# Innelastic light scattering in carbon nanostructures: from the micro to the nanoscale

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Carbon nanotubes, graphene and amorphous carbons are prototypes for the development of nanometrology due to their unique mechanical and electronic structures, and due to their potential applications in different fields, such as biomedicine and soil science. The use of optics to address nanoscience is the use of a big probe to sense a tiny material because, in the visible, light is associated with wavelengths in the range of hundreds of nanometers to microns. Nanotechnology offers some solutions to overcome this measurement limitation, such as exploring resonance phenomena playing against the very low efficiency of a single nanostructure, or using plasmonics to localize light into nanometer sized areas.

In this talk I will discuss these aspects of nanoscale photo physics, addressing the evolution of Raman spectroscopy applied on carbon nanostructures, from the micro to the nanoscale.