Algebra and Number Theory Seminar

Title: Reduction of abelian varieties with complex multiplication and its first truncated Barsotti-Tate group schemes (Part II)

Speaker: Dr Alexey Zaytsev (Sch. Math Sc., UCD)

Date: Mon 18th April 2011 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: Let A be an abelian variety over a number field L with complex multiplication by the full ring of integers O_K for some CM field K. We consider a good reduction at prime ideal S in L of the abelian variety A. After the reduction we get an abelian variety over a finite field of characteristic p. In this talk I explain a correspondence between the decomposition of the ideal pO_K into prime ideals and the decomposition of the first truncated Barsotti-Tate group scheme $(A \bmod S)[p]$.

In the second part of the talk, I will explain the classification of $BT_1 - group schemes from abelian varie$ $2 and 3. Using this classification I will show a correspondence between the decomposition of the ideal p O_k$ and the $A[p]$ as an abelian group scheme over algebraic closure of F_p.

http://mathsci.ucd.ie/seminarseries/Algebra