Western Engineering

Chemical & Biochemical Engineering

M.Eng Research Project

Project title:	Modeling of squeeze (compression) flows for rheology
Starting date:	Open
Supervisor(s):	Andrew Hrymak
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Brief description:	This project will include a literature review and CFD simulation using OpenFOAM, Moldflow or Moldex3D of a thermoplastic compression molding system at the Fraunhofer Innovation Platform for Composites. The goal is to find the limitations of a technique to measure rheology using compression molding machine data to capture the effects of long fibers which are not possible to capture in lab-scale rheometers. Reference: Kalaidov et al (2019) https://speautomotive.com/wp-content/uploads/2020/12/Viscosity-Measurement-Technique-for-Long-Fiber-Thermoplastic-Material.pdf
Objectives:	Develop a model and simulation capability that would allow for the estimation of rheology of long fiber thermoplastics.
Required knowledge:	Fluid mechanics, heat transfer, some experience with CAE/CFD software. Polymer processing course or experience would be helpful but not required as there are opportunities to work with the equipment to gain experience.

If interested, please contact the supervisor of the project directly for an interview.