

Title: Jacquet-Langlands correspondence for eigenvarieties: a cohomological construction

Abstract:

Eigenvarieties are parameter spaces for p -adic automorphic forms; in the original construction due to Coleman and Mazur, they are p -adic analytic spaces that encode information about p -adic congruences between Hecke eigenvalues acting on modular forms of different weights and levels. In his thesis, Chenevier developed abstract techniques in p -adic functional analysis that permit the extension of the Jacquet-Langlands correspondence to p -adic automorphic forms, realized as an analytic map of the corresponding eigenvarieties. I will report on joint work with Iovita and Stevens that constructs this map, in the simplest case, in terms of vanishing cycles on integral models of modular curves. The technique is quite general and applies in higher dimensions as well. Fujiwara has independently obtained similar results by analogous methods.