11th ALGA Meeting

Maresias, São Paulo, from 10/16 to 10/22.

Speaker: Cristina López-Martin (U. Salamanca, Spain)

Title: Relative Fourier-Mukai transforms for Weierstrass fibrations, abelian schemes and Fano fibrations

Abstract: Since its introduction by Mukai, the theory of integral functors and Fourier–Mukai transforms has been an important tool in the study of the geometry of varieties and moduli spaces. Working with a fibered scheme over a base T it is quite natural to look at the group of T-linear autoequivalences. The description of this group seems a hard problem. We will restrict ourselves to the subgroup given by relative Fourier-Mukai transforms. In this talk, I will explain how for a projective fibration the knowledge of the structure of the group of autoequivalences of its fibres and the properties of relative integral functors provide a machinery to study that subgroup. I will work out the case of a Weierstrass fibration and report

about the results for abelian schemes and Fano or anti-Fano fibrations. This is a joint work with D. Sánchez Gómez and C. Tejero Prieto.