Trabajo de Fin de Master Biofísica 2013/2014

Protein Engineering and Biofunctional Nanostructures

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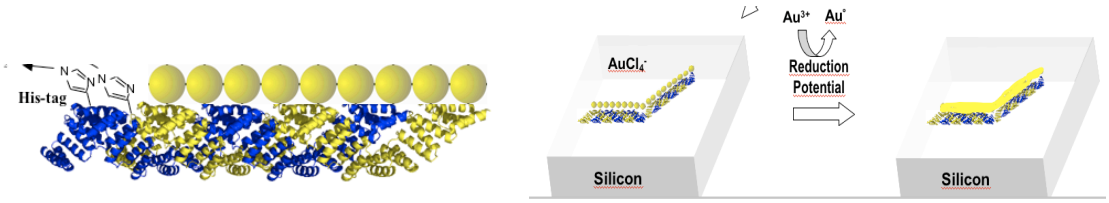
Our group works on the design of proteins as novel tools for nanotecnological applications. We generate protein modules with defined recognition properties for their application in nanobiotechnology and biomedicine. Additionally, we are interested on the self-assembly of designed proteins into ordered nanostructures and biomaterials. We engineer novel assemblies by exploiting the interactions that govern complex structures and functions in the nature. Such bio-inspired designs represent novel routes to order materials that after further functionalization display numerous potential applications in synthetic biology and nanobiotechnology.

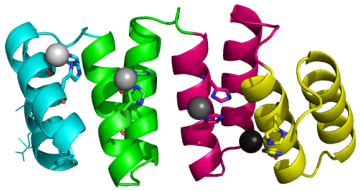
In particular, the master thesis projects offered would be focused on one of the following applications:

1) The use of gold nanoparticles-protein conjugates with self-assembly properties for the generation of hybrid conductive materials and nanocircuits.

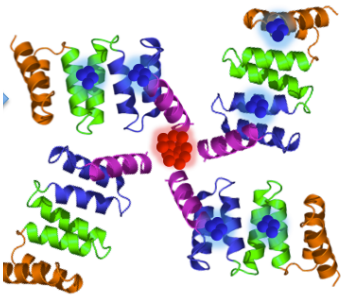


2) The use of designed repeat protein templates as platforms for metal coordination and generation of fluorescent nanoclusters and their application as sensors and novel bioorganic catalysts.

CTPR + Metals



CTPR + AuNCs



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