



Mechanical & Industrial Engineering
UNIVERSITY OF TORONTO

Thesis Projects (MIE498 H/Y) 2018–2019

Title/Topic: Development of computational models for scaling up of sponge-based wastewater filtration system

Description:

Oil & gas industry suffers from lack of effective wastewater remediation technologies. The cost-effective treatment and oil recovery technologies could minimize the environmental and economic impacts of the oil field effluents. We have recently developed an innovative sponge-based filtration system to meet these requirements. In this project, the team will write programs and optimize the design of sponge systems using MATLAB and COMSOL to help oil industries with efficient water cleanup. Based on individual's performance, the members of the team will also have the opportunity to travel to Nova Scotia to test the prototype system developed using computational models. The team members should have prior skills in 3D CAD, programming, and simulation software, such as SolidWorks, MATLAB, COMSOL, and ANSYS.

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