

Sophia University

Mathematics Colloquium

When: Friday, July 22, 2016, 17:30-18:30

Where: Room K1, Seminar Bldg., Ichigaya-Campus

Speaker: Tomoyuki Abe

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The University of Tokyo)

Title: To where does the Weil conjecture lead us?

Abstract: In 40's, Weil proposed his famous conjecture on the L-function of varieties over finite fields. His strategy to solve this problem was to construct a cohomology theory which detects "topological feature" of the varieties. Etale cohomology, which was defined by Grothendieck and studied by his school, is one example of such cohomology theories, and Weil's conjecture was proven by understanding the theory in great depth.

However, to understand the "p-adic nature" of L-functions, etale cohomology is not powerful enough. To compensate this, p-adic cohomology was introduced. In this talk, I'll discuss current status of the p-adic cohomology theory, starting from recalling Weil's conjecture.