

**SIPO (Seminario de Investigadores Postdoctorales)**

**Speaker:** Julien Boulanger (CMM).

**Title:** Hecke groups in geometry.

**Abstract:**

This talk discusses two geometric aspects of the so-called Hecke groups, defined by E.Hecke in the 1920s, and which are a generalisation of the modular group  $SL(2, \mathbb{Z})$  of  $2 \times 2$  matrices with integer coefficients and determinant 1. Hecke groups will be used here as a pretext to talk about my research field, namely hyperbolic geometry and translation surfaces (no prior knowledge on these fields are required). More precisely, we will see that these groups are examples of lattice Fuchsian triangle groups, and that they also arise as Veech groups of translations surfaces. At the end we will explain a correspondence between these two geometries, and an application to billiard trajectories in regular polygons.

**Date and Time:** 07th October, Monday at 2.30 PM.

**Venue:** John Von Neumann Seminar Room, CMM, Beauchef 851, North Tower, 7th Floor.