

Project Title: Development of Layered Polymer Nanocomposite with Graded Cellular Structures for Absorption Dominated EMI Shielding

Project Description: As our reliance on wireless communication, radar systems, and electronic devices continues to expand, so does the need for efficient management of electromagnetic interference. Electromagnetic wave absorbers play a critical role in mitigating this interference by selectively absorbing and dissipating electromagnetic radiation, thus enhancing signal clarity, reducing noise, and improving overall system performance. Furthermore, in fields such as aerospace and telecommunications, where high reliability and efficiency are required, the development of advanced absorbers capable of operating across a wide range of frequencies is critical. By addressing these challenges through innovative nanocomposite materials, we can pave the way for enhanced technological capabilities and advancements across numerous sectors.

Currently 2 positions are available at the Microcellular Plastics Manufacturing Laboratory (MPML) for MEng students interested in contributing to the cutting-edge field of advanced nanocomposites. This project focuses on the development of nanocomposites with a selective capability for absorbing electromagnetic microwaves. As part of this project, students will engage in synthesizing, characterizing, and testing these nanocomposites to enhance their absorption properties. This hands-on experience will provide valuable insights into materials science and engineering, as well as opportunities for innovation in this increasingly important area of technology. There is also great potential for publication of scientific papers in respected journals within the field.

Supervisor: Prof. Chul Park

Application: Please submit your CV and a single paragraph describing your interest in the project in one file within a single email to Prof. Chul Park (park@mie.utoronto.ca) and Dr. Meysam Salari (meysam.salari@mail.utoronto.ca). Shortlisted applicants will be contacted thereafter.

Start Date: Immediately