTERNSHIP POSITIONS

1

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.