

Chiral Spectroscopy of Small Chiral Drug Candidates

PROJECT DESCRIPTION

This project involves research in the Xu Group centers on chirality and chirality recognition. The group is equipped by various chirally sensitive spectroscopic instruments such as a FT-vibrational circular dichroism spectrometer, a Raman optical activity spectrometer, and high resolution spectrometers in the mid-infrared and microwave region. For the UARE program, we are interested in determination of absolute structures and conformations of small chiral drug candidates in solution and in the gas phase using the available instruments complemented with theoretical modeling. The intern will work with other members to examine the possible structural changes from the gas phase to solution and to understand their potential implication. The mechanism of the structural changes from the gas phase to solution will be examined through analyses of induced solvent chirality transfer signatures and also through spectroscopic characterization of sequential solvation of a chiral drug. The intern will also gain a comprehensive understanding of the utility of different types of chiral instruments and the associated information obtained from them and of how to unify these data sets to extract a general picture of solvation of chiral drugs.

FACULTY-DEPARTMENT

Science- Chemistry

DESIRED FIELD OF (STUDENT) STUDY

A senior chemistry or physics undergraduate student

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

1

INTERNSHIP START DATE

July 4 (Flexible)

INTERNSHIP END DATE

3 months after start date

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
University of Alberta International
intern@ualberta.ca

ARE THE DATES FLEXIBLE?

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