



MIE498H1: Research Thesis 2023-2024

Supervisor	Andreas Mandelis
Supervisor email	mandelis@mie.utoronto.ca
Number of Positions	1 or 2
Open to	Undergraduate Mechanical Engineering Students
Term Offered	Full-Year (Y)
Research Area	Bioengineering
Research Topic	Near infrared blood oxygenation of biomaterials and tissues for disease diagnosis using differential wavelength modulated thermophotonic imaging

Project Description

We are developing a new biomedical imaging modality to generate high sensitivity images of blood oxygenation under body circulating conditions so as to be able to monitor hypoxia in blood rich vessels and tissue sites as a hallmark of malignancy. A laser excitation source and an infrared camera will be used for the imaging. One or two 4th year thesis student(s) will work with our Research Associate to help test and optimize the setup in anticipation of further research projects.

Additional Information

For more information, consult <https://cadipt.mie.utoronto.ca>, Prof Mandelis (mandelis@mie.utoronto.ca), Dr Damber Thapa (damber.thapa@utoronto.ca)

Application Instructions

Submit agreement to undertake the project to Prof. Mandelis (mandelis@mie.utoronto.ca) and Dr. Thapa (damber.thapa@utoronto.ca) provide a copy of unofficial transcript