

1/ Target Students

Three ECE senior year students with CGPA 3.0 or above

2/ Duration & Period

A minimum of 4 weeks up to 6 weeks between June and July

3/Content

During this period, City U students will work by group on projects resolutions, like internships, in complete lab immersion, under the supervision of a researcher.

Topics for 2019 Summer:

Topic 1: "The Theremine"

Quota: 1

It is well known that Electromagnetics can interact with human body and that physical movement can change the phase and amplitude of incoming Radio Signals.

Several music instruments have been developed in the past to exploit this phenomenon, with the most successful example being the electric guitar.

Other instruments, like the Theremine

(https://www.ted.com/talks/pamelia_kurstin_plays_the_theremin?language=fr),

were developed in the 60s to exploit electromagnetic wave modulation to make music instruments.

The study will be devoted to the development of a Theremine, working together with a French undergraduate student.

The HK-France student will team together on the fabrication of the electronic part of the instrument.

Topic 2: "Mechanical systems for synthetic aperture imaging and antenna measurement."

Quota: 2

Xlim's antennas and signals team is looking for two trainees to study mechanical systems used in the field of electromagnetism, with targeted applications in antenna characterization and radar imaging.

These activities will include CAD modelling, system design, and control of electric motors using programming tools.