

Workshop on "Automorphic Forms, Geometry and
Representation Theory"

Institute: University of Connecticut

Title: Whittaker functions and Demazure characters

Abstract: In this talk, we consider how to express an Iwahori-Whittaker function through Demazure characters. Under some interesting combinatorial conditions, we obtain an explicit formula and thereby a generalization of the Casselman-Shalika formula. Under the same conditions, we compute the transition matrix between two natural bases for the space of Iwahori fixed vectors of an induced representation of a p -adic group. This is a joint work with Cristian Lenart and Dongwen Liu.

Speaker: Wen-Wei Li

Institute: Chinese Academy of Sciences

Title: Langlands parameterization and contragredient representations

Abstract: I will discuss a conjectural description of the local L -parameter of contragredient representations. It is formulated by Adams-Vogan and D. Prasad independently and involves the Chevalley involution on the dual side. I will then move to the case of positive characteristic, and sketch a local-global argument to tackle this problem in terms of the parameters constructed by Genestier and Laforge.

Speaker: Jie Lin

Institute: Institut des Hautes Etudes Scientifiques

Title: L -functions and periods of automorphic motives

Abstract: A conjecture of Deligne predicts a relation between motivic L -functions and geometric periods. In this talk, we will explain an approach towards this conjecture for automorphic motives. This is a joint work with Harald Grobner and Michael Harris.

Speaker: Feng Su

Institute: Chinese Academy of Sciences

Title: Lattice points counting and bounds on periods of Maass forms

Abstract: We provide a "soft" proof for non-trivial bounds on spherical, hyperbolic and

Abstract: In this talk, I will talk about a couple of subrepresentation theorems for p -adic symmetric spaces, which can be considered as a generalization of well-known subrepresentations for admissible representations. The idea is to generalize the theory developed by Kato and Takano.

Speaker: Chen Wan

Institute: Institute for Advanced Study, Princeton

Title: A Local Trace Formula for the Generalized Shalika model

Abstract: I will discuss the local multiplicity problem for the generalized Shalika model. By proving a local trace formula for the model, we are able to prove a multiplicity formula for discrete series, which implies that the multiplicity of the generalized Shalika model is a constant over every discrete local Vogan L-packet. We also prove a relation between the multiplicity and the local exterior square L-function. This is a joint work with Rapheal Beuzart-Plessis.

Speaker: Bin Xu

Institute: Sichuan University

Title: The twisted descent method and its application to a reciprocal problem of Gan-Gross-Prasad conjectures

Abstract: We will talk about a reciprocal problem of the Gan-Gross-Prasad conjectures, and explain an approach using the twisted descent method. In particular, we will give both local and global examples for the case of special orthogonal groups and symplectic groups.

Speaker: Chong Zhang

Institute: Nanjing University

Title: Distinguished regular supercuspidal representations

Abstract: Regular supercuspidal representations are recently introduced by Kaletha, which are a subclass of tame supercuspidal representations. This new construction has many applications in the representation theory of p -adic reductive groups. I will discuss the distinction problem for these representations, and also its relation with the local theta correspondence.

Speaker: Lei Zhang

Institute: National University of Singapore

Title: Guess Sum and Converse Theorem

Abstract: In this talk, we will investigate

Kloosterman sheaves to establish $n = 1$ Local Converse Theorem when q is sufficiently