ABSTRACT:

The *eigenvariety* of a reductive group is a p-adic rigid analytic variety that parametrizes all the p-adic automorphic (overconvergent, finite slope) eigenforms for that group. They have been proved to exist in some cases, first for Gl_2 (whose eigenvariety, namely, "the eigencurve" was constructed by Coleman and Mazur in 1995), then for other reductive groups as definite unitary groups. Recently eigenvarieties have been used to construct non torsion elements in certain Selmer groups, whose existence was a consequence of Bloch-Kato's conjectures.

The work I will explain (which is a joint work with Gaetan Chenevier) is a refinement of that method and exhibits relations between the geometry of eigenvarities of unitary groups and the ranks of related Selmer groups.