# Séminaire de théorie des nombres

## Le 4 juin 2007 à 14h

# Ranks of elliptic curves over function fields

## Exposé de Alan Lauder (University of Oxford)

**Résumé :** I will discuss a method for computing the zeta function of an algebraic variety over a finite field which proceeds "by induction on the dimension". The algorithm uses both crystalline and rigid cohomology in different ways. I have used the algorithm to investigate experimentally some conjectures relating to analytic ranks of elliptic curves over function fields. I will present some of my preliminary findings.