# Tokyo-Lyon Satellite Conference in Number Theory

February 21 (Wed), 2018

Room 056

Graduate School of Mathematical Sciences, the University of Tokyo.

10:00–11:00     Takeshi Saito (Univ. of Tokyo)

Title: Characteristic cycle of an $\ell$-adic sheaf

Abstract: The characteristic cycle of an $\ell$-adic sheaf on a smooth variety over a perfect field is a $\mathbb{Z}$-linear combination of irreducible components of the singular support, defined by Beilinson as a closed conical subset of the cotangent bundle. We discuss its functorial property with respect to proper direct image.

11:10–12:10     Sandra Rozensztajn (ENS de Lyon)

Title: On the reduction modulo $p$ of crystalline representations of dimension 2

Abstract: I will talk about the problem of studying the reduction modulo $p$ of crystalline representations of dimension 2 of the Galois group of $\mathbb{Q}_p$. In particular, I will be interested in the following situation: fix Hodge-Tate weights and a residual representation, and consider the locus parametrizing crystalline representations with the given weights and reduction modulo $p$. What can be said about this locus in general?

Lunch Break

13:30–14:30     Naoki Imai (Univ. of Tokyo)

Title: Geometric realization of Heisenberg-Weil representations for finite unitary groups

Abstract: In this talk, we discuss a realization of Heisenberg-Weil representations for a finite unitary group in the etale cohomology of a variety over a finite field. We discuss also its relation with the Howe correspondence for a symplectic-orthogonal dual pair and the preservation of unipotency under the Howe correspondence in some special cases. This is a joint work with Takahiro Tsushima.

Organizers: Laurent Berger (ENS de Lyon), Takeshi Tsuji (Univ. of Tokyo).