Western Engineering

Chemical & Biochemical Engineering

M.Eng Research Project

Project title:	Monitoring coffee roasting
Starting date:	September 2026
Supervisor(s):	Lauren Tribe
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Brief description:	Green coffee beans are roasted before they are brewed into coffee. For most coffees, the roasting profile is developed through trial and error using temperature measurements and sampling to examine bean colour. Most roasts are stopped between the first and second cracks which are audible to the operator. The acoustic emissions from the roast can be measured with a data acquisition system and microphones. The recorded acoustic signal can be processed to extract information about the roasting process.
Objectives:	The objectives include recording acoustic signals during green coffee bean roasting followed by analyses of the signals to identify correlations with bean properties. Development of an acoustic profile will enhance monitoring of beans so that the quality of roasted beans is more reliable and repeatable.
Required knowledge:	Knowledge of MATLAB would be an asset. Interest in the coffee and/or food processing industry.

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