

## Doctoral Thesis Open Position

### “On-chip Optical Qubit Generation using Nanophotonic Devices and 2D Semiconductors”

A PhD position for a Doctoral Thesis is open at the INM (<http://www.imn.cnm.csic.es/es>) in Madrid, Spain, under the EU project “Scalable Two-Dimensional Quantum Integrated Photonics (S2QUIP)”. The proposed work for this Thesis is to design and fabricate nanophotonic devices to allow on-chip generation of single photons forming optical qubits.

Nanophotonic cavities will allow us to tune quantum emitters from two-dimensional semiconductor materials (like  $WS_2$ ,  $WSe_2$ , hBN and others). We will control the properties of the individually generated photons to achieve on-chip scalable sources of optical qubits for quantum information and sensing.

The PhD work will include design and modeling, nanofabrication and experimental characterization. Starting date will be January 2019.

The candidate should be a BSc, ideally with a background in physics, chemistry or engineering, with particular emphasis on experimental skills. Previous experience in quantum optics and/or nanofabrication will be appreciated.

Candidates may send CV and/or request further information to:

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