

# **ENSC USRA invitation –summer 2021: New Protocol for IoT for Linear Physical Topology**

## **Supervisor**

Dr. Daniel Lee, PEng., Professor  
Tel. 782-7039, email : dchlee AT sfu.ca  
Office hours: Tue 12:30P – 1:30P

For the Internet-of-Things (IoT) application, low energy consumption and long battery life are important qualities to consider in designing and operating wireless networks. For many specific applications, a specially designed network protocol can be much superior to existing standards of wireless network protocols in terms of energy efficiency, performance, and reliability.

This project will analyze an innovative wireless network protocol specially designed for nodes that have physically linear configuration. We aim at implementing the wireless network protocol with software/hardware, and eventually experimenting with the system of network nodes.

Learning objectives and choice of tasks will be adjusted to the backgrounds of the student participating in this project. Example learning objectives include:

- 1) Simulation of network performance for different design choices
- 2) Implementing a network protocol with a programming language
- 3) Experimenting with network hardware nodes and analyzing performance

The student will have a weekly meeting with the supervisor (Prof. Daniel Lee) in person and report the progress of the project and learning. The supervisor will direct/advise the student's activities.