

Faculty of Engineering

Summer Research Program 2022-2023

Project Title:

Rainbows on Demand – Designing Novel Photonic Microcombs

Supervisor(s): Dr. Bill Corcoran

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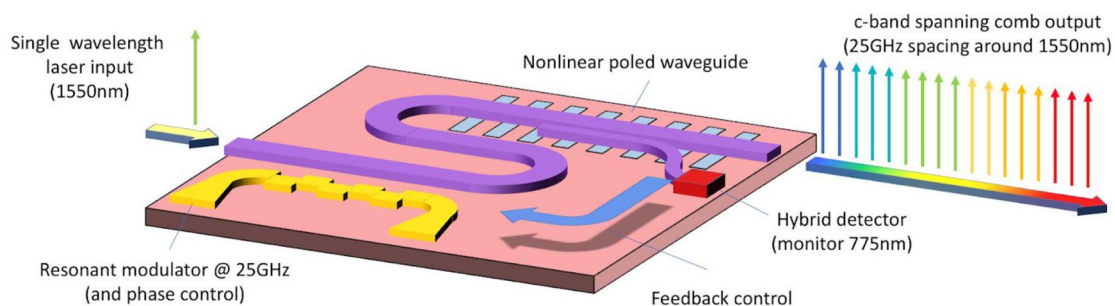
Website profile of project supervisor: monash.edu/engineering/billcorcoran

Objective

Optical frequency combs are a key building block in a wide range of photonic systems, including sensing, spectroscopy, quantum information, precision timing and ultra-high speed optical communications systems. Micro-combs are optical frequency combs generated from micro-scale photonic devices, to take devices that are currently bench sized down to a micro-chip scale.

Project Details

You will create numerical simulations of the generation of optical frequency combs in micro-scale photonic-chip-based devices. These will use established theory and be adapted to take into account real-world device parameters. This work will then feed into ongoing funded research.



Prerequisites

Applicants with some experience in numerical modelling (e.g. using MATLAB, Python, etc.) will be preferred.

Additional Information

If shortlisted, you will be required to attend an interview, to make sure that the project is a good match for you.