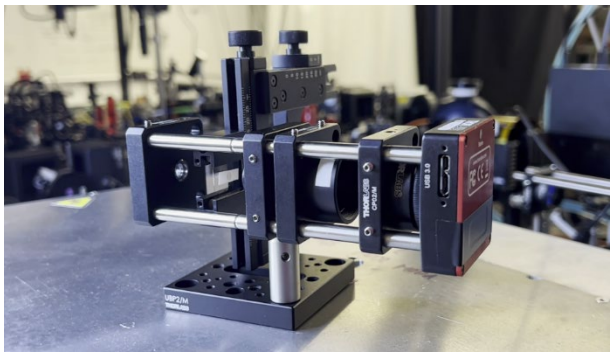
Student projects

Are you ready to embark on a journey at the forefront of technology and innovation? At SecondWave Photonics we want to build the most compact spectrometer that can analyze light with high accuracy. Our technology is based on a nanostructured material developed in the Optical Nanomaterial Group that can transform a normal CCD camera into a visible and infrared spectrometer. This project is funded by a BRIDGE Proof of Concept grant to evolve the technology into a marketable product. As a master thesis candidate (or semester student) you will have the opportunity to collaborate on the project in the areas listed below.



1) Infrared spectrometer prototyping and testing.
    - Design and build different prototype spectrometers (free space optics, fiber optics)
    - Conduct optical measurements with different light sources (CW laser, Pulsed laser)
    - Automatize set-up and data analysis (Python programming)

    Preferred background physics or electrical engineering.

2) Photonic nanostructured layer fabrication and analysis:
    - Fabricate different nanostructures (assembling in a chemistry lab).
    - Characterize the structure (profilometry, SEM)
    - Measure the light transport properties (photoluminescence, total transmission)

    Preferred background physics or material science.

If you do not fit in one of these two profiles but you are still interested or for any inquiry about the project, contact Dr. Andrea Morandi at morandia@phys.ethz.ch or Dr. Alfonso Nardi at anardi@ethz.ch.

Join us in shaping the future, today!