CIC biomaGUNE

MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

seminar

Thursday, 9th June, 9.30am, Online

Host: Prof. Luis M. Liz-Marzán

Surface-enhanced Raman scattering (SERS) bioimaging of complex 3D cellular systems

Elisa Lenzi
BioNanoPlasmonics Group
CIC biomaGUNE

The thesis has been focused on Surface-Enhanced Raman Scattering (SERS) as a bioimaging technique, in particular for the observation of three-dimensional (3D) biological systems of tumorous cells. For this technique, SERS-encoded nanoparticles (or SERS tags) were employed as contrast agents. The interaction of SERS tags with cancer cells was thus studied, highlighting their application for the study of novel 3D cell cultures, and aiming at the optimization of SERS tomography as an emerging bioimaging method. In particular, breast cancer was chosen as a cellular model considering that it is readily accessible by optical methods.

This thesis has been carried out in the framework of the ERC Advanced Grant 4DBIOSERS (n° 787510), which aims at the development of novel nanocomposite 3D plasmonic scaffolds that support tissue growth to acquire a better understanding of tumour evolution and dynamics, monitoring in real time its progression.