UNDERGRADUATE

RESEARCH & LAB JOB FAIR

HOSTED BY ECE

Project student will be supporting:

Effects of space weather on GPS signals

Sponsor:

Prof. Josh Semeter

Hours per week:

Spring 2026: 5 to 10 hours/week; Summer 2026: minimum 20 hours/week; Fall 2026: 5 to 10 hours/week

Paid?

Pay possible after initial evaluation of fit to the project.

Job description:

70 km to 1000 km altitude above the Earth. As an electrically conducting medium, the ionosphere interacts with radio-frequency signals passing through it, impacting the performance and reliability of Global Navigation Satellite Systems (GNSS) such as GPS. One strong indicator of GNSS disruption is the auroral borealis. Our lab is using combined measurements by GNSS receivers and auroral cameras to better understanding how ionospheric dynamics affect GNSS operations, and to develop strategies to mitigate these effects.

Qualifications:

We have two potential projects, both requiring an interest in programming. One project involves developing smartphone apps to analyze GPS signals received by an Android device. A second project involves developing software tools to analyze a 20-year database of images of the aurora-borealis recorded from Alaska and Canada.