

**BECAS DE COLABORACIÓN – JAE INTRO 2020
EN CENTROS DE EXCELENCIA SEVERO OCHOA – CSIC**

TÍTULO DEL PROYECTO:

Plasmonic supercrystals made from gold colloids

IP:

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**RESUMEN DE LA PROPUESTA:
(Máximo 500 caracteres)**

Metal colloids sustain localized surface plasmon resonances, that is collective oscillations of the free electron cloud of the metal. These resonances can concentrate the incoming light to the surface of the metal so it can be used for enhancing any interaction with matter. Typically, the resonances of the metal colloids are determined by the size of the nanoparticle and can only be modified at the synthesis stage. What we intend to do in this collaboration is to assemble these metal colloids into larger arrays so this new configuration brings novel functionalities and a new way to interact with light. Periodic arrays of metal colloids sustain collective surface lattice resonances that are determined by the periodicity of the array, we will study the coupling of these lattice modes with metallic particles and how they can be used to enhance light emission and sensing.

Skills employed in the project: A mixture of chemistry, plasmonics, optical characterization, materials science and enthusiasm.

More about us here: <https://projects.icmab.es/enlightment/index.php>