



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*

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**Mardi 1<sup>er</sup> Juin 2010 à 16 h**

**Salle C bâtiment de chimie - (Site des Cézeaux)**

**Dr Silvia DIEZ-GONZALES**

Imperial Collage, Londres (UK)

### **Well-Defined Systems in Copper Catalysis: A 'Clicker' Approach to Catalysis**

Transition metal-based catalysts are of increasing importance in modern synthetic chemistry. Despite great advances in certain reactions, we are still far from matching Nature's efficiency. In this context, employing pre-formed complexes can be regarded as a tool in the quest for the perfect catalyst. Well-defined complexes are usually better performing than *in situ* generated species and allow for a strict control of the ligand/metal ratio and the coordination mode around the metal center.

Among the transition metals, copper is widely recognized as a non-toxic and inexpensive metal, yet the number of copper-based well-defined catalytic systems remains astonishingly low. Herein, the preparation of diverse air- and moisture-stable copper complexes with N-heterocyclic carbene and phosphane ligands will be presented. Also, the applications in catalysis, and in Click chemistry in particular, will illustrate the outstanding advantages of using well-defined complexes over *in situ* generated species.

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Coordinatrice : Christine MOUSTY, LMI UMR UBP-CNRS 6002

24, avenue des Landais, 63177 Aubière cedex-France ☎ 33 473 407 598 – fax : 33 473 407 707  
courriel : Christine.Mousty@univ-bpclermont.fr <http://chimie.univ-bpclermont.fr>