



Université Blaise Pascal

UNIVERSITÉ BLAISE PASCAL
U.F.R de Recherche Scientifique et Technique



CYCLE DE CONFÉRENCES DE CHIMIE

Avec le concours de : *Manufacture Française des Pneumatiques MICHELIN*
Centre de Développement Préclinique, Schering-Plough
Fédération de Chimie (FR 2404)
Section Auvergne de la Société Française de Chimie
U.F.R.S.T. / Master de Chimie / Département de Chimie

Mercredi 29 Avril 2009 à 16h

Amphi de Chimie Paul REMI - (Site des Cézeaux)

Dr Alison A. EDWARDS

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Sugar amino acids - some sweet chemistry

Sugar amino acids (SAAs) are naturally occurring compounds, such as sialic acid, where a carbohydrate compound contains both carboxylic acid and amine functional groups in addition to hydroxyl groups. A wide range of non-natural SAAs have been prepared on linear, oxetane, furanose and pyranose scaffolds. These compounds have been utilized as peptidomimetics and highly functionalized stereodiverse scaffolds for biological application. Due to their peptidomimetic nature, their oligomers (known as carbopeptoids) have been studied to ascertain their ability to adopt compact conformations in relatively short sequences *i.e.* act as foldamers.

The presentation will give an overview of SAAs and highlight current research directions which include:

- The importance of understanding foldamer preference, in particular the study of extended and dynamic conformations by utilization of chiroptical spectroscopy alongside NMR and IR spectroscopies.
- Exploitation of the stereochemical complexity and functional group diversity of SAAs for applications ranging from biomaterials to GABA analogues.
- The biological significance of non-Neu5Ac sialic acids – towards novel anti-bacterial and anti-viral therapies.