Algebra and Number Theory Seminar

Title: Primitive roots, spiral permutations and lyric poetry of troubadours

Speaker: Jean-Guillaume Dumas (Univ. Grenoble)

Date: Mon 18th January 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: The Sestina is a lyrical fixed form consisting of six 6-line usually unrhymed stanzas in which the end words of the first stanza recur as end words of the following five stanzas in a successively rotating order forming the shape of spiral. Arnaut Daniel a troubadour of the XIIth century is believed to have invented this particular form and was celebrated in the Divine comedy of Dante, another grand composer of Sestinas, as the poet who "du parler maternel fut meilleur maître". Much later, Raymond Queneau and Georges Pérec got interested in this form and generalized it. The now Raymond Queneau numbers are the integers n for which the quenine (the spiral permutation sending even numbers to their halves and odd numbers to their opposites added to n) is of order n. Finally Jacques Roubaud extended this notion to any integer n such that 2n+1 is prime with g-spirals and proposed some extensions to other integers. In this talk we will present characterizations for quenines, g-spirals and pérecquines as well as some graphical representations and constructions.

http://ljk.imag.fr/membres/Jean-Guillaume.Dumas/