### 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.