Speaker: Marco Garuti

Title: On the fundamental group scheme

Abstract: The fundamental group of a topological space classifies covers of the space. In the '60, Grothendieck introduced the algebraic fundamental group, classyfying finite etale covers of varieties or schemes. The fundamental group scheme of a scheme X over a base B, when it exists, classifies torsors over X under finite flat B-group schemes. Introduced in the '70 by Nori when the base is a field, in which case its representations correspond to flat vector bundles, the theory has recently enjoyed a revival. We will give a short introduction to the fundamental group scheme, describing recent progress both on the Galois and the Tannaka side.