Sophia University
Mathematics Colloquium

When: Friday, June 15, 2018, 17:30—18:30

Where: Room No. 201, Main Bldg., Ichigaya-Campus

Speaker: Suzuki Takashi (Chuo University)

Title: Duality for cohomology of curves with coefficients in abelian varieties

Abstract:

I will first recall the classical Poincare duality for etale cohomology of curves. This duality is generalized by Artin-Milne using flat cohomology. The coefficient sheaf is allowed to be any finite flat group scheme and the cohomology is equipped with a structure of the perfection of an algebraic group.

I will then explain my work on further generalization for flat cohomology with coefficients in Neron models of abelian varieties. This equips Tate-Shafarevich groups with structures of perfections of smooth group schemes and gives a geometric version of the Cassels-Tate pairing. At each closed point of the curve, there is a corresponding local duality, which contains Grothendieck's duality conjecture in SGA 7. These duality theories are built upon a certain Grothendieck site called the rational etale site.