



Active plasmonic nano-antenna devices

PhD/MSc research project

The Challenge:

Nano-Antennas are tiny metallic nano-structures which interact with light in a very similar manner to their RF counterparts. In contrast to conventional optical elements, the properties of nano-antennas (NA) can be modified and tailored by adjusting their geometry and shape. Their unique properties render NA highly attractive for numerous applications ranging from solar power harvesting and beam shaping to sensing and 3D holography. The development of plasmonic NA components and devices is the cutting edge of current and future research in nano-photonics.

The next big challenge in NA devices is to envision, develop and demonstrate an approach for obtaining *dynamic* NA devices, allowing for electrical/optical control over their properties. This is an enabling technology which can open up new avenues for numerous applications and scientific research. Full financial support will be given to suitable candidates.

The Objective:

- Take part in a truly multidisciplinary research combining nanotechnology, light-matter interaction and photonic devices and applications.
- Develop new approaches for active plasmonic devices and technology
- Envision and realize novel devices and applications.

