

Department of Physics and Astronomy Colloquium Series

Tuesday, November 7th, 2023, 2:30pm in PSE 317

Speaker: Regina S. K. Lee

Institution: York University

Title: Space Domain Awareness – Resident Space Object (RSO) Detection and Identification

Abstract:

Space systems play an important and integral role in every facet of our daily lives, including national security and resource management. Therefore, it is critical to protect our valuable assets in space and build resiliency in space systems. In recent years, the growing numbers of RSOs have become a significant concern worldwide. In the last few years, we have examined a novel approach to build space resiliency through space domain awareness (SDA-continuous monitoring of conditions and threats in space) in partnership with various government and industry partners. In order to realize the benefits of a low-cost, large networks of small satellites, we are examining key areas of technologies specifically to enhance SDA capabilities. In particular, we propose to use commercial grade star-trackers for space-based detection, tracking, identification and characterization of RSOs, including natural/artificial, friendly/adversarial space assets, debris, near-Earth asteroids, space-related threats, and space hazards.