



## Einladung zum Kolloquium

Am Mittwoch, den 22. April 2009, 17:00 Uhr, spricht

**Herr Professor Dr. Philip Dyer**

Department of Chemistry, Durham University, UK

zum Thema:

### **Aminophosphines: Intriguing Building-blocks for Making Multi-functional Molecules and Materials**

Aminophosphines,  $(R_2N)_xPR'_{3-x}$ , have been known since the work of Michaelis over a hundred years ago, yet today they are the somewhat forgotten cousins of the widely used alkyl, aryl, alkoxy and aryloxy phosphines. This is, in part, due to the perceived fragility of the P–N linkage, in particular its ready cleavage in the presence protic reagents. However, these concerns are significantly outweighed by the ease with which aminophosphines can be prepared from secondary amines, something that readily allows whole families of derivatives to be prepared in which the steric and electronic demands of the P-centre may be tuned in a very simple and systematic fashion. Moreover, it has recently been established that the P–N bonds of metal-bound aminophosphines are essentially inert, only being cleaved under the very harshest of reaction conditions. As a result, these types of amido-substituted P(III) derivatives are starting to find applications as ligands in homogeneous catalysis; as stabilising substituents in the preparation and isolation of highly reactive species such as carbenes; and as precursors to more elaborate structures.

Here, the synthesis and characterisation of a range of amido-substituted phosphorus derivatives will be described. Particular focus will be on the chemistry of iminopyridyl-substituted phosphines, which exist as two interconverting valence tautomers in solution. These intriguing types of multi-functional system demonstrate reactivity associated with bidentate P,N-ligands, iminophosphoranes, enamines, and as building-blocks for the preparation of extended  $\pi$ -conjugated materials. Examples of each of these classes of reaction and associated chemistry will be exemplified.

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**Alle Interessenten sind zu diesem Vortrag herzlich eingeladen.**

Prof. Dr. E. Hey-Hawkins  
Sprecherin der  
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Prof. Dr. H. Krautscheid  
Dekan

Die Professoren des Institutes  
für Anorganische Chemie

Nähere Informationen bei Frau Professor Dr. E. Hey-Hawkins, Tel.: 36151