Project: **Thermal Engineering of Integrated Photonic Devices**

Supervisor: Dr. Andy Knights

Contact: aknight@mcmaster.ca

Description: The current power consumption of integrated semiconductor devices is placing a severe strain on the deployment for applications in AI, Quantum computing and communications. New and innovative approaches to limit the consumption of power is thus required. This project will investigate new materials (compatible with existing platforms) which respond with greater efficiency to thermal drivers, and dissipate thermal power more effectvely. Working with members of the Knights group, the student will fabricate and test silicon, and silicon nitride waveguides which have been engineered with increased thermo-optic response.