

## XXI Meeting of Physics 2021



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# Anisotropic Gold Nanoparticles and Bio-applications.

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Gold nanoparticles exhibit peculiar optical and electronic properties that make them excellent candidates for biomedical applications. Such is the case of the plasmonic photothermal therapy (PPTT), which refers to the efficient conversion of photon energy into heat (in the range of 40-46 oC) by using metallic nanoparticles in combination with laser irradiation. The PPTT efficiency depends on the localized surface plasmon resonance (LSPR) phenomenon, which is affected by the metallic nanoparticle morphology (size, shape and composition). In this work, different morphologies of gold nanoparticles such as nanospheres, nanorods and nanostars were synthesized. During these presentations, TEM, DLS and UV-VIS characterization will be presented. Additionally, their localized surface plasmon will be discussed and how it is affected by the different configurations of the gold nanoparticles.

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