SEMINARIO

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SYNTHETIC SUPRAMOLECULAR MEMBRANE TRANSPORTERS

Cellular uptake is a central challenge in chemical biology and beyond. Many wonderful molecules that work in vitro fail in vivo because they simply cannot reach their target. The challenge received recent attention with RNAi because the method is particularly promising but the delivery of siRNA is problematic.Another unresolved challenge concerns uptake into cells where pinocytosis and related routes do not exist or are not accessible. Arguably the most interesting entry into cells is the direct tunneling through intact membrane barriers, driven by gradients, potentials or, at best, coupled equilibria only. Lessons from viruses have suggest that polycationic, arginine- rich cell-penetrating peptides (CPPs) work this way . Our group works at the interphase between chemistry and biology trying to identify synthetic transporters to overcome the membrane barrier. Efforts are focuses in dynamic supramolecular chemistry to develop novel screening platforms, controlled release and topological control over the vehicle/cargo conjugate.

Dr. Javier Montenegro García

El Dr. Montenegro realizó su tesis doctoral en la Universidad de Santiago de Compostela. Realizó varias estancias postdoctorales en el grupo del Prof. Steven Ley en *Cambridge University* (UK), en el laboratorio del Prof. Reza M. Ghadiri en California (*Scripps Research Institute*, La Jolla) y en grupo de Prof. Stefan Matile (*University of Geneva*) antes de regresar a Santiago de Compostela para incorporarse al CIQUS dentro del grupo coordinado por el Prof. Juan R. Graña con un contrato Juan de la Cierva y posteriormente con un contrato Ramón y Cajal. Actualmente dirige su propio grupo de investigación y acaba de conseguir uno de los proyectos mas competitivos a nivel internacional (ERC-Starting Grant).

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