CiQUS

Centro Singular de Investigación en **Química Biolóxica** e **Materiais Moleculares**

Conferencia:

Making metallohelices for treatment of cancer and infection

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Aula de Seminarios do CIQUS

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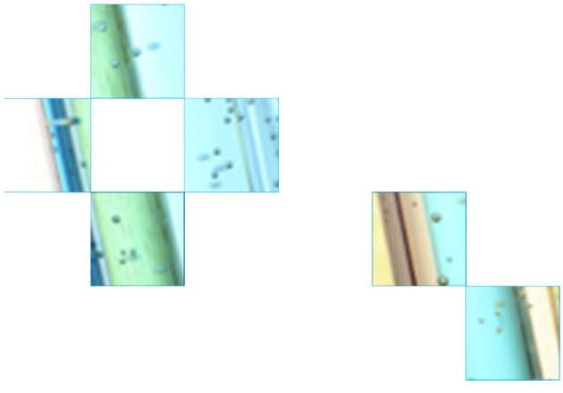

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Abstract - Helicates, comprising for example three ditopic ligands AB–BA coordinated to two metal ions, have been available for some years. Some early examples are ~1 nm diameter cationic cylinders and bear superficial resemblance to alpha-helices that might be engineered to interact selectively with biomolecules. Unfortunately however, few are compatible with aqueous media, outward-facing functionality is rare, acutely toxic components are commonly used and the enantiomeric synthesis requires chromatographic resolution or lengthy protocols. Furthermore, most helicates are highly symmetrical. For these and other reasons the potential of helicates in biomedical applications has not been realised. Our recent work has attempted to systematically addressed these deficiencies and barriers to clinical application. In this presentation we will describe new approaches to deliver diverse ranges of metallo-helical architectures, including systems which approach the exquisite complexity of peptide alpha-helices, on a multi-g scale with high stereopurity, and with excellent solubility and stability in water. Early results in the areas of cancer and antimicrobial activity will be presented.

CV - Peter Scott graduated in Applied Chemistry from Salford University UK and completed a DPhil in organometallic chemistry with Malcolm Green in Oxford, 1991. That year he was awarded a Royal Society European Research Fellowship to work in polymer catalysis in Konstanz, Germany. In 1992 he took a Ramsay Memorial Fellowship to Sussex University, UK where he had his first academic appointment. Moving to Warwick in 1997 he was promoted to Professor in 2004 and awarded DSc in 2008. He splits his time between teaching chemistry, developing new metal-organic architectures for medicinal applications, developing new polymers for materials science, and his work as deputy head of the Faculty of Science at Warwick.