

# Next Generation of Clean Pipeline Technology

## PROJECT DESCRIPTION

This is a multi-university interdisciplinary project to finalize the development of a new pipeline technology for transport of bitumen and oil products at a lower cost and environmental footprint across Canada. Using a gradual variation of the pipe cross-sectional shape in pre-set spacing, we intend to induce “Large-Scale-Motion (LSM)” and “Very-Large-Scale-Motion (VLSM)” in the flow. These result in lower pressure drop, higher mixing and axial flow rate, as well as lower wall friction. This project will explore the design modifications to address Canada’s energy transport needs using CFD simulations based on different turbulence modeling techniques.

## FACULTY-DEPARTMENT

Engineering - Mechanical Engineering

## OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS

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

## DESIRED FIELD OF STUDENT STUDY

Fluid Mechanics, Computational Fluid Dynamics (CFD), and Numerical Methods

## INTERNSHIP LOCATION

Edmonton Campus

## NUMBER OF INTERNSHIP POSITIONS

1

## INTERNSHIP DATES

Start: July 1, 2019

End: September 1, 2019

## ARE THE DATES FLEXIBLE?

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