

Information research group of Nonlinear Photonics
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Offers of Master's, doctoral and postdoctoral projects

Students are welcomed to my research group. My current team is composed of more than 25 people with background in photonics, physics, computer science, material science, focused on solving critical problems across different industries such as Artificial Intelligence (AI), quantum communications, and imaging. As a student in my group you will leverage your technical and communication skills to help push our scientific and engineering efforts in collaboration with our international partners both from academia and industry. Specific topics of research and development relate to experimental and theoretical quantum optics, signal processing and applied machine learning for telecommunication applications, terahertz science for medical imaging and next generation communication networks.

Characterization services from the infrastructures and research platforms

The nonlinear photonics research group infrastructure enables scientific experimentation in disciplines such as quantum optics, metrology, nanophotonics and biophotonics, terahertz (THz) science and, of course, nonlinear optics using free space, fiber and integrated optical components and devices. The infrastructure comprises state-of-the-art systems and devices like for example:

- Superconducting Nanowire Single Photon Detector Systems,
- Solid state and diode pumped optical parametric oscillators and amplifiers,
- Several fiber lasers from Pritel,
- Menlo Optical Comb,
- Characterization systems including autocorrelators, FROG and SPIDERS for temporal characterization, high speed detectors (both optical and RF), ultrafast oscilloscopes and spectrometers, state of the art IR cameras, etc.,
- Privileged access to state-of-the-art microfabrication infrastructure.

Initiatives of interest

High-record of collaboration with the industry including a spin-off company of the research group.

The research group is also pushing for the development of new spin-offs in the fields of AI for telecommunication, terahertz science, medical imaging, with privileged access to incubators and startup entrepreneurship programs.