# Institut Henri Poincaré

11 rue Pierre et Marie Curie, 75231 Paris cedex 05 String Theory in Greater Paris

### **Rencontres Théoriciennes**

"Supergravité, théorie des cordes et théorie M"

Jeudi 7 Mai 2015, 10:00

# **Philip Candelas**

#### U. of Oxford

# **Geometry and Arithmetic of Two One-Parameter Special Geometries**

Recently, as part of a project to find CY manifolds for which both the Hodge numbers  $(h^{11}, h^{21})$  are small, manifolds have been found with Hodge numbers (4,1) and (1,1). The one-dimensional special geometries of their complex structures are more complicated than those previously studied. I will review these, emphasising the role of the fundamental period and Picard-Fuchs equation. Two arithmetic aspects arise : the first is the role of  $\zeta(3)$  in the monodromy matrices and the second is the fact, perhaps natural to a number theorist, that through a study of the CY manifolds over finite fields, modular functions can be associated to the singular manifolds of the family.

# Institut Henri Poincaré, salle 314, 3ème étage

Retrouvez les activités de la communauté parisienne de théorie des cordes sur http://string.lpthe.jussieu.fr La liste de tous les séminaires en région parisienne est disponible sur http://string.lpthe.jussieu.fr/semparis