

**Speaker:** Ju-Lee Kim

**Title:** Asymptotic behavior of supercuspidal representations and Sato-Tate equidistribution for families

**Abstract:** We establish properties of families of automorphic representations as we vary prescribed supercuspidal representations at a given finite set of primes. For the tame supercuspidals, we prove the limit multiplicity property with error terms. Thereby, we obtain a Sato-Tate equidistribution for the Hecke eigenvalues. The main new ingredient is to show that the orbital integrals of matrix coefficients of tame supercuspidal representations with increasing formal degree on a connected reductive  $p$ -adic group tend to zero uniformly for every noncentral semisimple element. This is a joint work with Shin and Templier.

In the pre-seminar RTG talk, we will discuss some representation theoretical background of the talk.