School of Mathematics
Tata Institute of Fundamental Research

Mathematics Colloquium

Speaker	:	***Tohru Kohrita***
Affiliation	:	***TIFR, Mumbai***
Title	:	***The representability of motivic cohomology***
Date & Time	:	***Thursday, 23 November, 2017 at 04.00 p.m.***
Venue	:	***Lecture Room (AG-69)***

Abstract

Any algebraic variety X over an algebraically closed field k is associated with its Albanese variety Alb_X. According to Rojtman, for smooth proper X, the torsion part of the group of rational points $Alb_X(k)$ is canonically isomorphic to $CH_0(X)^0_{tor}$, the torsion part of the degree zero part of the Chow group of zero cycles. For a curve X, this isomorphism agrees with the Abel-Jacobi isomorphism $CH^1(X)_{alg} \longrightarrow Pic_X(k)$, where $CH^1(X)_{alg}$ is the subgroup of $CH^1(X)$ consisting of algebraically trivial cycles and Pic_X is the Picard variety.

To extend this picture to other Chow groups, Samuel introduced the concept of regular homomorphisms. For divisors and zero cycles, the map alb_X and the Abel-Jacobi isomorphism are universal with respect to regular homomorphisms. The case of codimension 2 cycles was also treated by Murre.

In this talk, we explain how to extend this picture to other motivic invariants. If time permits, we explain the relation with Griffiths's intermediate Jacobians.

Vivek V. Vengurlekar

November 17, 2017