Western Engineering

Chemical & Biochemical Engineering

M.Eng Research Project

Project title:	Modeling of thermoplastic melt pultrusion
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 of a thermoplastic melt pultrusion die system at the Fraunhofer Innovation Platform for Composites Research taking into account rheology, fluid mechanics, heat transfer and multiple phases (polymer and reinforcing fiber). References Minchenkov et al, Polymers 2021, 13(2), 180; https://doi.org/10.3390/polym13020180 N Poppe, M Wilhelm, L Kärger - Proceedings of the 2023 International Conference on Composite Materials, 2023
Objectives:	Develop a model and simulation capability that would allow for the design and optimization of pultrusion dies of various shapes.
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.