



Education and Culture DG

ERASMUS MUNDUS



MASTER in PHOTONICS EUROPHOTONICS-POESII

MASTER THESIS PROPOSAL

Course 2017 –2018

Laboratory: TSC, Universitat Politècnica de Catalunya, Campus Nord
City: Barcelona
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Title of the master thesis: Surface Plasmon Resonance (SPR) experiments design

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Summary of the subject (maximum 1 page):

SPR can occur when the electric field of an optical wave penetrates into a metal in total reflexion conditions. The surface plasmonic wave is generated due to the resonance with free electrons in the metal. This phenomenon is highly sensitive to the surface conditions, which allows to using it as a base of a large amount of chemical and biological sensors.

The idea is the design of several experiments to show and measure the surface plasmon resonance. The development of the experimental set-up has to be completed with the theoretical explanation to compare the results with that expected by theory.

Keywords: surface plasmon resonance, biophotonics.