EPFL - ETHZ Number Theory Day

ETH Zürich, April 2, 2004
Herman-Weyl-Zimmer HG G43

Organizers: Eva Bayer Fluckiger (EPFL) eva.bayer@epfl.ch alg-geo.epfl.ch

Richard Pink (ETHZ) pink@math.ethz.ch www.math.ethz.ch/arithmetik+geometrie

Speaker: Christophe Breuil (IHES)

Time: 11:00 – 12:00

Title: On some representations of Galois and GL_2 over the p-adics

Abstract: Since p-adic Hodge theory was introduced a few decades ago there has been the secret hope that it had an automorphic counterpart, via some sort of "p-adic Langlands correspondence". In this talk, I would like to survey some recent developments that make this hope a little bit less look like a dream and a little bit more look like a reality.

Lunch: 12:15

Speaker: Frans Oort (Utrecht)

Time: 13:30 – 14:30

Title: Hecke orbits in moduli spaces of abelian varieties and foliations

Abstract: The Hecke orbit of a point in the moduli space of abelian varieties in characteristic zero is dense in that moduli space. However in positive characteristic this is not true for all points. The Hecke orbit conjecture predicts what the Zariksi closure of such a Hecke orbit should be. Foliations give access to this problem, which now has been solved (Ching-Li Chai and Frans Oort). We discuss some aspects of this proof.

Speaker: Dino Lorenzini (U. of Georgia)

Time: 15:00 – 16:00

Title: Some consequences of a theorem of M. Raynaud

Abstract: This is joint work with Q. Liu and M. Raynaud. I will discuss applications of a result of M. Raynaud to reduction of curves of genus 1, and to the equivalence between the Artin-Tate and the Birch and Swinnerton-Dyer conjectures.

Speaker: Marie-France Vigneras (Paris 7)

Time: 16:30- 17:30

Title: A Langlands triangle modulo p?

Abstract: A local Langlands correspondence generalizing local class field theory is known for representations over an algebraically closed field k of characteristic different from the residual characteristic p of the local field. Is there a local Langlands correspondence when the characteristic of k is p?

Dinner: 18:30