

Structural and immunological mimics for protein misfolding diseases.

PROJECT DESCRIPTION

Misfolded proteins are the underlying causes for Alzheimer's disease, Parkinson's disease, and the prion diseases. Recent insights into the structures of these misfolded proteins allowed us to design structural and immunological mimics for these pathologic proteins.

The proposed project will use protein engineering approaches to improve existing structural mimics, express them in *E. coli*, purify the resulting proteins, and characterize them using a variety of techniques (SDS Page, Western blotting, electron microscopy, etc.). Successful constructs that adopt the desired protein fold will be tested in laboratory rodents for their ability to elicit a conformation-specific immune response.

FACULTY-DEPARTMENT

Faculty of Medicine and Dentistry - Biochemistry

OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS

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

DESIRED FIELD OF STUDENT STUDY

Biochemistry, Molecular Biology, or Neuroscience

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.