Title:

Hodge correlators and a generalization of Rankin-Selberg integrals

Abstract:

Thanks to work of Deligne and Morgan, the pronilpotent completion of the fundamental group of a complex variety carries a mixed Hodge structure.

I will give a new elementary construction of the real mixed Hodge structure, by describing its periods by certain integrals, called Hodge correlators. For the modular curves the simplest of the Hodge correlators are the Rankin-Selberg integrals for special values of L-functions of modular forms.

In the second half of the lecture I show that there is a natural collection of functions on the motivic Galois group whose real periods are the Hodge correlators. For the universal modular curve the simplest of them deliver the Beilinson-Kato Euler system.