Visualization of Plastic Foaming Process in Injection Foam Molding
Faculty advisor: Prof. Chul Park
Cell nucleation and bubble growth are the most important steps governing the ultimate morphology and properties of foamed plastics. The goal of this research is to investigate fundamental mechanisms of cell nucleation and bubbles' dynamics in foam injection molding by means of in situ visualization methods. Furthermore, foam microstructure formation and evolution will be mathematically modeled to simulate the phenomena during the mold filling stage in different foam injection molding techniques. A better understanding of aforementioned mechanisms will significantly help in determining the optimum processing conditions which will lead to the most appropriate microstructure for desired applications.
Contact: Dr. Vahid Shaayegan vahidsh@mie.utoronto.ca