

Minicourse

on

Geometric Galois Actions

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Course Title: Belyi functions on Riemann surfaces, dessins d'enfants and Galois actions

Abstract: A classical theorem in algebraic geometry and function theory says that compact Riemann surfaces are smooth projective algebraic curves - and conversely. However, it is not at all clear how finer algebraic and arithmetic properties of the curves are encoded in the function theory of the Riemann surfaces, e.g. the possible fields of definition of the curves. The theory of "Belyi functions" and Grothendieck's idea to translate them into a simple combinatorial tool, the "dessins d'enfants" on the surfaces give new and powerful tools to attack these questions.

The course will explain the basic ideas behind and some recent progress in relating Galois actions on certain families of "quasiplatonic" curves and graph theoretic concepts.

Tentative Schedule

22.03.2011 & 29.03.2011 Tuesday 13.40 - 15.30, M - 203
23.03.2011 & 30.03.2011 Wednesday 13.40 - 15.30, M - 203
24.03.2011 & 31.03.2011 Thursday 13.40 - 15.30, M - 203

Notes:

1. The talks will take place in the Department of Mathematics, Middle East Technical University.
2. For the convenience of the audience, the level of prerequisites will be kept to minimum.
3. The first talk is going to be rather expository, explaining the general scheme.

All interested are cordially invited to participate!