



## **Dr. Anne-Sophie Kaloghiros**

### **Non-factorial Fano 3-folds**

#### **TIME:**

26 May 2008, 16:15

#### **LOCATION:**

Freie Universitaet Berlin  
Institut fuer Mathematik  
Arnimallee 3, Rm. 119  
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A singular variety is  $\mathbb{Q}$ -factorial if a multiple of every Weil divisor (a codimension 1 cycle) is a Cartier divisor (i.e. can be defined locally by one equation).  $\mathbb{Q}$ -factoriality is a subtle topological property that depends both on the local analytic type of singularities and on their relative position. The purpose of these talks will be to study non-factorial Fano 3-folds with mild singularities. Fano 3-folds are the higher dimensional analogues of spheres, they have 'positive curvature', and as such play an important role in the Minimal Model program. I will show that one can understand to some extent how far Fano 3-folds with terminal Gorenstein singularities can be from being factorial. In the first talk, I will first give an introduction to terminal/canonical/Gorenstein singularities, and to factoriality. I will also present the Minimal Model Program for (mildly singular) 3-folds. In the second talk, I will apply these techniques to the study of non-factorial Fano 3-folds.

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