









CiQUS Lecture



Cyclic peptide / polymer conjugates for therapeutic and materials applications

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Professor of Polymer Chemistry | Monash-Warwick Chair in Polymer Chemistry | University of Warwick Joint appointment with the Medical School, in DBS



More info: Research Group website

THURSDAY, April 21, 2022 12:15 p.m. CiQUS Seminar Room

FONDO EUROPEO DE DESENVOLVEMENTO REXIONAL PO FEDER Galicia 2014-2020 – Unho maneira de facer Europa

Link to personal website: <u>https://warwick.ac.uk/fac/sci/chemistry/research/perrier/perriergroup/</u> Email: <u>S.Perrier@warwick.ac.uk</u>

Abstract:

We describe the synthesis, characterisation and applications of bioconjugate based on cyclic peptides covalently attached to well-controlled polymeric chains. The conjugates assemble into short nanotubes (20 to 200nm) through the stacking of the cyclic peptide motives, with functionality imparted by the polymeric chains. Due to their well-defined diameter, tunable peptide anatomy, and ability to disassemble *in situ*, these self-assembling cyclic peptide polymer nanotubes have been investigated as promising materials for numerous applications including biosensors, antimicrobial materials, and as drug delivery vectors. This presentation will discuss their use as biomimetic light harvesting systems, enzymes, and also as antimicrobial materials and drug delivery vectors. In the latter case, their remarkable properties in terms of cell penetration and *in vivo* biodistribution make them ideal systems for use in nanomedicine.













Biosketch:

Professor Sebastien Perrier graduated from the Ecole National Supèrieure de Chimie de Montpellier, France, in 1998. He undertook his PhD at the University of Warwick, in polymer chemistry, and spent one year as a postdoctoral fellow at the University of New South Wales, Australia. He started his academic career at Leeds in 2002 as a lecturer, then moved to the University of Sydney in 2007, as director of the Key Centre for Polymers & Colloids. In October 2013, Sebastien was appointed as the Monash-Warwick Chair in Polymer Chemistry, a joint appointment between WMS and Chemistry at Warwick, and the Faculty of Pharmacy at Monash University, Australia. This joint appointment enables Sebastien's team to have labs and infrastructure in Warwick Chemistry, Warwick Medical School and Monash Pharmacy.

Sebastien has published nine book chapters and over 200 articles, which have received over 15,000 citations (h-index 61), and supervised to date 35 PhD students. His recent awards include the Macro Group UK Young Researcher Award (2006), the Rennie Memorial Medal (2009), the RACI Applied Research Award (2012), a Future Fellowship (2012), the Australian Academy of Science Le Fèvre Memorial Prize (2013), the Wolfson Merit Award (Royal Society, 2014), the Biomacromolecules / Macromolecules Young Investigator Award (ACS, 2014) and the IUPAC / Samsung Young Polymer Scientist Award (IUPAC, 2014), the Macro Group UK Medal (2018).

Source: https://warwick.ac.uk/fac/sci/chemistry/staff/sebastienperrier/