MACQUARIE University

MQ Photonics Research Centre Seminar

When: Wednesday 25 March 2020 at 2 PM

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Speaker: Mr Alvaro Nadar from the Material Physics Centre - CFM in Donostia - San Sebastian, SP

Title: "(Classical and Quantum) Scattering of helical states of light"

Abstract: In this work we study how quantum states of light are scattered by a single nanostrucutre. In particular, how these quantum states preserve (or destroy) their quantum coherence when they are scattered.We first tackle the scattering of classical light beams that have well defined angular momentum with a single nanosphere. Then, with the results of the classical scattering we can analyse the quantum process and determine how the scattered state lose (or preserve) it's coherence for certain spectral ranges. We find that the loss of the quantum coherence is related to the classical resonances of the nanosphere.