Fabrication of InGaAs/InP based single photon avalanche detectors optimized for high efficiency at near infrared

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Project Type:	*Master/Semester Project*
Location:	*Microcity, Neuchatel*
Start Date:	*Flexible*

Description:

The goal of the project is to demonstrate efficiency improvement at wavelengths below 900 nm by comparing the single photon efficiency spectrum of two InGaAs/InP SPADs with and without substrate. For this purpose, student should fabricate these devices in CMi (Center of Micronanotechnology) by following various photolithography, etching, metallization and thinning processes. Following the fabrication, devices should be placed on a PCB and characterized for their photon detection efficiency. The student will have a chance to experience/perform all of the fabrication process of a single photon avalanche detector from scratch and set up an experiment to analyze the performance of the detector.

This project can be adapted as a semester or Master project.