

Abstracts of lectures by Wilson Zúñiga-Galindo (Barry University, Miami) at the KULeuven in June 2004.

June 9th:

Computing Igusa local zeta functions, and an application to cryptography.

We shall present a new class of candidates for one-way functions based on the computation of the Igusa local zeta functions. Furthermore, we shall present a polynomial time algorithm for computing the Igusa zeta function of a univariate polynomial.

June 18th:

Igusa's local zeta functions and p -adic pseudo-differential equations.

We shall discuss the connection between the Igusa zeta function and p -adic pseudo-differential equations, particularly the existence and asymptotics for certain types of pseudo-differential equations.